Australian Vinyls Corporation Pty Ltd

sustainability report 2005-06

Australian Vinyls Corporation Pty Ltd

ABN 15 078 558 595

65 Leakes Road Laverton, VIC 3019 Australia

Tel: +61 3 9368 4856

Web: www.av.com.au

Email: info@av.com.au

December 2006

Feedback on this report is welcome. Please send comments to environment@av.com.au or our mailing address above, attention Manager Environmental Affairs.

Table of Contents

Highlights 2005-06

- Energy efficiency continued to improve.
- Greenhouse gas emissions for the year were marginally lower. Australian Vinyls was awarded an Outstanding Achievement in Greenhouse Gas Abatement by the National Greenhouse Office, for continued improvement in greenhouse performance over the past 6 years.
- Water consumption fell 3% despite an increase in production.
- The average ambient concentration of vinyl chloride in the plant for the year was at a record low of 18 parts per billion.
- There were no exposures to vinyl chloride at levels above 5 parts per million, the standard set by the Australian Safety and Compensation Commission. There were, however, three exposures over our internal standard of 1 ppm.
- Volatile Organic Compound emissions per tonne of PVC produced were down nearly 11%.
- We had a much improved performance in terms of injuries. Our Recordable Case Rate fell from 4.5 recordable injuries per 200,000 hours worked, to 0.9, a record low for the company.
- The company completed implementation of its second Environment Improvement Plan with most actions completed, and commenced preparation of its third Plan.

Summary of Performance

	Target 2005-06	**Actual 2005-06**	Performance relative to 2004-05	New Target 2006-07
Our Workplace Health Commitments				
Recordable Case Rate for injuries per 200,000 employee hours	No injuries RCR <2	**RCR 0.9**	Better *(RCR 4.5)*	No injuries RCR 0
VCM exposure	No exposures	**3 exposures > 1 ppm < 5 ppm**	Similar *(3 exposures)*	No exposures
		No exposure > 5 ppm	Better *(1 exposure)*	
Noise Induced Hearing Loss	No new cases	**No new cases**	Similar	No new cases
Our Environment Commitments				
Unlicensed emissions	None	**One - 0.5-0.65 kg of X16 released**	Similar	None
Total VCM emissions (g per tonne PVC)	< 30	**18**	Better *(21)*	< 30
X16 emissions	No spills or exposures above TWA limit	**One incident**	Worse	No spills or exposures above TWA limit
Energy consumption (GJ per tonne PVC)	3.6	**3.66**	Better *(3.7)*	3.6
Greenhouse Gas emissions (kg CO2-e per tonne PVC)	550	**560**	Better *(566)*	550
Water consumption (kL per tonne PVC)	4.5 (Long term target)	**4.8**	Better *(4.97)*	4.8 (Short term target)
Trade waste quality: Total Dissolved Solids Suspended Solids	Within Trade Waste Agreement limits	**Achieved** **322 mg/L** **35 mg/L**	Better *(339 mg/L)* *(48 mg/L)*	Within Trade Waste Agreement limits
Waste Management	5% reduction in non-reusable Prescribed Waste	**Achieved Prescribed wastes reduced by at least 24% (solids) and 79% (liquids)**	Better *(Targets not achieved)*	5% reduction from 2005-06 levels in non-reusable Prescribed Waste
	5% reduction in General Wastes sent to landfill	**5.7% decrease**	Better *(Target not achieved)*	5% reduction from 2005-06 levels in General Wastes sent to landfill
Our Community Commitments				
Product Stewardship	Meet all relevant PVC industry Product Stewardship Program commitments	**Achieved**	Similar	Meet all relevant PVC industry Product Stewardship Program commitments
Post consumer bottle recycling	Continue progress towards 50% recovery rate for PVC bottles by October 2006	**49% recovery rate achieved by 30 June 2006**	Similar	Meet commitments as set out in Vinyl Cycle Action Plan lodged with the National Packaging Council.

Our Approach

Sustainability

Australian Vinyls has in place a Safety Health and Environment Policy[1] which commits the company to conducting its business in a way which benefits society without compromising the rights and needs of future generations.

The Policy specifies the steps the company will - and does - take to meet this commitment, including consulting and informing with stakeholders, characterising and reducing safety, health and environmental risks, controlling our operations in accordance with laws and regulations, and implementing and encouraging appropriate stewardship of our products.

During the year, company representatives participated in a series of 'Business Transformer' seminars and training led by a leader in industry sustainability, Paul Tebo, and sponsored by the Victorian EPA and Swinburne University. This provided participants with practical tools and guidance on developing and implementing sustainable business growth.

For the first time, to formalise its commitment to social responsibility in addition to the measures we have in place for environmental performance, the company is including Corporate Social Responsibility, Community Engagement and Product Stewardship objectives and targets into its new Environment Improvement Plan (EIP) to be finalised by the end of 2006. The annual Sustainability Report will be the vehicle for reporting our progress against these commitments.

The focus of both the EIP and the Sustainability Report is on issues local to Australian Vinyls' operations and the company's engagement with its local community. Australian Vinyls nevertheless recognises its stewardship responsibilities in respect of more global issues related to the broader PVC industry and PVC product life cycles. While this report refers to some of these aspects, in the main, the industry's action on these matters is overseen by the peak industry body, the Vinyl Council of Australia, of which Australian Vinyls is a member.

Vision and Values Our Vision is to involve, innovate and improve. We will use our skills to deliver outstanding customer service; create new demand for vinyl and related products; excel at manufacturing; and meet community expectations. We do this to increase shareholder value and to create our future.

Key Issues

Australian Vinyls produces Polyvinyl Chloride (PVC) resin in powder form for use in a wide range of products beneficial to the community such as potable water pipes, sewer pipes, irrigation, cable insulation and conduit, resilient and hygienic floor coverings, packaging and other goods.

PVC is a chlorinated hydrocarbon-based polymer. Whereas most traditional plastics are almost 100% hydrocarbon-based - derived from non-renewable oil products - PVC is more than 50% derived from chlorine, an abundant natural resource sourced from common salt.

The precursor to the polymer, polyvinyl chloride, is the monomer, vinyl chloride, or VCM. VCM is a flammable gas imported to Australia for use by Australian Vinyls, and stored in pressurised VCM storage tanks. Aside from the inherent risks involved in managing and using a flammable, pressurised gas, VCM is a known human carcinogen when people are exposed to high concentrations for very long periods of time (years). Thus the storage, transportation and management of VCM in our manufacturing process are critical considerations in the assessment of Australian Vinyls' environmental performance.

Australian Vinyls is a licensed Major Hazard Facility under Victorian regulations in recognition of the risks associated with its operations. The company operates under licences from the Victorian Environment Protection Authority (EPA) and

1. A copy of the full Policy can be viewed on www.av.com.au

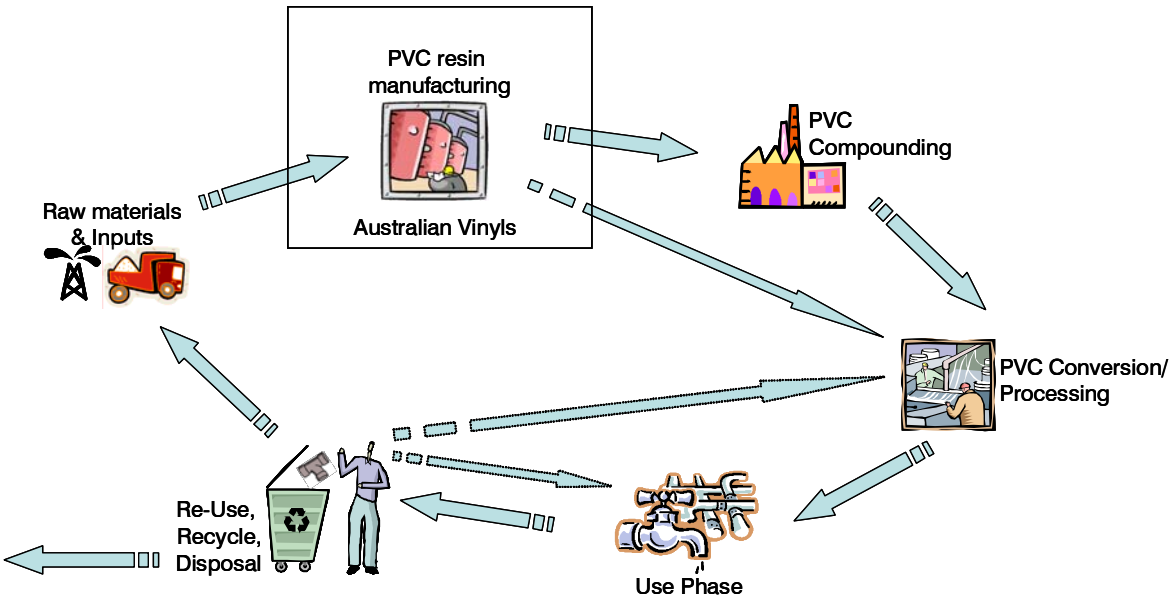


Figure 1: The PVC Life Cycle

WorkSafe Victoria, and a trade waste agreement with City West Water. The PVC production process requires inputs of energy and water, and catalysts and other chemicals.

Our customers process PVC to make a wide variety of products. There are environmental and health issues of concern to the community in the downstream product manufacturing processes, eg use of heavy metals stabilisers and phthalate plasticisers.

Key Stakeholders

This report is addressed to any member of the community who has an interest in our operations or our products. This includes, but is not limited to, people in government, non-government organisations, the media, our neighbours and local community, our suppliers and customers and our workforce. We are committed to the principle of Community Right to Know and therefore endeavour to communicate openly about the performance of our operations and our products.

The company has an Environment Monitoring Team (the EMT) which includes representatives of the local community and other stakeholders. The EMT is discussed in other sections of the report.

Scope of report

This annual report is part of that commitment to keep the community informed. The report covers the safety, health and environmental performance of Australian Vinyls for the reporting year 2005-06, focused on the operations of the Laverton-based resin plant. It reports on progress against the key indicators used to measure our performance, supplemented by some additional information on our activities during the year. This is the company's eighth annual report and historical performance data is provided where available. Copies of all the reports are available on the company's website at www.av.com.au

In preparing this report, we have where relevant and feasible, followed the Global Reporting Initiative (GRI) (version 2) Guidelines 2002.

Our Business

Australian Vinyls Corporation Pty Ltd (Australian Vinyls) is Australia's only manufacturer of PVC, or vinyl. In addition to the polymerisation operations, we have businesses trading in imported PVC resin, caustic soda and a range of specialty chemicals and additives for the plastics and rubber industries. Australian Vinyls operates out of offices in Laverton and Altona in Victoria and Bella Vista in New South Wales.

Australian Vinyls also has a subsidiary called ModWood Technologies Pty Ltd which manufactures wood plastic composites made from recycled timber and plastic. These products are used to replace timber decking, board walks and screening fences. The operations of ModWood have not been included in this report. Some of the safety, health and environmental aspects of the ModWood business are related to energy consumption, solid waste, and potential for injuries and incidents. ModWood operates a wood flour mill and extruders. As the raw materials ModWood uses are recycled plastic and wood waste, the company is actively diverting waste from landfill. Formal systems for monitoring and measuring these aspects and metrics for ModWood's performance will be developed and included in future reports.

Products and services

Australian Vinyls' principal product, PVC resin, is sold to a range of Australian manufacturers, mostly for use in construction and infrastructure applications, such as irrigation, potable water and sewer pipe, conduit, cable sheathing and insulation, floor coverings and profiles. We also have customers in packaging (film and rigid containers) and consumer goods. The resin is packaged or distributed in bulk by road or rail to customers throughout Australia.

PVC resin is classified as a non-hazardous substance under the Australian Safety and Compensation Commission[2] criteria and criteria referred to in transport legislation.

Corporate structure & ownership

Australian Vinyls, ModWood and AVC Trading are wholly owned subsidiaries of AVC Holdings, a privately owned company. Australian Vinyls was established on 1 August 1997 through the merger of Australia's two vinyl resin producers at that time, Orica and Auseon.

In February 2002, the joint venture company closed the smaller, older resin plant it had operated at the Altona Chemical Complex (Victoria) and the shareholders sold the company to AVC Holdings, a management buy-in consortium. In June 2005, Colonial First State Private Equity Ltd became the major shareholder of AVC Holdings with the management buy-in team retaining a significant shareholding in the company.

Scale and assets

Our manufacturing plant at Laverton, Victoria, was originally built in the 1970s and has been upgraded and expanded over the years to a production capacity today of approximately 140,000 tonnes of resin per year.

The Laverton Plant is a Major Hazard Facility under the Victorian Major Hazard Facility Regulations 2000. The plant is located on 36.6 hectares of land including the manufacturing site and a buffer zone around it.

The company maintains the lands and fences and implements an annual weed management program.

Corporate Governance

The Board of AVC Holdings, comprised of the shareholders and an independent non-executive Chairman, has full oversight of the business. The company produces audited statutory accounts in compliance with international accounting standards. At each Board meeting, there is a full review of safety, health and environmental issues related to the business. The Chief Executive Officer provides written assurance to the Board annually on compliance with a range of

[2] Formally the National Occupational Health and Safety Commission

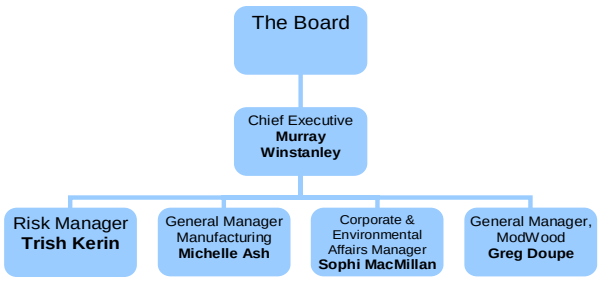


Figure 2. Delegated Responsibilities

regulations and company policies including Occupational Health and Safety (OHS), Human Resources and Trade Practices regulations.

The Board has defined and established the reserved and delegated powers pertaining to the company's operations. Responsibility for Safety, Health and the Environment (SH&E) and factors relevant to sustainability are delegated to the CEO and through him, to other officers of the company (see figure 2).

Australian Vinyls maintains and implements a Safety Health and Environment Policy which commits us to manage our activities with respect and care for people and the environment.

The company has a Safety, Health and Environment Committee comprising the General Manager Manufacturing, Risk Manager, and company representatives from across the business including maintenance, laboratory, operators, technical services and warehouse as well as each office site. The Committee meets requirements of the OHS Act, and OHS (Major Hazard Facilities) Regulations and OHS (Issue Resolution) Regulations. Its purpose is to provide information and assistance to management and the workforce to help attain the goal of a safe, healthy and environmentally responsible workplace. The Committee does this by:

- assisting management to identify OH&S hazards and adverse environmental impacts, and devising and implementing preventative action and risk control measures;
- assisting management to formulate and review documents that ensure the health and safety of personnel and protection of the environment;
- monitoring SH&E performance (e.g. by reviewing SH&E measures, SH&E incident reports, SH&E inspection results, SH&E improvement suggestions) and initiating improvements;
- receiving SH&E improvement suggestions and reporting their resolution back to the pertinent person.

During 2006, the Committee met every five weeks.

Other Policies that have been established by the company are policies related to Anti-Harassment, Privacy, Trade Practices and Equal Opportunity.

The company does not make political contributions

Signatory to International and Australian Programs:

Australian Vinyls is a signatory to the following programs and standards:

Australian	International
AS 4801 OHS Management Systems	ISO9001 Quality
Product Stewardship Program, a program of the Australian PVC industry overseen by the Vinyl Council of Australia	Responsible Care, a program of the international chemical industry, overseen in Australia by the Plastics and Chemicals Industries Association (PACIA)
The Australian Government's Greenhouse Challenge Plus	
The Australian Government's National Packaging Covenant	
Victorian Energy Smart Program	

The company is an active member of various industry associations, including Australian Industry Group (AiG), PACIA and the Vinyl Council of Australia; professional associations such as the Institute of Chemical Engineers (UK) and CEDA; and forums such as the National Safety Council of Australia.

Chief Executive's Statement

At Australian Vinyls, we are committed to sharing information about our performance with both the community and our employees. This report, the company's eighth, is one of the ways we communicate our achievements, long term commitments and goals.

I am pleased to report that during 2005-06 the company made significant progress on reducing our environmental foot-print. Unit usages of water and energy were both reduced, continuing the year-on-year improvement reported in previous reports. Greenhouse gas, VCM, total volatile organic compounds, trade waste, general and prescribed waste emissions were all reduced.

We continue to look for ways to further improve performance in these areas. This is reflected in the targets we set for the planning period to 2009. Details will be provided in our third Environmental Improvement Plan, currently in draft form.

Our recordable case rate fell from 4.5 injuries per 200,000 hours worked to 0.9, a particularly pleasing result and a record low for the Group. The groundwork for this improvement had been laid over a number of years. Details of the programmes we use are provided in this report.

Our sustained focus on improving performance was recognised with two awards during the year:

- Greenhouse Challenge Plus Outstanding Achievement Award in Greenhouse Gas Abatement
- Victorian Manufacturing and Engineering Training Award - Employer of the Year

I would like to thank the many dedicated employees and the external organisations who contributed to these outcomes. As in previous years, our local community and employees have provided effective input and advice through the Environment Monitoring Team. We thank them for their contributions.

The company recognises and accepts the need for continually improving our safety, health and environmental performance. This remains a priority for the coming year.

I welcome and invite your feedback on this report.

M. Winstanley
Chief Executive Officer

Our Performance

Environmental Indicators

The indicators by which we measure our environmental performance essentially relate to impacts arising from what we consume in manufacturing our products (such as energy, water and ozone depleting substances) and what we waste in the process (through, for example, emissions to air and water and solid waste). The company believes that all work-related safety and environmental incidents are preventable.

Energy Consumption

Energy is a significant input into the PVC manufacturing process. Australian Vinyls has been committed to improving the energy efficiency of its operations for over eight years, in order to conserve energy and reduce greenhouse gas emissions. Since 2000, the company has been a signatory to the Australian Government's Greenhouse Challenge program and the current program, Greenhouse Challenge Plus.

AVC Holdings' total energy consumption remains below the Federal Government threshold of 500,000 GJ a year for Mandatory Energy Efficiency Assessment.

The Plant consumed 488,000 GJ of energy during 2005-06, almost two-quarters of which is natural gas and the remainder mostly electricity[3]. This equates to 3.66 GJ of energy per tonne of PVC produced in 2005-06, down 2.2% from the previous year. Our target is 3.6 GJ/tonne PVC. This is detailed in our latest Environmental Improvement Plan (EIP), currently in draft form and covering the period from 2006 to 2009.

The result was achieved through improved boiler efficiency and reduced steam usage and leaks around the plant. Over the past six years, the company has reduced its energy consumption per tonne of PVC produced by 19%.

Water Consumed

We consume a significant volume of water, largely in the reaction process where water is used as a suspension agent, but also for cooling. Various water conservation and reduction measures have been implemented over recent years and use of recycled water has increased significantly.

In 2005-06, the Laverton plant consumed 639,790 kL of water, a 1% increase over the previous year despite a 4.5% increase in production volume. As a result, the rate of consumption per tonne of PVC produced fell from 4.97 kL/tonne to 4.8 kL/tonne. Our long term target is to reach 4.5 kL/tonne PVC.

The reduction in water consumption was the result of reductions in water flow for flushing of mechanical seals and optimising the cycles of flushing for the cooling tower and boiler when water is changed in the systems. In addition, water recycling in the incinerator was optimised and we reduced steam use.

In order to further improve water conservation efforts, the company will focus on employee education and behavioural change programs through better signage and specific training developed in conjunction with City West Water.

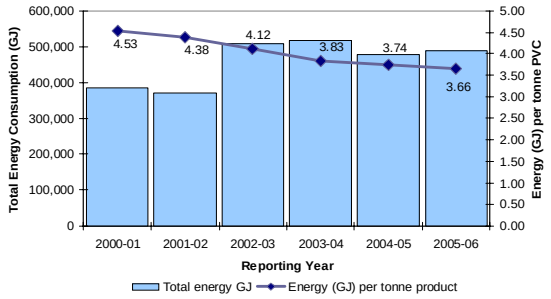
The 4.5 kL/tonne target the company set some years ago is a long term stretch target. Based on agreed and projected improvements which may be made to reduce our water consumption, the company will not meet this target in the short term. Under the company's new EIP currently being drafted, a new short term water target has therefore been set at 4.8 kL/tonne of PVC produced for 2006-7, dropping to 4.75 kL/tonne for 2007-08 and 2008-09.

Ozone Depleting Substances Consumed

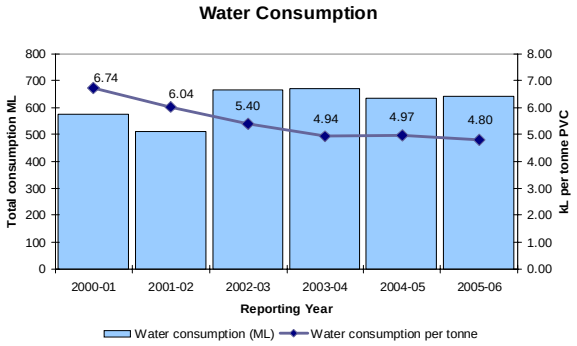
The Laverton Plant consumed 165 kg of the refrigerant, R11 during the reporting year. R11 is a potentially ozone depleting substance used in the refrigeration unit. Although it is no longer manufactured, Australian Vinyls has a licence to purchase R11 from existing supplies. The company has implemented a leak detection system to alert us if

3. Small Volumes of LPG and diesel are used in forklifts and the emergency generator.

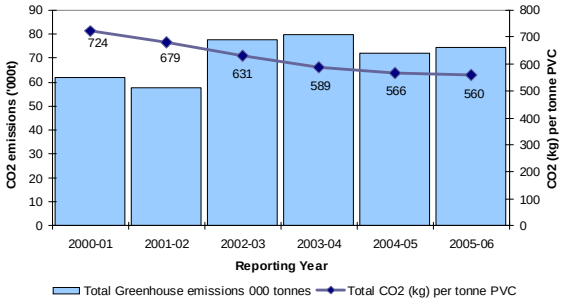
Energy Consumption



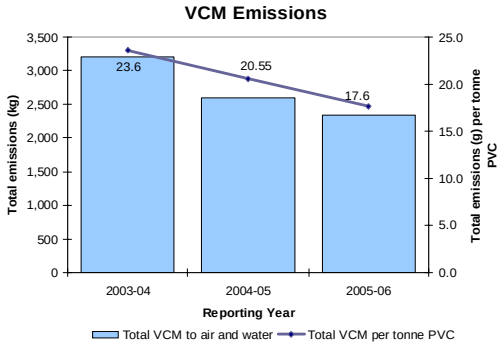
Water Consumption



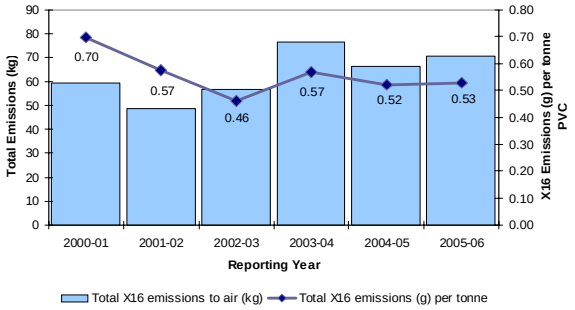
Greenhouse Gas Emissions



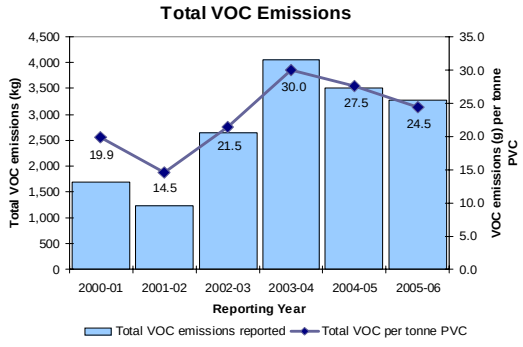
VCM Emissions



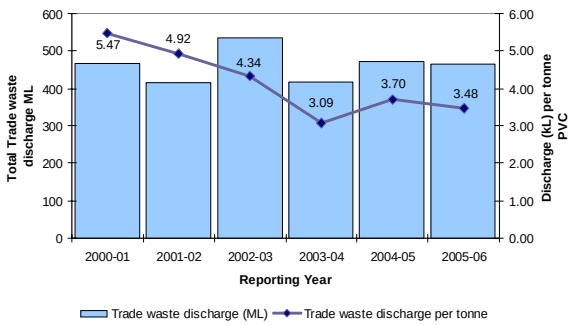
X16 Emissions



Total VOC Emissions



Trade waste



R11 leaks from the refrigeration units, and work has been completed on seals to reduce potential leaks. A project to replace the refrigerant units will occur when the program to up-rate the plant is undertaken.

Environmental Emissions

The Victorian EPA has issued a Waste Discharge licence to Australian Vinyls that specifies limits and monitoring requirements for discharges from the Laverton Plant to the environment. The company maintains an Environment Management Plan, prepared and approved by the EPA, in accordance with this Waste Discharge licence. In addition to this, emissions to air are regulated by a National Environment Protection Measure for Ambient Air Quality, a State Environment Protection Policy for Air Quality Management and reporting of air emissions is required to the National Pollutant Inventory (NPI).

We implement active and passive air monitoring systems at the plant and measure, calculate and report annually both point source and fugitive emissions.

Vinyl Chloride Emissions

Practically all VCM that has been charged to the reactors (autoclaves) for polymerisation but which is not used in the PVC batch manufactured, is recovered for re-use. Several steps in the manufacturing process are designed to recover unused or non-reacted VCM and send it to the Recovered VCM Tanks for reuse.

To ensure we can control emissions, Australian Vinyls has an online, real-time monitoring system, nicknamed SNOOP, based on active air testing, in addition to plant-based and boundary-located carbon tubes. These are supported by an extensive leak detection program. VCM air emissions do not persist in the environment.

In 2005-06, total emissions of VCM to air and water are estimated at 2.3 tonnes, down more than 10% from the previous year. The key performance measure we use of VCM emissions per tonne of PVC produced was 17.6 g/tonne PVC for 2005-06 compared to 20.6 g/tonne for last year.

Our company-set target is emissions of less than 30g/tonne a year. We have an Australian PVC industry Product Stewardship standard of ensuring we emit less than 50g VCM per tonne of PVC annually.

Emissions were lower in 2005-06 due to good recovery of VCM from the stripping process and the fact the plant had no losses of containment. The largest single source of VCM emissions relates to the Gas Holder based on actual and estimated data, accounting for well over half the total. We will continue to investigate how to reduce these fugitive emissions.

X16 Emissions

Ethyl Chloroformate or 'X16' is a hazardous substance used as an initiator in the reaction process. Risks of occupational exposure to X16 are related to short term exposures so we implement an incident threshold for X16 of 1 ppm for a one hour exposure. Exposure and emissions are most likely to occur at the unloading booth where X16, provided in drums, is decanted to a storage tank. Emissions in this area are monitored and measured and the booth has an EPA licensed stack discharge point.

Total emissions of X16 during 2005-06 amounted to 70.5 kg, or 0.5 g per tonne of PVC produced. This was similar to the previous year. Our target is no spills, nor exposures above the time weighted average limit. There were no employee exposures above the time weighted average limit. However, in January 2006, we recorded an incident of a licence breach for X16 when approximately 0.50-0.65 kgs of X16 were inadvertently released.

Investigation of the incident revealed that very hot weather had increased pressure in an X16 drum being unloaded, and this affected the working of the drum pump. In addition, the drum lining became detached, further hampering the decanting process. In this incident, the drum was capped as soon as the alarm sounded, however it was too late to

stop a licence breach. The alarm for the booth emission stack was set at a level representing too high a proportion of the licensed emission amount, so that when the alarm sounded, there was insufficient time to control the emission before the limit was exceeded.

The EPA was notified of the incident. The company was not fined or prosecuted for the breach; however, we have reset the alarm levels to provide more time to act to bring the emission under control and prevent an exceedance. Work processes have been revised so that decanting of X16 drums does not take place in extreme weather conditions.

Greenhouse Gas Emissions

The Plant's total greenhouse gas emissions for the 2005-06 year were 74,646 tonnes of CO2 equivalent, about 3% less than the previous year despite a 4.5% increase in production. The rate of CO2 equivalent emissions per tonne of PVC produced fell from 566 kg CO2-e to 560 kg CO2-e. This represents a reduction of over 22% in the rate since 2000-01.

Laverton plant employees receive the Greenhouse Challenge Plus Outstanding Achievement Award

In September 2005, Australian Vinyls was awarded a Greenhouse Challenge Plus Outstanding Achievement Award in Greenhouse Gas Abatement by the National Greenhouse Office. The award recognises the company's progress in significantly reducing greenhouse gas emissions since joining the Greenhouse Challenge Plus Program in 2000.

The company is committed to continued participation in the Greenhouse Challenge Plus Program. Annual review of the original Greenhouse Energy Audits are intended to identify opportunities for energy reduction to meet State Environment Protection Policy requirements.

A greenhouse gas emission target of 550 kg C02-e/tonne PVC has been established for the 2008-09 year. This will be detailed in our forthcoming EIP.

VOC Emissions

Australian Vinyls calculates its emissions of total volatile organic compounds (TVOCs) as part of its reporting under the National Pollutant Inventory published by the Department of Environment and Heritage at www.npi.gov.au/. TVOC emissions from our operations comprise the products of combustion processes, plus VCM and X16.

In 2005-06, we reported a reduction in TVOCs per tonne of PVC to 24.5 g/tonne from 27.5 g/tonne, although we used more VCM and X16 this year.

This was the result of improved product handling and no losses of containment of VCM.

Unlicensed Emissions

Australian Vinyls implements a comprehensive incident reporting procedure and records incidents on a database. Incidents are categorised conservatively based on State and Federal health and safety guidelines. Our goal is to have no unlicensed emissions.

The company recorded one reportable incident, the X16 incident described above; there were no other environmental licence non-compliances.

Dust

PVC dust emissions can occur in the drying and bulk handling areas of the plant. We have dust monitoring systems to detect failure of scrubber and filter systems that may result in dust emissions. Steps to reduce PVC dust emissions will be undertaken through the new EIP.

Trade Waste Discharge

One of the main sources of waste at the Laverton plant is liquid effluent (waste water produced from the process) which is discharged from the Laverton Plant to sewer. Australian Vinyls has a trade waste agreement with City West Water that specifies limits and monitoring requirements for such discharges.

During the year, Laverton Plant's trade waste discharge per tonne of PVC was reduced by approximately 6% without a deterioration in salt levels (as measured by Total Dissolved Solids and Suspended Solids). Our goal is to ensure that the quality of the trade waste discharge does not breach the agreed limits. There were no breaches of the trade waste agreement during 2005-06 despite the reduced flow.

The reduction in trade waste discharge and the improved quality of the discharge are related to increased water recycling. The plant participated in a City West Water Waste Integration Study in August 2005, which looked at opportunities to improve effluent and potential beneficial uses of effluent.

Table 1: Effluent

	2005-06	% Change from 2004-05
Trade waste discharge	**463,367 kL**	-1.85
Trade waste quality		
- TDS	**322 mg/L**	-4.73
- Suspended solids	**35 mg/L**	-25.53
Total TDS in trade waste	**149,390 kg**	-6.38
Total suspended solids	**16,218 kg**	-26.91
Trade waste discharge/tonne	**3.48 kL/t**	-5.95

Non-reusable Wastes

Australian Vinyls implements the Victorian Environment Protection Classification of Wastes for the wastes it generates. Solid waste produced is largely comprised of packaging waste from supplies to the company, rogue polymer (an unusable form of PVC) and general office waste.

Our target for 2005-06 was to reduce both non-reusable Prescribed Industrial wastes and general wastes sent to landfill by 5%. During the year, significant reductions were achieved. Non-reusable Prescribed solid and liquid wastes were 23% and 79% lower than the previous year respectively. General wastes sent to landfill were reduced by 5.7%.

These results for solid waste were due in part to reduced use of organic peroxides, changing from drum delivery to bulk for some chemicals, and production of less rogue polymer. The amount of prescribed liquid wastes generated year on year is highly variable. The volume of cardboard sent for recycling increased significantly (165%), partly due to cardboard generated during construction activity on the Laverton site.

Opportunities to avoid and recycle such solid waste, particularly reducing Prescribed Industrial Wastes, are being explored and implemented where feasible. One type of Prescribed Industrial Waste is boxes in which Organic Peroxides contained in plastic bags have been transported. These boxes have very little, if any, contamination. The company is investigating an alternative, suitable path of disposal/recycling for this high volume waste.

Investigations into alternative treatment and recycling of rogue polymer are continuing.

Waste Avoidance

For a number of years, the company has been gradually increasing the proportion of locally made resin distributed by bulk rather than in packaging. In 2005-06 however, the use of packaging increased slightly from 17% of resin shipped to 21% due to customer specifications.

Table 2: Waste generation and management

Category		2000-01	2001-02	2002-03	2003-04	2004-05	2005-06
Prescribed Industrial Waste							
Non-reusable[4]	- m^3	1	12	77	12	-	-
	- tonnes	1	12	77	12	13	10
	- litres	-	3,100	14,650	1,601	10,142	2123
Waste sent for recycling/re-use	- tonnes	7	6	22	27	21	18
Non-Prescribed Waste							
Waste sent to landfill	- m^3	915	705	1,050	774	807	761
Drum recycling	- tonnes					15	-
Recycled Cardboard	- m^3				12	96	253
Co-mingled recycling	- kilolitres					4	4
Office paper recycling	- kilolitres					59	34

4. Non-reusable waste includes waste sent to landfill, with or without physical or chemical treatment, or sent to storage.

Other Environmental Aspects

- **Legionella**: We conduct annual Legionella risk management audits and will conduct monthly tests on our cooling towers to ensure we have complete control over the possible instances of Legionella in the system.
- **Safety Case**: In December 2005, work was initiated on the re-submission of the company's Safety Case in order to renew our Major Hazard Facility (MHF) licence which expires in June 2007. Under Victoria's MHF Regulations, the Safety Case needs to be completed and submitted to WorkSafe in December 2006. Preparation of the new Safety Case has involved consultation with the community. A member of the company's Environmental Monitoring Team (EMT) was invited to review progress of the development of the Safety Case in June 2006. The member completed this review and then presented their findings back to the EMT in a subsequent meeting. The review found that the Safety Case was being completed satisfactorily.
- **Environment Improvement Plan**: The company is currently drafting its third EIP. This is being done with the involvement of the EMT. Some of the targets to be included in this EIP are discussed in this report.

Social Indicators:

As a profitable Australian business and local employer in Victoria, Australian Vinyls is committed to delivering sustainable business growth for the company while creating value for the community.

At Australian Vinyls, we measure this through indicators such as employment opportunities, education and training of our employees, the health, safety and well-being of employees, how we engage with the community and how we implement and encourage stewardship of our products beyond the factory gate.

Employment:

Australian Vinyls is committed to the fair and equal treatment of all employees, free from harassment or discrimination and with equal access to opportunity. We select and promote people on the basis of personal merit, competency and the potential to perform the job effectively. Employees are expected to maintain the highest standards of integrity and honesty in performing their work, and with regard to the safety and health of their co-workers, the community and the environment.

As at 30 June 2006, the company employed 118 people on a full time equivalent basis, 14 of whom were contractors. This was an increase of 5.8% on the previous year's employment.

Based on last year's employment data, about a quarter of our employees live locally. Approximately one third of the workforce is represented by a union. Under Australian law, employees have a legal right to freedom of association.

The company provided two apprenticeship places during the year, one for a Mechanical Fitter and the other for an Electrical and Instrument Fitter. We also provided opportunities for two students to gain work experience.

Health & Safety

The company has a strong safety culture and values the well being and safety of its employees. A core belief of the company is that all injuries are preventable and we have developed programs to improve behaviour to reduce injuries both in and beyond the workplace. These programs include Permit to Work, Job Cycle Checks, Unsafe Acts Prevention, Watch Outs and Critical Events identification to identify potential causes of injury and incidents and pre-empt future injuries.

The company maintains an OHS Management System accredited to AS 4801. The System was audited by SAI Global in July 2005 and 5 non-conformances were found and a number of other minor Areas of Concern. The non-conformances have been addressed and accreditation proceeded. A number of positives were highlighted in the Audit report. Overall, it was found that the company was strongly committed to a Management System approach to managing the business.

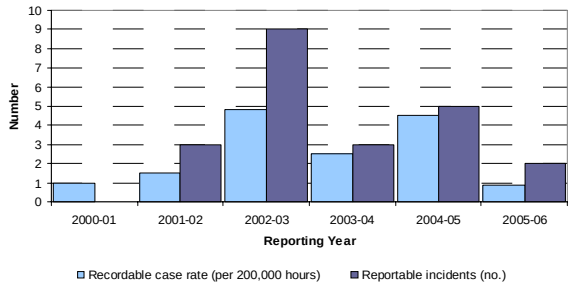
An annual Safety, Health & Environment Improvement Plan is developed internally. In 2005-06, because of national concerns about the outbreak of bird flu, the company developed a Pandemic Plan.

Injuries:

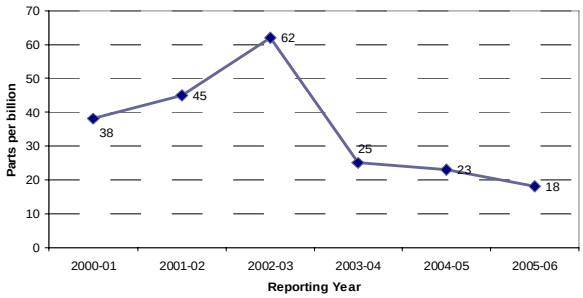
During 2005-06, the company reported two health and safety incidents to WorkSafe. One related to an object falling from a height and the second to a serious laceration, a recordable case injury. A number of minor injuries were also recorded; however, this year's performance was a significant improvement on 2004-05 and as a result the company's Recordable Case Rate for injuries per 200,000 hours fell from 4.5 to 0.9.

All injuries are notified through the Incidents Database, recorded and investigated, so that corrective actions can be taken and causes mitigated.

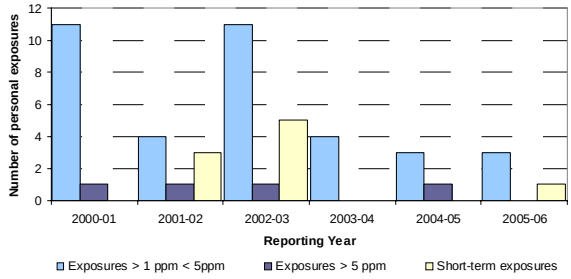
Health & Safety



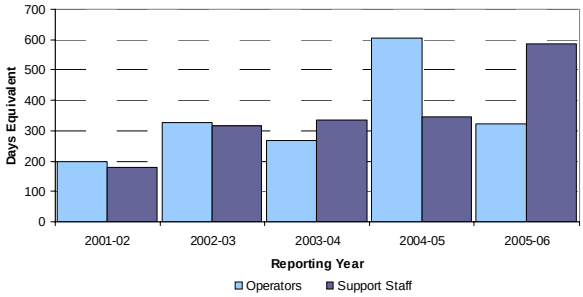
Ambient average VCM concentration



VCM personal exposures



Training & Development



VCM exposure:

As VCM is a known carcinogen when people are exposed to high concentrations over long periods of time, the company focuses on continually reducing employee exposures to the chemical. We operate to a target of a maximum ambient air concentration for VCM in the plant of 23 parts per billion (ppb), measured by carbon tube detectors.

During the year under review, the average ambient concentration measured by carbon tube was 18 ppb, reaching a new record low for the Laverton plant. This is a reflection of the improved handling of VCM in the plant, with no product releases.

There are strict regulations and guidelines for the handling of VCM in our business. We operate a comprehensive employee health monitoring program for people who may potentially be exposed to VCM, using carbon-tube monitoring to detect exposure in addition to regular medical examinations.

The company sets an internal VCM exposure standard of 1 part per million (ppm) over an eight hour time-weighted period, well below the Australian Safety and Compensation Commission standard of 5 ppm administered by WorkSafe Victoria. Any exposures recorded over 1 ppm result in investigation of the incident and the nature of the task that led to the exposure. Corrective action is then taken to eliminate or minimise future risk of reoccurrence.

In 2005-06, 957 personal carbon tube results were analysed. Three recorded exposures of between 1 ppm and 5 ppm but none recorded an exposure greater than 5 ppm. The mean exposure recorded for all samples taken was 15 ppb. There was one short term exposure when an employee was exposed to less than 5 ppm per minute over an 80 minute period.

Each exposure incident was investigated and corrective actions taken to reduce the likelihood of recurrence. Our goal is zero emissions and exposures.

Hearing Loss:

No cases on noise induced hearing loss were identified during the year, meeting our goal. Hearing tests on employees potentially at risk and training in hearing and noise awareness are conducted bi-annually.

During 2005-06, the company agreed a settlement with a former employee who alleged hearing loss during or shortly after his employment with the company.

Training

The company dedicates considerable resources to ensure we maintain adequate training and develop the skills of our workforce. We believe investing in our people improves safety within the organisation, the quality of our production and the competitiveness of our business. 'Improve' is a core component of the company's vision.

An operational training day is rostered into the shift cycle every five weeks and on-site and off-site training opportunities are made available to all employees. From March 2005, engineering and maintenance staff were given a training day once a month, accounting for a significant increase in Support Staff training. Training records are recorded in an electronic database for review and tracking. During the year, training and refresher training programs were run on First Aid and oxygen administration, fire training, stormwater systems, noise & hearing protection, breathing apparatus and gas suits, fall protection gear and asbestos awareness. A number of employees also attended industry conferences.

A total of 322 days of Operators training and 585 days of Support Staff training were provided during the year.

In April 2005, Australian Vinyls won the Victorian Manufacturing and Engineering Training Award 2006 Employer of the Year. As a result of this, the company was one of three Victorian businesses nominated for an Employer of the Year award, presented to a Victorian company which conducts outstanding employee training.

Well-Being Program:

We have continued to run a health program for employees across the company during the year to raise individuals' awareness of health and well-being. Employees were surveyed to ascertain what information was sought on health matters. The resulting program involved a series of health education breakfast seminars run by the SHE Committee on issues such as cholesterol and heart disease, women's health and men's health. The company provides a physiotherapist weekly for treatments.

Community engagement:

Australian Vinyls is committed to open communication of its safety, health and environmental performance to stakeholders. Through consultation with the community, the regulatory authorities and our employees, we are better able to improve our plans and our performance.

Laverton Plant has an Environmental Monitoring Team (EMT) consisting of volunteer representatives of the local community and authorities such as WorkSafe, City West Water, Wyndham City Council and the EPA. The EMT meets bi-monthly and the company reports progress against a number of key performance indicators, such as injuries, exposures to vinyl chloride, resource use and other environmental measures. The Team is advised of engineering integrity processes concerning maintenance of equipment, is shown registers of inspection and maintenance and contributes to discussions on measures of performance. The principal concern of members of the EMT, as we understand, is to see injuries and exposures reduced to zero.

The EMT has also contributed to the development of a new Environment Improvement Plan (EIP) for the company, the third such plan to be implemented by Australian Vinyls. This EIP details processes we will use to continually improve the company's environmental performance and eliminate unacceptable impacts from our operations on the community, our employees and the environment. EIP III will be finalised in late 2006. Input from the EMT was used to finalise and prioritise the actions included in the draft plan. As with our earlier EIPs, the EMT will have an ongoing role in reviewing our progress against the commitments and targets set in the plan. Revised or new actions identified during reviews are documented and circulated to all EIP signatories for approval.

Members of the local community involved in the EMT participated as observers of an emergency response exercise at the Laverton plant. The exercise conducted in March 2005 was one of eight the plant voluntarily conducts every year to ensure it has the equipment and capabilities to respond to an emergency. The exercise demonstrated that the team was able to identify, resolve and clean up the incident well before the issue would have extended beyond the plant boundary. Further enhancements to current approaches and equipment were suggested by the response team and the community members for action by the company.

Community support:

During 2005-06, Australian Vinyls made a commitment to provide financial and other support to a local non-government organisation called Western Chances for the next three years. Western Chances, founded in 2003, assists young people in the Western Suburbs of Melbourne "to realise their potential through the provision of scholarships and other related programs"[5].

Australian Vinyls' major operations are based in the west and many of our employees live in the area. Company management felt that Western Chances' values and beliefs are closely aligned with the way the company seeks to operate: Australian Vinyls values that everyone can be a leader, can contribute and excel given a supportive environment. It made sense, therefore, to join a network that enhances opportunities for children and young people in the Western Suburbs community.

[5] Source: www.westernchances.org.au

Product Stewardship:

Australian Vinyls is actively committed to the stewardship of PVC products and understands that as the sole manufacturer of PVC resin in Australia, the company has a shared responsibility for ensuring the life cycle of PVC has low environmental and health impacts for the community. This responsibility is shared with others in the supply chain including manufacturers of product, suppliers of raw materials, recyclers and consumers. Australian Vinyls is committed to taking a leadership role in this responsibility.

The company is a Signatory to the Australian PVC industry's Product Stewardship Program and maintains an objective of meeting all relevant commitments under the Program. The voluntary Program has some specific commitments relevant to Australian Vinyls' operations:

- A requirement that all resin produced or traded by the company has an average residual level of VCM of less than 1 ppm. This standard minimises the risks of exposure to VCM of downstream workers manufacturing product with the resin. Australian Vinyls met this commitment in 2005-06.
- A requirement to reduce emissions of VCM during resin manufacture to less than 50 g per tonne of PVC produced. This benchmark is in line with international best practice and is half the current European standard set at 100 g/ tonne. Australian Vinyls met this commitment in 2005-06. The company's target is emissions of less than 30 g/tonne.
- A requirement to be a signatory to the National Packaging Covenant Mark II. Australian Vinyls meets this as a participant in the vinyl bottle industry group, which is a signatory to the Covenant. The company has a target of supporting progress towards a 50% recycling rate for PVC bottles to be met by October 2006. By 30 June, 2006 a recovery rate of 49% had been reached.

Trading and Specialty Products businesses demonstrate product stewardship through a number of initiatives. Specialty Products is ISO9001 accredited and the company has adopted internal procedures and processes to ensure appropriate handling and storage of products. These procedures define what the company needs to do to import new products under the Government's chemical management regulations. Some of the traded products are hazardous substances or poisons; the Specialty Products business does not handle Dangerous Goods.

Most of the Specialty Products traded are imported direct to the customer. A small number are stored at Australian Vinyls' Laverton warehouse. A company procedure ensures that Material Safety Data Sheets compliant with the current National Code of Practice for the Preparation of MSDSs (Second Edition, 2003) are provided to customers so that they have appropriate information on the chemicals we supply. Procedures ensure that these MSDSs are automatically re-sent when a Sheet is amended. The new Trading business is being set up under the same procedural system.

There have been no incidents in relation to these businesses.

Caustic Soda traded by the company is stored at facilities operated by Terminals which holds a Major Hazard Facilities licence. Recognised as a Dangerous Good under the Dangerous Goods Code (it is a corrosive substance), it is stored, handled and moved in accordance with appropriate codes and regulations. There have been no incidents with Caustic Soda since this trading business commenced in 2003.

Transport: the company understands the significance of transportation in its overall safety, health and environmental performance. Imported Vinyl Chloride is transported in chartered liquid gas carriers to the port at Corio, near Geelong. The charter ships are vetted by a third party to ensure seaworthiness. Australian Vinyls employs a contract surveyor to oversee all discharges of the cargo to storage spheres at the Terminals' depot.

The vinyl chloride is transported from Corio by road to the Laverton Plant. The company uses haulage companies that are accredited under PACIA's[6] Carrier Accreditation program. Australian Vinyls audited its carrier during 2005-06 under PACIA's Storage and Transport Safety Code of Practice. An action plan to enhance transportation of Australian Vinyls' VCM has been developed.

6. Plastics and Chemicals Industries Association

PVC resin is transported from the Plant to our customers nationally, mostly by road. A limited amount of diesel rail transport is used but under current conditions, is not expected to replace road transport.

During the reporting year, there were five minor incidents related to transportation: one related to driver behaviour, two to resin spillage, one to damaged packaging and the last to a hatch not being secured. Each incident is recorded in the company's Complaints Register in our Customer Account Management system, investigated with customer consultation if required, and corrective actions taken.

In order to address environmental issues associated with marine and road transport, the Environment Improvement Plan under development intends to include an action to develop measurements of greenhouse gas emissions related to our transportation use.

Purchasing: the company has procedures for appointing suppliers to the business and for determining whether to conduct supplier audits. In 2005-06, one supplier, a transport company, was audited by Australian Vinyls.

Responsible Care: The company is a signatory to the international chemical industry program, Responsible Care. This program, overseen by PACIA in Australia, has a component related to product stewardship. During 2005-06, Australian Vinyls' performance in relation to the product stewardship commitments was externally audited and found to be up-to-date. The company was found to be actively engaged in meeting the Responsible Care product stewardship commitments, and participates actively in Responsible Care Network Coordinators meetings.

Product Value: PVC resin is a versatile polymer which is used in a wide range of products. The major use of resin in Australia is for potable water, sewer, drain and waste vent pipes. The durability of PVC, its resistance to tree-root intrusion and its ease of installation are key attributes that lead to the specification of PVC in these applications. With an expected, low maintenance service life of over 100 years for potable water pipe in Australia, PVC pipe plays a significant role in protecting valuable water supplies.

Other examples of applications are

- conduit, cable sheathing and insulation because of PVC's low electrical conductivity;
- floor coverings because of durability and low maintenance requirements and inherent hygiene properties which make it especially suitable for healthcare facilities;
- packaging, because of its ability to prolong the shelf life of food, particularly fresh meat;
- medical products such as blood bags and tubing due to PVC's inherent technical characteristics;
- window profiles because of excellent thermal and acoustic properties.

PVC is specified because of the end-market value its technical properties deliver in meeting product requirements and societal needs.

Economic indicators

Australian Vinyls provides significant economic benefit in Australia, particularly in Victoria, as a local manufacturer and employer. However, we recognise that we also consume valuable resources in terms of energy, water, land and other resources, and have an impact on the community in terms of wastes and emissions. Without neglecting these, we have provided in this report, for the first time, a measure of the community benefit we contribute economically. This measure is based on the monetary return by the company (including ModWood) to the community in terms of wages and direct labour costs, purchased services from other organisations or individuals (excluding direct inputs into production of PVC), interest and taxes paid.

Community Benefit: For 2005-06, the Group's community benefit amounted to $64.3 million.

INDEPENDENT ASSURANCE STATEMENT

URS

To the Board and Stakeholders of Australian Vinyls Corporation Pty Ltd:

Australian Vinyls Corporation Pty Ltd (Australian Vinyls) commissioned URS Australia Pty Ltd (URS) to provide independent assurance of the non-financial content of this Australian Vinyls *Sustainability Report 2005-06* (the 'report'). The report presents Australian Vinyls' social and environmental performance over the period 1st July 2005 to 30th June 2006. Australian Vinyls was responsible for the preparation of the report and this statement represents the auditor's independent opinion. URS' responsibility in performing our assurance activities is to the management of Australian Vinyls alone and in accordance with the terms of reference agreed with them. Any reliance any such third party may place on the Report is entirely at their own risk.

Assurance Objective

The objective of the assurance process is to provide stakeholders of Australian Vinyls with an independent opinion on the materiality, completeness and accuracy of the information presented in the report, and whether Australian Vinyls has responded to stakeholder concerns and adequately communicated those responses within the report. This is confirmed through an audit of the claims made, underlying systems, processes and competencies that support the report, as well as the embeddedness of policies and strategies on sustainability.

Assurance Process & Limitations

Our approach to assurance provision is based on the *AA1000 Assurance Standard*. The assurance engagement was undertaken in October and November 2006. The process involved:

- interviewing management and key selected internal and external stakeholders to ascertain their views on, and responses to, the material social and environmental issues faced by Australian Vinyls, and the communication of these issues;
- a review of Australian Vinyls' key social and environmental strategies, policies, objectives, targets, management systems, measurement/data collection and reporting procedures and background documentation;
- a review of the report for any significant anomalies;
- an overview of the embeddedness of Australian Vinyls' key economic, environmental and social policies;
- a series of interviews with key personnel responsible for collating and writing various parts of the report in order to ensure selected claims were discussed and substantiated;
- the examination of the aggregation and/or derivation of, and underlying evidence for, approximately 40 selected data points and statements made in the report; and
- a review of selected external media sources relating to Australian Vinyls' social and environmental performance.

Our scope of work did not involve verification of the accuracy and robustness of financial data, other than that relating to economic benefit to the community. The Sydney office was not visited as part of this year's assurance engagement. ModWood Technologies Pty Ltd (ModWood), a separate operation that manufactures wood plastic composites is not included in the report, and was therefore not subject to the assurance process.

Our Independence and Credentials

Independence was ensured by selecting an assurance team that had no other involvement with Australian Vinyls during the reporting period that could impair the team's independence or objectivity. URS was not responsible for preparation of any part of this report. URS has not undertaken any commissions for Australian Vinyls in the reporting period concerning reporting or data collection. The audit team comprised of individuals with expertise in the chemicals sector and in environmental and social performance measurement. The audit team has collectively undertaken over fifty assurance engagements in Australia over the past ten years and is also led by a Lead Certified Sustainability Assurance Practitioner (Lead CSAP) accredited by the Independent Register of Certified Auditors (IRCA UK).

Our Opinion

Based on the scope of the assurance process, the following represents URS' opinion:

- The findings of the assurance engagement provide confidence in the reporting processes established. The level of data accuracy was found to be high, but some additional improvements to data management, including recommendations for improvement in data systems are recommended to reduce potential for minor anomalies and to ensure data quality control. Data trails selected were easily identifiable and traceable, and the personnel responsible were able to reliably demonstrate the origin(s) and interpretation of data.
- The statements made in the report appropriately reflect environmental, social and economic performance achieved during the period.

Overall, the auditor is satisfied that the report is an appropriate fair and balanced representation of Australian Vinyls' material environmental and social performance during the reporting period. The auditor is also satisfied of the progress and outcomes achieved in the reporting period as having appropriately reflecting stakeholder expectations. Modwood needs to be incorporated in future reports to ensure completeness. The Sydney office impacts are not sufficiently material to warrant the collection of data, but that should not limit implementing office-based sustainability initiatives.

Conclusions and Recommendations

- ***Materiality***: Issues material to stakeholders as identified through our review have been considered and communicated within the report. Material environmental and social aspects of Australian Vinyls' sustainability performance as deemed through a peer review process are also appropriately addressed. Effective use of resources, safety and health, downstream processing of product and local environmental impacts are seen as the key sustainability issues arising through the limited stakeholder engagement process.
- ***Completeness***: The report was found to be complete in addressing key environmental and social performance as well as all operations of Australian Vinyls, using stakeholder engagement and the peer review as a guide, but was not complete against the more comprehensive Global Reporting Initiative's *Sustainability Reporting Guidelines 2002*. Notwithstanding, the report is of an appropriate size and is representative of the nature and scale of the business.
- ***Responsiveness***: Australian Vinyls has established robust stakeholder engagement mechanisms through the Environment Monitoring Team for local impacts and through the Vinyls Council of Australia for more global impacts as well as community perception issues. Internal engagement is also envisaged. Australian Vinyls is addressing high priority local site issues and have adequately communicated responses within the report. Communication on more global issues is limited. The report is an appropriate tool for stakeholder engagement
- ***Recommendations***: URS has provided suggestions for reporting improvement in some areas, including completing the procedures for data management, which are presently under development. These have been outlined in a more detailed report presented to Australian Vinyls management.

On behalf of the audit team
30th November 2006
Melbourne, Australia

Terence Jeyaretnam
Principal, URS & Lead CSAP (IRCA UK)

Glossary

EIP:	Environment Improvement Plan
EMT:	Environment Monitoring Team
EPA:	Environment Protection Authority
Fugitive emissions:	very small leaks from flanges, collars, valves, seals or other equipment joints
NPI:	National Pollutant Inventory
PACIA:	Plastics and Chemicals Industries Association
Point source emissions:	controlled emissions from licensed discharge points
ppb:	parts per billion
ppm:	parts per million
Prescribed Waste:	wastes listed in Schedule 1 of the Environment Protection (Prescribed Waste) Regulations 1998
PVC:	polyvinyl chloride
Recordable case rate:	a measure of the number of injuries per 200,000 hours of work
Snoop:	Australian Vinyls monitoring system
VCM:	vinyl chloride monomer
Vinyl:	common name for PVC
VOC:	volatile organic compound
X16:	ethyl chloroformate, an ingredient of an initiator used in the polymerisation process

Australian Vinyls Corporation Pty Ltd

ABN 15 078 558 595

65 Leakes Road Laverton,

VIC 3019 Australia

Tel: +61 3 9368 4856

Web: www.av.com.au

Email: info@av.com.au

December 2006