

MANAGING TRADE WASTE – WHAT SHOULD BEST PRACTICE LOOK LIKE?



Paper Presented by:

Rosemary Bissett

Authors:

Rosemary Bissett, *Manager Environmental Strategy & Services,*
Keith Green, *General Manager Service Sustainability,*

City West Water



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Rosemary Bissett, *Manager, Environmental Strategy & Services, City West Water*
Keith Green, *General Manager, Service Sustainability, City West Water*

ABSTRACT

Consideration of best practice in trade waste management is timely, given the challenges that the water industry and its customers face in managing the triple bottom line so we can maximise sustainability of both our environment and business.

City West Water (CWW) is one of Australia's largest providers of trade waste disposal services. These services, and the associated trade waste programs we operate, are critical to managing the risks associated with trade waste, as well as facilitating the uptake of cleaner production and waste minimisation across industrial and commercial sectors. Providers of trade waste services have direct contact with a large number of waste generators. This is a unique platform for risk management and facilitation of cleaner production and waste minimisation. Consequently, trade waste services and programs are critical to the outworking of Government policies and commitments in relation to cleaner production, waste minimisation and sustainability, as well as to meeting the community's expectations in relation to waste management. However, it is not these issues alone which should drive consideration of trade waste management. We must consider these issues alongside the viability of economic development and employment and look for solutions that maximise the beneficial outcomes across all three dimensions of the triple bottom line.

This paper takes a look at the current trade waste management environment, along with the existing legislative and policy frameworks. It then suggests what best practice trade waste management should entail. It examines key issues and drivers, elements of an effective strategy, roles and responsibilities, resource requirements, challenges/obstacles and solutions, and performance measurement and how it should be communicated.

KEY WORDS

Trade waste management, best practice, water industry

1.0 INTRODUCTION

Governments around the world are examining and changing the water industry's regulatory environment. Changing roles can potentially mean loss of control over some issues of vital importance to the water industry, including trade waste management. Consideration of best practice in trade waste management is timely, given the challenges that the water industry and its customers face in managing the triple bottom line, so we can maximise the sustainability of both our environment and business.

This paper takes a look at the current trade waste management environment, along with the existing legislative and policy frameworks. It then suggests what best practice trade waste management should entail. It examines key issues and drivers, elements of an effective strategy, roles and responsibilities, resource requirements, challenges/obstacles and solutions, and performance measurement and how it should be communicated. Although this paper addresses the issue in the Victoria context, it should have applicability to the water industry in general and provide interesting information for debate.

2.0 THE CURRENT ENVIRONMENT

Liquid waste (not including sewage), disposed of by industry and commerce to the sewers in

Australia, is called trade waste. Trade waste management is a major area of service provision offered by most water companies, water authorities and some councils (from hereon in collectively called water businesses) around Australia. The businesses managing trade waste vary significantly, covering rural areas from which only minor trade wastes are discharged, to metropolitan areas where major trade waste flows can occur.

In Victoria, Metropolitan retail water companies operate under the *Water Industry Act 1994* while regional water authorities are covered by the *Water Act 1989*. All these businesses have responsibilities related to trade waste management in broad terms via Government policy, and specifically, via relevant water legislation (Acts, Regulations & By-laws) and the *Environment Protection Act 1970 (EP Act)* and its related statutory instruments such as Industrial Waste Management Policies. In Melbourne, the retail water companies also have responsibilities via their Water and Sewerage Licences. These Water and Sewerage Licences position the retail water companies as service providers and risk managers, while the power to prosecute under Water Industry Act is vested in EPA Victoria.

The *EP Act 1970*, administered by EPA Victoria, provides a framework for establishing broad controls over all wastes generated in Victoria, including hazardous wastes. It provides for the making of industrial waste management policy relating to management of industrial waste including discharge from industry to sewer (trade waste). Table 1 briefly outlines various key legislative and regulatory provisions related to trade waste management.

Although, not listed in Table 1, it is also a requirement of the *Industrial Waste Management Policy (IWMP) (Prescribed Industrial Waste)* that the following principles be used to guide the management of trade waste:

- Waste management hierarchy;
- Eco-efficiency;
- Product stewardship;
- Integration of environmental and economic considerations;
- Precautionary principle;
- Intergenerational equity;
- Conservation of biological diversity and ecological integrity;
- Enforcement; and
- Accountability.

The IWMP (Waste Minimisation) adds to these principles with the addition of the ‘user pays’ and ‘polluter pays’ principles.

These principles, along with broad Government policy, require that trade waste is managed in a context of sustainability, using a triple bottom line approach to ensure decisions are balanced and well considered.

Table 1: Key Victorian legislative and regulatory provisions for trade waste management

Legislation	Relevant Organisation	Provision
Water Industry Act 1994 (Division 3)	Metropolitan retail water companies	Authority to enter land, test waste, measure flows and request information Protection of sewers
Water Industry Regulations 1995 (Part 4)	Metropolitan retail water companies	Definition of trade waste That a trade waste agreement exists between a licensee and the occupier Power to terminate for non-compliance
Water & Sewerage Licence	Metropolitan retail water companies	Must enter into an agreement for the acceptance of trade waste May enter into an agreement for acceptance of trade waste that does not comply with the Standards for trade waste, but must consult with any affected holder of a sewage treatment licence Must not accept trade waste in quantities or of a quality that would or is reasonably likely to endanger human life, compromise the safety of a person or the works of any licensee, or significantly adversely affect the operation of a sewage treatment plant or any part of the environment To monitor quality & quantity of trade waste accepted To put in place quality assured systems for detecting and managing non-compliance with an agreement To annually publicly report compliance statistics Standards for Acceptance of Trade Waste (Schedule 4)
Water Act 1989 (Part 9)	Regional water authorities	To educate the public about any aspect of sewerage Authority to enter land, test waste, measure flows and request information Protection of sewers Ability to make By-laws about trade waste including setting acceptance standards, prescribing terms and conditions in agreements, charging, penalties for contravention of trade waste agreements etc
Environment Protection Act 1970	All water companies and authorities	To declare industrial waste management policies (s18A) To ensure compliance with rules and requirements of industrial waste management policies (s27A) When notified, to supply the EPA with information with respect to specified trade waste agreements, consents or approvals, or waste discharged into the authorities' sewers (s28A) To allow EPA to serve abatement notices on the occupier of premises from which trade waste is discharged to sewer (s28B)
Industrial Waste Management Policy (Waste Minimisation)	All water companies and authorities receiving trade waste (Note: the provisions of this policy are equally relevant to trade waste generators, including to assess wastes in accordance with the waste hierarchy)	Sewerage authorities should, where practicable, require waste dischargers to prepare waste management plans or waste audits When negotiating new agreements, water authorities should ensure new pretreatment achieves a degree of waste minimisation consistent with the policy Ensure that commonly available treatment technology (CAT) and best available technology to minimise generation of priority waste (BAT) is used as appropriate and required by the policy To provide, where practicable, information to the EPA on the waste minimisation options for agreement holders
Industrial Waste Management Policy (Prescribed Industrial Waste)	All water companies and authorities receiving trade waste	To prepare an annual environmental performance report detailing the quantity and type of industrial waste received, along with its treatment and fate To manage wastes using the waste hierarchy preference

3.0 THE CURRENT STATE OF TRADE WASTE MANAGEMENT

Due to conditions placed in retail water company Licences and Bulk Sewage Transfer, Treatment and Disposal Agreements between the wholesale sewage treatment provider and the retailers, there are clearly identified minimum standard conditions for trade waste management in Melbourne. Guidelines have also been produced as part of the National Water Quality Management Strategy to assist water businesses implementing trade waste management programs and to provide a community reference point (ARMCANZ,1994).

Annual benchmarking conducted by the National Trade Waste Managers' Forum (NTMF, 2001) shows that there is a reasonably consistent approach to key elements of trade waste management across large national businesses responsible for managing trade waste. Thus, it is possible to draw out Australian best practice from within this group.

In smaller and rural businesses responsible for trade waste management there is a wide variety of approaches (NTWFMF, 2001) (Harris, 2001). In some cases, only major dischargers of trade waste have trade waste agreements (Harris, 2001). This emphasises the need for both clearly defined best practice trade waste management and a mechanism for ensuring that some minimum consistent standard is achieved by all businesses managing trade waste. Once this minimum standard exists, then best practice guidelines and benchmarking can assist businesses to move towards achieving best practice, consistent with continuous improvement philosophy embodied in environmental systems.

4.0 KEY ISSUES & DRIVERS

4.1 The Issues

Why look for best practice and the establishment of best practice guidelines? The answer is – to ensure that trade waste is consistently and appropriately managed and that water businesses can maintain management responsibility for the disposal services they offer and the associated risks. Key events and issues that prompt consideration of best practice are outlined below.

In 2000, following recommendations made by the Hazardous Waste Consultative Committee (HWCC), established by the Victorian Government, the Government agreed in response that a statewide review of the trade waste system would be established. Then, in 2001, EPA Victoria promulgated the first ever trade waste standard, of 1 mg/L for benzene, under the *EP Act 1970*. This highlighted EPA Victoria's ability to intervene to ensure appropriate management of trade waste. EPA is only expected to consider intervention in individual trade waste arrangements where existing trade waste discharges represent unacceptable risk to the environment or cause EPA licence limits for sewage treatment plants receiving the waste to be exceeded (Osmers, 2001).

The occurrence of events leading to EPA intervention, along with the Government's acceptance of the HWCC's recommendations mean it is timely to examine more closely, and to clearly define, best practice in the management of trade waste.

4.2 The Drivers

Water businesses have contact with a large number of waste generators, as customers, utilising trade waste disposal services.

This includes major industry across Victoria. Most water businesses issuing trade waste agreements utilise a cooperative partnership approach to working with their customers and managing trade waste. It is through education and partnership that we are most likely to positively influence behaviour of waste generators leading to reduction in risk and waste generation.

Consequently, it is important that water businesses be effective managers of trade waste, and as part of that role, facilitators of waste minimisation and cleaner production.

Management of trade waste will, and should be, driven by the following key drivers:

- The regulatory environment - ability to meet legal and regulatory requirements;
- The sustainability agenda - particularly the environmental dimension - to help industry manage trade waste, ensure environmental protection and encourage ecologically sustainable practices;
- Risk management - to proactively manage trade waste to ensure the protection of –
 - people - protecting occupational health and safety of personnel working in and around our sewers;
 - pipes - protecting sewerage system infrastructure – pipes, pumps stations etc;
 - processes - protecting treatment processes to ensure efficient treatment of all sewage collected;
 - environment – by ensuring wastes received into the sewerage system are of a quality and quantity within treatment plant capacity; and
 - re-use – by ensuring that trade waste discharged to sewer is of a quality that will not detrimentally effect potential re-use of treatment plant effluent and biosolids.
- Customer Service - to educate, assist and provide customers with an essential trade waste service;
- Company performance indicators – to meet businesses’ own internal expectations and performance requirements; and
- Community views and perceptions - to consult with, and responsibly act on, community concerns so that they are willing to grant water businesses the right to operate.

5.0 ROLES & RESPONSIBILITIES

The key role of the water industry as a trade waste manager is threefold. This encompasses being (i) a risk manager – including compliance management with the power to terminate a trade waste agreement where non-compliance by a trade waste discharger creates unacceptable risk; (ii) an educator and facilitator, and (iii) a service provider for disposal of trade waste.

EPA Victoria has a variety of roles relevant to trade waste management including power to prosecute illegal dischargers or serve abatement notices on trade waste generators causing sewage treatment plant non-compliance and setting broad waste management requirements and policies.

The review or setting of trade waste discharge limits should be a shared, consultative and independent process. The needs, knowledge and experience of the regulator, policy maker and risk manager/service provider should be considered, along with customer and community views, and the localised aspects related to the receiving sewerage system, treatment plant capacity and environment.

6.0 BEST PRACTICE TRADE WASTE MANAGEMENT – WHAT SHOULD IT LOOK LIKE?

Best practice trade waste management should be linked to and integrated with water businesses' policies and management systems. At CWW, our environmental, community engagement and sustainability policies form a cornerstone for a variety of our systems and strategies, including our policy and strategy for trade waste management. To be effective and clearly understood, trade waste policy, strategies, programs and procedures should be planned and integrated with other business planning processes. The following discussion briefly highlights key elements that should be included in best practice management of trade waste. This builds on the Guidelines for Sewerage Systems (Acceptance of Trade Wastes) (ARMCANZ, 1994).

6.1 Elements of an Effective Management Strategy

Key elements of a best practice management for trade waste are as follows:

- **Risk management** - via the terms and conditions in trade waste agreements, inspection and monitoring programs, compliance management, incident response, contingency planning, risk modelling/assessment, access permits for sewer entry, 24 hour service provision and mechanisms to review trade waste discharge limits;
- **Communication and education** - for both customers and employees;
- **Systems** – appropriate information, quality, occupational health and safety & environmental management, including documented policies and procedures to ensure quality processes, risk management and customer service;
- **Stakeholder and customer engagement, partnership and consultation;**
- **Research & development;**
- **Monitoring & reporting of performance** - through the inclusion of targets related to waste management plans, trade waste compliance and pollution loads in Environment Improvement Plans and annual environmental reporting.
- **Waste minimisation/cleaner production** – advice and assistance to customers;
- **Customer segmentation** – targeted programs such as greasy waste programs to encourage risk and waste reduction within different customer industry groups;
- **Reward & recognition** or incentives – to encourage customers to seek best practice in waste management and reduction;
- **Pricing** – to ensure the user/polluter pays the true costs for the disposal service; and
- **Benchmarking** – to ensure continuous improvement and facilitate information sharing.

6.2 Resource Requirements

Resource requirements will vary with the size and the type of customer base provided with trade waste disposal services. Risk ranking of customers is an effective way of ensuring resources are allocated effectively and efficiently to minimise risk. This is common practice amongst the large Australian water businesses. Technical skill and training is necessary to ensure that water businesses have the expertise to understand the risks posed by trade wastes in the sewerage system, to understand the variety of pre-treatment systems and to facilitate cleaner production and waste minimisation.

Some of the resources and skills required to manage trade waste may be provided by consultants or contractors. However, the decision to manage with external resources should be weighed up carefully as internal knowledge and the relationship built with customers over time is a key element in effective trade waste management.

6.3 Performance Measurement & Reporting

Internal awareness of trade waste as a third and very important service element of any water business should be driven by specific business performance indicators. For example, percent compliance measurement or pollution loads. In this way, the importance of trade waste management is internalised and will receive attention at executive and board level, as well as in operations. Public reporting in annual reports, both corporate and environmental, as well as through consultative committees and newsletters should also occur to provide information on performance relating to trade waste management to major stakeholders.

7.0 CHALLENGES/OBSTACLES & SOLUTIONS

In managing trade waste services, including the accompanying risks, and providing programs to educate and encourage customers in the implementation of waste minimisation, cleaner production and water conservation, water businesses face the following challenges, on a daily basis:

- customers with - poor ability to manage/solve problems, a lack of understanding of environmental issues, poor understanding of their own waste streams and lack of technical knowledge relating to waste treatment, and;
- barriers within customer organisations to the uptake of waste minimisation/cleaner production;
- the 'out-of-sight, out-of-mind' syndrome which occurs because people don't 'see the waste that literally goes 'down the drain', or down the sewer, as in our case; and
- resourcing programs, especially those related to waste minimisation (Harris, 2001).

These challenges can be addressed by the risk management, education and partnership elements of a trade waste strategy. Working along side customers, demonstrating success stories via newsletters and Awards, and assisting customers' access to relevant support provided by other government agencies, has helped CWW to turn many trade waste problems into success stories.

The partnership/working together approach, is tremendously more successful than the big stick. Having large customers work alongside us as we investigated the effects of their discharge in our assets has 'opened their eyes' and created significant changes in attitude leading to innovative waste management solutions. The cases studies and relationships developed as a result of working through some difficult trade waste issues with customers have lead to the transfer of their experience to other customers in similar situations.

8.0 CONCLUSION

The knowledge, experience and customer relationships of the larger metropolitan and urban water businesses demonstrate that when effective management systems are in place, the water industry can manage trade waste and partner well with environment protection agencies to reduce waste.

It is not enough to continue to operate as we are, members of our industry need to work together to establish a clear benchmark from which best practice can continue to evolve and develop. This is particularly important for smaller water businesses due to resource constraints. The move to establish best practice should be complemented by a regulatory and legislative framework that ensures a consistent approach to trade waste management is adopted. This should have flexibility enough to meet the unique needs of each business.

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