

Industry Sector:
**Drum or Container Reconditioning
Works**
September 2001

Compliance Performance Report



ENVIRONMENT PROTECTION AUTHORITY

This *Compliance Performance Report — Industry Sector: Drum or Container Reconditioning Works* was prepared by the Compliance Audit Section, NSW Environment Protection Authority.

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EXECUTIVE SUMMARY

As part of its industry sector based Compliance Audit Program, the Environment Protection Authority (EPA) conducted compliance audits on licensed premises across NSW where drum or container reconditioning is undertaken. The objective of the audits was to assess each enterprise's compliance with the statutory instruments issued to the premises and with legislation administered by the EPA, and to outline a program of follow-up actions needed to address non-compliances and improve environmental performance. This report is based on a collation of these audit findings. It provides an insight into the industry sector's overall compliance performance and a summary of other issues of environmental concern identified through 'further observations' during audits.

The procedures and protocols for conducting each of the audits within the sector are described in the *EPA Compliance Audit Handbook* (EPA 1997). Assessment of compliance at each premise was undertaken by a detailed site inspection and a review of records and documentation relating to the premise. Officers of the EPA carried out the audits between August 1999 and September 2000.

Eight licensed drum or container reconditioning works were audited out of a total of eleven premises licensed for this purpose State-wide. It is therefore likely that issues identified in this report are generally typical of the whole industry sector.

Based on the audits, the industry could improve its compliance and environmental performance by:

- providing containment around all drums and other vessels containing substances that have the potential to cause pollution of air, water or land
- promptly cleaning up leakages or spillages of liquid or material
- properly operating and maintaining air and water pollution control equipment
- ensuring that wastes generated at the premises are stored and disposed of in an environmentally acceptable manner
- tracking incoming and outgoing wastes in accordance with licence requirements.

While the EPA, through a systematic and rigorous process of follow-up action programs, ensures that these particular issues are being addressed at the audited sites, they are likely to be of concern at any premises undertaking drum or container reconditioning and warrant an ongoing focus by site management at all sites. The EPA will ensure that the issues identified are also being addressed at the premises that were not audited as part of the sector audit program.

The EPA will also use the findings of the sector report to review how best its resources could be channelled to guide industry overall to address the issues identified in the report. This will include considering the use of regulatory tools such as licence conditions and enforcement, as well as additional tools such as policy documents, education and consultation/negotiation.

It is also hoped that the report will be of benefit to the industry and local government in understanding and managing the environmental and business risk of operating in the drum or container reconditioning industry.

Key issues identified from the audits are listed below.

Air

- The generation of odours from chemical spills and uncovered liquid waste vessels.
- The storage and treatment of wastes in a manner that may increase the emission of odours and pollutants to the atmosphere.
- The operation of drum reconditioning plant and equipment without adequate pollution control to minimise the emission of pollutants to the atmosphere.

Water

- The discharge or potential for discharge of contaminated wastewater and stormwater runoff from the premises.
- Delivery and handling of materials in a manner that is likely to contaminate stormwater run-off discharged from the premises.
- Inadequate facilities to contain leaks or spills of material that could contaminate stormwater runoff.

Land

- Inadequate containment of material likely to cause soil contamination.
- No action taken in response to site contamination.

Waste

- Lack of segregation of incompatible waste types.
- Unsuitable method of disposal of wastes generated on the premises.
- Hazardous waste not transported by a licensed waste transporter.

Monitoring

- Inadequate maintenance of air emissions monitoring equipment.
- Inadequate monitoring of pollutants discharged to the atmosphere.

Legislative requirements

- Legislative limit exceedance of air pollutants.
- Works not undertaken in accordance with a Clean Up Notice.

Administrative requirements

- Certificates of Compliance (now Statements of Compliance) not provided to the EPA, or not provided within the required time frame.
- Failure to keep records required by the EPA.

Waste tracking requirements

- Failure to accurately identify types of waste transported from the premises.
- Failure to report details of waste transporters and waste destinations to the EPA.
- Failure to obtain consignment authorisation numbers for waste transported from the premises.

INTRODUCTION

Purpose of this report

This report has been prepared to present the key findings of the compliance audits carried out on a representative sample of premises within the drum or container reconditioning sector. The audits were undertaken on those premises across NSW that are regulated by way of statutory instruments issued under environmental legislation administered by the EPA.

The EPA expects that the drum or container reconditioning works sector will use this report to identify areas in which it can improve its overall level of compliance. It is also expected that the report will be used to improve the environmental performance of the sector and of individual premises within it. To assist with this, the EPA will be presenting the findings of the Industry Sector Compliance Audit Program to relevant peak industry bodies. The EPA will also appoint a sector review manager, who, with input from relevant stakeholders, will consider the issues identified by the audits that were found to be prevalent across the industry.

This report has been prepared for the purpose described and no responsibility is accepted for its use in any other context or for any other purpose.

Selection of industry sector

Industry sectors targeted in the EPA's Industry Sector Compliance Audit Program are chosen on the basis of an assessment of major community and environmental concerns and EPA corporate objectives and strategies.

Individual premises within the industry sector are selected for audit in consultation with EPA regional offices to get a representative sample of the sector. As there are few licensed drum or container reconditioning premises in NSW, most of the premises (8 out of 11) were audited.

Audit methodology

EPA compliance audits were performed on the selected premises in accordance with the procedures and protocols in the *EPA Compliance Audit Handbook* (copies of the Handbook are available from the EPA's Pollution Line: 131 555). The audits were limited to a review of each enterprise's compliance with legislation administered by, and statutory instruments issued by, the EPA.

When an audit is completed, the findings are presented to the enterprise as an individual compliance audit report. These reports are based on information from the EPA's files, information supplied by representatives of the enterprise and observations made during site inspections, which were done between August 1999 and September 2000. The reports contain a plan of action, with recommendations on what must be done by each enterprise to comply within an agreed time period. These recommendations relate to non-compliances and other areas where enterprises can improve their environmental performance.

EPA staff follow-up on compliance audits to ensure that the enterprise is implementing the actions required of it in the report. The EPA has a systematic and rigorous monitoring program that tracks these follow-ups to ensure that all actions are completed. Individual compliance audit reports are publicly available in the EPA Library at Level 15, 59–61 Goulburn Street, Sydney. The findings presented in this report are a collation of the findings presented in the individual compliance audit reports.

Description of industry sector

Description of the drum reconditioning process

Drum or container reconditioning involves the receipt and storage of empty open head and closed head (also known as bung type or tight head) drums and other containers used to store chemicals, that require cleaning and other forms of reconditioning before reuse. Upon receipt, drums are screened to assess the condition of the drums and quantity of residue contained in the drums. Residues that can be removed manually are drained or vacuumed from the drum. Drums are then further cleaned by one of two methods, incineration or washing, as described below.

Drum Incineration (2 of the 8 premises audited)

Open head drums, and closed head drums that contain material unsuitable for washing such as inks and resins and have had the tops removed, are passed through a drum furnace. The remnants of the drum contents, the drum coating and external finish are burnt off. Emissions from the drum furnace are directed to afterburners where they are exposed to a minimum temperature of 950°C, prior to discharge to atmosphere. The drums are then cleaned by shot-blasting internally and externally.

The drums pass through an automatic expander and/or body roller to restore the drum to its original shape, and the bottom of the drum is re-chimed and sealed prior to further processing.

Drum Washing (7 of the 8 premises audited)

Drum washing processes vary from site to site, however the general principles remain the same. Closed head drums are generally washed to remove any remnants contained within the drums. If rusty, the drums may be passed to a “chaining” or de-scaling process where a length of chain is placed inside the drum with a small quantity of liquid and the drum spun to remove any residual scale rust from the internal surface of the drum.

Drums are then passed to a fully automated drum wash that washes the internal and external surfaces of the drum with heated chemical solutions (usually caustic), followed by a series of boiling water rinses and finally a steam rinse. In the larger washing plants vapour and mist generated in the drum wash is directed to a caustic scrubber prior to discharge to atmosphere.

Compressed air is then blown into the drum to remove dents, and the drum is rolled at high speed to reshape the rim. All drums are leak tested prior to further processing.

Once cleaned, all drums are then painted externally and/or internally prior to delivery.

Description of the audited premises

Seven of the 8 premises audited undertook reconditioning of open head and closed head drums, primarily with a capacity of 205 litres, by means of incineration or washing. Two of the audited premises carried out both drum incineration and drum washing. Five of the audited premises undertook drum washing only. One premise received and stored drums on site and distributed them for processing at alternate drum reconditioning premises.

Scheduled Activity

Premises that undertake drum reconditioning are defined under Schedule 1 of the *Protection of the Environment Operations Act 1997* as follows:

Drum or container reconditioning works that recondition, recycle or store:

- (1) *packaging containers (including metal, plastic or glass drums, bottles or cylinders) previously used for the transport or storage of substances classified as poisonous or radioactive in the Australian Dangerous Goods Code, or*
- (2) *more than 100 metal drums per day, unless the works (including associated drum storage) are wholly contained within a building.*

Depending on the type of residues contained within the drums that are stored and processed, and the activities associated with the drum reconditioning carried out at the premises, drum reconditioners may in addition be categorised in the act as follows:

Waste facilities

- (1) A waste facility that is of any one or more of the following classes:
 - (a) **hazardous, industrial, Group A or Group B waste processing facilities**, being waste facilities that treat, process or reprocess hazardous waste, industrial waste, Group A waste or Group B waste (or any combination of those types of waste), **except those**:
 - (i) that only treat, process or reprocess sewage, or gases specified as Dangerous Goods Class 2 in the 6th edition of the Australian Code for the Transport of Dangerous Goods by Road and Rail, in force as at 1 January 1998, or
 - (ii) that only treat, process or reprocess waste that is generated on site

and/or

Waste activities

- (1) **Hazardous, industrial or Group A waste generation or storage**, being any activity that:
 - (a) is carried on for business or other commercial purposes, and
 - (b) involves the generating or storage of any one or more of the following types of waste:
 - (i) hazardous waste,
 - (ii) industrial waste,
 - (iii) Group A waste.

Prior to the implementation of the *Protection of the Environment Operations Act 1997* the activity of drum reconditioning did not specifically appear in legislation as an activity that required a licence. The premises that were the subject of this Sector Based Audit Program were licensed under one or more of the following categories defined in legislation that has been partially or wholly replaced by the *Protection of the Environment Operations Act 1997*:

Fuel burning equipment capable of consuming more than 300 kilograms of material per hour, as scheduled under the *Clean Air Act 1961*;

Industrial premises with site area in excess of 10,000 square metres, as scheduled under the *Noise Control Act 1975*;

Waste activity – Hazardous waste and/or industrial waste generation only, as defined under the *Waste Minimisation and Management Act 1995*.

The EPA licenses 11 premises in New South Wales where drum reconditioning is undertaken, all of which are located in the Sydney regional area. Eight of the premises were selected for auditing as a representative sample of the industry. Details of the individual premises audited are listed in Appendix A.

Statutory instruments issued to the enterprises

All of the premises audited originally held licences issued under the *Pollution Control Act 1970* or the *Waste Minimisation and Management Act 1995*. The *Protection of the Environment Operations Act 1997* (POEO Act) replaced the *Pollution Control Act 1970*, the *Clean Waters Act 1970*, the *Clean Air Act 1961*, the *Noise Control Act 1975*, and incorporates the major regulatory provisions of the *Waste Minimisation and Management Act 1995*.

Licences issued under the *Pollution Control Act 1970* and *Waste Minimisation and Management Act, 1995* were deemed to be environment protection licences under the POEO Act as described in Part 2 Clause 6 of the *Protection of the Environment Operations (Savings and Transitional) Regulation 1998*.

Approvals to install, construct or modify pollution control equipment or works, under the *Pollution Control Act 1970*, and notices under the POEO Act and *Waste Minimisation and Management Act 1995*, were issued to a number of the premises audited.

The two premises that carried out drum incineration had held licences under the *Pollution Control Act 1970*, with standard conditions relating to carrying out of activities and maintenance of plant and equipment.

The remaining six premises originally held licences issued under the *Waste Minimisation and Management Act 1995*, with operating requirements relating to management of wastes, and administrative requirements relating to tracking of wastes.

IDENTIFICATION OF AREAS OF CONCERN

The compliance of each premise with the conditions attached to the statutory instruments held, and with environmental legislation administered by the EPA, is described in the individual compliance audit reports on the premises listed in Appendix A. This report summarises the areas of concern identified from the ‘non-compliances’ and ‘further observations’ reported in the individual compliance audit reports.

Non-compliances are reported where there is clear evidence of a breach of licence conditions. Where an issue of environmental concern is observed that does not strictly relate to the scope of the audit or assessment of compliance, the issue is reported as a further observation. Further observations are indicators of potential non-compliances or areas where environmental performance may be improved.

The areas of concern identified during the audits are presented in Table 1.

Table 1. Areas of concern and issues identified in the audits, and the number of premises at which the issues were identified.

| Area of concern | Issue | No. of premises (out of a total of 8 premises audited) |
|---------------------------------|--|--|
| Air | | 8 |
| | Site management | 1 |
| | Delivery and handling | 1 |
| | Storage of materials and wastes | 5 |
| | Drum incineration | 2 |
| | Drum washing | 1 |
| | Drum painting | 1 |
| | Waste disposal | 2 |
| Water | | 8 |
| | Management of wastewater and stormwater runoff | 4 |
| | Delivery and handling | 6 |
| | Storage of materials and wastes | 8 |
| | Containment of waste treatment plant and equipment | 4 |
| Land | | 8 |
| | Site management | 1 |
| | Delivery and handling | 6 |
| | Storage of materials and wastes | 8 |
| | Containment of waste treatment plant and equipment | 4 |
| Waste | Management of wastes | 7 |
| Monitoring requirements | Air emissions monitoring | 2 |
| Legislative requirements | Approvals and Notices | 2 |
| | Legislative limits | 1 |

| Area of concern | Issue | No. of premises (out of a total of 8 premises audited) |
|-----------------------------|--|--|
| Administrative requirements | Recording and providing information to the EPA | 6 |
| Waste tracking requirements | Recording of incoming and outgoing wastes | 6 |

Air

Air pollution arising from drum reconditioning premises can include offensive odours as well as airborne pollutants that are harmful to human health and to the environment. Without adequate controls, offensive odours may be detectable on adjoining properties, and the emission of pollutants from the premises may impact on the health and amenity of the local community. Potential odour sources identified during the audit inspections included drum storage areas, drum processing areas, waste storage tanks and surface run-off sumps. Sources of airborne pollutants included drum incinerators, afterburners and spray paint booths.

Air pollution control equipment observed at the two premises where drum incineration was conducted included drum furnace steam curtains and afterburners. Drum furnace steam curtains are used to extinguish flames and minimise the discharge of emissions from the furnace. Most pollutants in emissions from the drum furnace are destroyed by combustion in the afterburners. At premises where drum washing was undertaken, emissions from the drum wash were directed to a wet scrubber.

Issues relating to air pollution and/or the potential for air pollution were identified at all of the 8 audited premises:

Site management

- Generation of odours from activities carried out on the premises, with the potential for offensive odours to be detected on adjoining properties (1 of the 8 premises audited).

Delivery and handling

- Unsupervised delivery of drums to the premise, with increased likelihood of receiving and incinerating drums that contained excessive quantities of waste or waste types unsuitable for incineration (1 of the 8 premises audited).
- Generation of odours from spillages of liquid wastes that were not cleaned up and contained (1 of the 8 premises audited).

Storage of materials and wastes

- Potential for generation of odours, due to the non-removal of spilt material in bunds surrounding chemical storage drums and tanks (2 of the 8 premises audited).
- Generation of odours or potential to generate odours from an uncovered wastewater treatment tank, oil separator, and drainage sump containing contaminated liquids (2 of the 8 premises audited).
- On-site storage of derelict equipment that may contain asbestos, with the potential for release of asbestos fibre to atmosphere through exposure of the equipment to weathering (1 of the 8 premises audited).
- Overflow of oil-contaminated liquid waste from a liquid waste sump; that was likely to be a source of odour (1 of the 8 premises audited).

Drum incineration

- Emission of pollutants to atmosphere due to non-operation of the drum furnace steam curtain (1 of the 8 premises audited).
- Potential for emission of pollutants to atmosphere by the planned incineration of drums likely to contain pesticide residues (1 of the 8 premises audited).
- Potential for inadequate destruction of air pollutants from the drum incinerator as the afterburner's temperature set point of 949°C was below the specified minimum of 950°C (1 of the 8 premises audited).

Drum washing

- A substantial quantity of fumes generated in the drum washing process being vented to atmosphere rather than being exhausted through the stack, with increased potential to cause offensive odours on adjacent properties (1 of the 8 premises audited).

Drum painting

- The operation of a spray paint booth without pollution control, with the potential for generation of odour and emission of pollutants to atmosphere (1 of the 8 premises audited).

Waste disposal

- Generation of odour from the site, due to the storage of solid waste on site until a suitable method of disposal was identified (1 of the 8 premises audited).
- Sludge from the drum wash system being passed through the incinerator and afterburner as a method of disposal, with increased potential for emission of pollutants to the atmosphere (1 of the 8 premises audited).

All operators should identify activities and plant and equipment that have the potential to cause air pollution. Operational procedures and process controls should be developed and implemented to minimise air emissions from the site. The effectiveness of controls should be monitored on an ongoing basis.

In particular, tanks and other vessels containing odorous liquids and materials should be covered. Spillage or leakage of odorous substances should be cleaned up immediately. Fumes generated during incineration, washing and spray painting of drums should be collected and treated to reduce the emission of pollutants to the atmosphere.

Sludge from the drum wash system should not be passed through the incinerator and afterburner as they have a limited capacity to treat vapours from liquids and to treat contaminants that might be found in sludges. The afterburner is designed to receive gases from the incineration process to a maximum moisture content, and is therefore unlikely to adequately treat the large amount of vapour given off from sludge or other liquids. In addition, as the composition of sludge was not assessed, it may have contained pollutants that could not be destroyed by incineration and may have been released to the atmosphere.

Water

Potential sources of water pollution identified during the audit inspections included:

- drum receipt and storage areas
- chemicals waste and fuel storage vessels
- boiler blowdown water.

Water pollutants such as sediments from unsealed areas of the site and chemicals from spillages or leakages are likely to become entrained in surface waters on site. There is also potential for spillages of liquid chemicals and wastes on unsealed areas of the site to percolate through the soil and contaminate groundwater.

Water pollution control plant and equipment observed during the audits of drum reconditioning premises included bunds, used to contain materials that could cause pollution of waters; stormwater collection sumps, used to collect contaminated runoff generated at the site; and oil-water separators, used to remove oily material prior to discharge.

Potential sources of water pollution were identified during compliance audit inspections of all of the 8 audited premises as outlined below.

Management of wastewater and stormwater runoff

- Potential for thermal and chemical pollution of waters, due to the discharge of boiler blowdown water to stormwater (2 of the 8 premises audited).
- Hydrocarbon staining and sediments in a stormwater channel, indicating possible discharge of spilled material and/or contaminated stormwater from the premise (1 of the 8 premises audited).
- Potential for contaminated runoff to overflow a manually operated stormwater collection sump when the site is unattended, and likelihood of the overflow discharging to a creek (1 of the 8 premises audited).

Delivery and handling

- Unloading of drums from trucks being undertaken in an area without adequate containment to prevent spillages from contaminating stormwater (5 of the 8 premises audited).
- Evidence of diesel spillage from bowsers in an area without containment, with the potential to contaminate stormwater runoff (2 of the 8 premises audited).
- Spillage of liquid chemicals onto unsealed areas during drum handling, with the potential to contaminate stormwater runoff (1 of the 8 premises audited).

Storage of materials and wastes

- Inadequate containment around storage tanks containing liquids such as fuel, solvents, sulphuric acid and drum residues, with the potential to cause stormwater contamination in the event of a leak or spill from the tanks (8 of the 8 premises audited).
- Evidence of spillage or leakage of chemicals from drums and liquid waste storage tanks stored on unsealed areas without containment, with the potential to contaminate stormwater runoff (5 of the 8 premises audited).
- Seepage of liquid through a crack in the wall of the bunded area used for the storage of drum residues, with the potential to cause stormwater contamination (2 of the 8 premises audited).
- Failure to remove spilt materials in bunds, which reduced the containment capacity of the bunds and

increased the risk of stormwater contamination in the event of leaked or spilt substances overflowing the bund (2 of the 8 premises audited).

Containment of waste treatment plant and equipment

- Lack of containment around the wet scrubber used to treat vapours generated in the drum wash, with increased potential for a spillage or leakage of scrubber liquor to contaminate stormwater (3 of the 8 premises audited).
- Lack of containment around an open-topped oil separator, with the potential to cause stormwater contamination in the event of a leak or spill (1 of the 8 premises audited).
- Corrosion of the concrete floor of the trade waste treatment system and surrounding containment structure, with increased risk of stormwater contamination in the event of a spill or leak (1 of the 8 premises audited).
- Overflow of oil-contaminated liquid waste from a liquid waste sump, with the likelihood of contaminating stormwater (1 of the 8 premises audited).

All operators should identify activities and plant and equipment that may impact on the quality of waters discharged from the premises. Operational procedures and process controls should be developed and implemented to minimise the volume of contaminated water generated at the premises. This should include conducting delivery and handling of drums and chemicals within a contained (bund) area; storing chemicals in an undercover area with adequate containment; preventing and immediately cleaning up chemical spillages; and segregating clean and contaminated runoff on the site. Operators should aim to retain all wastewater and surface runoff for on-site reuse where feasible. Any contaminated water that is to be discharged from the site must be treated prior to discharge, to prevent pollution of waters.

The effectiveness of controls should be monitored on an ongoing basis.

Land

Land pollution refers to contamination of soil and other unsealed areas of the sites. Spillages and leakages of chemicals that cause water pollution also have the potential to cause land pollution if they are not cleaned up immediately and come into contact with the land.

Potential sources of land pollution identified during the audit inspections included use of unsealed areas for the receipt and storage of drums, chemicals, wastes and fuel.

Issues relating to land pollution were identified at all of the 8 audited premises:

Site management

- Inaction in response to investigations that indicated soil contamination on-site by hydrocarbons, organochlorine pesticides, cyclic ketones and mercury (1 of the 8 premises audited).

Delivery and handling

- Unloading of drums from trucks being undertaken in an area with inadequate containment to prevent spillages from contaminating land (5 of the 8 premises audited).
- Contamination of unsealed areas, caused by spillage of liquid chemicals during drum handling (1 of the 8 premises audited).

Storage of materials and wastes

- Inadequate containment around storage tanks containing liquids such as fuel, sulphuric acid and drum residues, with the potential to cause soil contamination in the event of a leak or spill from the tanks (8 of the 8 premises audited).
- Evidence of soil contamination, or potential for soil contamination, due to spillage or leakage of chemicals from drums and liquid waste storage tanks stored on unsealed areas (5 of the 8 premises audited).
- Reduced containment capacity of bunds around chemical storage drums and tanks, and increased risk of soil contamination in the event of a leak or spill, due to non-removal of spilt material in the bunds (2 of the 8 premises audited).
- Seepage of liquid through a crack in the wall of the bunded area used for the storage of drum wastes, with the potential to cause soil contamination (2 of the 8 premises audited).

Containment of waste treatment plant and equipment

- Lack of containment around the wet scrubber used to treat vapours generated in the drum wash, with increased potential for a spillage or leakage of scrubber liquor to contaminate land (3 of the 8 premises audited).
- Lack of containment around an open-topped oil separator, with the potential to cause soil contamination in the event of a leak or spill (1 of the 8 premises audited).
- Corrosion of the concrete floor of the trade waste treatment system and surrounding containment structure, with increased risk of soil contamination in the event of a spill or leak (1 of the 8 premises audited).

All operators should identify activities and plant and equipment that have the potential to cause contamination of land. Operational procedures and process controls should be developed and implemented to minimise the likelihood of land contamination by preventing contaminants from coming into contact with the land. This should include undertaking delivery and handling of drums and chemicals on sealed areas; providing sealed, covered and adequately contained storage areas; and immediately cleaning up any leakage or spillage of chemicals. The effectiveness of controls should be monitored on an ongoing basis.

Waste

Wastes received or generated at drum reconditioning premises have the potential to cause contamination of air, water and land if not properly managed. Wastes include hazardous, industrial and Group A waste such as chemical residues in drums received by the premises, ranging from inks to pesticides, and wastes such as sludge and scrubber liquor that are generated during drum reconditioning processes.

Waste management was not undertaken in a proper and efficient manner at 7 of the 8 premises audited:

- Incompatible waste types such as hazardous, industrial and solid wastes and recyclable materials were not segregated in separate bins or containers, with the potential to cause explosions or fire (4 of the 8 premises audited).
- Waste containing chemical residues, or likely to be classified as hazardous or industrial waste, was directed to landfill or to a destination for disposal unknown to the licensee (3 of the 8 premises audited).
- Hazardous waste was not transported by a waste transporter licensed under the *Protection of the Environment Operations Act 1997* (3 of the 8 premises audited).

Site occupiers should identify and characterise all waste types generated at the premises and should be aware of the most suitable method of the handling, storage and disposal of each type of waste. Operational procedures and process controls should be developed to achieve the most suitable method of handling wastes generated. To ensure safety at the premises as well as environmentally acceptable disposal of waste, operators

should store incompatible waste types in separate bins or containers. Several waste types generated by the drum reconditioning process are not suitable for disposal to landfill, and must be transported and disposed of by transporters and premises licensed to handle these wastes.

Consideration should be given to the waste management hierarchy where waste avoidance is a priority, followed by re-use and recycling/reprocessing, with disposal as the last resort. If receipt or generation of waste materials cannot be avoided, operators should re-use on-site or recycle the materials where feasible. Operators should ensure that waste identified for recycling is stored separately from other waste.

Monitoring

Monitoring of air emissions and discharges to waters allows the operator to determine the nature of any pollution caused by activities at the premises, and provides the basis for actions required to rectify the problem.

Only 2 of the 8 premises audited conducted drum incineration. Incineration of drums has the potential to cause emissions of pollutants to the atmosphere. Licence conditions requiring monitoring of air emissions applied to one of those premises. There were no requirements on any of the licences to monitor the quality of any water discharged from the premises.

Monitoring of air emissions and maintenance of air monitoring equipment was inadequate at 2 of the 8 premises audited. These included:

- air emissions monitoring equipment not being maintained in a proper and efficient manner or inoperable (2 of the 8 premises audited)
- failure to monitor the operating efficiency of pollution control equipment (2 of the 8 premises audited)
- failure to time-mark records of smoke emission monitoring and to record opacity meter measurements on a chart recorder, as required by the licence (1 of the 8 premises audited)
- inadequate monitoring of pollutants discharged to atmosphere, due to insufficient collection of samples or failure to undertake monitoring in accordance with specified methods (1 of the 8 premises audited).

All air emissions monitoring equipment must be maintained and operated in a manner that ensures that adequate monitoring of processes is carried out at the premises. The effectiveness of all pollution control equipment should be monitored to enable the identification of equipment failure that would cause the discharge of pollutants to atmosphere or to waters.

All air emissions monitoring undertaken by the occupier must be carried out at sufficient frequency to characterise the level of pollutants discharged from the premises under all operating conditions. Monitoring must be undertaken in accordance with the *Approved methods for the sampling and analysis of air pollutants in New South Wales* (EPA, 2000) to provide greater confidence that the results of the monitoring reflect the true nature, and environmental impact, of emissions discharged to atmosphere.

Legislative requirements

Legislative requirements refer to requirements placed on all drum reconditioners by environmental legislation such as the *Protection of the Environment Operations Act 1997*, as well as notices and approvals that were issued to some licensees under environmental legislation.

Failure to meet legislative requirements was identified at 3 of the 8 audited premises as shown below.

- The reported concentration of heavy metals in emissions from the afterburner exceeded the legislative limit set out in the *Clean Air (Plant and Equipment) Regulation 1997* (1 of the 8 premises audited).
- Work required by a Clean Up Notice relating to the restoration of an easement drain to its original form not being carried out in accordance with the requirements of the Notice (1 of the 8 premises audited).
- Work specified in a Pollution Control Approval relating to the installation of plant and equipment not being carried out in accordance with the requirements of the Approval (1 of the 8 premises audited).

Under the *Clean Waters Act 1970*, operators were required to obtain a Pollution Control Approval before installing, altering or replacing plant and equipment that was likely to alter the level of pollution from the plant. It should be noted that Pollution Control Approvals are no longer required under the *Protection of the Environment Operations Act 1997*, however variations to the licence may be needed for certain works.

All site occupiers must be aware of the requirements of environmental protection legislation, including limits on the concentration of emitted pollutants, as well as of any notices that apply to the premises. Failure to comply with legislative requirements is an offence and is considered to be a serious matter.

Administrative requirements

Failure to meet administrative requirements was identified at 6 of the 8 audited premises:

- The Certificate of Compliance (now Statement of Compliance) required to be submitted to the EPA was not submitted or was submitted after the due date (4 of the 8 premises audited).
- The record of pollution complaints kept by the licensee, in accordance with the licence, was incomplete (1 of the 8 premises audited). This requirement was only applicable to 2 of the 8 premises.
- Failure to notify the EPA of all parcels of land on which a scheduled activity was conducted, resulting in an inaccurate premises definition on the Environment Protection Licence (1 of the 8 premises audited).
- Failure to formally advise the EPA of the names and telephone numbers of those people authorised by the licensee to speak on behalf of the licensee or to provide information as required by the licence (1 of the 8 premises audited). This requirement was only applicable to 2 of the 8 premises.

The requirement to formally notify the EPA of authorised employees has been removed from licences issued under the POEO Act. Licensees are now required to provide this information on their licence application form. If the EPA becomes aware of events occurring at a premises that are causing or have the potential to cause environmental harm, the EPA can contact employees with delegated authority and thereby prevent or minimise environmental harm.

It is important that all information required by the EPA as a condition of a licence is provided within the required timeframe and contains all the data requested. The EPA uses this data to regulate the environmental impacts of the site.

Complaints received can be valuable tools for monitoring the environmental impact of an enterprise on the local community. By keeping the required information in relation to pollution complaints, operators will be in a position to clearly demonstrate that complaints are being satisfactorily addressed.

Waste tracking requirements

The waste tracking system was developed to monitor the movements of hazardous, industrial and Group A wastes from 'cradle to grave'.

The following non-compliances were identified at 6 of the 8 audited premises that had been issued with Waste Activity Licences under the *Waste Minimisation and Management Act 1995*.

- Failure to advise the EPA in writing that waste had not been transported from the premises during specified reporting periods (6 of the 8 premises audited).
- Failure to record and/or retain all information relating to consignments of waste transported from the premises (5 of the 8 premises audited).
- Failure to supply to the EPA the required information for each destination within NSW which received waste from the premises, or failure to supply this information by the due date (4 of the 8 premises audited).
- Failure to supply to the EPA the required information for each transporter that transported waste from the premises, or failure to supply this information by the due date (4 of the 8 premises audited).
- Failure to accurately identify the waste that was transported from the premises in accordance with the relevant description set out in the EPA's Waste Guidelines (3 of the 8 premises audited).
- Failure to notify the consignee, in writing, of the dates of dispatch of loads of waste, or to notify the consignee no later than the date of arrival of the preceding load of waste at the destination (3 of the 8 premises audited).
- Failure to obtain a consignment authorisation number from the consignee when transporting waste from the premises (2 of the 8 premises audited).
- Failure to include all of the required information in the written application for a consignment authorisation number for waste transported from the premises (2 of the 8 premises audited).
- Failure to complete an approved waste data form in relation to consigned waste, in accordance with the instructions on the form (2 of the 8 premises audited).
- Failure to ensure that waste was transported to a place that was licensed by the EPA to issue consignment authorisation numbers and to accept that class of waste (1 of the 8 premises audited).
- Failure to apply in writing to a consignee for a consignment authorisation number for waste transported from the premises (1 of the 8 premises audited).
- Failure to notify the EPA of a suspected breach of the Act relating to the licensing of persons undertaking scheduled activities (1 of the 8 premises audited).
- Failure to inform the EPA that written confirmation of the receipt of waste from the premises was not received within 21 days of dispatch (1 of the 8 premises audited).
- Failure to inform the EPA that a transporter was transporting waste without a waste data form completed to the extent required (1 of the 8 premises audited).

All site occupiers who handle hazardous, industrial and Group A wastes must be aware of, and comply with, the operational and procedural requirements of the waste tracking system.

Operators should ensure waste is accurately classified, and consignment numbers obtained prior to transport to pre-arranged destinations. Operators should also pay particular attention to the waste tracking reporting requirements. This includes quarterly reporting of wastes transported from the premises and, where no waste has been transported within the specified quarter, submitting a 'nil' report to the EPA.

WHERE TO FROM HERE?

Issues identified in the representative sample of 8 licensed drum or container reconditioning premises out of a total of 11 licensed premises State-wide are likely to be generally typical of the whole sector. Overall, the audits identified significant improvements in compliance and environmental performance that were required to be made by the drum or container reconditioning industry. Areas of concern relating to activities and practices that were causing or had the potential to cause pollution of air, water and land, were identified at all of the 8 audited premises. Further, waste management was inadequate at 7 of the 8 premises, and waste tracking requirements were not met at the 6 audited premises to which the requirements applied.

As a result of the EPA's compliance audit follow-up program, major issues that were able to be addressed in the short-term have been remedied at all but one of the audited drum reconditioning premises, where the EPA has served a notice of intention to suspend the licence. The EPA will continue to work with drum reconditioning premises to address issues that require longer-term solutions.

The EPA recognises that reporting on the state of the drum or container reconditioning sector's environmental performance will be a valuable management tool. The EPA will therefore circulate information in this report to relevant stakeholders and seek cooperative opportunities to work with the industry to improve its environmental performance.

The EPA will use the findings of this sector report to review how best it can channel its resources to guide industry to address the issues identified. The EPA will appoint a sector review manager who will consider using a suite of tools in addition to regulatory instruments to address environmental issues that were found to be prevalent across the sector. The findings of this report will also be useful in the licence reviews required to be undertaken by the EPA under the *Protection of the Environment Operations Act 1997* (POEO Act).

APPENDIX A: LIST OF PREMISES AUDITED

The findings of this report are based on the results of compliance audits on the following premises:

- A1 Drum (NSW Sales) Pty Ltd - Riverstone
- Abioka Pty Ltd - Seven Hills
- Alkem Drums Pty Ltd - St Marys
- Drum and Waste Solutions Pty Ltd - Wetherill Park
- Drum Distributors NSW Pty Ltd - Bankstown
- Macquarie Drum Services Pty Ltd - Wilberforce
- Sandfire Pty Ltd (Crossroad Drum Company) - Campsie
- Tidyburn Pty Ltd - St Peters

Individual compliance audit reports for all of these facilities are publicly available in the EPA Library at Level 15, 59–61 Goulburn Street, Sydney.