

A healthier and cleaner environment, protecting both ecological and human health



Photo: V. Ferrar, DECC.

DECC values its reputation as an effective NSW regulator of air and water quality, noise and odour issues, chemical and pesticide use, waste disposal, use of radioactive substances, and contaminated sites.

Context

The NSW community is faced with many significant environmental issues as a result of the size of the population and the demands placed on the environment. Air and water quality are ongoing issues, while the use of chemicals, pesticides and hazardous materials can create pollution and contaminate land. These pressures also result in impacts on biodiversity and the loss of native vegetation through overclearing, leading to salinity, soil erosion, changes to the water table, and the loss of plants and animals and their habitats.

DECC is responsible for administering NSW legislation to protect the environment including the *Protection of the Environment Operations Act 1997*, *Contaminated Land Management Act 1997*, *Waste Avoidance and Resource Recovery Act 2001*, *Native Vegetation Act 2003*, *Threatened Species Conservation Act 1995* and the *National Parks and Wildlife Act 1974*.

DECC uses a risk control approach to its regulatory activities for protecting the environment, natural and cultural resources and human health. Activities cover industry operations, government practices and community activities. DECC manages programs that provide more certainty for business, help business and government introduce best practice principles and operate more efficiently, and promote community awareness and understanding.

Outcomes

DECC aims to provide a healthier and cleaner environment, protecting both ecological and human health, by working with communities, business and governments to:

- prevent, reduce or mitigate air, water and noise pollution and other adverse environmental impacts that could affect biodiversity and cause the loss of native vegetation
- remediate or restore degraded environments
- improve community wellbeing
- eliminate unnecessary regulation.

Key drivers

DECC's work in the area of environment protection and regulation is informed by:

- *State Plan – A New Direction for NSW* (www.nsw.gov.au/stateplan)
- *Contaminated Land Management Act 1997* (www.environment.nsw.gov.au/legislation/legislation.htm)
- *Protection of the Environment Operations Act 1997* (www.environment.nsw.gov.au/legislation/legislation.htm)
- *Waste Avoidance and Resource Recovery Act 2001* (www.environment.nsw.gov.au/legislation/legislation.htm)
- *Radiation Control Act 1990* (www.environment.nsw.gov.au/legislation/legislation.htm)
- *Pesticides Act 1999* (www.environment.nsw.gov.au/legislation/legislation.htm)
- *Dangerous Goods (Road and Rail Transport) Act 2008* (www.environment.nsw.gov.au/legislation/legislation.htm)
- Action for Air (www.environment.nsw.gov.au/air/actionforair/index.htm)

Performance indicators

DECC measures performance in the area of environment protection and regulation through the following performance indicators:

- Estimated volatile organic compound emissions in the Greater Metropolitan Region
- Air quality standards exceeded in the Sydney Greater Metropolitan Region
- New pollution reduction programs negotiated with licensees
- Pollutant Load Indicator for air and water pollutants from premises licensed under load-based licensing
- Environment Line – incident reports about air quality, odours or noise from regulated premises
- Prosecutions completed under EPA legislation
- Penalty infringement notices issued by DECC under EPA legislation
- NSW Waste Avoidance and Resource Recovery Strategy – changes in waste disposed of to landfill in the Greater Sydney Region
- Regulatory actions under the *Contaminated Land Management Act 1997*
- High air pollution days in the Sydney Greater Metropolitan Region
- Valid air quality data available from DECC's monitoring network
- Beachwatch and Harbourwatch monitoring programs.



Prevent, reduce or mitigate air, water and noise pollution and other adverse environmental impacts

Clean Air Forum

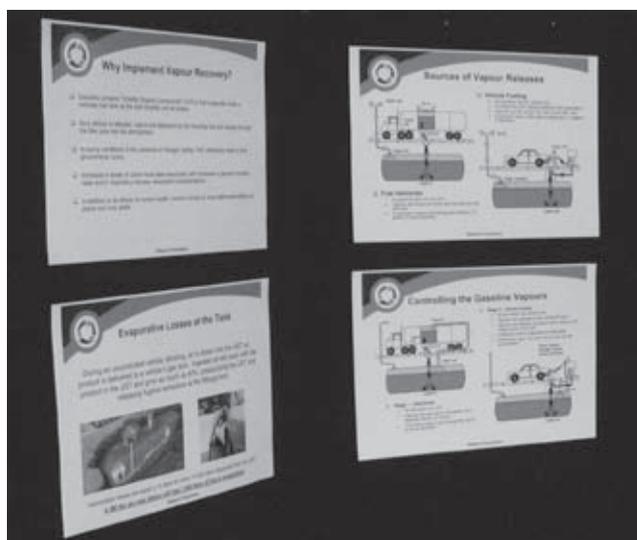
Action for Air is a 25-year action plan for improved air quality, involving all state government agencies. Under Action for Air, DECC hosted the third Clean Air Forum in November 2007. Actions and feedback from the forum contributed to the next update of Action for Air, which is due for release in late 2008.

The forum's theme was 'Clean Air, Cool Climate'. Around 200 guests attended from industry, academia, government, and environment and community groups. Topics covered by speakers and discussion panels included:

- the links between air quality and climate change and ways in which governments are addressing them
- the health impacts of air pollution and local levels of exposure to air pollutants
- progress on achieving State Plan targets relating to air quality
- meeting the national air quality standards.

DECC papers delivered at the forum included *Current and projected air quality in NSW*, *Air emissions inventory for the Greater Metropolitan Region in NSW* and the *Draft NSW cleaner vehicles and fuels strategy*.

For more information on the forum, visit www.environment.nsw.gov.au/air/actionforair/caf2007.htm.



Signs at the Clean Air Forum explain the process of vapour recovery.

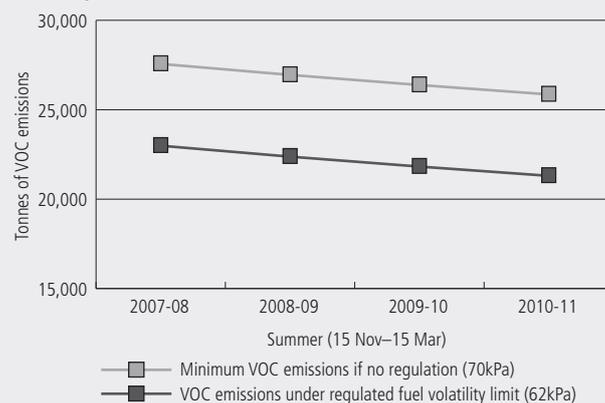
■ PERFORMANCE INDICATOR

Estimated volatile organic compound emissions in the Greater Metropolitan Region

Definition: Petrol vapour containing volatile organic compounds (VOCs) is one of the main causes of smog in the Greater Metropolitan Region (GMR) during summer. Lowering volatility reduces fuel evaporation and emissions from petrol vehicles and machines. The summer period is targeted because the warmer temperatures contribute to greater evaporation of petrol.

This indicator estimates the reduction in VOC emissions that will be achieved as a result of the amendments in 2004 to the Protection of the Environment Operations (Clean Air) Regulation. The amendments require those in the fuel industry to comply with volatility limits set on petrol supplied in the GMR between 15 November and 15 March each year. Figures from previous years have not been supplied because the estimates have been updated to include non-road engines and are therefore not comparable.

Estimated VOC emissions from petrol in the GMR in four-month summer periods (tonnes)



Interpretation: The limits in the Regulation, which are the tightest in Australia, commenced in November 2004. The estimate in VOC emissions from the petrol complying with limits is compared with an estimate of the emissions if no regulation of petrol volatility had been introduced. The estimates for VOC emissions with no regulation are decreasing due to improved emission control technology in vehicles.

Pollution reduction programs

DECC uses pollution reduction programs (PRPs) to reduce air emissions and address specific air and water pollution issues (see performance indicator).

Seventeen PRPs completed during the year meant licensees reduced their emissions and formulated improvement programs. DECC also made PRPs conditions of more environment protection licences, requiring licensees to improve air pollution controls, measures or monitoring equipment. One such PRP is requiring a licensee to progressively replace solvent-based materials used in their production processes with a water-based product. This action will deliver a 90% reduction in volatile organic compound emissions over four years.

DECC negotiated 38 water licences to reduce water pollution through PRPs. For example, DECC negotiated with the Northern Co-operative Meat Company to upgrade their tannery and abattoir wastewater system to ensure sustainable irrigation of wastewater. The upgrade

will be achieved by treating the tannery wastewater with activated sludge technology. The upgrade will be complemented by an expansion and superior management of the existing irrigation area.

DECC attached a PRP to the West Cliff coal mine environment protection licence. The PRP required BHP Billiton, the operator of the mine, to assess water quality impacts so effective treatment technologies or approaches to improve discharge water quality can be developed.

A similar PRP at the same mine resulted in installation of desalination treatment which has significantly reduced the load and concentration of salts being discharged to the Nepean River Catchment. The facility cost approximately \$6 million and has allowed up to 2 ML/d of treated water to be used in underground mining operations, thus reducing the demand on Sydney's drinking water supply. The development and installation of full-scale technology at West Cliff coal mine is estimated to take between three and five years.

■ CASE STUDY

Vapour recovery expanded at petrol stations

Petrol vapours emitted during the refuelling of motor vehicles are a significant and growing source of air pollution in the NSW Greater Metropolitan Region (GMR). These emissions are evident at the petrol dispenser as a visible haze or strong odour and contribute to the formation of ground-level ozone or smog, which is harmful to human health. Petrol vapour emissions can also severely impact on the local amenity of areas near service stations.

Stage 1 vapour recovery (VR1) captures volatile organic compound (VOC) emissions that are vented from underground storage tanks as they are filled by road tankers. Since 1986, NSW legislation has required VR1 controls to be fitted at most service stations in the Sydney region. The area in which service stations are required to install VR1 will now be extended over 2008–2013 to include the Lower Hunter, Illawarra and Central Coast regions.

Stage 2 vapour recovery (VR2) captures and recycles the petrol vapours that would otherwise be emitted into the atmosphere during refuelling of vehicles at the bowser. VR2 can reduce emission of VOCs at service stations by 95%. VR2 technology is required in many parts of the USA, Europe and Asia. The potential implementation of VR2 in Sydney has been evaluated through a 12-month equipment trial, an independent economic analysis and extensive industry consultation. The equipment trial demonstrated the environmental benefits of VR2 and that the technology works successfully and reliably under Australian conditions.

In November 2007, the Government announced its intention to expand vapour recovery by requiring VR2 technology to be fitted at large service stations in Sydney, Newcastle and Wollongong and on the Central Coast. A two-year lead in period from 2008–2010 will

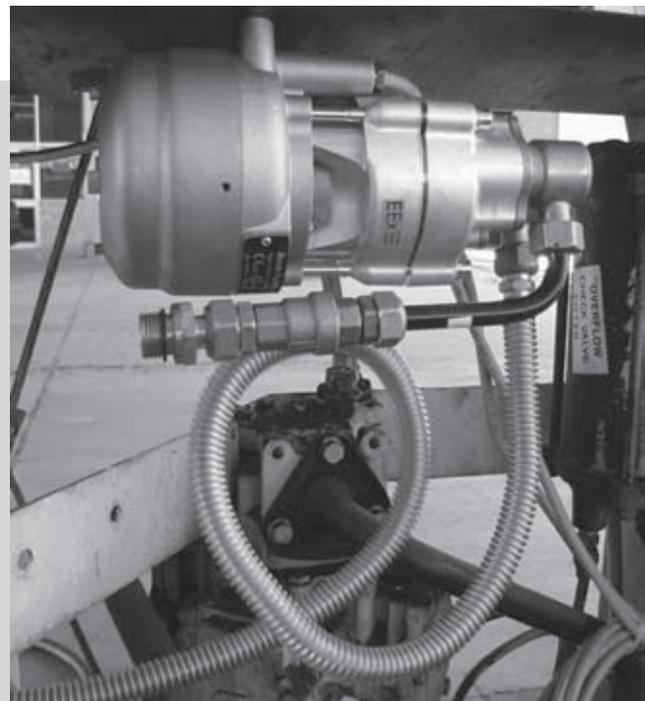


Photo: DECC

VR2 equipment will be installed at petrol stations to capture and recycle volatile organic compounds so they do not escape into the atmosphere and add to air pollution levels.

be provided to resolve a range of issues including equipment certification, industry up-skilling, resolution of technical issues and development of industry codes and guidelines. The new equipment itself will be phased-in over a nine-year period from 2008–2016, to allow service station operators enough time to install it. Small service stations are exempt from the requirement unless they are newly built or refurbished.

The proposed expansion of vapour recovery will reduce VOC emissions by over 5,000 tonnes a year. The Environmental Trust's Clean Air, Healthy Communities Fund is providing resources to assist industry consultation and communication, and implement the new regulations.

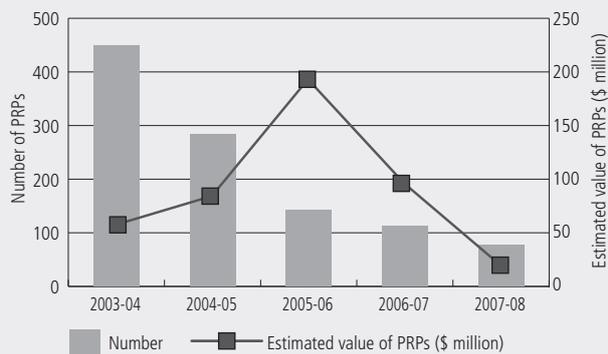
■ PERFORMANCE INDICATOR

New pollution reduction programs negotiated with licensees

Definition: This indicator measures the number and estimated value of new pollution reduction programs (PRPs) negotiated during the year. PRPs are legally enforceable programs that are attached to environment protection licences and negotiated with licensees. PRPs require changes to works or management practices to bring about environmental improvements within a specified timeframe. PRPs may be implemented in stages over a number of years, with specific conditions attached to each stage.

The dollar values are approximate DECC estimates.

Number and estimated value of new pollution reduction programs negotiated with licensees



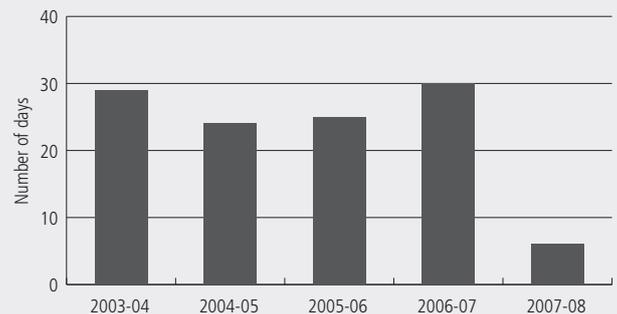
Interpretation: The estimated value of PRPs negotiated by DECC in 2007–08 was over \$21 million. The higher number and estimated value of new PRPs in 2003–2006 were related to Sydney Water's major improvements to Sydney and Illawarra sewage systems, and upgrades in rural plants to improve water quality and reduce sewage overflows.

■ PERFORMANCE INDICATOR

Air quality standards exceeded in the Sydney Greater Metropolitan Region

Definition: The National Environment Protection (Ambient Air Quality) Measure (Air NEPM) specifies national air quality standards for six pollutants: photochemical smog (ozone), nitrogen dioxide, carbon monoxide, sulfur dioxide, fine particles less than 10 micrometres (PM₁₀) and lead. This indicator details the number of days in the Greater Metropolitan Region (GMR) (Sydney, Illawarra and the lower Hunter) when one or more of these standards were exceeded at any site. If more than one standard was exceeded on a given day, that day is only counted once.

Number of days air quality standards exceeded in the Sydney Greater Metropolitan Region



Interpretation: Air quality standards were exceeded on 8 days in 2007–08, 22 days fewer than in 2006–07. Easing of the prolonged drought conditions experienced across south-east Australia greatly reduced the incidence of elevated particle concentrations. There were also fewer bushfires and fewer photochemical smog (ozone) exceedance days, due to a milder and wetter summer season.

■ CASE STUDY

New charge cars at Illawarra Coke Company

The Illawarra Coke Company (ICC) produces high quality coking coal for steelmaking, and lead and zinc smelting. The ICC Coalcliff premises have been operating since 1914. Over recent years, DECC has negotiated PRPs with ICC on a five-year basis. The last round of the five-year program was negotiated in 2004 when five new PRPs were added to the Coalcliff licence.

Coke making involves heating coal in purpose-built ovens to produce a pure form of carbon. The objective of one PRP was to reduce air emissions, including particulate matter, during coke oven charging.

The first stage involved investigating and assessing the emissions and the operational changes that could be made to the company's 58 ovens. The next stage involved trialling different coal charging methods to reduce emissions. Various methods were discounted for operational and technical reasons, with the company finally committing to new charge cars.

In December 2007 and February 2008, two new charge cars were installed on the coke ovens' battery at a cost of \$1.6 million. Due to the age of the battery, they required complex design work. Key environmental features of the new charge cars include:

- a steel boot under the hopper to direct coal into the ovens without discharging emissions



Old and new charge cars at Illawarra Coke Company. The new charge cars are reducing air emissions, including particulate matter.

- a shroud around the loading area to prevent emissions from escaping
- new guides to allow alignment of the charge car with each of the 58 ovens
- three video cameras to allow the drivers to monitor the cars' alignment
- a charging operation occurring under negative pressure with emissions being directed to a baghouse
- captured fine particulates being directed back to the ovens
- a programmable system to allow each oven to be charged with different quantities of coal depending on the oven characteristics.

As a result of the modifications, ICC has reported a significant decrease in charging emissions. There will be further investigation and assessment to evaluate the project's success.

Diffuse source water pollution strategy

DECC developed this strategy for NSW as a significant contribution to Priority E4 of the State Plan (Better outcomes for native vegetation, biodiversity, land, rivers and coastal waterways). For the first time, NSW now has a coordinated approach across all relevant natural resources agencies, catchment management authorities and local councils, to focus efforts on priority diffuse source water pollution problems, mainly pathogen, nutrient and sediment pollution. Agencies will work together to improve the health of rivers, wetlands and estuaries.

Delivery of the strategy will be achieved through an action plan, which identifies cost-effective and efficient actions for the various entities to address diffuse pollution. The action plan will continue to be expanded as more partnerships are established and funding opportunities are negotiated.

Metropolitan marinas and boat repair facilities

DECC completed a project to assess the overall environmental performance of licensed premises in the marina and boat repair facility sector in Sydney, and to address unsatisfactory environmental performance. The project aimed to ensure good environmental practices and controls were in place to prevent further soil, groundwater and surface water contamination at these facilities. Twenty-five premises were inspected.

Overall, performance at most premises was satisfactory, with achievable corrective actions identified and implemented. These related mainly to inadequate bunding around slipways, hardstands, workshops and where fuel or waste oil were stored or dispensed. However, officers identified licence breaches and shortcomings on

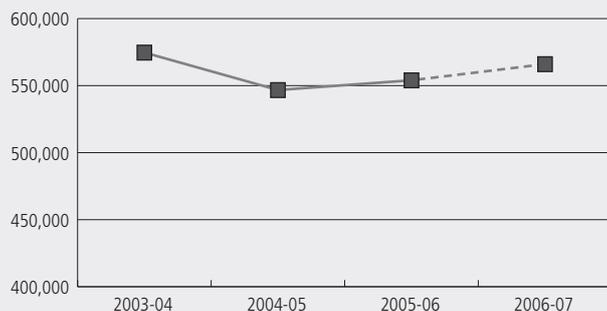
■ PERFORMANCE INDICATOR

Pollutant Load Indicator for air and water pollutants from premises licensed under load-based licensing

Definition: The Pollutant Load Indicator (PLI) represents the total pollutant load emitted by all load-based licensing (LBL) activities for the reporting year, adjusted to reflect the relative harm of the pollutants and the sensitivity of the environment into which they are emitted. A pollutant emitted in very large quantities can have a lower impact than another pollutant with relatively small emissions because of differing levels of toxicity and the sensitivity of the environment into which it is emitted. Fluorides, for example, have a higher pollutant impact than volatile organic compounds, even though their actual pollutant load is lower. The higher the PLI, the greater the environmental harm.

Under the load-based licensing scheme, 12 types of air pollutants and 17 categories of water pollutants are reported by licensees and assessed by DECC. Air pollutants are: arsenic, lead, fine particles, fluorides, nitrogen oxides, mercury, sulfur oxides, volatile organic compounds, hydrogen sulfide, coarse particles, benzene and benzo(a) pyrene. Water pollutants are: total polycyclic aromatic hydrocarbons, total phenolics, pesticides and polychlorinated biphenyls, mercury, arsenic, chromium, salt, phosphorus, selenium, biochemical oxygen demand, total suspended solids, nitrogen, oil and grease, zinc, lead, copper and cadmium.

PLI for total assessable air pollutants

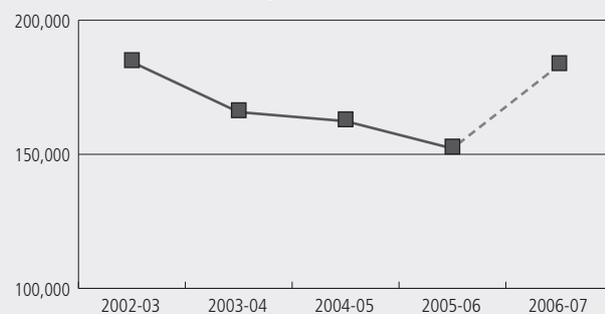


The side axis represents the total Pollutant Load Indicator which is explained above.

Interpretation for air pollution emissions: The PLI for total air pollutant emissions decreased by 5% to 546,723 from 2003–04 to 2004–05. Data for 2006–07 shows a marginal increase of around 3.5% over the two years since then. Increased LBL fees for ozone-causing emissions of nitrogen oxides and volatile organic compounds were introduced in 2006–07. The annual PLIs for these pollutants decreased by 2% and 25% respectively in 2006–07 compared with 2005–06.

Data for 2005–06 and 2006–07 is considered provisional (shown by a dotted line), as quality assurance systems can lead to some restatement for up to two years following reporting. Data from all licensees for 2007–08 will be updated in 2009.

PLI for total assessable water pollutants



The side axis represents the total Pollutant Load Indicator which is explained above.

Interpretation for water pollution emissions: The trend indicates continued improvement in controlling the levels of harm from water pollutants emitted by licensed activities, with a steady decrease in the PLI up to 2005–06. However, data for 2006–07 shows an increase of approximately 20% on the previous year. This is primarily due to significant increases in emissions of total suspended solids by the main Sydney Water sewage treatment systems and increased rainfall compared to 2005–06.

Data for 2005–06 and 2006–07 is considered provisional (shown by a dotted line), as quality assurance systems can lead to some restatement for up to two years following reporting. Data from all licensees for 2007–08 will be updated in 2009.

some sites. In total, licensees committed over \$8 million towards pollution reduction programs and environmental improvement programs and these will be tracked to completion. Feedback from all stakeholders, including the Boating Industry Association, has been positive.

Sydney Water Catchment audit

Between June and October 2007, DECC undertook the fifth independent audit of the Sydney Drinking Water Catchment in accordance with the *Sydney Catchment Management Act 1998*. The report provides a valuable benchmark for the government, private sector and the community who share common interests in the supply of raw drinking water and the health of the catchment. The audit used a core set of 16 environmental indicators to provide a valuable baseline for future audits, and made recommendations relating to raw water quality, managing water resources, land condition and ecosystem health. It will enable stakeholders to identify areas that need to be targeted for additional action.

New noise regulation

A new noise Regulation was introduced this year, completing a commitment under the State Plan to strengthen neighbourhood noise legislation.

The POEO (Noise Control) Regulation 2008 controls noise from motor vehicles, marine vessels and miscellaneous household equipment. The Regulation aims to prevent the selling or driving of vehicles that emit noise above maximum exhaust noise limits or have temporary noise reduction devices designed to cheat noise tests. It controls offensive noise from marine vessels and sound systems used on boats, and restricts the times when equipment such as air conditioners, garden and power tools may be heard, to protect residential amenity during the night and early morning.

Local councils, police and NSW Maritime Officers have been briefed on the new requirements and DECC's five noise brochures are being updated (see www.environment.nsw.gov.au/noise/noise_brochures.htm). The *Noise guide for local government* is also being revised.

Due to the large number of requests from the public seeking more controls on noisy equipment such as leaf blowers and air conditioners, the NSW Government formed an interstate working group, under the auspices of the Environment Protection and Heritage Council, to investigate introducing a noise labelling scheme for Australia and New Zealand.

In 2007–08, DECC undertook 234 noise assessments of sample sites from industries such as coal mines, power stations, quarries and hospitals.

Noise Testing and Anti-tampering Inspection Scheme

In September 2007, DECC formally launched its Noise Testing and Anti-tampering Inspection Scheme. The aim of the scheme is to significantly reduce the number of noisy vehicles on NSW roads and strengthen strategic compliance activities.

A network of approved inspection stations will be established across NSW to provide a more accessible service to vehicle owners. Previously, a vehicle owner reported to have an excessively noisy vehicle had to have the vehicle tested at Lidcombe. This limited DECC's capacity to undertake noisy vehicle compliance activities outside Sydney and vehicle owners often had to wait several weeks to have their vehicles re-tested. Two stations at Granville and Campbelltown have been appointed as the first approved inspection stations. More stations, including stations outside Sydney, will be set up over the next twelve months.

Industrial compliance

Each year, DECC undertakes Strategic Environmental Compliance and Performance Reviews. The reviews integrate compliance audit and licence review programs, and improve industry's environmental performance by providing review findings and examples of best practice operations.

In 2007–08, DECC released its report on preventing contaminated sites. The review focused on activities that could contaminate land or groundwater, such as those taking place in metal industries. The report is available on www.environment.nsw.gov.au/resources/licensing/strategicconsitesreport.pdf. It includes information on best environmental management practices that can be adopted by industry to reduce the likelihood of site contamination.

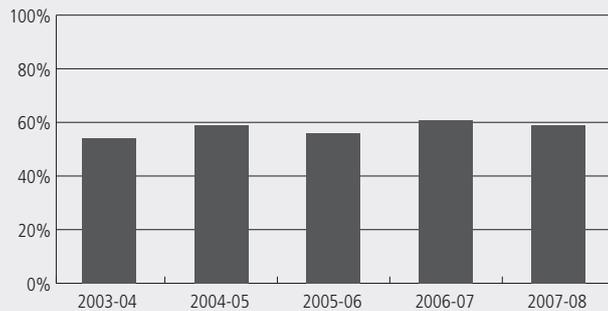
DECC also completed a review to improve the environmental performance of licensed and non-licensed premises in industrial estates. The review was conducted with Tamworth Regional Council and Wollongong City Council, and identified issues such as lack of spill containment structures, practices resulting in dust and odour emissions and inadequate emergency response procedures. The review also highlighted opportunities for businesses to adopt practices to save water and energy and reduce waste, which would also in some instances reduce costs. Better practices included reusing wastewater in manufacturing processes, managing hot water usage to match operational demands and investigating opportunities for neighbouring businesses to reuse waste. A report outlining the findings is available on www.environment.nsw.gov.au/resources/licensing/08444indest.pdf.

■ PERFORMANCE INDICATOR

Environment Line – incident reports about air quality, odours or noise from regulated premises

Definition: DECC's Environment Line receives reports from the public and industry on pollution incidents (see Appendix 13). This indicator measures the percentage of reports received about dust, smoke or other airborne particulate emissions, odour and noise from premises which DECC regulates.

Percentage of total incident reports to Environment Line relating to air quality, odours or noise from regulated premises



Interpretation: When viewed over the past five years, combined air and noise pollution incident reports have remained steady each year as a percentage of total incidents reported to the Environment Line. In 2007–08, they made up 59% of total incidents reported. This large percentage reflects the public's ongoing concerns about lifestyle, amenity and the impacts of air and noise pollution. However, while the percentage rates have remained steady, air and noise complaint numbers have steadily declined from 5,711 in 2003–04 to 4,064 in 2007–08. Over the last two years, the numbers of reports on odours have also declined slightly. This indicates improvements in managing major sources of pollution on-site, including implementation of stricter odour guidelines and pollution reduction programs. Reports of noise increased slightly, in some cases due to large infrastructure projects in regional areas.

In May 2008, DECC commenced a review of industry monitoring. The review aims to increase industry awareness of correct procedures to use when undertaking sampling and analysis, and to use monitoring results to inform site operations and improve environmental performance. A report on this review will be released in 2009.

Another example of DECC's industrial compliance activities was its work with MMP Industrial Pty Ltd, one of the leading companies in NSW in the processing and blending of chemicals, specialising in the automotive industry. MMP Industrial stores and processes thousands of tons of chemicals every year.

In 2007, it was determined that the company's activities must be licensed by DECC under the *Protection of the Environment Operations Act 1997*. As part of the environmental assessment, there was concern that chemical spills, and the lack of wastewater and stormwater controls, could adversely affect the environment. A pollution reduction program was negotiated to deal with these concerns.

Within nine to ten months, some of the environmental achievements completed were:

- spill kits were placed at several strategic locations
- all chemical storage tanks were labelled in accordance with relevant legislation and appropriate guidelines
- an inventory was conducted of all chemicals stored on-site
- two highly sophisticated and specially designed shut-off valves were installed to prevent any material from leaving the site in the event of a major chemical spill
- employees were trained to deal with emergency spills.

Licence reviews

DECC had 16 licences due for review in the 2007–08 financial year. Of these, DECC completed 11 on time, completed 4 late and did not complete 1. Of the five reviews not completed by the due date, one review was delayed due to the licensee seeking modifications to their development consent, two were delayed as site inspections could not be scheduled before the due date, and the remaining two were delayed for administrative reasons.

In accordance with Section 78(3) of the *Protection of the Environment Operations Act 1997*, DECC advised the EPA Board of this result.

Prosecutions

DECC can commence prosecutions for environment protection offences under the authority of the Environment Protection Authority. DECC can also commence prosecutions for offences under native vegetation, threatened species, parks, wildlife and Aboriginal heritage legislation. These are reported on in the next chapter.

Significant prosecutions under EPA legislation during 2007–08 include:

Abigroup Contractors Pty Limited – pollution of waters

In August 2007, the NSW Land and Environment Court convicted Abigroup Contractors Pty Ltd of pollution of waters near Brunswick Heads. Abigroup Contractors Pty Ltd was ordered to pay \$20,000 to the Department of Primary Industries for general environmental purposes, to publicise the details of the conviction in the *Sydney Morning Herald*, *Byron Bay Echo* and *Lismore Northern Star* and to pay legal costs. The offence occurred when sediment-laden water flowed from a work site into a wetland following heavy rain. Inadequate sediment and erosion controls were in place at the time of the offence.

Caltex Australia Petroleum Pty Limited – pollution of waters

In October 2007, Caltex Australia Petroleum Pty Ltd was convicted in the NSW Land and Environment Court of pollution of waters and fined \$12,000. The company was also convicted of failing to notify the appropriate regulatory authority of the pollution incident and fined a further \$15,000. The Court ordered the money be paid to Moree Plains Shire Council for the Mehi River Corridor Restoration Project. The company was ordered to publish a notice of its conviction in two newspapers and to pay legal costs. The offences resulted from a leaking diesel storage tank at a depot in Moree. Caltex discovered the leak and commenced work to remediate the affected area but did not notify DECC or the local council of the discovery.

Lithgow City Council – breach of environment protection licence

In October 2007, Lithgow City Council was convicted in the NSW Land and Environment Court of two breaches of its environment protection licence and fined \$11,250 for the first offence and \$37,500 for the second offence. It was also ordered to complete repairs to its sludge lagoons by 9 June 2008 and to pay legal and investigation costs. The offences arose out of a failure to comply with conditions relating to pollution reduction programs.

Nalco Australia Pty Ltd – pollution of waters

In September 2007, Nalco Australia Pty Ltd was convicted in the NSW Land and Environment Court of polluting waters near Botany Bay. Nalco Australia Pty Ltd was ordered to pay a penalty of \$50,000 to DECC which would be used to implement the Towra Point Nature Reserve Weed Management Strategy, and publish details of its conviction in the *Southern Courier* and the *Sydney Morning Herald*. The company was also ordered to pay legal costs. The offence occurred during the unloading of ethylene glycol from a tanker truck to a storage tank on the company's premises at Banksmeadow. Approximately 9,000L of ethylene glycol flowed out of the tank and passed through the stormwater system.

Nowra Chemical Manufacturers Pty Ltd – pollution of waters

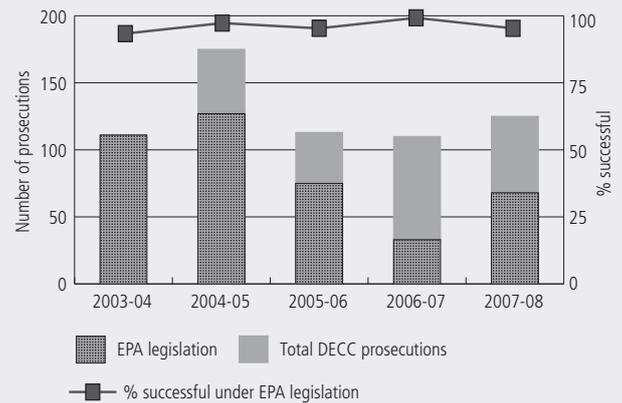
In June 2008, Nowra Chemical Manufacturers Pty Ltd was convicted in the NSW Land and Environment Court of pollution of waters near Flat Rock Dam, Nowra. The company was ordered to pay \$100,000 towards restoration and erosion control works on Shoalhaven River. The company was also ordered to pay DECC's legal and investigation costs. On 19 January 2007, employees noticed that liquid containing sulphuric acid was leaking from an unbunded tank into a nearby stormwater drain. Approximately 1,700 litres escaped. At the hearing on penalty, the Court found that there was harm caused to a number of native plant species along a 22-metre stretch of the stormwater easement.

PERFORMANCE INDICATOR

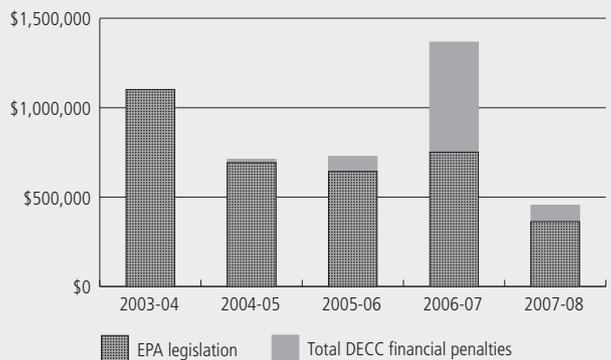
Prosecutions completed under EPA legislation

Definition: This indicator measures the number of prosecutions completed under Environment Protection Authority (EPA) legislation, the proportion that were successful and the resulting value of penalties imposed by the Land and Environment or local courts. 'Successful' refers to prosecution cases that DECC won. These include cases where the defendant was convicted and a penalty was imposed and cases where DECC's case was proved but no conviction or penalty was imposed.

Prosecutions completed under EPA legislation



Value of financial penalties



Interpretation: DECC maintained its consistently high successful prosecution rate in 2007–08 with 96% of its prosecutions successful under EPA laws. The number of such prosecutions more than doubled in 2007–08 although total fines imposed for these offences declined compared with previous years. The lower fine levels are partly a consequence of certain major prosecutions, which were progressed during 2007–08, not having been completed by the end of the financial year.

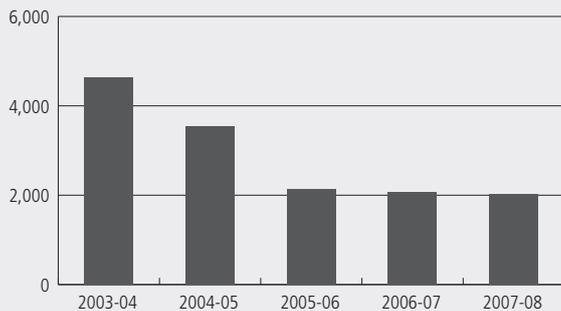
Refer to Appendix 8 Infringements and Prosecutions for more information on all prosecutions.

■ PERFORMANCE INDICATOR

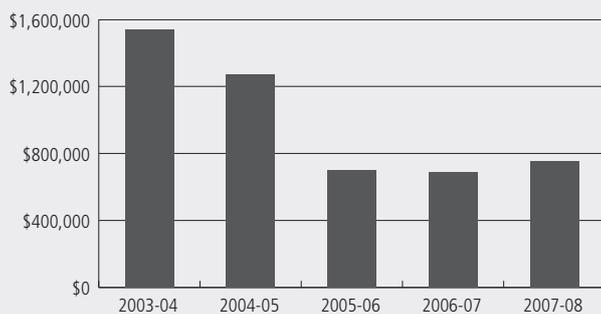
Penalty infringement notices issued by DECC under EPA legislation

Definition: Penalty infringement notices (PINs) are issued for minor breaches of the Environment Protection Authority (EPA) legislation administered by DECC, as well as for smoky and noisy vehicles and littering from vehicles. PINs impose a fine. This indicator measures only the number of PINs issued and processed by DECC. See Appendix 8 for details of the legislation under which these PINs are issued, and PINs issued by local councils.

Number of PINs issued



Value of fines from PINs issued



Interpretation: In 2007–08, 2,032 PINs were issued which imposed fines of \$750,000. In recent years, the number of PINs for motor vehicles, especially smoky vehicles and littering from vehicles, has decreased. DECC's surveys confirm a decrease in the number of smoky vehicles in Sydney. The decrease is partly due to improvements in motor vehicle fuel standards and emission controls, and also reflects the success of DECC's enforcement and education activities.

David John Hogan – use land as a waste facility without lawful authority

In March 2008, Mr David John Hogan was prosecuted in the NSW Land and Environment Court for being involved in the management of a company that used land as a waste facility without lawful authority. Mr Hogan was convicted and fined \$18,000 and was ordered to pay legal costs. Mr Hogan was the general manager of Riverstone Earthmoving Pty Ltd, which operated a landfill in Western Sydney. The landfill received solid waste and virgin excavated natural material. It held an environment protection licence to allow it to operate this waste facility. The Department suspended the licence on 12 May 2006. However, the company continued to operate the landfill until 21 June 2006.

Enforceable undertakings

Enforceable undertakings are an adjunct to prosecutions and are available to DECC in dealing with environmental incidents. DECC negotiated two enforceable undertakings in relation to two separate pollution incidents in 2007–08.

The first was with Delta Electricity, under which Delta agreed to pay \$45,000 for environmental enhancement works involving weed control and bush regeneration at the Colongra Swamp Nature Reserve in Budgewoi.

The second was with Mato Investments Pty Ltd, under which the company agreed to pay \$98,400 for remediation and enhancement works to the Murray River.

Waste compliance activities

The DECC waste compliance and enforcement program uses a broad range of compliance tools such as targeted inspections, sector compliance programs, education and cleaner industry programs. In 2007–08, DECC conducted 16 waste compliance campaigns targeting the disposal of construction and demolition waste, companies generating liquid wastes, waste trucks that do not cover their loads, daily cover at landfills and illegal waste dumping.

DECC compiled a database of over 300 unlicensed waste operators such as skip bin companies in the Sydney Region. The database was developed using classified and online directories. DECC officers also contacted 65 skip bin companies via the telephone and asked a series of questions about the types and quantities of waste they collected. The database provides DECC with an up-to-date list of non-licensed waste operators and information about what types of wastes they are handling, and can be used to identify premises to target in future compliance campaigns.

DECC commenced a compliance project to improve the management and disposal of perchloroethylene (dry cleaning solvent) used by the dry cleaning industry. Information on chemical usage and waste disposal was obtained through meetings with dry cleaning industry representatives, councils and waste treatment facilities. As a result of the project, DECC is developing initiatives to help dry cleaning operators be aware of waste management responsibilities and establish environmentally friendly systems. A multi-lingual educational brochure is being prepared.

In June 2008, DECC hosted a Resource Efficiency Forum in Bankstown for licensed liquid waste generators, focusing on reducing liquid waste. The 30 participating businesses were encouraged to adopt measures that reduce the use of raw materials, energy, water and generation of waste. The forum was also an opportunity to inform businesses of the proposed changes to licensing, the liquid waste levy, waste tracking, Sustainability Advantage and the Green Businesses Program. Presentations were also delivered by Sydney Water about trade waste, and by two companies who had introduced sustainable measures to reduce waste.

Transport of dangerous goods enforcement

DECC, WorkCover NSW, the Independent Transport and Reliability Regulator, NSW Police and the Roads and Traffic Authority (RTA) conduct combined enforcement campaigns, audits and education activities in NSW relating to road and rail transport activities.

In 2007–08, combined enforcement operations with NSW Police and the RTA proved that some transport operators and drivers were still taking risks with dangerous goods. Such risks included incompatible loads, not displaying placards, or not carrying appropriate safety and protective equipment or required documentation. DECC regularly issues penalty notices for such offences or undertakes prosecutions.

Transport of dangerous goods is prohibited on some routes in the Sydney area such as the M5 east tunnel and airport tunnel. In June 2008, DECC assisted NSW Police to investigate an incident involving a semi-trailer carrying a large container transporting toxic products. This vehicle had been driven through the airport tunnel in breach of dangerous goods transport legislation.

In September 2007, a transport company was convicted of four dangerous goods offences, resulting in fines totalling \$15,000. The company was convicted of using a vehicle to transport a load of dangerous goods without the required personal protective and safety equipment, failing to display appropriate placards, and not complying with shipping documentation and emergency information requirements.

In April 2008, a transport company was fined \$3,500 for consigning a load of dangerous goods for transport by road without equipping the driver with emergency information about the dangerous goods being carried.

Also in June 2008, a person was convicted of not complying with dangerous goods transport, shipping documentation and emergency information requirements while transporting a load of dangerous goods, resulting in nearly \$3,000 in fines.

Radiation compliance

DECC radiation officers conduct inspections of regulated premises and investigate breaches of the radiation legislation. As a follow up to a Hunter Valley audit in 2006–07, radiation compliance inspections were carried out on radiation gauges at coal washing and other industrial sites.

High dose reports for radiation workers are reviewed quarterly. DECC investigates the cause of a high dose and ensures that workers do not exceed their annual dose limit. Radiation accidents reports were provided to the Radiation Advisory Committee and the Commonwealth Government to be included on a national register.

In September 2007, DECC radiation officers were involved in the emergency management arrangements for APEC as part of the radiological incident response team.



Photo: W. Stein, DECC

Remediate or restore degraded environments

Crackdown on illegal dumping

Illegal dumping is an important issue for DECC, councils and communities across NSW. It degrades the environment by polluting waterways, destroying vegetation and contaminating land. Illegally dumped waste can pose a health risk and cost landowners significant amounts of money to clean up.

DECC released *Crackdown on illegal dumping handbook for local government* in February 2008. It is designed to help councils understand why illegal dumping occurs and reduce incidences. It advises councils on ways of developing, implementing and evaluating illegal dumping prevention programs, and minimising opportunities for illegal dumping.

Waste management and the construction industry

DECC conducted social research into the construction industry to benchmark industry awareness, knowledge, behaviours and practices relating to:

- transporting waste to a lawful place
- fines and penalties for illegal dumping
- accurate record keeping
- the supply of information about waste to council officers, DECC and private certifiers.

Results from this social research were used to inform DECC campaigns, and in the development of the brochure *Know your responsibilities: managing waste from construction sites*.

DECC joined forces with local councils and Regional Illegal Dumping Squads to help stamp out the illegal dumping of construction and demolition waste in NSW. DECC worked with Bankstown, Newcastle, Parramatta, Sutherland Shire and Wollongong councils to raise awareness in the

■ CASE STUDY

Aboriginal Lands Clean Up Program

This program involves DECC, Local Aboriginal Land Councils and local government working together to improve the wellbeing of Aboriginal communities and the environment by removing illegally dumped materials from Aboriginal-owned lands.

The Clean Up and Deterrence of Illegal Dumping on Aboriginal Owned Land Grants provide \$50,000 of funding for clean-up and deterrence activities. DECC is currently completing two projects and has approved a further four clean-up programs involving Kempsey Local Aboriginal Land Council and Kempsey Shire Council, Darkinjung Local Aboriginal Land Council and Wyong Shire Council, Mogo Local Aboriginal Land Council and Eurobodalla Shire Council, and Gilgandra Local Aboriginal Land Council and Gilgandra Shire Council.

Aboriginal communities will also be better able to deal with illegal dumping. After extensive consultation



Photo: B. Graham, courtesy Sutherland Shire Council.

Working together to clean up illegally dumped materials on Aboriginal-owned lands.

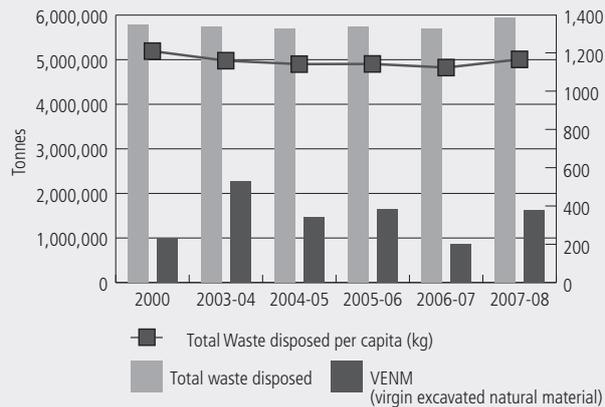
with Aboriginal communities, more than 15 Aboriginal organisations provided examples and photographs of successful projects to address illegal dumping for a handbook and DVD. Draft versions of these were released in early 2008 for comment and final versions are due to be released in 2008–09.

■ PERFORMANCE INDICATOR

NSW Waste Avoidance and Resource Recovery Strategy – change in waste disposed of to landfill in the Greater Sydney Region

Definition: This indicator measures the tonnes of waste disposed of to landfill from the Greater Sydney Region (from Port Stephens to the Shoalhaven and including the Sydney Metropolitan Area). DECC leads the implementation of the NSW Waste Avoidance and Resource Recovery (WARR) Strategy.

Waste disposed of to landfill in the Greater Sydney Region



Interpretation: In 2007–08, waste disposal in the Sydney area was down by 3% compared to 2000 levels. Waste disposal in the Illawarra and Hunter regions increased overall between 2000 and 2007–08.

While the total quantity of waste disposed of increased between 2006–07 and 2007–08, it is estimated that 250,000 tonnes in 2007–08 was due to the impact of regulatory reforms and more effective compliance action.

Total waste disposed per capita has decreased by 4% between 2000 and 2007–08.

construction industry of waste disposal responsibilities. They distributed educational material to over 500 businesses, and conducted inspections and audits of 82 local construction sites to check compliance with waste management plans and to ensure waste was being taken to an appropriate reuse or disposal facility.

DECC also conducted a project to improve waste disposal practices of the top 20 construction companies in NSW and their subcontractors. Thirteen construction sites were inspected to check waste handling procedures, waste disposal receipts and waste management plans. DECC also required five businesses to provide information and records about their procedures for waste disposal.

Underground petroleum storage systems

The Protection of the Environment Operations (Underground Petroleum Storage Systems) Regulation 2008 (UPSS Regulation) commenced on 1 June 2008.

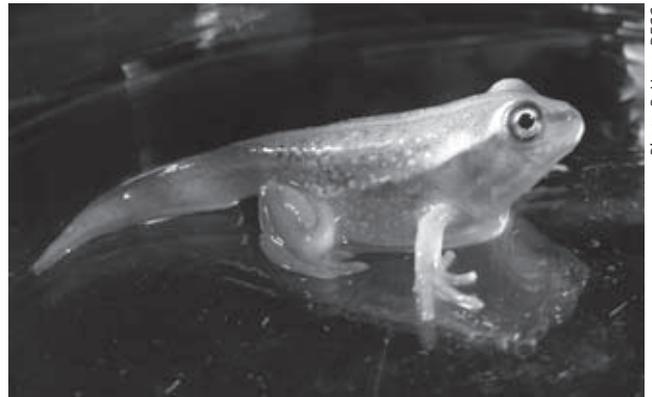
Underground petroleum storage systems (UPSS) can leak, leading to expensive clean-up bills and damage to the environment. Persistent leaks can have a major impact on neighbouring properties and impose significant financial and environmental costs on the tank owner and the broader community.

The Regulation introduces preventative measures to reduce harm to the environment and human health. It aims to save money, minimise time-consuming remediation by preventing leaks or dealing with them early, ensure industry best practice is followed and ensure appropriate validation and decommissioning of systems and sites. DECC is preparing guidelines to help those responsible for a UPSS to understand and comply with the Regulation.

Contaminants in sediments test

DECC ecotoxicologists have continued to progress a project to develop a more rapid and sensitive chronic test for contaminants in sediments. The test uses embryonic stages of an amphipod that burrows in sediments. It focuses on reproductive success and development of embryos in the first 13 days of the amphipod's life cycle. The test is proving amphipods are sensitive to contaminants. They take the metals into their bodies through diet rather than through water absorption. Conditions for culturing the amphipods in the laboratory are being improved. The test will lead to improved management of contaminated sediments in Australia. The project is funded by the Environmental Trust.

Studying southern bell frogs



Southern bell frog tadpole turning into a frog.



Southern bell frog in Yanga National Park.

DECC scientists completed a study to assess the effects of herbicides on frogs, including the southern bell frog, in rice crops of the Coleambally Irrigation Area, NSW. The *Frogs as bioindicators for chemical use in an irrigation-based agricultural study* found that the endangered southern bell frog and its tadpoles were found on 20% of study farms with mixed crops in the north compared to 70% of study farms in the south. Other species were found to be uniformly distributed. Although there was a correlation with types of crops, results suggested that the differences in abundance were due more to habitat modification than pesticides. The study was funded by the Centre for Ecotoxicology and Land & Water Australia.

DECC scientists are also monitoring populations of the endangered southern bell frog and other frog demographics in Yanga National Park. This work uses non-destructive determinations of age from toe-clippings and sex ratio to assess the health of the Yanga population and provide models for future population trends. To date, it appears that water availability and timing of water releases and how they fit in with the frog's breeding cycle are strongly influencing breeding success.

Comprehensive dataset expanded

DECC scientists' contributed to the 2006–07 study by the Department of Primary Industries that revealed the extent of dioxin-like compounds present in fish and prawns throughout Sydney Harbour. The dataset provided an invaluable opportunity to gain an understanding of how fish species respond to chemical levels in the environment. The dataset has now been expanded to include sediments and water column data. This expansion will help those developing environmental models to make more robust predictions about ways in which levels of persistent organic chemicals will vary with changes in environmental conditions.

Scientific collaborations

DECC has engaged in a number of collaborative pesticide and chemical research opportunities this year. Scientists from DECC and University of Technology Sydney studied the impact of pesticide mixtures on horticultural areas around the Hawkesbury–Nepean River. The project was funded by an Australian Research Council Linkage Grant. DECC has also been collaborating with scientists from CSIRO Land & Water on an Environmental Trust project to develop a framework for soil quality guidelines.

■ CASE STUDY

Remediation of the former Armidale Gasworks site

DECC declared the former gasworks a remediation site under the *Contaminated Land Management Act 1997*. The use of the site as a coal fired gasworks from 1885 to 1971 resulted in the land being contaminated by tar and gasworks waste, which were produced in the gas making process. The site is environmentally sensitive, as it is located adjacent to Dumaresq Creek.

Remediation of the site was undertaken by Armidale Dumaresq City Council with assistance from DECC and a grant from the Environmental Trust. The remediation consisted of constructing a barrier wall around the perimeter of the site to enclose the contaminated soils and prevent movement of groundwater through the contaminated soils. The most heavily contaminated soil was removed and disposed of following treatment and the remaining soil was capped. The remedial work was assessed by an independent auditor.

The site has now been redeveloped as a shopping centre and car park with approximately 600 car spaces. A long-term vapour and groundwater monitoring and



Photo: DECC.

Removing contaminated soil from around the gasworks infrastructure.

maintenance plan is being implemented to ensure that any residual contaminated material remains contained and harmless to the environment

The benefits of this remediation project are:

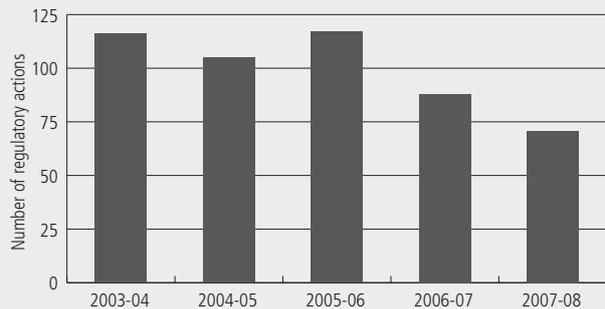
- the ongoing generation of contaminated groundwater has been prevented or ameliorated
- the land is accessible to the community
- the commercial site provides opportunities for local businesses.

■ PERFORMANCE INDICATOR

Regulatory actions under the *Contaminated Land Management Act 1997*

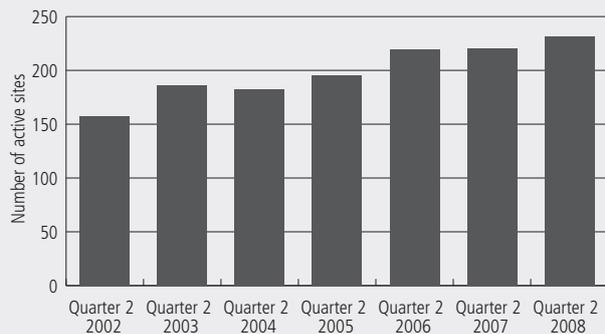
Definition: This indicator outlines the number of regulatory actions DECC has taken under the *Contaminated Land Management Act 1997* (CLM Act). When contamination presents a significant risk of harm as defined under the Act, DECC may take one or more regulatory actions to clean up the site. These actions include assessing contamination under the Act, declaring investigation areas and remediation sites, and developing orders and agreements for voluntary proposals relating to investigation or clean up tasks.

Regulatory actions under the Contaminated Land Management Act



Interpretation: The number of regulatory actions each year fluctuates in accordance with regulatory needs. Several actions are normally taken to regulate a site. Completing the clean-up of a site can take several years. As equilibrium has not been reached between the number of new contaminated sites notified and the number of sites successfully cleaned up each year, the number of sites under active regulation is still increasing. Once a site is brought under regulation, a significant amount of resources can be spent on ensuring an appropriate outcome without any more regulatory actions being taken. The following table shows the total number of sites under active assessment and regulation.

Total number of active sites



In 2007–08, DECC undertook 71 regulatory actions compared with 88 in 2006–07. This year, DECC received 24 new contaminated site notifications; assessed significant risk of harm to people and the environment on 31 sites; issued 34 regulatory notices, and brought 12 more sites under the regulation of the CLM Act to a total of 121 sites under current regulation; and oversaw completion of the remediation or investigation of 7 sites. These actions have allowed 15 regulatory notices to be withdrawn and brought the total number of sites remediated since 1998 to 65.



Photo: B. Webster, DECC.

Improve community wellbeing

Regional Air Quality Index website

In June 2008, DECC launched the most significant change to air quality information on its website since the service was launched in 1998. The new Regional Air Quality Index provides hourly updates of air quality data from the 24 monitoring sites in NSW, including information on levels of carbon monoxide, nitrogen dioxide, one-hour and four-hour ozone, sulfur dioxide, and particles as PM_{10} and as a measure of visibility. The new index also provides pollution forecasting.

DECC and NSW Health continue to operate a health alert system on the Regional Air Quality Index site. This is designed to alert asthmatics and other sensitive members of the community to high pollution days and their possible health effects. For the first time in Australia, there is now an SMS and email subscription service so people can receive alerts for high pollution days.

The new look air quality pages have improved navigation. The hourly data is colour-coded to display the health status and associated health message for any measured concentration. In 2007–2008, one health alert was issued for the Sydney region.

The new index replaces the old Regional Pollutant Index, and is available on www.environment.nsw.gov.au/AQMS/aqi.htm.

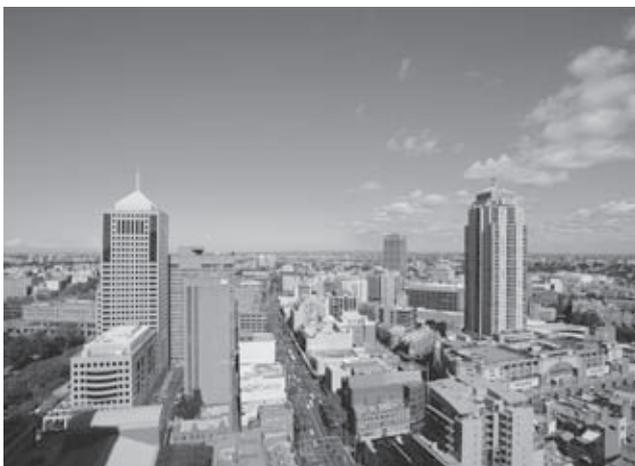


Photo: B. Peters, DECC.

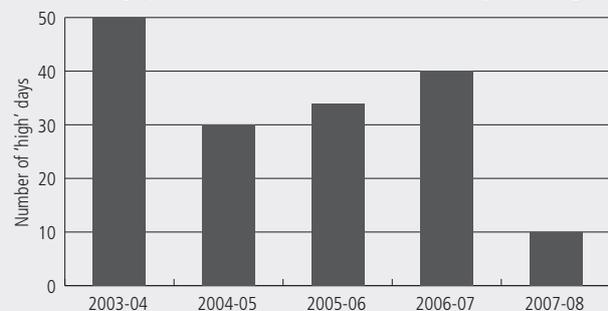
DECC's new Regional Air Quality Index provides hourly updates of air quality data from Sydney and other NSW regions.

■ PERFORMANCE INDICATOR

High air pollution days in the Sydney Greater Metropolitan Region

Definition: The regional pollution index (RPI) is an air quality index based on measured hourly concentrations of photochemical smog (ozone), nitrogen dioxide and visibility. RPIs are calculated for three regions in Sydney (central east, north-west and south-west), two regions in the Illawarra (Albion Park and Wollongong), and three sites in the lower Hunter (Beresfield, Newcastle and Wallsend). The index is reported twice daily, in the morning and afternoon. RPI values in the 'high' category indicate that ozone or nitrogen dioxide have exceeded the national standards, or visibility is less than the NSW goal of 10 kilometres. A day is counted as having high pollution if the RPI in one or more regions reached 'high' in either the morning or afternoon report. The RPI has now been replaced by the Regional Air Quality Index.

Number of high pollution days in Sydney Greater Metropolitan Region



Interpretation: The air pollution index (RPI) was high on 10 days in 2007–08, 30 days fewer than in the previous year. Easing of the prolonged drought conditions experienced across south-east Australia greatly reduced the incidence of elevated particle concentration. There were also fewer bushfires and fewer photochemical smog (ozone) exceedences due to a wetter and milder summer season.

Beachwatch and Harbourwatch

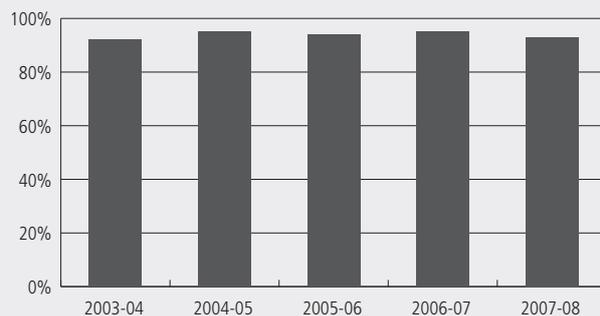
The Beachwatch and Harbourwatch programs monitor the health of Sydney's beaches and harbour and issue daily assessments of pollution levels to the public. A further 148 regional sites are monitored in partnership with 12 local councils under the Beachwatch Partnership Program, from Ballina in the north to Bega in the south.

■ PERFORMANCE INDICATOR

Valid air quality data available from DECC's monitoring network

Definition: This indicator measures the percentage of time valid data was available to the community from DECC's air quality monitoring network in the Greater Metropolitan Region (Sydney, the lower Hunter and the Illawarra) and four regional cities (Albury, Bathurst, Tamworth and Wagga Wagga). 'Valid' data is data that has been fully quality-assured. The maximum time valid data can be expected from the network is about 95%, because of the need to calibrate data monitoring equipment.

Percentage of time valid air quality data is available from DECC's monitoring network



Interpretation: Maintenance, calibrations and quality assurance tasks are routinely performed on instruments in the air quality monitoring network. Loss of data during these tasks means that the optimum percentage of valid online data is about 95%. The network for 2007–08 was run at levels just below optimum, with valid data available for 93% of this period.

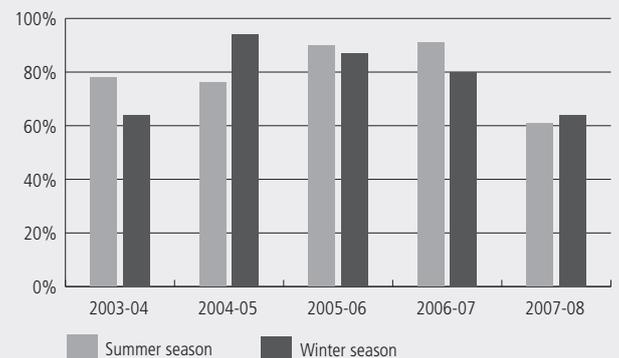
The annual *State of the beaches* reports are issued each October and provide a comprehensive summary of Beachwatch activities and water quality results. Beachwatch data shows that the beaches of NSW are generally in excellent condition. During 2007–08, more than 70% of regional coastal swimming locations monitored under the Beachwatch Partnership Program complied with swimming guidelines in all months despite heavy rainfall and flooding in many areas of NSW. Monitoring by some local councils shows that there is still room for improvement at swimming sites in coastal lakes and estuaries, particularly following rainfall. *State of the beaches 2007–08* is due for release in October 2008.

■ PERFORMANCE INDICATOR

Beachwatch and Harbourwatch sites complying with swimming water quality guidelines

Definition: DECC's Beachwatch and Harbourwatch programs monitor water quality at 131 recreational sites in Sydney, the lower Hunter and the Illawarra, reporting on a daily, weekly, monthly and yearly basis to the community and stakeholders. Samples are tested for two indicator bacteria: faecal coliforms and enterococci, and sites must meet the criteria for both to meet the swimming guidelines. The winter season extends from May to September; summer extends from October to April.

Percentage of Beachwatch and Harbourwatch sites complying with Beachwatch swimming water quality guidelines more than 90% of the time



Interpretation: Due to extremely wet weather in 2007–08, an increase in pollution was recorded at a number of beaches caused by stormwater and sewage overflows triggered by heavy rainfall. This resulted in lower compliance levels with Beachwatch water quality guidelines than in previous years.

Despite lower levels of compliance in 2007–08, water quality has shown a marked improvement over the last ten years, being 93% better than it was in 1998–99 when extremely high rainfall levels were last recorded. These results are due to long-term improvements in the management of stormwater and wastewater.



Photo: K. Carter, DECC.

Beachwatch monitors sea quality daily, informing the public of any pollution issues.

NSW litter report

Every two years, DECC reports on the composition and quantity of litter across 100 sites. The 2006 Litter Report was released in August 2007. It is the second in the series. Some of the findings from the 2006 litter survey include:

- the total number of litter items found on sites increased between the 2004 and 2006 surveys by 6% with an average of 47.5 litter items per site
- the most common litter item was cigarette butts (100 sites), followed by plastic waste (71 sites), paper waste (70 sites), confectionery waste (66 sites), beverage waste (61 sites) and organic materials (55 sites)
- a relatively small number of categories of litter made up most litter items counted; in 2006, cigarette butts comprised 59% of all litter items, and the next most common item was beverage waste, comprising 13% of all litter items.

Emergency management

DECC is the coordinating agency for the protection of the environment during major disasters and emergencies. DECC is represented on the State and District Emergency Management Committees where it advises other agencies on ways of preventing or minimising environmental impacts. Key emergency management initiatives in 2007–08 were:

- DECC assisted the Department of Primary Industries and the State Emergency Management Committee with the overall response to the equine influenza outbreak that started in late August 2007. DECC advised on the management of wastes and other hazardous substances.
- DECC coordinated a multi-agency working group that assessed NSW's capability to respond to decontamination following an incident involving chemical, biological or radiological substances.
- DECC staff were trained for emergency response activities and participated in specialist emergency management training for other agencies.
- DECC contributed to the development and running of a major exercise, Exercise Oily Carp, led by NSW Maritime in March 2008 in Coffs Harbour, to test the overall response to major oil spills on the NSW coast.

Hazmat incident response

DECC maintains a 24-hour emergency response and hazardous materials advice service linked to the Environment Line and the DECC regional after-hours incident response services. DECC staff attend significant incidents, usually to oversee clean up or to investigate potential breaches of environmental legislation. In 2007–08, DECC was notified of 189 hazardous materials incidents. DECC staff attended 30 incident sites and provided advice over the telephone for the remaining incidents. Significant incidents in 2007–08 included:

- a truck on the Barrier Highway, Cobar, containing munitions, flammable and corrosive dangerous goods, tyres and other goods was involved in a fire
- 1600 litres of sodium chlorite solution spilled in a warehouse, resulting in flash fires caused by spontaneous combustion as the liquid chemical dried
- fire broke out in a warehouse at Arndell Park involving 60 tonnes of nitrocellulose
- between 20,000 to 30,000 litres of waste oil, grease and water escaped from an industrial site in Blacktown into Breakfast Creek
- two light planes carrying pesticides collided mid-air whilst spraying crops on neighbouring farms near Narrabri.

New requirements for licensed pest controllers

The NSW Government has a longstanding commitment to staged implementation of notification of pesticide use. This year, work continued on implementing new requirements for licensed pest controllers to provide prior notice to 'sensitive places' (schools, childcare centres, kindergartens, preschools, nursing homes or certain community health centres) when they propose to spray or inject liquid pesticides outdoors on adjacent premises.

Nanotechnology inquiry

Nanotechnology is the precision engineering of materials to produce tiny particles with novel properties due to their small size. Products containing nanomaterials are already in use, such as in many sunscreens.

In June 2008, DECC was asked by the NSW Legislative Council Standing Committee on State Development to give evidence at a Parliamentary hearing on nanotechnology. Submissions to the inquiry closed in March 2008 and the inquiry's final report is due in October 2008. In addition to participating in the inquiry, DECC contributed to a whole-of-government NSW submission which was coordinated by the Department of Premier and Cabinet.

Technology assessments

DECC assesses and regulates technologies used for hazardous waste destruction in NSW. In 2007–08, DECC assessed the technology used to destroy chemical waste on a site in Kurnell, as well as approving commissioning and proof-of-performance programs for destroying hazardous waste on the Hydrodec site in southern NSW.

DECC continued to regulate storage of Orica's hexachlorobenzene (HCB) waste while the issue of ultimate destruction of the waste was further investigated. DECC was also involved in the planning approval process for the proposed directly heated thermal desorption (DTD) treatment of Orica's car park waste. DTD technology involves desorption, or separation/vaporisation of contaminants from materials at temperatures typically in the range of 300°C to 450°C in a rotary dryer.



Photo: B. Graham, courtesy Sutherland Shire Council

Eliminate unnecessary regulation

Regulatory reform

DECC has an extensive regulatory reform agenda, with all regulations scheduled for review every five years. Rigorous and published cost–benefit assessment is used to ensure that the benefits generated from new proposals significantly outweigh the costs or that they deliver statutory goals at least cost. DECC uses best practice in this area and applies the Government’s Better Regulation Principles to all its regulatory reforms.

DECC aims to cut red tape and reduce the regulatory burden on business, government and the community whilst maintaining appropriate environmental controls and outcomes. DECC is currently engaged in reforms such as streamlining Aboriginal cultural heritage and native vegetation regulation, and creating a more efficient environment protection licensing system.

Simplified requirements for waste management and regulation

DECC’s review of the waste regulatory framework introduced a more simplified and streamlined waste licensing and regulatory system. These changes aim to encourage further investment in innovative ways of reducing the amount of waste disposed of to landfill and increasing recycling.

Amendments to the *Protection of the Environment Operations Act 1997* and Protection of the Environment Operations (Waste) Regulation took effect on 28 April 2008. These changes, made under the Protection of the Environment Operations Amendment (Scheduled Activities and Waste) Regulation 2008, follow consultation with the waste industry and the broader community. The changes provide:

- fewer and simpler licensing categories for waste, with waste licensing categories reduced from ten to three licence types to better reflect ways in which industry manages waste
- removing the need for approximately 300 licences
- a streamlined waste classification system
- new resource recovery licensing categories and resource recovery exemptions
- clearer requirements for managing asbestos and clinical waste.

DECC developed a simplified licence for waste transporters that has reduced red tape and the administrative burden for over 600 licence holders by removing unnecessary licence conditions, and removed requirements to list all vehicles and lodge annual returns. The changes to the licences reduced the average size of a licence from 40 to 14 pages.

Liquid waste levy introduced

Licensed waste facilities are required to pay a contribution for all solid waste received. This is known as the waste and environment levy. This levy was extended to ‘trackable’ liquid waste on 1 October 2007 to provide the same economic incentive as for solid waste, by discouraging the generation of potentially hazardous liquids and encouraging the recovery of reusable substances that would otherwise be disposed of.

Online waste tracking system

The transport of certain wastes within NSW must be tracked. Waste tracking involves obtaining prior approval to transport certain wastes and completing specific documentation each time such waste is received or transported. DECC has developed an easy and efficient online waste tracking system for those moving trackable wastes around NSW.

The online system provides DECC with better information about waste flows in NSW, enabling pressure points to be identified early and corrective action to be taken before they become a major problem. The intelligence gathered also enables DECC to identify and deal with illegal activities more systematically, leading to a better environment and a fairer waste market.

To support this system, DECC recently published a series of nine fact sheets titled ‘Waste tracking fact sheets – protecting the environment and your business’. They provide essential information to improve the waste industry’s knowledge of tracking liquid waste and to promote due diligence. Major waste companies have indicated that they will include relevant fact sheets in their advice to new customers. The fact sheets are available on www.environment.nsw.gov.au/owt/wastetrackfs.htm.

Waste data system

Operators of licensed waste facilities must pay the waste and environment levy on every tonne of waste they receive. To support this system, landfills must report to DECC on the waste they receive each month. Each year DECC receives over 4,300 paper-based waste data reports from waste facility operators, councils, hazardous waste generators, transporters and facilities.

To reduce the paperwork costs, DECC has introduced an electronic service that allows facilities to complete and submit their waste data online. DECC has boosted this service with time saving tools such as levy liability and deduction calculators and email prompts when reports or payments are due. The introduction of this system enabled more responsive waste management, and will ultimately lead to better environmental outcomes, in line with community expectations.

Transport of dangerous goods legislation

In 2007–2008, DECC worked with the National Transport Commission and all Australian jurisdictions to finalise a new Australian Dangerous Goods Code, and new dangerous goods legislation which is scheduled to come into effect in all Australian jurisdictions by December 2008. The reforms replace the existing legislation with an updated uniform national regulatory scheme which matches the UN Model Regulations to ensure that classification, packaging, labelling and placarding requirements are compatible with international regulations and codes.

The NSW component of the new legislation was introduced into the NSW Parliament in June 2008. The Dangerous Goods (Road and Rail Transport) Bill 2008 follows the example of national legislation by regulating the transport of dangerous goods by road and rail. The Bill reduces inconsistencies between different forms of transport, promotes safer practices, facilitates international trade and expedites responses to incidents. The reforms will also promote safety and improve domestic transport efficiency to benefit retail distributors and small business.

Mutual recognition of dangerous goods occupational licences

During the year, DECC represented NSW on the Council of Australian Government's (COAG's) Land Transport Regulatory Group which is working to implement mutual recognition of occupational licences, including dangerous goods. A national framework was designed to help address skill shortages and increase the mobility of skilled workers in Australia who currently need additional testing and registration if they wish to work in another state. It is anticipated that ministerial declarations will be made later in 2008 under section 32 of the *Mutual Recognition Act 1992*, to widen the range of occupational licences within the mutual recognition framework.

Dangerous goods education and training

DECC worked with other jurisdictions that administer dangerous goods transport legislation in Australia to develop a competency-based national dangerous goods driver training framework so skill-related requirements for licensing can be demonstrated through vocational education and training. Jurisdictions aim to have a new national competency-based training framework designed and agreed to before the end of 2008.

■ CASE STUDY

Resource recovery exemptions facilitate using waste in infrastructure

While many waste-derived materials are not suitable for land or thermal applications, certain waste or waste-derived materials can be applied to land or used as a fuel. Resource recovery exemptions were introduced under clause 51 and 51A of the Protection of the Environment Operations (Waste) Regulation 2005 in April 2008 to clearly distinguish between beneficial and safe resource recovery activities and those that may be harmful.

DECC publishes resource recovery exemptions on its website (see www.environment.nsw.gov.au/waste/RRecoveryExemptions.htm) so processors and consumers can be certain that they are making and dealing with legal recovered materials. The resource recovery exemptions also encourage generators and processors of waste to put in place better environmental standards, and better test and characterise waste-derived material.

Recovered aggregate is one example of how the resource recovery exemptions work. In 2006–07, around 1.6 million tonnes of construction and demolition waste went to landfill in NSW. This waste included old bricks and concrete, tiles, aggregates and general demolition rubbish. The resource recovery exemption for recovered aggregates enables recoverable demolition waste to be processed to produce material that can replace virgin rock and aggregates in road making, landscaping and general construction. This reduces the need to quarry new virgin materials and offers an avenue for recovered aggregate to be reused rather than adding to the burden of waste in landfills.

DECC provided information sessions to industry groups on implementing dangerous goods legislation in NSW. These included presentations at the Australian Environment Business Network seminar in Sydney and the Plastics and Chemical Industry Association member conference. DECC also trains police officers who can enforce the dangerous goods transport requirements.



Photo: DECC.

DECC provides training to industry representatives on the regulation governing the transport and handling of dangerous goods.

State regulatory reform

DECC reviewed the Pesticides Regulation 1995 to evaluate its effectiveness and efficiency. Following stakeholder consultation, proposed amendments were approved in January 2008 by the Minister for Climate Change and the Environment. After gazettal, the new provisions will commence in September 2009 to give the industry time to prepare.

DECC also reviewed the Environmentally Hazardous Chemicals Regulation 1999. The review was prompted by the staged repeal of the statutory rules program. Following stakeholder consultation, a remade Regulation has been proposed which is awaiting gazettal. The 2008 Regulation continues the provisions of the 1999 Regulation with the only changes being adjustments to the fees covering licensing activities and to the assessment of technologies to be used for the treatment of wastes controlled under the Act.

National regulatory reform

The regulation of chemicals and plastics has been identified by the Council of Australian Governments as a 'hotspot' for regulatory reform. The Commonwealth's Productivity Commission is reviewing regulation of the sector.

A COAG Ministerial Taskforce is working to develop measures to achieve streamlined national chemicals and plastics regulation. The taskforce is being informed by the independent Productivity Commission study into regulation of the chemicals and plastics sector. Its draft report was released on 19 March 2008 and its final report will go to the Commonwealth Government on 28 July 2008.

DECC led the preparation of a NSW Government submission on the draft report and a submission from the national NChEM Working Group. These processes have provided an opportunity to advocate reforms to address significant gaps in the national system for managing the environmental effects of industrial chemicals.

Radiation control

DECC administers the *Radiation Control Act 1990*, which aims to protect people and the environment from the harmful effects of exposure to ionising and non-ionising radiation. In 2007–08, DECC worked with the Radiation Advisory Council to review the radiation legislation to ensure that its objectives are being met and that the regulation of radiation in NSW is both efficient and effective in controlling risks to human health and the environment. A public discussion paper setting out the issues for review is expected to be released later in 2008.

Changes were made to the Radiation Control Regulation 2003 in September 2007, exempting registered dentists and dental auxiliaries from licensing requirements when performing general dental radiography. This particular initiative benefits over 3,000 dentists in NSW who previously needed a licence for performing this low-risk activity.

The amendments also allowed for the option of three-year radiation licensing instead of annual renewal, reducing the administrative burden to government in administering such licences and making it easier for licensees to conduct their business.

DECC commenced work on legislation to regulate the use of solariums. This has been deemed to be necessary to protect people in NSW from the harmful effects of UV radiation emitted by cosmetic tanning units. The Regulation will control the use of this apparatus, particularly by young people and those considered to be at risk of developing skin cancers.

DECC participated in national uniformity of radiation protection through its role on the inter-jurisdictional Radiation Health Committee. DECC contributed to the further development of the *National Directory for Radiation Protection*, published by the Australian Radiation Protection and Nuclear Safety Agency (ARPANSA). DECC also contributed to the development of other ARPANSA codes of practice and radiation standards, including a *Code of practice for radiation protection in the medical applications of ionizing radiation* and the *Code of practice for safe transport of radioactive material*.

DECC is continuing to progress implementation of the radiation security measures agreed to by COAG in April 2007 as part of Australia's Chemical, Biological, Radiological and Nuclear Strategy, including the staged implementation of the ARPANSA *Code of practice for the security of radioactive sources*. DECC is working with ARPANSA, NSW agencies and other Australian jurisdictions to develop a national database of high risk radioactive sources, protocols for interstate tracking of sources, and guidance for stakeholders affected by enhanced security requirements.

Planning reform – review of concurrences and referrals

The NSW Government introduced a number of planning reforms to streamline the state's planning and development approval processes. DECC reviewed all relevant concurrence and referral provisions in legislation and environmental planning instruments as part of this process. It found that more than 250 concurrences and referrals were no longer necessary as they were either outdated, duplicated other legislation or planning requirements or could be replaced with reference to a guideline.

DECC developed *Guidelines for developments adjoining Department of Environment and Climate Change land* to replace a number of the referrals. The guidelines were completed and published in May 2008 (see www.environment.nsw.gov.au/protectedareas/developmntadjoiningdecc.htm). They request that:

- a local council or another consent authority consider the matters set out in the guide when a development is proposed to adjoin DECC land
- the consent authority either refuse the application or seek advice from the relevant DECC regional office where the consent authority believes the development is likely to have significant adverse impacts on adjoining DECC land.

Where appropriate, reference to the relevant DECC guidelines will be incorporated into the draft State Environmental Planning Policy (Repeal of Concurrence and Referral Provisions) 2008. These changes will contribute significantly to streamlining the development assessment process while maintaining the Government's commitment to sound environmental outcomes.