

Model Trade Waste Policy

SECTION C

EXPLANATION

OF

MODEL TRADE WASTE ENVIRONMENTAL MANAGEMENT PLAN

To be read in conjunction with the
Model Trade Waste Environmental Management Plan document – Section B

Revised March 2004

MODEL TRADE WASTE ENVIRONMENTAL MANAGEMENT PLAN

EXPLANATION OF MODEL PLAN

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MODEL TRADE WASTE ENVIRONMENTAL MANAGEMENT PLAN

EXPLANATORY DOCUMENT

1. PURPOSE OF MODEL TWEMP

Under the *Environmental Protection (Water) Policy 1997* (EPP (Water)), local governments are required to develop and implement environmental management plans for trade waste.

A Trade Waste Environmental Management Plan (TWEMP) outlines a local government's policy with respect to the management and acceptance of trade waste to sewer. The Model TWEMP is intended to provide local governments, as trade waste service providers, with a planning framework to meet these responsibilities.

The Model TWEMP is an example of a management plan that local governments might use. It is a revised version of Section B, Model Policy Document of the *Model Trade Waste Policy* previously published initially by the Department of Primary Industries and revised by the Department of Natural Resources (see references in Part 1 of the Model Plan).[§]

The Model TWEMP is intended for use "as is" by simply filling in the blanks or may be modified to suit a local government's needs by adding, deleting or amending clauses. As discussed in Part 1 of the Model TWEMP, some local governments may wish to develop their TWEMP as part of a broader environmental management system approach.

The rationale behind the Model TWEMP is:

- to assist all local governments to meet their statutory requirements to implement effective management over the discharge of trade waste to sewer;
- to encourage some uniformity of approach statewide;
- to conform to the national *Guidelines for Sewerage Systems, Acceptance of Trade Wastes (Industrial Wastes)*, 1994, Agriculture and Resource Management Council of Australia and New Zealand and Australian and New Zealand Environment and Conservation Council, National Water Quality Management Strategy;
- to develop a plan that is fair to both the local government and industry; and
- to develop a plan that is not an administrative burden to the local government.

Further discussion of the rationale is given in Part 1 of the Model TWEMP.

[§] Reference to the *Model Trade Waste Policy* and Sections of that Policy refers to the DPI Model Trade Waste Policy (1993 or 1995 versions). Note that Section A (Guidelines for Policy Implementation), Section D (Pre-treatment Guidelines), Section F (Trade Waste Characterisation) and Section G (Trade Waste Charging) have not been amended. The Model Trade Waste Environmental Management Plan updates Section B (Model Policy Document) and this document updates Section C (Explanation of Model Policy Document).

2. LEGAL SITUATION

A local government should have a written plan about how it proposes to manage the discharge of trade waste to sewer so that there is no ambiguity as to the processes to be used, the sewer acceptance limits and the charges to be applied. A local government should formally adopt its written plan and separately ratify the charges associated with trade waste as part of its annual budget process.

A TWEMP, however, has no legal standing. The legal basis for various elements of the Model TWEMP is outlined below. Any prosecutions relating to trade waste, including contravention of trade waste approval conditions, or other actions to be taken such as cancellation of an approval, should be done under the relevant legislation not the plan.

Relevant legislation for trade waste management includes, but is not limited to the following:

- ❑ *Water Act 2000*
 - Trade waste approvals (section 469).
 - Approval may be conditional (section 470).
 - Suspending or cancelling trade waste approvals (section 471).
 - Recovery of Costs for damage to infrastructure (section 387).
 - Offences for discharge of trade waste without approval (section 824).
 - Discharge of prohibited substances (section 824).
 - Prohibited substances for sewerage (Schedule 1).
 - General powers of service providers and authorised persons under *Water Act* (Chapter 3, Division 2 and Division 4).
 - Review and Appeal processes (Chapter 6).
 - Legal processes (Chapter 7)

- ❑ *Local Government Act 1993*
 - Sections 36, 973, 1071A: charges and fees for trade waste
 - Chapter 15: authorised person and power of entry provisions.
 - Chapter 13, part 7 – stormwater drainage and prohibited substances for stormwater.

- ❑ *Environmental Protection Act 1994,*
Environmental Protection Regulation 1998,
Environmental Protection (Waste Management) Regulation 2000
 - Removal, transport, storage, treatment and disposal of regulated and trackable waste. These include grease trap and oil interceptor sludges, sewage tank sludges and residues.
 - Licensing of waste transporters.
 - Waste tracking.
 - Management of clinical and related waste.

- ❑ *Environmental Protection (Water) Policy 1997*
 - Statutory requirement for local governments to prepare an environmental management plan for trade waste and to report on the plan and matters to be considered in plan (section 41)
- ❑ *Plumbing and Drainage Act 2002*
Standard Plumbing and Drainage Regulation 2003
 - Requirements for technical standards for plumbing and drainage

3. EXPLANATION OF MODEL TWEMP

The following explanation and discussion of the Model TWEMP should be read in conjunction with the corresponding sections of the plan. **Users of the Model TWEMP are encouraged to modify the plan as appropriate for local needs.**

1. INTRODUCTION

This is an introductory statement explaining the need and reasons for the plan and outlines the local government's basic approach, that is to:

- accept biodegradable waste to sewer given adequate sewerage system capacity;
- encourage the trade waste generator to implement appropriate waste minimisation and recycling practices; and
- restrict or prohibit toxic and hazardous waste as specified in legislation and the sewer admission limits.

2. DEFINITIONS

Where a definition is given in the *Water Act 2000* it has been used.

The definition for “owner” references the *Local Government Act 1993*.

Other definitions, eg *arrestor*, have been taken from AS 3500, National Plumbing and Drainage Code, Part 0 – Glossary of Terms.

Definitions of other terms used in the model plan, eg *permit* and *agreement* have been written to clarify their meaning in the Model TWEMP.

3. TRADE WASTE POLICY

This section defines the purpose, objectives, process and policy instruments.

The statements in this section should be in keeping with a local government's strategic plan and goals and with its environmental management plan and/or total management plan (TMP) for the sewerage system.

A local government may chose from the list of objectives and policy instruments provided or write its own. If “user pays” pricing is not used, this should be deleted

from the list of policy instruments. Incentive pricing is an additional policy instrument that some local governments might use.

4. CONTROL OF TRADE WASTE

This section, with Appendix 1, briefly sets out some local governments powers under legislation that are applicable to managing trade waste and discharging trade waste to sewer (as discussed in “Legal Situation” above).

A Local Government may wish to provide a more detailed listing of legislation in Appendix 1, eg. as outlined under “Legal Situation” above.

Under the *Water Act* a person wishing to discharge trade waste to a local government sewerage service provider’s infrastructure must obtain approval from the local government (section 824(1)). Likewise another service provider (could be another local government or private service provider) requires approval to discharge trade waste to a local government’s infrastructure (section 824(3))

A reference to a person generally includes a reference to a corporation as well as an individual (*Acts Interpretation Act 1954*). The approval should be given to the person who, as the “approval holder” (section 471 *Water Act*) can be held accountable for complying with the conditions of the approval. It would not, for example, be appropriate to issue the approval to the owner of the premises, if the owner is not engaged in the activity that generates the trade waste.

Grounds and procedures for the suspension or cancellation of a trade waste approval are defined in the *Water Act* (section 471) and have not been repeated in the Model TWEMP.

Penalties for any breaches of relevant legislation are clearly set out in the legislation.

Under section 387 of the *Water Act*, a local government service provider may recover the cost of repairing a damaged sewerage system or loss as a result of unauthorised connections, or discharge of unauthorised material, or interference with the infrastructure.

Many of the business that generate trade waste will also be classified as environmentally relevant activities and will require an environmental authority under the Environmental Protection Act. **It is important to ensure that the proposed treatment and disposal methods for trade waste are permitted under the environmental authority.**

5. SEWER ADMISSION LIMITS

The proposed sewer admission limits are based on prohibited discharges as per Schedule 1 of the *Water Act* and acceptance criteria listed in *Guidelines for Sewerage Systems, Acceptance of Trade Wastes (Industrial Wastes)*, 1994, Agriculture and Resource Management Council of Australia (ARMCANZ) and New Zealand and Australian and New Zealand Environment and Conservation Council (ANZECC), referred to hereafter as the ARMCANZ Trade Waste Guidelines. These were developed as part of the National Water Quality Management Strategy

A more complete explanation of the reasons for limits for sewer admission, justification of the guideline values and procedures for calculating sewer admission limits are given in the ARMCANZ Trade Waste Guidelines.

Two reports, Research Report No 18, *Development of Empirical Model for Trade Waste Discharges to Small Treatment Plants* and Research Report No 19, *PRELIM Users Guide (Amended); Australian Version* published by the Urban Water Research Association of Australia (UWRAA) outline a computer model approach to setting sewer admission limits.

The difference between guidelines and standards should be clearly understood. The ARMCANZ Trade Waste Guidelines provide guideline levels for implementation by State authorities and it is these values that are used in the Model TWEMP.

Once a TWEMP, which specifies a set of sewer admission limits, is formally adopted by a local government, those limits can be considered as standards for the local government.

These limits should be incorporated into trade waste approvals either through direct reference back to the relevant section of the TWEMP (eg Appendix 2) or be written in full in the approval or attached to the approval as an Appendix or Attachment. Non-compliance with the limits specified in the approval is deemed to be non-compliance with trade waste approval conditions.

General Limits (Appendix 2, Schedule 1):

The limits given in this section are intended as a guide to acceptable levels at which problems are unlikely to arise.

Local governments should set their own values for the General Limits. Local conditions may dictate some alteration to these limits. For example pH limits should be realistic with respect to local water supply characteristics.

Limits on the measures of organic strength [BOD (or COD or TOC)]** and suspended solids] have not been given in the Model TWEMP. Acceptance of biodegradable waste depends on the capacity of the local sewerage system and the total contribution from domestic and trade waste inputs.

** BOD:Biochemical Oxygen Demand. COD:Chemical Oxygen Demand. TOC:Total Organic Carbon.

Each application should be examined on its merits with total mass load, rather than concentration limits, being the main basis for assessment.

Where sufficient capacity is available every effort should be made to accept biodegradable waste. Some authorities do specify concentration limits in their policies. These vary from authority to authority — eg. 400 to 600 mg/L for both BOD and suspended solids, 1000 to 1500 mg/L for COD, 500 to 1200 mg/L for TOC.

Industrial waste high in COD may be a distinct advantage to a sewerage authority operating a biological nutrient removal (BNR) plant. This process requires sufficient readily biodegradable COD (short chain fatty acids) for the growth of phosphorus accumulating bacteria.

A limit of 4000 mg/L is often used for total dissolved solids (TDS). This level should be closely examined by all local governments, taking into account the effect of salinity on treatment processes and effluent disposal or reuse. TDS, cations (calcium, magnesium, sodium) that affect the sodium adsorption ratio (SAR), and chloride and boron are particularly important when effluent is used for irrigation. If irrigation reuse is practised or planned, further information is available in the *Guidelines for Sewerage Systems, Use of Reclaimed Water*, 2000, National Water Quality Management Strategy, ARMCANZ, ANZECC and NHMRC^{††}; and Chapter 4 of the *Australian and New Zealand Guidelines for Fresh and Marine Water Quality*, 2000, National Water Quality Management Strategy, ARMCANZ and ANZECC.

A local government should use its discretion with respect to the other parameters in this schedule. It may be appropriate to accept trade waste containing some of these substances at higher concentrations than those specified.

When waste in excess of any of the General Limit parameters is accepted to sewerage, an additional “over limit” charge (see section 7.1.2) is recommended to encourage industry to more closely examine methods of minimising or pre-treating such waste. However if the waste is of benefit to Council, for example, for improved operation of its BNR treatment plant an “over limit” charge may not be appropriate for biodegradable waste.

When specifying oil/grease limits, the method of analysis should be stated.

Prohibited Discharges (Appendix 2, Schedule II)

The prohibited discharges are mandatory to protect workers and infrastructure and are supported by Schedule 1 of the *Water Act*. These substances should not be discharged to the sewer, unless allowed for under appropriate legislation eg. *Radiation Safety Act 1999 and Radiation Safety Regulation 1999*, which allows for the discharge of some radioactive substances to sewer in limited quantities.

^{††} Jointly prepared by Agriculture and Resource Management Council of Australia and New Zealand (ARMCANZ); Australian and New Zealand Environment and Conservation Council (ANZECC) and National Health and Medical Research Council (NHMRC)

See the discussion under section 13.6 for further guidance on disposal of medical wastes and section 13.3.2 for genetically modified organisms.

Specific Limits (Appendix 2, Schedules III, IV, V):

For these substances, local governments may set more stringent limits than those given, but should not set less stringent limits, unless they can provide sound scientific evidence to support a more lenient limit for a specific situation.

The limits for these parameters are seen as being the minimum acceptable in order to protect the treatment processes and the environment. More stringent limits may be imposed for these parameters where local conditions indicate a need, for example a high proportion of industrial waste to sewer or because of sludge reuse / disposal requirements.

Each local government should determine its own limits for sewer admission based on local conditions. Examples of how to calculate limits are included in the ARMCANZ Trade Waste Guidelines.

For Schedule IV, Metals, the lower daily mass load (LDML) approach is suggested for smaller generators. This approach allows them to install appropriate technology that substantially reduces the amount of metal even though it may produce an effluent that does not fully comply with the concentration limit. As the mass is low because the volume of waste is low, discharge to sewerage is acceptable. A local government, however, should be aware of the cumulative effects of a large number of small trade waste generators whose discharges have similar characteristics.

Where a trade waste exceeds the lower daily mass load, treatment to meet the concentration value is required. For very large generators, authorities may need to consider the application of an upper daily mass limit (UDML). This may mean that large generators have to treat their waste to lower concentration values than those shown to minimise the daily mass load discharged.

Compliance

“The sewer admission limits, unless other wise specified in the trade waste approval are considered to be absolute maximums” (paragraph 2, section 5). Given that the underlying approach of the Model TWEMP is “best practicable treatment” for Category 1 and 2 waste, some flexibility will be needed in the implementation of this requirement (see discussion under section 7.2.1)

If the limit is to be based on mass load rather than concentration this should be clearly stated.

If the results of a sample collected during a routine inspection are outside the agreed sewer admission limits or other trade waste approval limits, a local government should seek an explanation from the trade waste generator as to the reason.

In the event that a local government may wish to proceed with some further action such as “over limit charges”, or suspension or cancellation of a trade waste approval,

it is suggested that a local government should take, as a minimum, a further three samples and confirm that at least two exceed the approved limits.

Results from self-monitoring programs cannot be used as a basis for the suspension or cancellation of a trade waste approval.

The parameters to be tested for, and the requirements for sample preservation, will determine whether it is best to collect grab or composite samples. Appropriate procedures to maintain sample security and chain of custody must be used.

Refer to Section F (Waste Characterisation) of the *Model Trade Waste Policy*, DPI, 1993 or 1995, for further discussion. Guidance on sampling is also given in the *Water Quality Sampling Manual*, Environmental Protection Agency, 3rd edition, December 1999.

Diluting waste is not an acceptable means of meeting sewer admission limits (last paragraph, section 5). The total mass load of substances remains the same but hydraulic load increases. Dilution is inconsistent with the objectives of waste minimisation and water conservation.

5.1 EFFLUENT IMPROVEMENT PROGRAMS

Last paragraph - (a): insert required number of days in highlighted area.

Effluent improvement programs are a tool that a local government can use to encourage major trade waste generators (category 3 in the Model TWEMP), who generate waste in excess of the sewer admission criteria for the general limit parameters, to implement waste minimisation.

While effluent improvement programs for Category 1 and 2 generators have not been included in the Model TWEMP other strategies such as industry based education /information packages on cleaner production and waste minimisation should be considered.

Some local government may wish to extend the requirement for an Effluent Improvement Plan to other trade waste generators such as high volume Category 2. The wording of the TWEMP should be modified accordingly.

6. DISCHARGE CATEGORIES

For the purpose of trade waste control, an approach that will give a fair recovery of costs (transport, treatment, operation and maintenance, and administration) without becoming an administrative burden beyond the resources of a local government is required.

Category systems for the management and administration (including charging) of trade waste are commonly used by sewerage authorities Australia wide. The various approaches differ in the number of categories and the definition of the categories.

One example of a category system, based on three categories, is given in the Model TWEMP. This approach is the same as that presented in the former Model Trade Waste Policy and currently adopted by many Queensland local governments. Some local governments may prefer to further split the proposed Category 3 into two categories – high strength, low flow and high strength high flow. Alternatively Category 2 could be split into sub categories. Other examples of category systems are provided in Table 1.

Traditionally, category boundaries have been defined in terms of volume and strength or by industry types. However, there are evolving changes to the approach used for trade waste management as a result of the move to “user pays” charging for sewerage, particularly in NSW, Victoria and Western Australia and some larger Queensland local governments. The primary differentiation is between residential and non-residential customers. For non-residential customers, one approach is for a service (access) charge and a volumetric “usage” charge for all wastewater (sewage and trade waste) discharged to sewer. Volume discharged is commonly assessed using discharge factors applied to the metered water supply. Quantity charges for mass of various pollutants in excess of domestic strength waste apply.

A local government should choose the number of categories and the definition of the category boundaries to suit local objectives and resources.

Factors that need to be considered when determining the number and definition of the categories include:

- the type, number and size of businesses generating trade waste;
- the capacity of the sewerage system;
- sewage treatment process used;
- organisational policy on wastewater charging;
- other options available locally for waste treatment and disposal; and
- the local government’s resources for administration and management of trade waste.

The BOD and Suspended Solids limits of 300 mg/L proposed in the Model TWEMP are based on the strength of average quality domestic sewage. Alternative limits used by some authorities range from 400 to 600 mg/L. **A local government choosing to use domestic strength criteria should set limits consistent with its wastewater strength.**

The annual volume of 500 kL is approximately 1400 L/day and should be ample for most small businesses.

Some local governments who use alternative measures of organic strength such as COD or TOC should include limits for these parameters as alternatives to BOD in their category definitions. **COD should be deleted from the category definition if not relevant.**

The Model TWEMP includes limits for nitrogen and phosphorus. **These should be deleted from the category definition if not relevant. Where relevant, the limits**

should reflect the concentration in typical sewage for a given sewerage system and its environmental authority limits rather than those used in the Model TWEMP.

All waste approved for discharge to the sewer under any category should meet the sewer admission limits unless a variation has been negotiated and included in the trade waste approval.

To meet these limits, most waste in Categories 1 and 2 will need to be discharged through an appropriately sized and properly maintained pre-treatment device such as an oil or grease arrestor, sediment trap, neutralising tank, balancing tank, lint trap or plaster trap. Category 3 waste will generally require more extensive pre-treatment prior to sewer discharge.

Refer to the discussion of section 8, Application Procedures, of the TWEMP and to Section D (Pre-treatment Guidelines for Trade Waste Discharges) of the *Model Trade Waste Policy* for guidance on businesses likely to fall into the various Model TWEMP categories.

Table 1: Examples of trade waste category divisions used by some Australian authorities.

Authority	Category Divisions
<p>Sydney Water Sourced from (1) "Trade Waste Policy and Management Plan" 2001 and (2) Sydney Water web site www.sydneywater.com.au on 26/11/2003.</p>	<p><u>Permit categories:</u></p> <ul style="list-style-type: none"> ○ Commercial Customers <ul style="list-style-type: none"> ▪ Commercial permits ▪ Deemed permits ○ Industrial Customers <ul style="list-style-type: none"> ▪ Conditional Permits ▪ Industrial Agreements <p><u>Charges</u></p> <ul style="list-style-type: none"> ○ Volumetric sewer usage charge for all non – residential businesses which discharge more than 1370 litres (average) per day of wastewater (includes trade waste) to sewerage system. ○ Trade waste charges: <ul style="list-style-type: none"> ▪ Application fees (agreements only) ▪ Permit/agreement fees (based on risk assessment) ▪ Inspection fees ▪ Wastesafe fees ▪ Waste quality charges (charge for mass of substance in excess of 'equivalent domestic mass') ▪ Critical substances charges <p>Notes: Policy includes</p> <ul style="list-style-type: none"> ○ Lists of commercial and industrial business types for the various categories ○ Acceptance standards ○ Extensive list of substances that may be charged for. ○ Risk Index (formula) for determining amount of monitoring required which determines agreement fees etc..

Authority	Category Divisions
<p>Hunter Water Sourced from “Trade Waste Policy and Management System” Dec 2001, Hunter Water Corporation. – www.hunterwater.com.au on 26/11/2003</p>	<p><u>Categories</u></p> <ul style="list-style-type: none"> ○ Minor ○ Major meets one or more of following criteria: <ul style="list-style-type: none"> ▪ Average BOD and SS > 350 mg/L; volume > 500 kL/annum or Average BOD/SS > 500 mg/L ▪ Cannot meet discharge standards ▪ Likely to discharge heavy metals at concentration > domestic sewage ▪ Premises with 4 or more businesses which would be issued with separate trade waste permits if were “stand alone” businesses ▪ Discharge or likely to discharge any substance considered to present risk ○ Non-residential sewer charges – volumetric usage charge (sewerage discharge factor applied to metered water usage) ○ Trade waste charges <ul style="list-style-type: none"> ▪ Permit fees ▪ Minor – initial establishment fee; annual permit fee ▪ Major – annual establishment fee; annual permit fee ▪ Analytical fees ▪ Inspection fees ▪ Strength fees (mass based; volume used in calculation assessed by trade waste discharge factor) – BOD/SS, metals, P, sulphate
<p>Gold Coast Water Accessed from www.goldcoast.qld.gov.au on 25/11/2003</p>	<p><u>Charges</u> (phasing in from July 2003) :</p> <p>Non-residential wastewater charging (includes trade waste)</p> <ul style="list-style-type: none"> ○ Wastewater service charge ○ Waste water volume charge (calculated by industry type discharge factor applied to metered water usage) ○ Wastewater Quality charge (mass based; applies when quality exceeds specified limits; COD > 1000 mg/L, non-volatile SS > 10 mg/L)
<p>City West Water (Melbourne) Sourced from “Trade Waste Policy and Guidelines” January 2003 www.citywestwater.com.au 25/11/2003</p>	<p>Category 1</p> <ul style="list-style-type: none"> • Chargeable concentration BOD and SS < 600 mg/L; volume < 1000 kL/annum <p>Category 2</p> <ul style="list-style-type: none"> • Chargeable concentration BOD and SS < 600 mg/L; volume > 1000 kL/annum <p>Category 3</p> <ul style="list-style-type: none"> • Chargeable concentration BOD and SS > 600 mg/L <p><u>Charges</u></p> <ul style="list-style-type: none"> • Ground food waste charge • Agreement fee (fee scales based on volume) • Application fee (fee scales based on volume) • Quantity/Quality charges <ul style="list-style-type: none"> ○ Category 1 no quantity/quantity charges ○ Category 2: Volume charge ○ Category 3: volume and quality charges.

Authority	Category Divisions
<p>Brisbane Water Sourced from Brisbane City Council web site www.brisbane.qld.gov.au on 25/11/2003</p>	<p>Category A</p> <ul style="list-style-type: none"> • Minor trader eg. small food outlet or workshop. Volume < 250 kL/annum. • Annual charge. <p>Category B</p> <ul style="list-style-type: none"> • Volume > 250 kL/annum; assumed domestic strength - BOD and Suspended solids 250 mg/L [eg. larger restaurant, lower impact food processor]. • Volume charge \$/kL. <p>Category C</p> <ul style="list-style-type: none"> • Volume > 250/ kL; assumed less than domestic strength – BOD < 100 mg/L, suspended solids < 200 mg/L [eg. anodising plant, electroplater, low impact manufacturers]. • Volume charge \$/kL. <p>Category D</p> <ul style="list-style-type: none"> • Large discharge and high strength waste > 20 kg/day BOD [eg. major manufacturer, brewery, cannery, synthetic polymers, abattoirs]. • Linear Charging rates: \$/kL, \$/kg specified substances (BOD,SS, TKN, TP).
<p>Tweed Shire Council Sourced from www.tweed.nsw.gov.au on 28/11/2003 (policy as of July 2000)</p>	<p>Category 1 (Low mass amounts)</p> <ul style="list-style-type: none"> ○ Volume ≤ 3 kL /day or 1095 kL/year ○ Oil & grease ≤ 100 mg/L ○ Other characteristics within admission limits <ul style="list-style-type: none"> • 1A : commercial establishments producing kitchen type or laundry waste in low mass amounts (eg. take away shops, meat and fish shops, cafeterias, small restaurants, small bakeries, small hotels/motels, small laundries). • 1B: commercial establishment producing other type wastes (eg. service stations, workshops, car washes, photo and X-ray processors, laboratories) <p><u>Charges</u>: annual access + annual usage (volume based0</p> <p>Category 2 Kitchen or laundry type waste in high mass amounts</p> <ul style="list-style-type: none"> ○ volume 3-20 kL/day;. ○ BOD and SS ≤ 300 mg/L ○ Oil and grease ≤ 100 mg/L <p><u>Charges</u>: annual access + annual usage (volume based)</p> <p>Category 3 -Large discharges and industrial strength; waste does not meet criteria for Categories 1 or 2. Charges: annual access + annual usage (volume and mass loading).</p> <p>Volume: assed by discharge factor on metered water supply. Mass: use trade waste proportion discharge factors for pollutants Also application fees, inspection fees etc.</p>
<p>Water Corporation Western Australia Sourced from Water Corporation web site www.watercorporation.com.au on 27/11/2003</p>	<p><u>Permit system</u>:</p> <ul style="list-style-type: none"> ○ Commercial and light industrial ○ Manufacturing and processing <p><u>Charges</u></p> <ul style="list-style-type: none"> ○ Non-residential waste water <ul style="list-style-type: none"> ▪ Service charge ▪ Volumetric usage charge (200 kL/annum free allowance) ○ Trade waste <ul style="list-style-type: none"> ▪ Annual permit fee

Authority	Category Divisions
	<ul style="list-style-type: none"> ▪ Quantity/quality[#] charges <ul style="list-style-type: none"> • Fixed annual Q/Q for specified industries based on industry profile • Direct measurement Q/Q ▪ Miscellaneous activity charges(establishment fees, monitoring, inspection etc) <p>[#] Quality charges for BOD, SS, TKN, P, oil and grease, metals, TDS. Sulphate Adjustments made where appropriate to offset sewerage charges for proportion of wastewater charged as trade waste.</p>

7. TRADE WASTE CHARGES AND FEES

The power for a local government to set charges and fees for its services is given under the *Local Government Act 1993*. The Department of Local Government and Planning advises that charges may be levied under sections 36 (commercial charges), section 973 (utility charge) and section 1071A (regulatory fees)^{‡‡}

Usage charges that relate to the quantity and quality of trade waste (including recurring charges related to the administration of the trade waste control system) may be levied as sewerage utility charges under section 973. This means that they run with the land and can be charged to the owner, even when the owner is not the trade waste generator. Such charges may be recovered in the same manner as a rate.

Alternatively, if usage charges are billed directly to the generator, these would be set under section 36. When charged to the generator as a commercial charge, a condition may be added to the approval (permit or agreement) that non-payment by a given date will result in the cancellation of the approval.

Regulatory fees such as an application or permit fee would be issued under section 1071A.

Utility charges under section 973 can only be made at the budget meeting of the council whereas the charges & fees under sections 36 and 1071A can be made at any time.

Local Governments will need to determine their preferred option for charging.

A local government should seek its own legal advice in relation to its policy wording in relation to the setting of fees and charges. It should also carefully consider the wording for the Council resolution to be passed in relation to trade waste charges and fees and ensure consistency between policy and resolution. It will need to take account of billing periods and any lag between the billing period and the actual period for which charges based on quantity/quality data (category 2 and 3) apply.

^{‡‡} Section 974 (general charges) of the *Local Government Act* has been repealed and replaced with section 36 (commercial charges) and section 1071A (regulatory fees).

7.1 TRADE WASTE CHARGES

Note: paragraphs two and three in earlier versions of the TWEMP have been deleted. Provisions about recovery of charges and billing cycles are covered by legislation and the local government's financial policy.

It is desirable that the full cost of collecting, treating and administering trade waste be recovered from trade waste generators through charges and fees on a "user pays" basis.

At a practical level, this objective will need to be balanced by a local government's resources and the cost of administration, hence the category administration approach and a combination of flat and quantity / quality charges which may not be strictly "user pays" for all generators.

A number of larger local governments have a legislative requirement under the *Local Government Act* to operate their sewerage activities as a commercial business unit and to achieve full cost recovery. Trade waste is one component of a local government's sewerage business activities.

Some communities may choose to subsidise commerce and industry, particularly if they are important to the economic viability of the area, by not recovering the full cost of the trade waste component of the sewerage business from trade waste generators. The shortfall in trade waste cost recovery is subsidised by domestic sewage charges. In such situations the actual full cost of treatment for trade waste and the degree of subsidy should be clearly stated so that the local government, trade waste generators and the public are aware of the extent of the subsidy by domestic ratepayers.

There are a number of formulae and approaches used to calculate trade waste charges. A more complete discussion of the various options along with their advantages and disadvantages is given in Section G (Trade Waste - Charging Policy) of the *Model Trade Waste Policy*.

The calculation of unit quantity and quality charges and issues to be considered is also covered in Section G of the *Model Trade Waste Policy*. Also refer to the discussion for section 7.1.1 below. The quality parameters commonly charged for are Biochemical Oxygen Demand (BOD) and suspended solids. The mass load for a specified period is calculated from the total volume (kL) and average or median concentration (mg/L) for the period.

Some local governments may chose to use Chemical Oxygen Demand (COD) or Total Organic Carbon (TOC) instead of BOD as a measure of organic strength. In such situations it will be necessary to properly characterise the changes in domestic sewage strength through the treatment plant in terms of these parameters and apportion treatment costs accordingly so that charges remain equitable. Refer to the discussion of BOD and COD in section 3.2 of Section F (Trade Waste - Waste Characterisation) of the *Model Trade Waste Policy*.

7.1.1 GENERAL TRADE WASTE CHARGES

In the Model TWEMP the proposed annual charge for Category 1 trade waste includes a transport and treatment component (assumed domestic strength), together with general administration costs for trade waste management including the cost of routine compliance inspections and monitoring for generators in this category.

When routine monitoring or inspections identify non-compliance with a trade waste approval, additional inspection and monitoring costs may be recovered as fees and charges defined in section 7.2 of the Model TWEMP.

For Category 2 and Category 3 waste, charges have been split into a “minium” charge and either a quantity charge (Category 2) or a quantity/quality charge (Category 3).

The minimum charges for Categories 2 and 3 are intended to cover basic administration and monitoring / inspection costs but not transport / treatment costs. This minimum charge should be different for each of the categories because of the different requirements for inspection and compliance and audit testing in each category. As for Category 1, when routine checks of waste generated in Categories 2 and 3 identify non-compliance with trade waste approval conditions, additional inspection and monitoring costs may be recovered as fees defined in section 7.2 of the Model TWEMP.

A local government may prefer to define the minimum charge (Categories 2 and 3) as an annual charge or access charge.

For Category 2, the unit charge “k” is presented as a volume charge that reflects the trade waste component of the total cost of operation and treatment for the sewerage system for both the volume and quality of the wastewater, based on domestic strength sewage.

For Category 3, both quantity and quality charges apply. The volume unit charge “a” for Category 3 is different from the volume unit charge “k” in Category 2. The unit charge “a” reflects **only the volume component** of the cost of operating the system. There are separate unit charges for the various strength components such as BOD and suspended solids.

In the Model TWEMP, the category 3 charges are assumed to apply to the total mass discharged, not to the amount in excess of assumed domestic strength.

For Category 3 waste, the Model TWEMP indicates that charges can be made for a range of pollutants such as BOD (or TOC or COD), suspended solids, nitrogen, phosphorus etc. **Local governments should choose parameters relevant to their sewerage system, reflecting the type of treatment used and pollutants removed by that treatment and amend wording of third dot point accordingly.**

For most sewerage systems, partitioning treatment costs between BOD and suspended solids will be sufficient. Some local governments may choose to attribute all of the treatment costs to one parameter such as COD. Nitrogen and phosphorus should not

be included if the treatment plant is not designed to specifically remove nitrogen and phosphorus.

The more parameters to be charged for, the more complicated the calculations for unit charges become. As each unit treatment process treats for more than one parameter, it is important to ensure there is no “double dipping” when calculating unit charges.

The greater proportion of the unit volume charge “a” will come from the costs associated with transport of wastewater, that is the collection system. The greater proportion of the unit charge for suspended solids removal will be attributed to primary treatment and sludge handling costs. If a local government wishes to charge for heavy metals, which are in the main removed with solids, further partitioning between suspended solids and heavy metals would be required.

The unit charge for BOD will have a small component from primary treatment with the major component coming from secondary treatment (reduction in biodegradable organics). Secondary treatment is also the main unit process for nitrogen reduction so if charges for nitrogen were proposed, further partitioning of the costs between BOD and nitrogen would be required to determine unit charges for each.

As discharging more specific pollutants (eg sulfate, nitrogen, phosphorus) other than BOD and suspended solids is likely to be generator specific rather than applicable to all trade waste generators, charges under section 7.1.2 rather than 7.1.1 may be more appropriate (see discussion under 7.1.2).

Some local governments currently have a charging system based on a fee per pre-treatment device such as a grease arrestor. Under the proposed category system such charges should not be used in addition to quantity and quality charges.

Where a different category or charging framework is proposed to that in the Model TWEMP, rewrite Section 7.1.1 to outline the proposed category and charging system to be used.

7.1.2 ADDITIONAL CHARGES FOR OVER LIMIT DISCHARGE

This is a non-linear charge providing for increasing charges per unit of waste as the amount of waste increases over an approved level. This is an incentive charging approach designed to encourage waste reduction by industry. It is recommended as the charging approach that should be used when a local government agrees to accept to sewer waste for which some parameters exceed the General Limits (Schedule 1, Appendix 2) as specified in section 5 of the Model TWEMP.

Additional charges are an avenue that local governments may also wish to consider as an alternative to penalties for breaches of sewer admission limits specified in the trade waste approval. If such an approach is taken, it should be written into trade waste approvals. It would be unjust to pursue both additional charges and other penalties for the same breach.

As indicated in section 7.1.1, local governments may also wish to consider using this charging formula for specific pollutants (sulfate, metals, nitrogen, phosphorus) on an individual generator basis.

Non-linear charging is discussed in more detail in Section G (Trade Waste – Charging Policy) of the *Model Trade Waste Policy*.

Section 7.1.2 should be written to be consistent with the approach adopted by a local government or deleted if not to be part of the policy.

7.1.3 EQUIVALENT ARRESTOR CHARGES

Where site constraints prevent existing trade waste generators from installing required pre-treatment devices such as arrestors, there needs to be some mechanism for charging for the additional load discharged to sewer. There are two options a local government might consider:

- impose an equivalent arrestor charge as described in the Model TWEMP (ensures equity with generators of similar waste type); or
- charge as a Category 3 generator. This approach may not be cost effective as it will require quantity/quality monitoring and will need to be resourced by the local government at additional cost to both the local government and the generator.

Section 7.1.3 should be written to be consistent with the approach to be adopted by a local government or deleted if not part of the policy.

7.1.4 FOOD WASTE DISPOSAL UNITS

This clause assumes that a local government will allow, and will charge for, food waste disposal units (garbage grinders, fruit and vegetable peelers etc) used in **non-domestic premises**. **A decision as to whether or not to allow these units and any limits on size and charging rate will need to be made (see also section 13.4).**

Food waste disposal units impose an additional organic and solids loading and should be charged for in Categories 1 and 2 where charges are based on domestic strength waste. These charges are proposed as additional charges to those set under section 7.1.1. These charges are not applicable to Category 3 where the quantity charge applies to the total organic load.

The suggested charging scheme uses a unit system by equating garbage grinders to a number of sewage units depending on the normal unit base used for sewage rates i.e. a pedestal unit rate or a volume unit rate. **Local governments should choose categories and the basis for a charging rate to suit local conditions. If food waste disposal units are not allowed delete this clause.**

This clause is not intended to cover the use of garbage grinders in domestic premises. Local governments will need to separately address the issue of whether to allow domestic garbage grinders.

7.2 **TRADE WASTE FEES**

7.2.1 *INSPECTION AND ANALYSIS FEES.*

For Category 1 and 2 waste, the underlying approach of the Model TWEMP is “best practicable treatment”. That is, provided pre-treatment equipment is properly sized and installed and regularly maintained in accordance with approval conditions, the quality of effluent is acceptable for discharge to sewer, even though it at times may exceed the sewer admission limits.

There is little benefit from rigorous, regular monitoring of the quality of such waste. Random sampling of selected representatives from each industry on a rotational basis may be sufficient to keep a check on minor trade waste generators if considered necessary. In the long term this approach will provide background data on the quality of waste on an industry basis, which may be useful for ongoing revisions of a local government’s TWEMP with respect to category definition and charging options.

All premises should be inspected on a regular basis for general auditing of the facility, adequacy of maintenance and pump outs, and work practices (see section 10).

In the Model TWEMP it is assumed that the annual charge for Category 1 (section 7.1.1) includes the general administration costs for trade waste management including the cost of routine compliance inspections and monitoring. For Category 2 these costs are covered by the minimum charge (section 7.1.1).

Where additional inspections are required (Categories 1 and 2) because of inadequate maintenance of pre-treatment devices or non-compliance with trade waste approval conditions, the full cost should be passed on to the generator through fees set under this section (7.2.1).

For Category 3 waste, more extensive quality monitoring for charging and compliance purposes will be required. For charging purposes the Model TWEMP recommends self-monitoring by the trade waste generator with conditions specified in the Agreement.

A local government will need to determine whether it will do the necessary testing, or use the self-monitoring approach. Where self-monitoring is used, a local government will need to audit the results and inspect as required. A local government can collect its own samples from time to time (composite and grab) for auditing purposes, and/or have industry split selected samples for analysis both by the local government and industry.

Refer to section 12.2 of the Model TWEMP and section 5.0 of Section F (Trade Waste - Waste Characterisation) of the *Model Trade Waste Policy* for further discussion of self-monitoring.

For Category 3, the minimum trade waste charge (section 7.1.1) to cover routine inspections, compliance testing and audit monitoring will generally be higher than that for Category 2.

If a local government chooses not to use the self-monitoring approach, it may prefer to charge for all monitoring and inspection activities for Category 3 on a “user pays” basis under section 7.2.1 rather than through a minimum fee (section 7.1.1), particularly if there are substantial differences in the amount of monitoring required by different generators.

Where the minimum charge approach is used (section 7.1.1), any additional inspections or testing required because of non-compliance with trade waste approval conditions should be passed on to the generator through fees set under this section (7.2.1).

A local government should rewrite this section (and other linked sections) to reflect its approach to inspection and monitoring.

7.2.2 APPLICATION FEES

The Model TWEMP suggests that an application fee applies only to Category 3 applications. For Categories 1 and 2, this administrative cost should be incorporated into the overall costs used to determine the annual charge (Category 1) or the minimum charge (Category 2).

Some local governments may wish to apply application fees to Categories 1 and 2. If this approach is adopted, these charges should not be included in the general administration allocation to the annual charge (Category 1) or the minimum charge (Category 2).

Some local governments may wish to set fees, based on time, for specific activities required for assessing and processing applications such as scrutiny of hydraulic plans, on site consultations and advice on new installations, and inspections of new installations.

A local government should determine its preferred approach to charging application fees and rewrite this section as appropriate.

7.2.3 SEPTIC TANK AND OTHER LIQUID WASTE FEES

The average strength of commonly transported liquid wastes accepted to sewer, such as septic tank or portable toilet waste, may be used to determine an appropriate “volume based” charge for liquid wastes (\$/kL). This charge should also take into account the strength of the waste (similar approach to calculating the unit “k” charge for Category 2 wastes).

These charges would also be appropriate to waste discharged under section 13.8 (Discharge of Liquid Wastes from Vessels, Vehicles and Aircraft) of the Model TWEMP

It may be necessary to develop different charges for different waste types when the strength is substantially different eg holding tank waste compared with septic tank sludge.

Sampling of loads to determine parameters such as BOD and suspended solids may be required to determine average strength of various types of waste if this information is not available locally. Random sampling of loads from time to time to check on the quality of waste being discharged is also advisable. The data can also be used to revise annual charges.

7.3 *REFUNDS ON CESSATION OF DISCHARGE*

Note: this section has been deleted from the TWEMP. Such matters should be covered by a local government's financial policy.

8. APPLICATION PROCEDURES

Blanks in this section to be filled in as appropriate

As discussed under section 4, Control of Trade Waste, an approval to discharge trade waste to sewer must be issued to the **person** wanting to discharge trade waste to sewer and who can be held accountable for compliance with the approval conditions. .

In the case of multi – tenanted premises such as a shopping centre, it may be reasonable to consider the centre management as the “person wanting to discharge”. This assumes that the centre management is responsible for the sewer connection carrying trade waste and the management of grease arrestors and other pre-treatment devices that may treat the combined waste from a number of tenant businesses prior to sewer discharge. If there were large generators discharging independently, separate individual approvals would be more appropriate.

An example of an Application Form to discharge trade waste is supplied in Section E of the *Model Trade Waste Policy*. Some minor amendments will be required to this Application Form. The requirement for the owner, when the owner is not the generator, to sign the application should be deleted. Local governments should also revise any accompanying or explanatory notes for their application forms to reflect the changes to application procedures and legislation references.

The example form is primarily intended to indicate the type of information required to assess whether or not the waste can be discharged to sewer. Because of the different amount of information required for the different Categories, local governments may prefer to have separate application forms for Permits and Agreements, with the Permit application form being a simpler document.

Each local government should determine an appropriate format for its own use. Also refer to the discussion of section 9, Permits and Agreements.

A further option for basic approvals is to combine the application and approval into a single, multi-copy form where the original serves as both the application form and, once authorised, the approval for the trade waste generator. The duplicate copy may be given to the owner (when the owner is not the generator) and the triplicate copy is for the local government's records. An example of a form used by the former Hunter Water Board is provided in Section D, *Model Trade Waste Policy*.

For minor generators (some or all of Category 1), a system of "on the spot" approval issuing by a trade waste officer following an inspection of the premises is worth consideration.

Liquid waste disposal contractors discharging to the sewer should have a trade waste approval to cover all waste types to be discharged, and be licensed in accordance with section 13.1, Removal of Industrial Liquid Wastes from Premises, of the Model TWEMP.

Most communities will have a selection of commercial and service enterprises that generate trade waste. Their waste is normally acceptable for discharge to the sewer under Categories 1 or 2 provided there is suitable pre-treatment where required such as:

- grease arrestor for all food related discharges;
- oil arrestor for automotive and engineering related discharges;
- silver recovery for photographic waste;
- sediment and lint traps as appropriate; and
- neutralising trap as appropriate.

As a guide for trade waste generators a local government may find it useful to publish guidelines for pre-treatment similar to those given in Section D (Pre-treatment Guidelines for Trade Waste Discharges) of *the Model Trade Waste Policy*.

This document lists those businesses likely to fall into Categories 1 or 2, provided they discharge through adequately sized and maintained pre-treatment devices, and gives guidance as to the minimum pre-treatment likely to be required. Within any industry type, there will be variations in the quantity and quality of waste. Such exceptions will need to be addressed when determining the appropriate category.

A local government will need to decide the extent and type of advice it is able to provide to trade waste generators without compromising its regulatory role. If Pre-treatment Guidelines are to be produced, care should be taken to ensure that the guidelines do not favour any particular product or device and do not preclude other pre-treatment options.

An alternative approach worth consideration is the production of industry specific guidelines that address issues such as application, approval and pre-treatment requirements.

If a local government does not intend to include *Pre-treatment Guidelines for Trade Waste Discharges* as part of its Trade Waste Policy, delete any reference to it in the Model TWEMP (second last paragraph, section 8).

Local governments should have a contact person such as the Trade Waste Officer, who can provide general advice to waste generators on the options for disposal of non-sewerable waste. This could include contact lists of waste transporters, waste treatment facilities and consultants.

9. PERMITS AND AGREEMENTS

A system of Permits for minor generators and Agreements for major generators is proposed in the Model TWEMP. Some local governments may decide to use the term “trade waste approval” for all categories rather than differentiate Permits and Agreements or use other terms (eg Consent) to define their approvals.

Generally, an approval will have conditions attached to it. The type of information and conditions of discharge to be included in the Permit and Agreement are listed in sections 9.1 and 9.2 of the Model TWEMP. **A local government should chose those items to be included that are appropriate to local conditions and may add additional items to the list as required.**

The concept of an Agreement for major trade waste generators has been introduced to reinforce their responsibilities and to encourage their co-operation in respect of self-monitoring and responsible waste management.

An Agreement is a more detailed trade waste approval than the Permit proposed for minor trade waste generators of Category 1 and 2 wastes. Note that under the former Model Trade Waste Policy the concept of an Agreement being a legal document was suggested. Legal advice obtained by some local governments indicated that the Agreement could only be used as a particular type of statutory trade waste approval under section 24(4) of the Standard Sewerage Law and that it can not be a general law contract. The same interpretation applies to an Agreement issued as an approval under sections 469 and 470 of the *Water Act*.

Items relating to the powers of a local government to enter premises, termination conditions and penalties for non-compliance have been deleted from the suggested list of conditions for Permits and Agreements in the Model TWEMP (they were include in the former Model Trade Waste Policy) as these are covered by legislation (*Local Government Act* and *Water Act*).

Note: the paragraph in the July 2000 and April 2002 versions of the TWEMP relating to giving a copy of the Permit or Agreement to the premises owner if the owner is not the generator (approval holder) but may be paying trade waste charges charged as utility charges, has been deleted.

The conditions of approval should only be conditions that the approval holder can be held accountable for.

10. INSPECTIONS AND MONITORING

Any inspection and monitoring programs must be done in accordance with the provisions set out in Chapter 15 of the *Local Government Act 1993*. Power to enter premises under the *Water Act 2000* (section 384) is restricted to matters relating to the service providers infrastructure.

10.1 INSPECTION CHAMBERS AND/OR GAUGING FACILITY

This clause is intended to ensure easy and adequate access for authorised persons to inspect, collect samples, and set-up flow monitoring and automatic sampling equipment as required.

For accurate quantity/quality measurement, it is highly desirable that the trade waste stream be kept separate from the domestic waste stream and that all sampling and flow measurement be done on the trade waste stream prior to dilution by the domestic waste stream (paragraph 3). Where this is not possible, the strength and volume of the trade waste may be estimated from the common waste data.

It is also desirable that the sewer connections from premises where it is claimed that trade waste is either not generated or not discharged to sewer be accessible for inspection and monitoring, in the event that such claims need to be verified (paragraph 4 of this section).

A local government should amend this section to reflect its specific requirements.

11. DETERMINATION OF DISCHARGE QUANTITY

In the absence of metering, the use of a pedestal allowance has commonly been used to assess the domestic component of waste discharged to sewer. Currently, deductible allowances for pedestals by Queensland local governments vary from 50 to 200 kL/annum, with 136 kL being the most commonly used. This is based on the use of 13.5L flush toilets. With the introduction of water efficient units, local governments may wish to consider alternative allowances eg 90kL/annum based on 4.5/9L flush systems, or 60kL/annum based on 3/6L systems.

These calculations assume 10000 full flushes per annum. As reduced flush systems are not universally used, some compromise allowance would need to be determined based on local knowledge of the capacity of installed toilet systems.

For some premises, pedestal allowances can lead to erroneous results with the deductible allowance being greater than the measured water consumption. In such situations a local government will need to consider alternative approaches based on its knowledge of the industry type.

Discharge factors (applied to the metered water supply) are becoming more widely used as a means of estimating either the total wastewater, or the sewage and trade

waste components of wastewater, discharged from non-residential premises Recent examples of discharge factors may be accessed from the web sites listed in Table 1.

Refer to Section F (Trade Waste - Waste Characterisation) of the *Model Trade Waste Policy* which discusses flow estimation and measurement in more detail. Flow measuring equipment should be installed by the generator to support any request for a variation from an agreed industry discharge factor

Approved flow measurement devices means devices that are acceptable to a local government. The error associated with flow measurement and its affect on the accuracy of trade waste charges needs to be fully appreciated by both the local government and waste generators.

Local governments should determine their policy on allowances and whether to use discharge factors or pedestal allowances and rewrite this section accordingly.

12. DETERMINATION OF DISCHARGE QUALITY

12.2 CATEGORY 3

The Model TWEMP proposes Category 3 trade waste generators self-monitor to determine quality characteristics for charging purposes, and for parameters for which pre-treatment is required. A local government should audit the results. Requirements for self-monitoring should be detailed in the Agreement as outlined in section 9.

If a local government decides against the self-monitoring approach and proposes to do the quality monitoring itself, it will need to rewrite this section outlining its proposed method and how it will recover monitoring costs (some revision of section 7 may also be required). The statement in the TWEMP should be in general terms. It would be appropriate for more specific detail for individual generators to be provided in the Agreement so that the local government's approach is transparent.

Refer to the discussion of section 7.1 above for guidance on data requirements for calculation of charges. Quantity (flow) and quality (concentration) data are required for the calculation of mass load and charges.

Irrespective of whether quality characterisation is done through self-monitoring or by the local government, it is important that a sufficient number of samples be specified to ensure an equitable estimate of the waste load on the sewerage facilities.

The extent and frequency of the program will depend on the industry type and size of operation. Sydney Water has developed a Risk Index, which amongst other things, determines the sampling frequency for industrial customers. One approach might be to do daily composite sampling of the discharge over a seven to eight day period (to cover a full week's operation) with each day's sample analysed separately. This would be done three to four times per year. For major generators continuous monitoring may be required. Refer to Section F (Trade Waste - Waste

Characterisation) of the *Model Trade Waste* Policy for further discussion of the statistical requirements for sampling with respect to equitable charging.

For self-monitoring, the method for estimating load if there is insufficient monitoring data available should be addressed in the Agreement.

Further information on monitoring is provided in Section F (Trade Waste - Waste Characterisation) of the *Model Trade Waste* Policy.

Monitoring of all waste for compliance with agreed sewer admission limits should be done by the local government. Refer to the discussion on compliance monitoring under section 5 above.

13. SPECIFIC REQUIREMENTS FOR COMMERCIAL AND INDUSTRIAL WASTES

13.1 REMOVAL OF INDUSTRIAL LIQUID WASTE FROM PREMISES

Requirements for the removal, transport, storage and treatment of regulated waste are clearly set out in the mentioned legislation.

A local government should be aware of all waste, both solid and liquid, generated on premises and the method of disposal. This should be recorded on a Waste Register (see Section 16 Records and Reports). Appropriate waste tracking systems consistent with the requirements of the Environmental Protection Agency will be required.

The Model TWEMP does not allow for grease trap waste to be disposed of to the sewerage system (paragraph 4). Some local governments continue to accept such waste to sewerage because of a lack of alternative means of disposal locally. In such situations, the local government should omit this paragraph or amend it to suit the local situation.

13.2 ARRESTOR INSTALLATIONS

The term arrestor rather than alternatives such as interceptor or separator has been used in the Model TWEMP for consistency with AS3500 National Plumbing and Drainage Code, Part 0: Glossary of terms.

13.2.1 GREASE ARRESTORS

Local governments should consider their own requirement in relation to the sizing of grease traps and the maximum allowable size and amend the TWEMP accordingly (paragraphs 1 and 2).

Where an existing waste stream (Category 1 and 2) requires pre-treatment but site specific conditions do not allow for appropriate devices to be installed, for equity purposes, some form of additional charge is recommended.

Applying a charge that is equal to the average cost paid by other generators of similar waste to have arrestors regularly cleaned (section 7.1.3) in addition to the normal Category 1 or 2 charges is one alternative. Another is to treat the waste as Category 3. The latter approach will require measurement of quantity and quality.

Use of biological additives and other agents (paragraph 6).

A potential problem with the addition of many enzyme/bacteria/solvent additives to grease traps is that, while they may clean the trap, removal is often as emulsified grease. The emulsion may break on dilution or as a result of other changes in the physical/chemical properties of the sewage downstream of the arrestor, causing grease problems elsewhere in the sewerage system. Regular cleaning of grease traps is the best maintenance method. Requirements for cleaning should be defined in the Permit or Agreement and records kept to show that requirements are met.

Use of additives may result in increased BOD (or COD, TOC), suspended solids and oil/grease in the effluent from a grease trap. Such an increase may result in a waste being classed as a Category 3 rather than a Category 1 or 2. Trade waste generators should be made aware of this possibility together with the additional requirements for quality/quantity based charging including self-monitoring or additional monitoring by the local government.

Trade waste generators wishing to use additives in grease trap and other pre-treatment systems should apply to the local government for approval. If uncertain about the performance of a given product in a given situation, a local government may consider giving conditional approval subject to the generator demonstrating that the product does not adversely impact on the sewerage system.

A number of local governments have developed guidelines for evaluation of additives and for management of grease arrestors^{§§}.

There is a legislative requirement (EPP (Water), section 23) that a local government must consider safety information, potential environmental effects and potential pathogens in “natural biological controls” used in the treatment of waste water before allowing their use.

13.2.2 MINERAL OIL ARRESTORS

A local government should edit the list of oil arrestors to suit its requirements.

Some local governments, for example, may not allow triple stage interceptors for oily waste separation.

13.3 ENZYMES / BIOLOGICAL ADDITIVES

Biological additives may have application in biological wastewater pre-treatment processes (as distinct from use in grease arrestors). If uncertain about the performance

^{§§}*Guidelines for the Use of Additives into the Sewerage System*, Gold Coast City Council.
Cleaner Production: Waste Management for Grease Interceptor Traps, Ipswich City Council

of a given product in a given situation, a local government may consider giving conditional approval subject to the generator demonstrating that the product does not adversely impact on the sewerage system.

The legislative requirement (EPP(Water), section 23) that a local government must consider safety information, potential environmental effects and potential pathogens in “natural biological controls” used in the treatment of waste water before allowing their use is relevant.

Specific requirements for genetically modified (engineered) organisms are set out in section 13.3.2. The contact address for the Gene Technology Regulator is

Office of the Gene Technology Regulator
MDP54, PO Box 100
Woden ACT 2606

Freecall 1800 181 030
Email: ogtr@health.gov.au
Website: www.ogtr.gov.au

13.4 FOOD WASTE DISPOSAL UNITS

Refer to discussion of section 7.1.4 above.

Delete this clause if it is not proposed to control the discharge of waste from food waste disposal units.

If food waste disposal units are not allowed, insert an alternate clause stating this.

13.5 COMMERCIAL SWIMMING POOLS / ORNAMENTAL PONDS

This section does not apply to domestic pools.

Where backwash water and water from commercial or public pools and ornamental ponds is discharged to sewer, it is considered to be a trade waste. Approval is required (*Water Act 2000* section 824(6)) and discharge conditions and charges apply in accordance with a local government’s TWEMP.

If some other form of disposal is considered, the generator may need other appropriate approvals eg. environmental authority from the EPA for discharge to receiving waters. Irrigation use would require appropriate treatment and consideration of health risks.

For direct disposal or irrigation use, some pre-treatment will be required generating waste that is best discharged to sewer as trade waste.

13.6 MEDICAL, CLINICAL, VETERINARY AND INFECTIOUS WASTES

Part 5 of the *Environmental Protection (Waste Management) Regulation 2000* deals specifically with the management of clinical and related wastes.

In addition there are national guidelines that address the handling and disposal of all medical wastes:

- *National Guidelines for Waste Management in the Health Industry*, National Health and Medical Research Council, 1999 [can be down loaded from the NHMRC web site <http://www.health.gov.au/nhmrc/publications/synopses/eh11syn.htm>] ***

The regulation requires, and the guidelines promote appropriate segregation, treatment and disposal of all wastes generated by the health industry (includes the veterinary industry).

The discharge of pathogenic organisms, cytotoxic drugs and their metabolic by-products, pharmaceutical drugs and their metabolic by-products and radioactive substances via faeces and bodily fluids of patients is unavoidable.

All other infectious or hazardous liquid wastes should require an approval for discharge to sewer and be rendered safe prior to discharge.

Disposal of radioactive waste is regulated by Queensland Health under the *Radiation Safety Act 1999 and the Radiation Safety Regulation 1999*. This legislation allows for the discharge of some radioactive wastes to sewer.

13.8 DISCHARGE OF LIQUID WASTES FROM VESSELS, VEHICLES AND AIRCRAFT

13.8.1 Vessels

Many boats / vessels use salt water flush, therefore the salinity of the wastewater and its potential impact on a local government's sewage treatment processes and effluent reuse /disposal methods needs to be carefully evaluated when determining suitability for discharge to sewer.

13.8.2 Buses, Aircraft, Recreational Vehicles

Toilet wastes from buses, aircraft etc. may contain chemical preservatives such as formaldehyde, zinc, phenols and quaternary ammonia compounds. Because of their nature, such wastes are best discharged to sewer.

*** Web site reference updated

As the chemical preservatives may be inhibitory to treatment processes, it is advisable to choose a discharge point for such wastes to allow for dilution of the waste before it reaches the plant. Formaldehyde in the range 100 to 200 mg/L is biodegradable and does not appear to be inhibitory to the activated sludge process. At 5000 mg/L however, the viability of organisms appears to be sharply reduced. Concentrations reported to inhibit anaerobic digestion range from 20 to 100 mg/L. The main reason for the recommended sewer admission limit of 50 mg/L is protection of maintenance workers from excess formaldehyde in the sewer atmosphere.

Refer to the ARMCANZ Trade Waste Guidelines for information on the inhibitory effects of phenol and zinc. The Permit or Agreement should include appropriate conditions for discharge to the sewerage system, that is where, when and how including any requirements for dilution with wash water to minimise the hazard to workers.

13.9 LANDFILL LEACHATE & DISPOSAL FACILITY WASTEWATER

The contaminants in leachate from landfill and wastewater from waste treatment/disposal facilities will be site specific and need to be carefully assessed before allowing discharge to sewer. Most will need pre-treatment to meet sewer admission limits.

13.10 DISCHARGE FROM OPEN AREAS

A local government should decide the degree of detail required under paragraph 6 (dot points) and/or include its own specific requirements where appropriate.

14. DISCRETIONARY POWER

Trade waste can be a complex mix of many chemicals, making it impossible to cover all potential problem situations through a TWEMP and associated sewer admission limits.

This section emphasises the fact that the decision of whether or not to accept any trade waste to sewer rests with the local government. This requirement has legislative backing. Local governments are required under the *Water Act* (section 469) and the EPP(Water) (section 41(2)) to fully assess the impact of trade waste on the sewerage system, health and safety of workers and the quality of effluent and sludge.

15. PHASE IN PERIOD

This is a sunset clause for new policies or policies being substantially altered. Where substantial changes that will impact on business and industry are proposed, there should be a phase in or transition period to allow businesses to budget for increased charges and to examine options for modifying processes and reducing waste.

While new charges should be introduced gradually, trade waste generators and owners should be fully acquainted with the actual charges they would incur at the full charge rate.

This section as written is a suggestion only and should be developed to suit the local situation or deleted if not relevant.

If maintained, blanks should be completed as appropriate.

An alternative phase in approach might be:

Year 1	Minimum or set fee for all Categories.
Year 2	Quantity based charges for Category 2 and 3.
Year 3	Full quantity and quality charges for Category 3.

Most policies are phased in over a three to five year period. This period also gives a local government the opportunity to more carefully examine its costs, to determine equitable charges and modify initial estimates if necessary, and to develop its administration requirements and waste register.

16. RECORDS AND REPORTS

To properly manage trade waste, a local government should establish and maintain a trade waste register. It is appropriate that this be part of a waste register for all waste generated within a local government area.

The type of information that should be contained on the register includes:

- premises identification;
- generator contact details;
- owner contact details;
- nature of business/industry;
- chemicals stored/used on the premises;
- all types of waste generated (solid and liquid);
- method of disposal for each waste type/stream; and
- specific trade waste approval details.

Waste registers are discussed in more detail in Section A (Guidelines for Policy Implementation) of the *Model Trade Waste Policy*.

The last paragraph in this section relates to a statutory requirement under the EPP (Water) for local governments to report on the development and implementation of environmental plans.

Section 39 of the EPP(Water) requires local governments to report to the EPA on progress made in developing and implementing environmental plans. This reporting is to be done within three years of the commencement of the EPP(Water).

This relates to priorities and timetable for implementation of all environmental management plans required and/or of its intention to report through another plan such as its Total Management Plan to the Department of Natural Resources, Mines and

Energy. Once a local government has begun to implement its environmental plan for trade waste it must report annually on implementation progress.

A local government should amend the wording of the last paragraph in accordance with its chosen reporting option.

APPENDIXES

Appendix 1: A local government may wish to provide a more detailed listing of relevant legislation eg. along the lines of the given outlined in section 2, “Legal Situation” of this document.

Appendix 2: The limits should be amended (more stringent but not less stringent) as discussed under section 5, Sewer Admission Limits, to meet local requirements.

The limits have been presented as an appendix to allow for easy alteration when they are revised from time to time. Only the appendix, not the policy document, need be altered.

Appendix 3: Likewise, specific charges are listed in Appendix 3 to allow for yearly amendments. **Charges and fees must be determined by each local government and approved as part of the budget process.** These will vary between authorities because of differences in sewerage system size, type of treatment and the relative proportions of industrial and domestic waste.