Water: Discharge of Liquid Trade Waste Policy

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1 INTRODUCTION

Essential Energy is Australia's largest regional utility business. As a water business we are committed to providing safe, secure, reliable and high quality water to our customers. Our aim is to incorporate effective water cycle management into everything we do by ensuring we operate in accordance with, CECP1001 Drinking Water Policy

Essential Energy may apply to the Minister for approval of a policy with respect to the discharge of substances into its sewerage system, under the *Water Management Act 2000* and associated regulations. The commonly used term "Liquid Trade Waste" or "Trade Waste", will be used throughout this document to describe the "Substances Discharged to Sewer".

The *Water Management Act 2000* and its regulations underpin the approval process. Essential Energy may describe substances that are prohibited from being discharged to the sewerage system, may vary or revoke the conditions or may impose further conditions on a discharge approval.

Sewerage systems are generally designed to cater for waste from domestic sources that are essentially of predictable strength and quality. Essential Energy ***may*** accept trade waste into its sewerage system as a ***service*** to businesses and industry.

Liquid trade wastes may exert much greater demands on sewerage systems than domestic sewage and, if uncontrolled, can pose serious problems to public health, worker safety, Essential Energy's sewerage system and the environment.

Impacts of poor liquid trade waste management include:

- Grease, oil, solid material, if not removed on-site, can cause blockages in the sewerage system and result in overflows of untreated sewage to the environment
- Strong waste may cause odour problems and corrosion of sewer mains, pumping stations and sewage treatment facilities
- Sewer treatment facilities may not be able to handle and treat the waste, or may result in excessive costs to treat the waste to acceptable standards.

This Policy is concerned with the approval process for liquid trade wastes discharged into Essential Energy's sewerage system. It has been developed to ensure the proper control of liquid trade waste discharged to the sewerage system and hence protection of public health, worker safety, the environment, and Essential Energy's sewerage system. The Policy also promotes waste minimisation and water conservation.

A person wishing to discharge liquid trade waste to the sewerage system must, under clause 143 of the *Water Management (General) Regulation 2011*, obtain prior approval from Essential Energy. Discharging liquid trade waste without an approval is an offence under the Regulation.

2 OBJECTIVE

The objectives of this policy are to:

- Protect public health
- Protect the health and safety of Essential Energy employees
- Protect the environment from the discharge of waste that may have a detrimental effect
- Protect Essential Energy assets from damage
- Assist Essential Energy to meet its statutory obligations
- Provide an environmentally responsible liquid trade waste management service to the non-residential sector
- Encourage waste minimisation and cleaner production in the commercial and industrial sectors

- Promote water conservation
- Ensure that reuse of the sewage treatment works effluent or bio-solids is feasible
- Ensure compliance of liquid trade waste discharge with the approved conditions
- Provide operational data on the volume and composition of industrial and commercial effluent to assist in the operation of the sewerage system and the design of augmentations or new sewerage systems; and
- Ensure commercial provision of services and cost recovery through appropriate sewerage and liquid trade waste fees and charges.

3 KEY TERMS AND DEFINITIONS

Administrative Advice from the New South Wales Office of Water (NOW) - Essential Energy will seek written administrative advice from NOW and it will have regard to that advice in determining:

- Whether to approve medium and high risk liquid trade waste applications (ie Classification B and C applications)
- Whether to approve the discharge of a prohibited matter
- To increase the acceptance limits beyond those specified in table 2 of this policy for a particular application.

Biochemical Oxygen Demand (BOD_5): The amount of oxygen utilised by micro-organisms in the process of decomposition of organic material in wastewater over a period of five days at 20°C. In practical terms, BOD is a measure of biodegradable organic content of the waste.

Bio-solids: Primarily organic solid product produced by sewage processing. Until such solids are suitable for beneficial use, they are defined as wastewater solids or sewage sludge.

Bunding: Secondary containment provided for storage areas, particularly for materials with the propensity to cause environmental damage.

Chemical Oxygen Demand (COD): A measure of oxygen required to oxidize organic and inorganic matter in wastewater by a strong chemical oxidant. Wastewaters containing high levels of readily oxidised compounds have a high COD.

Commercial Kitchen/Caterer: For the purpose of this policy, a commercial kitchen is a premise that is typically a stand-alone operation and prepares food for consumption off-site. These types of businesses typically cater to wedding functions, conferences, parties, etc. This definition would not apply to a food processing factory supplying pre-prepared meals to an airline company or similar.

Contingency Plan: A set of procedures for responding to an incident that will affect the quality of liquid trade waste discharged to the sewerage system. The plan also encompasses procedures to protect the environment from accidental and unauthorised discharges of liquid trade waste to the storm water drainage system, and leaks and spillages from stored products and chemicals.

Director General: Director General means the Director General of the Department of Primary Industries (DPI).

Due Diligence Program: A plan that identifies potential health and safety, environmental or other hazards (e.g. spills, accidents or leaks) and appropriate corrective actions aimed at minimising or preventing the hazards.

Effluent: The liquid discharged following a wastewater treatment process.

Effluent Improvement Plan (EIP): The document required to be submitted by a discharger who is not meeting the acceptance limits for discharge waste quality set down in Essential Energy's approval conditions and/or liquid trade waste agreement. The document sets out how a discharger will meet the acceptance limits for the discharge of liquid trade waste to the sewerage system within a given timeframe.

Heavy Metals: Metals of high atomic weight which in high concentrations can exert a toxic effect and may accumulate in the environment and the food chain. Examples include mercury, chromium, cadmium, arsenic, nickel, lead and zinc.

Housekeeping: is a general term, which covers all waste minimisation activities connected with the way in which operations within the premises are carried out.

Industrial Discharges: Industrial liquid trade waste is defined as liquid waste generated by industrial or manufacturing processes.

Liquid Trade Waste: All liquid wastes other than sewage of a domestic nature, discharged to sewer.

Methylene Blue Active Substances (MBAS): These are anionic surfactants (see Surfactants definition) and are called MBAS as their presence and concentration is detected by measuring the colour change in a standard solution of methylene blue dye.

Minimal Pre-treatment: For the purpose of this policy includes, sink strainers, basket waste arrestors, plaster arrestors and fixed or removable screens.

National Framework for Wastewater Source Management: refer to section 9.2.

NSW Framework for Regulation of Sewerage and Trade Waste: refer to section 9.1.

NSW Office of Water (NOW): In accordance with the Public Sector Employment and Management (Departments) Order 2011, from 4 April 2011 the NSW Office of Water is a separate office within the Department of Primary Industries (DPI).

NOW Concurrence: is required before Essential Energy may approve an application for the discharge of liquid trade waste (including septic tank and pan waste) to the sewerage system. It is a requirement that Essential Energy obtain the written approval of the Director General of NOW prior to approving such waste to be discharged to the Essential Energy sewerage system.

Open Area: Any unroofed process, storage, washing or transport area potentially contaminated with rainwater and substances which may adversely affect the sewerage system or the environment.

pH: A measure of acidity or alkalinity of an aqueous solution, expressed as the logarithm of the reciprocal of the hydrogen ion (H^+) activity in moles per litre at a given temperature; pH 7 is neutral, below 7 is acidic and above 7 is alkaline.

Premises: Has the same meaning as defined in the *Local Government Act* Dictionary and includes any of the following:

(a) Building of any description or any part of it and the appurtenances to it

(b) Land, whether built on or not

(c) Shed or other structure

(d) Tent

(e) Swimming pool

(f) Ship or vessel of any description (including a houseboat); or

(g) Van.

Prescribed Pre-treatment Equipment is defined as standard non-complex equipment used for pre-treatment of liquid trade waste, e.g. a grease arrestor, an oil arrestor/separator, solids arrestor, cooling pit (refer to Table 7 of *Liquid Trade Waste Regulation Guidelines, 2009*).

Primary Measurement Device: A device such as a gauging pit, weir tank or flume installed in the liquid trade waste discharge line suitable for installation of instrumentation for flow measurement. In cases of commercial flows this can mean a removable section of pipe (in the fresh water supply to the trade waste area) and the installation of a check meter.

Regulations and Acts: Regulations under the *Water Management Act 2000*, including the *Water Management (General) Regulation 2011.* This also includes the *Protection of the Environment Operations Act 1997* and the *Protection of the Environment Operations (General) Regulation 2009*

Sewerage Management Facility: A human waste storage facility or a waste treatment device intended to process sewage and includes a drain connected to such a facility or device.

Sewage of Domestic Nature: Includes human faecal matter and urine and wastewater associated with ordinary kitchen, laundry and ablution activities of a household, but does not include waste in or from a sewage management facility.

Sewerage System: The network of sewage collection, transportation, treatment and by-products (effluent and bio-solids) management facilities.

Surfactants: The key active ingredient of detergents, soaps, emulsifiers, wetting agents and penetrants. Anionic surfactants react with a chemical called methylene blue to form a blue-chloroform-soluble complex; the intensity of colour is proportional to concentration.

Suspended Solids (SS): The insoluble solid matter suspended in wastewater that can be separated by laboratory filtration and is retained on a filter. Also referred to as non-filtrable residue (NFR).

Total Dissolved Solids (TDS): The dissolved solids in wastewater.

Trade Waste Discharge Factor (TWDF): The multiplication factor used to determine the proportion of liquid trade waste as a percentage of the water consumption at a property. This is the amount of liquid trade waste discharged to the sewerage system.

Waste Minimisation: Procedures and processes implemented by industry and business to modify, change, alter or substitute work practices and products that will result in a reduction in the volume and/or strength of waste discharged to sewer.

4 WHAT IS LIQUID TRADE WASTE?

For the purpose of this policy, liquid trade waste means:

All liquid waste other than sewage of a domestic nature.

Liquid trade waste discharges to the sewerage system *include* liquid wastes discharged from:

- Business/commercial premises (e.g. beautician, florist, hairdresser, hotel, motel, restaurant, butcher, service station, supermarket, dentist)
- Community/public premises (including craft club, school, college, university, hospital and nursing home)
- Industrial premises
- Trade activities (e.g. mobile carpet cleaner)
- Any commercial activities carried out at a residential premise; and
- Saleyards, racecourses and from stables and kennels that are not associated with domestic households.

Liquid trade waste **excludes**:

- Toilet, hand wash basin*, shower and bath wastes derived from all the premises and activities mentioned above
- Wastewater from residential toilets, kitchens, bathrooms or laundries (i.e. domestic sewage)
- Common use (non-residential) kitchen and laundry facilities in a caravan park
- Residential swimming pool backwash; and
- While septic tank waste, chemical toilet waste, waste from marine pump out facilities and established sites for the discharge of pan content from mobile homes/caravans to the sewerage system are defined as trade waste, this document does not address the management of such wastes. (These substances are generally not accepted by Essential Energy in Broken Hill and are the responsibility of the Local Council, unless arrangements are made for the acceptance of such substances. Essential Energy will seek written administrative advice from NOW and that it will have regard to that advice in determining whether to approve such applications).

* Used for personal hygiene only.

5 ACTIONS AND RESPONSIBILITIES

The Senior Plumbing Inspector is responsible for the assessment, approval and inspection of all liquid trade waste dischargers.

The Water Business Team is responsible for the Fees and Charges associated with Liquid Trade Waste Discharge.

6 SCOPE OF THE POLICY

This Policy comprises three parts:

- **Part 1** specifies the circumstances in which a person is exempt from the necessity to obtain an approval to discharge liquid trade waste to the sewerage system
- **Part 2** specifies the criteria which Essential Energy will take into consideration in determining whether to give or refuse a liquid trade waste approval; and
- **Part 3** specifies the framework for regulation of liquid trade waste, including the NSW Framework for Regulation of Sewerage and Trade Waste, alignment with the *National Framework for Wastewater Source Management,* application procedures, liquid trade waste discharge categories, liquid trade waste services agreements, monitoring of liquid trade waste discharges, liquid trade waste fees and charges, modification or revocation of approvals, prevention of waste of water and contaminated storm water discharges from open areas.

7 PART – 1

7.1 Exemptions for obtaining approval of Liquid Trade Waste Discharge

Where a commercial business activity has been exempt from the requirements to obtain Essential Energy's approval to discharge liquid trade waste to the sewer system, Essential Energy will provide written confirmation of this exemption; this exemption will apply so long as the requirements that have been identified in Table 1 are met.

7.1.1 TABLE 1 – Exemptions

This table lists commercial business activities that are exempt from the requirement to obtain Essential Energy's approval for liquid trade waste discharge to the sewerage system. Each such business must meet the standard requirements specified below. An annual trade waste fee applies to each such discharger and Essential Energy will provide written advice of any such exemption after an initial inspection of the premises.

Activity	Requirements
Beautician	Nil.
Bed and Breakfast (not more than 10 persons including proprietor)	Sink strainers in food preparation areas. Housekeeping practices (see Note 4).
Community hall (minimal hot food)	Sink strainers in food preparation areas. Housekeeping practices (see Note 4).
Day care centre (no hot food prepared)	Sink strainers in food preparation areas. Housekeeping practices (see Note 4) Nappies are not to be flushed into the toilet.
Delicatessen – no hot food prepared	Sink strainers in food preparation areas. Housekeeping practices (see Note 4).
Dental technician (no X-ray)	Plaster arrestor required
Doctor's surgery (plaster casts, no X-ray)	Plaster arrestor required
Dog/cat groomer/salon	Floor waste basket & sink strainer required (see Note 3). Animal litter and any waste disposal products may not be discharged to sewer. No organophosphorus pesticides may be discharged to

Activity	Requirements
	sewer
Florist	Floor waste basket & sink strainer required. No herbicides/pesticides may be discharged to sewer.
Fruit and vegetable – retail	Floor waste basket & sink strainer required (see Note 3).
Funeral parlour	Floor waste basket required. Formaldehyde is not to be discharged to the sewer.
Hairdresser	Floor waste basket & sink strainer (where available).
Jewellery shop *Miniplater* *Ultrasonic washing* *Precious stone cutting*	 Mini-plater vessel to contain no more than 1.5 L of precious metal solution Nil If : < 1000 L/d plaster arrestor required > 1000 L/d general purpose pit required
Mixed business (minimal hot food)	Floor waste basket & sink strainer required (see Note 3). Housekeeping practices (see Note 4).
Mobile Cleaning Units *Carpet Cleaning* *Garbage bin washing*	 20 micron filtration system fitted to a mobile unit Floor waste basket required. Discharge is via a grease arrestor (if available).
Motel (no hot food prepared and no laundry facility)	Floor waste basket & sink strainer required (see Note 3). Housekeeping practices (see Note 4).
Nut shop	Floor waste basket & sink strainer required (see Note 3).
Optical service - retail	Solids settlement tank/pit required.
Pet shop – retail	Floor waste basket & sink strainer required (see Note 2).
Pizza reheating for home delivery	Housekeeping practices (see Note 4).
Sandwich shop, salad bar, coffee shop (no hot food prepared)	Floor waste basket & sink strainer required (see Note 3). Housekeeping practices (see Note 4).
Venetian blind cleaning	Nil (see Note 2).

Notes:

1 Where “required” is used it means as required by Essential Energy.

2 If activity is conducted outdoors, the work area is to be roofed and bunded to prevent Storm water ingress into the sewerage system.

3 All drainage from floors in food preparation areas is required to pass through a floor waste arrestor.

4 Food preparation activities need to comply with sound housekeeping practices including:

(a) Floor must be dry swept before washing.

(b) Pre-wiping of all utensils, plates, bowls etc. to the scrap bin before washing up.

(c) Use of a food waste disposal unit is not permitted.

8 PART – 2 - CRITERIA FOR APPROVAL TO DISCHARGE LIQUID TRADE WASTE INTO ESSENTIAL ENERGY'S SEWERAGE SYSTEM

8.1 Factors for Consideration

Essential Energy's decision to accept liquid trade waste into the sewerage system will be based on the discharge meeting Essential Energy's requirements. When determining an application to discharge liquid trade waste into the sewerage system, Essential Energy will consider the following factors:

- The potential for the liquid trade waste discharge to impact on public health
- The possible impacts the discharge may pose to the environment (land, water, air, noise, or nuisance factors)
- The potential impacts of the discharge on the health and safety of the Essential Energy's employees
- The possible impact of the discharge on Essential Energy's sewerage infrastructure or sewage treatment process
- The capability of the sewerage system (both transportation and treatment components) to accept the quality and quantity of the proposed liquid trade waste discharge
- The impact the liquid trade waste will have on the ability of the sewerage scheme to meet Environment Protection Authority licence requirements
- Compliance of the proposed liquid trade waste discharge with limits in this policy
- The potential impacts of the discharge on the quality of, and management practices for, effluent and bio-solids produced from the sewage treatment process
- The adequacy of the pre-treatment process(es) to treat the liquid trade waste to a level acceptable for discharge to the sewerage system, including proposed safeguards if the pre-treatment system fails
- Whether appropriate safeguards are proposed to avoid the discharge of other, non-approved wastes to the sewerage system
- The adequacy of any chemical storage and handling facilities, and the proposed safeguards for preventing the discharge of chemicals to the sewerage system
- Whether prohibited substances are proposed to be discharged
- The potential for stormwater entering the sewerage system and adequacy of proposed stormwater controls
- Waste minimisation and water conservation programs
- The adequacy of the proposed due diligence program and contingency plan, where required.

Note: The quality of trade waste from some low risk commercial activities in Classification A will exceed policy limits in Essential Energy's Trade Waste Guideline. As a higher level of pre-treatment is not cost-effective, such waste is acceptable if the discharger installs and properly operates and maintains the required pre-treatment equipment (refer to Table 4 on page 20 and Tables 7 to 9 of Liquid Trade Waste Regulation Guidelines, 2009).

8.2 Discharge Quality

Essential Energy has guideline limits for the acceptance of discharges, as set out in Table 2. Essential Energy may apply more stringent limits than those specified for a particular sewerage treatment works. However, if the guideline limits are to be increased, Essential Energy will seek written administrative advice from NOW.

Where the guideline limits cannot be met, applicants are required to provide justification for exceeding the limits. Based on the type and the proposed contaminant levels, Essential Energy may refuse the application, or may approve it, subject to an effluent improvement program, or other conditions being implemented. Prior to determining such applications, Essential Energy will seek written administrative advice from NOW and will have regard to that advice in determining whether to approve the application.

Additional annual charges may apply to accept trade wastes which exceed the guideline limits.

8.3 Prohibited Substances

Some substances are not suitable for discharge to the sewerage system. Table 3 sets out those substances which must not be discharged to the sewerage system. Essential Energy may not grant approval for the discharge of these substances into the sewerage system unless it is specifically approved by Essential Energy. Prior to such determination, Essential Energy will seek written administrative advice from NOW and will have regard to that advice in determining whether to approve the application.

8.4 Stormwater Discharges from Open Areas

Storm water is a prohibited discharge under this policy and the *Water Management (General) Regulation 2011*. The ingress of storm water into the sewerage system can cause operational problems to the system and result in sewer overflows as the sewerage system does not have the capacity for such flows. Therefore, Essential Energy does not generally accept the discharge of storm water to the sewerage system.

However, it is recognised that it may not always be possible or practical to prevent all stormwater entering into the sewerage system at some liquid trade waste premises. The discharge of limited quantities of first flush water from sealed areas will be considered where roofing cannot be provided because of safety or other important considerations. The discharge from unsealed areas is not permitted. Before the storm water will be considered for discharge to the sewerage system, the applicant must provide the following information:

- Reasons why the area cannot be fully or partially roofed and bunded to exclude storm water
- The dimensions and a plan of the open area under consideration
- whether the open area is sealed
- The estimated volume of the storm water discharge
- Information on rain gauging
- Where a first-flush system is proposed, details on how the storm water will be diverted to the drainage system after the first flush is accepted (the first- flush to be limited to first 10 mm of storm run-off)
- Measures proposed for diverting storm water away from the liquid trade waste generating area; and
- Report on other storm water management options considered and why they are not feasible.

Note: Trade Waste charges for the acceptance of stormwater to the sewerage system are indicated in section 10.2.11

8.5 Food Waste Disposal Units

The use of food waste disposal units (also known as in-sinkerators, in-sink food waste disposers, or garbage grinders) is not permitted. Existing installations in hospitals and nursing homes may be permitted,

provided that wastewater is discharged through an adequately sized grease arrestor. For existing premises, a food waste disposal charge will be levied based on the number of beds in the hospital or nursing home (refer to section 10.2.8). If the hospital or nursing home kitchen is refurbished, the food waste disposal unit must be removed.

8.6 Devices that Macerate or Pulverise Waste

Macerators and any other similar devices that are used for pulverising of solid waste are not authorised to connect to Essential Energy's sewerage system (Refer *NSW Code of Practice: Plumbing and Drainage, 2006*). Solid waste includes, but is not limited to, sanitary napkin, placenta, surgical waste, disposable nappy, mache bedpan and urine containers. Essential Energy will not accept any discharges from such devices into its sewerage system.

8.7 Use of Additives in Pre-treatment Systems

Essential Energy does not allow solvents, enzymes, bio additives, and odour control agents to be used in pre-treatment systems (except neutralising chemicals designated for the pre-treatment) except by specific written application and subsequent approval.

8.8 Guideline Limits for Acceptance of Liquid Trade Wastes into Sewerage System

8.8.1 TABLE 2 – Parameter Limits

GENERAL ACCEPTANCE GUIDELINE LIMITS	
Parameter	**Limits**
Flow Rate	The maximum daily and instantaneous rate of discharge (kL/h or L/s) is set on the available capacity of the sewer. Large dischargers are required to provide a balancing tank to even out the load on the sewage treatment works.
BOD_5 and Suspended Solids	Normally, approved at 300 mg/L. Concentration up to 600mg/L and in some cases higher concentration for low mass loadings may be acceptable if the treatment work has sufficient capacity and odour will not be a problem.
COD	Normally, not to exceed BOD_5 by more than three times. This ratio is given as a guide only to prevent the discharge of non-biodegradable waste.
Total Dissolved Solids (TDS)	Up to 4000 mg/L may be accepted. However, the acceptance limit may be reduced depending on available effluent disposal options and will be subject to a mass load limit.
Temperature	Less than 38°C.
pH	Within the range 7.0 to 9.0.
Oil and Grease	100 mg/L if the volume of the discharge does not exceed 10% of the design capacity of the treatment works, and 50 mg/L if the volume is greater than 10%.
Detergents	All industrial detergents are to be biodegradable. A limit on the concentration of 50 mg/L (as MBAS) may be imposed on large liquid trade wastes.
Colour	No visible colour when the waste is diluted to the equivalent dilution afforded by domestic sewage flow.

Radioactive Substances	The discharge must comply with the *Radiation Control Act 1990*.

ACCEPTANCE GUIDELINE LIMITS FOR INORGANIC COMPOUNDS	
Parameter	**Maximum concentration (mg/L)**
Ammonia (as N)	50
Boron	5
Bromine	5
Chlorine	10
Cyanide	1
Fluoride	20
Nitrogen (total Kjeldahl)	100
Phosphorus (total)	20
Sulphate (as SO_4)	500
Sulphide (as S)	1
Sulphite (as SO_3)	15
ACCEPTANCE GUIDELINE LIMITS FOR ORGANIC COMPOUNDS	
Parameter	**Maximum concentration (mg/L)**
Benzene	0.04
Toluene	0.5
Ethylbenzene	1
Xylene	1
Formaldehyde	30
Phenolic compounds (except pentachlorophenol)	5
Petroleum hydrocarbons (non – flammable)*	30
Pesticides general (except Organophosphorus and Organochlorine)*	0.1
Polynuclear Aromatic Hydrocarbons (PAHs)	5

* *Refer Table 3*

ACCEPTANCE GUIDELINE LIMITS FOR METALS		
Parameter	**Maximum Concentration (mg/L)**	**Allowed Daily Mass Limits (g/d)**
Aluminium	100	-
Arsenic	1	2
Cadmium	1	6
Chromium *	3	15
Cobalt	5	15
Copper	5	15
Iron	100	-
Lead	1	6
Manganese	10	30
Mercury	0.01	0.05
Molybdenum	5	30
Nickel	3	15
Selenium	1	15
Silver #	2	6
Tin	5	15
Zinc	5	15
Total heavy metals excluding aluminium, iron and manganese	Less than 30mg/L and subject to total mass loading requirements	

** Where hexavalent chromium (Cr^{6+}) is present in the process water, pre-treatment will be required to reduce it to the trivalent state (Cr^{3+}), prior to discharge into the sewer. Discharge of hexavalent chromium (Cr^{6+}) from chromate compounds used as corrosion inhibitors in cooling towers is not permitted.*

 # This limit is applicable to large dischargers. The concentration of silver in photo processing waste where a balancing tank is provided is not to exceed 5mg/L.

8.9 Substances Prohibited From Being Discharged Into the Sewerage System

8.9.1 TABLE 3 – Prohibited Substances

- Organochlorine weedicides, fungicides, pesticides, herbicides and substances of a similar nature and/or wastes arising from the preparation of these substances (including dieldrin, heptachlor and chlordane)
- Organophosphorus pesticides and/or waste arising from the preparation of these substances (including chlopyrifos, diazinon and malathion)
- Any substances liable to produce noxious or poisonous vapours in the sewerage system
- Organic solvents and mineral oil
- Any flammable or explosive substance
- Discharges from 'Bulk Fuel Depots'
- Chromate from cooling towers
- Natural or synthetic resins, plastic monomers, synthetic adhesives, rubber and plastic emulsions
- Rain, surface, storm water, seepage or subsoil water, unless specifically permitted
- Solid matter
- Animal matter (including carcasses but not including human waste), wool, hair, grease, dust, ashes, cinders, soil, rubbish, filth, oil, salt, mud, sand, gravel, garbage, offal, vegetable or fruit parings, rags, house refuse or steam
- Any substance assessed as not suitable to be discharged into the sewerage system
- waste liquids that contain pollutants at concentrations which inhibit the sewage treatment process – refer *National Wastewater Source Management Guideline, July 2008,* WSAA; and
- Any other substances listed in a relevant regulation, licence or policies.

9 PART 3 – FRAMEWORK FOR REGULATION OF LIQUID TRADE WASTE

9.1 Framework for regulation of sewerage and trade waste

Sound regulation of sewerage and trade wastes requires implementation of all the following integrated measures:

- Preparation and implementation of a sound trade waste regulation policy, assessment of each trade waste application and determination of appropriate conditions of approval. The conditions must be consistent with Essential Energy's Integrated Water Cycle Management Strategy and demand management plan. In addition, execution of a liquid trade waste services agreement is required for large dischargers to assure compliance
- Preparation and implementation of a sound Development Servicing Plan, in accordance with the NSW Developer Charges Guidelines for Water Supply, Sewerage and Stormwater, 2002. With commercial sewerage develop charges to ensure new development pays a fair share of the cost of the required infrastructure
- Full cost recovery with appropriate sewer usage charges, in accordance with the NSW Independent Pricing and Regulatory Tribunal Determination and Final Report 2010 and trade waste fees and charges in order to provide the necessary pricing signals to dischargers. These charges must include non-compliance trade waste usage charges and non-compliance excess mass charges in order to provide the necessary incentives for dischargers to consistently comply with their conditions of approval
- Monitoring, mentoring and coaching of dischargers in order to achieve cleaner production and assist them to comply with their conditions of approval
- Enforcement, including appropriate use of penalty notices imposed under the Water Management (General) Regulation 2011
- Disconnection of a trade waste service in the event of persistent failure to comply with Essential Energy's conditions of approval
- Together, the above six measures comprise the framework for regulation of sewerage and trade waste. The framework involves a preventive risk management approach, which has been developed to address the use of common pool resources by providing economic incentives for dischargers to minimise their waste and to consistently comply with their conditions of approval.

9.2 Alignment with the national framework for wastewater source management

The NSW framework is driven by the NSW Government's Best-Practice Management of Water Supply of Sewerage Guidelines, 2007 and is consistent with that in the National Framework for Wastewater Source Management. In particular, under the Best-Practice Management Guidelines, Essential Energy is required to achieve the following outcomes:

- Prepare and implement a 30-yeawr Integrated Water Cycle Management Strategy, demand management plan, pay-for-use water supply pricing and community and customer involvement
- Annual performance monitoring, including an annual triple bottom line (TBL) Performance Report and Action Plan to identify and address any areas of under-performance
- Achieve full cost recovery for water supply, sewerage and trade waste services and apply an appropriate non-residential sewer usage charge
- Prepare and implement a sound trade waste regulation policy and issue an appropriate approval to each trade waste discharger, including waste minimisation and cleaner production
- Appropriate trade waste fees and charges (including incentives to comply with County Energy's approval conditions through non-compliance trade waste usage charges and non-compliance excess mass charges)
- Trade waste services agreement for large dischargers to assure compliance
- Appropriate training of Essential Energy staff and monitoring, mentoring and coaching trade waste dischargers

- Enforcement, including appropriate use of penalty notices or orders
- Disconnection of a trade waste service in the event of persistent failure to comply with Essential Energy's conditions of approval.

9.3 Matters Relating To Liquid Trade Waste Approvals

9.3.1 Application Procedures

Prior to making an application discharges are to contact Essential Energy to conduct a preliminary inspection so that the correct category of discharger can be applied or requirements implemented prior to making an application.

To obtain Essential Energy's approval to discharge liquid trade waste to Essential Energy's sewerage system, a discharger must lodge an application in writing unless exempt under Part 1 of this policy.

Application forms are available from Essential Energy.

If a person wishes to discharge liquid trade waste to the sewerage system but **is not the owner** of the premises, the person must obtain the owner's consent to the application.

The applicant must provide the following information:

- Site owner's full name, address, contact telephone number
- Address of the business/industry where discharge to the sewerage system will occur
- Name of contact person for the premises and telephone contact for the business/industry
- Type of process/activity generating the liquid trade waste
- Normal hours of business operation
- Rate of discharge, including
- the average per day, maximum per day and per hour, and
- hours of the day during which discharge will take place;
- Characteristics of wastes, including
    - nature of source, and
    - expected maximum and average concentrations of pollutants

(Where sampling and testing are required to establish the quality of the liquid trade waste, the testing should be carried out in accordance with the procedures set out in the *Standard Methods for the Examination of Water and Wastewater* published by the American Public Health Association, American Water Works Association and Water Pollution Control Federation.)

- Chemicals to be used – supply Material Safety Data Sheets
- Details of any proposed pre-treatment facilities, location and site plan. Details should include:
    - – Pre-treatment process details
    - – Internal wastewater drainage
    - – Pump size
    - – Rising main size, length and profile
    - – System operational characteristics
    - – Operational procedures
    - – Provisions for sampling and flow measurement, where required; and
    - – Proposed connection point to the sewerage system.

- Flow diagram and hydraulic profile of proposed liquid trade waste pre-treatment facilities
- Maintenance schedule for pre-treatment equipment, including contractor's details
- Stormwater drainage plan
- Measures for prevention of stormwater ingress into the sewerage system
- Manifest showing the location, nature and chemical composition of all substances stored/used on site
- Justification for disposing of the waste into the sewerage system over other possible options (if any)
- Methods of disposal for other wastes that are not discharged to the sewerage system
- Any relevant environmental impact assessments; and
- Any additional information as requested by Essential Energy.

9.3.2 Approval of Applications

Essential Energy may request an applicant to provide more information to enable it to determine the application. Where an application is approved, Essential Energy will notify the applicant as soon as practical of the approval and any conditions of the approval. The duration of the approval will be as stated in the approval.

An applicant may make a minor amendment or withdraw an application before it is approved by Essential Energy. An applicant may also apply to Essential Energy to renew or extend an approval. If an application is refused, Essential Energy will notify the applicant of the grounds for refusal.

An approval to discharge liquid trade waste to Essential Energy's sewer is not transferable. A new application must be lodged and a new approval obtained if there is a change of the approval holder or the activity. Essential Energy must be notified of change of ownership and/or occupier in all cases, whether a new approval is required or not, to allow updating of records.

9.3.3 Administrative Advice from the NSW Office of Water (NOW)

To assist in the assessment of the trade waste applications and to obtain written administrative advice from the Director General of DPI, three classifications of liquid trade waste have been established: classification A, B and C. This classification is based on the level of risk posed by such discharges on the sewerage system, i.e. Low risk, medium risk and high risk liquid trade waste.

The activities listed under these three classifications are the same as those listed under Concurrence Classifications A, B and C in the Trade Waste Regulation Guidelines.

- Classification A – All those activities listed in Table 4 belong to this classification, Essential Energy will not seek written administrative advice from NOW for individual applications in this classification. However, the approval process will be in accordance with the procedure outlined in the Trade Waste Regulation Guidelines. **As indicated in PART 1 of this document, Essential Energy have been exempted for obtaining written advice for all those activities listed in Table 1**
- Classification B – Liquid trade waste dischargers whereby Essential Energy may apply to the Director General of DPI for authorisation to approve these applications without seeking written administrative advice from NOW for individual applications in this classification
- Classification C – All other liquid trade waste dischargers that do not fall within Classification A and B, Essential Energy will seek written administrative advice from NOW and that it will have regard to that advice in determining whether to approve or refuse the application.

9.4 Classification A Dischargers

9.4.1 TABLE 4 – Liquid trade waste discharges with automatic assumed concurrence - Classification A Dischargers

Commercial Retail Food Preparation Activities	Other Commercial Activity
Bakery (retail)	Animal wash (pound, stables, racecourse, kennels, mobile animal wash and veterinary with no X-ray)
Bed & Breakfast (<10 persons)	Beautician
Bistro	Boiler blowdown
Boarding house/hostel kitchen	Car detailing
Butcher shop (retail)	Cooling tower
Café/coffee shop/coffee lounge	Craft activities (making of clay pottery, ceramics, cutting and polishing of gemstones or making of jewellery at clubs, cottage industries)
Canteen	Dental surgery/dental specialist
Cafeteria	Dental technician
Chicken/poultry shop (only fresh chickens/game sold)	Doctor's surgery, medical centre -plaster casts (no X-rays, no laboratory)
Chicken/poultry shop (retail BBQ/charcoal chicken)	Florist
Club (kitchen wastes)	Funeral parlour, morgue
Commercial kitchen/caterer	Hairdressing (includes barbers)
Community hall/civic centre	Jewellery shop
Day care centre	Laboratory (pathology/analytical)
Delicatessen	Laundry or Laundromat (coin operated)
Doughnut shop	Lawnmower repairs
Fast food outlet (McDonalds, KFC, Burger King, Pizza Hut, Red Rooster, etc.)	Mechanical repairs/workshop
Fish shop (retail – fresh and/or cooked)	Mobile cleaning units
Food caravan	Optical service
Fruit and vegetable shop (retail)	Pet shop (retail)
Function centre	Photographic tray work/manual development
Hotel	Plants retail (no nursery)
Ice cream parlour	School (Primary and Secondary)
Juice bar	Stone working
Mixed business	Swimming pool/spa/hydrotherapy
Motel	Vehicle washing (by hand/wand, automatic car wash, external truck wash or underbody/engine degrease only)
Nightclub	Venetian blind cleaning
Nursing home kitchen	Veterinary /animal kennels with X-ray
Nut shop	Waterless minilab
Patisserie	
Pie shop	
Pizza shop	
Restaurant	
Salad bar	
Sandwich shop	
School canteen	
Snack bar	
Supermarket (with butcher/delicatessen/ seafood/or charcoal chickens)	
Take-away food outlet	

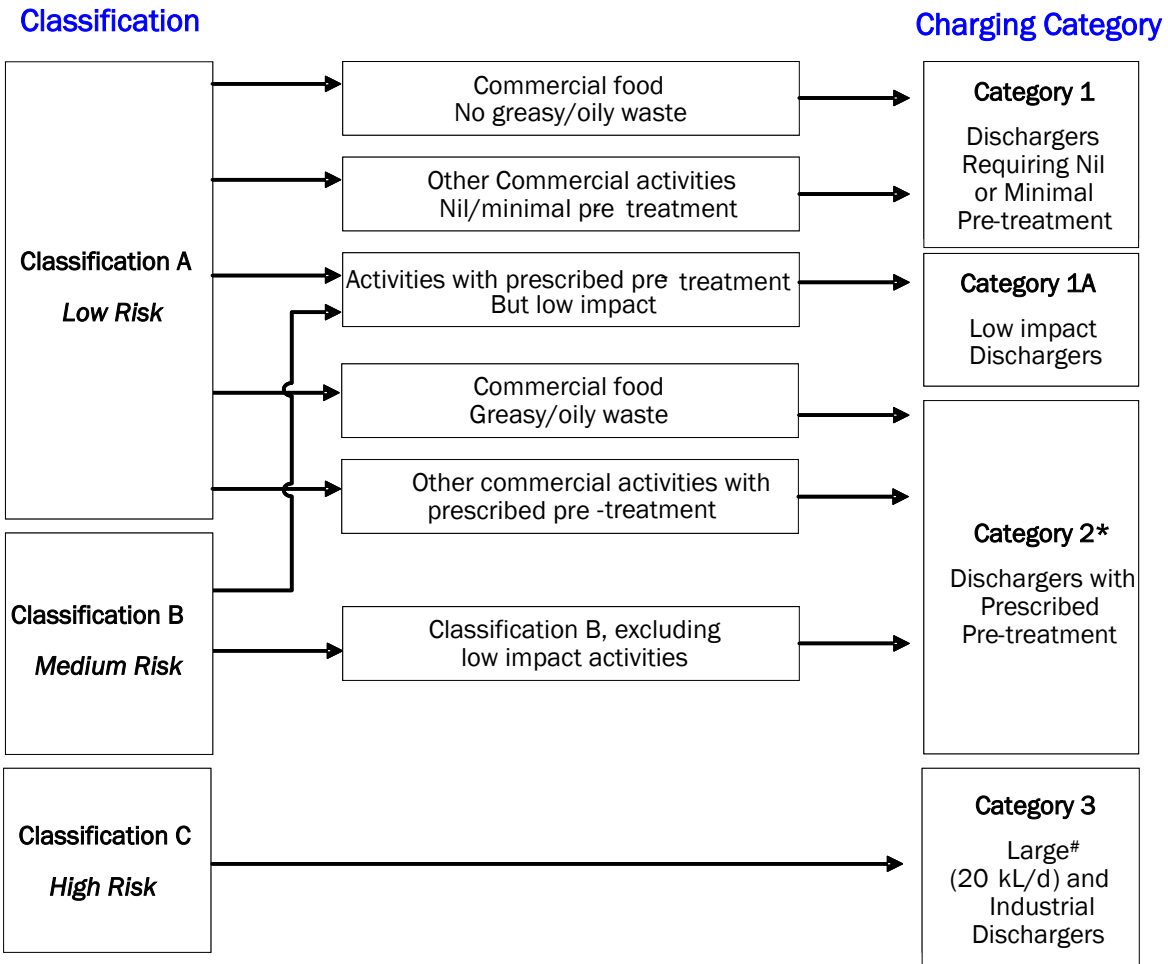
Notes:

The volume of liquid trade waste must not exceed 5 kL/d or 1000 kL/a, except in the case of commercial retail food preparation activities, where up to 16 kL/d is included in this classification. If the waste discharged into the sewer exceeds these volumes, the application must be treated as Classification B (Chapter 5 of *Liquid Trade Waste Regulation Guidelines*). Discharges over 20 kL/d must be treated as Classification C.

9.5 Liquid Trade Waste Charging Categories

Four classifications of liquid trade waste have been established for concurrence purposes, Classification A, B and C. For trade waste charging purposes liquid trade waste dischargers are divided into four charging categories, Category 1, 1a, 2 and 3.

Figure 1 below shows that Classification A Dischargers can fall into Charging Category 1, or 2. Classification B dischargers fall into Charging Category 2, except for a few dischargers with low impact on the sewerage system which fall into Category 1. Classification C dischargers fall into Charging Category 3.



*Also includes fish shop (fresh fish for retail)

Figure 1: Charging categories for trade waste

#Except shopping complexes and institutions (hospital, educational facilities, etc.) These will be charged as Category 2 in accordance with activities carried out on the premises.

9.6 Category 1 Discharger

Category 1 liquid trade waste dischargers are those conducting an activity deemed by Essential Energy as requiring nil or only minimal pre-treatment equipment and whose effluent is well defined. In addition, Category 1 includes dischargers, requiring prescribed pre-treatment but low impact on the sewerage system.

Trade waste dischargers requiring nil or minimal pre-treatment include:

Classification A activities – Retail food outlets with no hot food prepared and/or foods that generate an oily/greasy waste:

- Bakery (only bread baked on-site)
- Bistro (sandwiches, coffee only)
- Café/coffee shop/coffee lounge
- Canteen
- Community hall (minimal food)
- Day care centre
- Delicatessen
- Fruit & vegetable shop
- Hotel
- Ice cream parlour (take away only)
- Juice bar
- Mixed business
- Motel
- Nightclub
- Nut shop
- Pizza cooking/reheating (no preparation or washing up on-site, pizza heated and sold for consumption off-site)
- Potato peeling (small operation)
- Sandwich shop/salad bar
- Take away food outlet.

Classification A activities – Other commercial activities:

- Animal wash
- Hairdressing/beautician
- Crafts < 1000 L/d
- Dental surgery (plaster casts, no X-ray unless digital)
- Doctor's surgery and medical centre (plaster casts, no X-ray)
- Florist
- Funeral parlour
- Morgue
- Jewellery shop
- Optical service (retail)
- Pet shop
- Plants retail (no nursery)
- Public swimming pool
- Venetian blind cleaning
- Veterinary (no X-ray)
- Mobile cleaning units
- Photographic (tray work/manual development)

9.7 Category 1a Discharger

Category 1a Discharger [1]

Category 1A liquid trade waste dischargers are those conducting an activity deemed by Essential Energy as requiring prescribed pre-treatment but have low impact on the sewerage system as their effluent is usually of low strength.

Classification A or B activities with prescribed pre-treatment but low impact on the sewerage system

- Boiler blowdown
- Cooling tower
- Educational facilities (primary and secondary school)
- Industrial boilers
- Laboratory (analytical/pathology/tertiary institution)
- Laundry
- Vehicle washing.

If Essential Energy's inspection reveals that the pre-treatment equipment for such a discharger has not been properly maintained, a non-compliance trade waste usage charge of $1.75kL (2011/2012$) will be applied for the relevant billing period. This charge will also apply for any such dischargers who have not installed appropriate pre-treatment equipment.

9.8 Category 2 Discharger

Category 2 liquid trade waste dischargers are those conducting an activity deemed by Essential Energy as requiring a prescribed type of liquid trade waste pre-treatment equipment and whose effluent is well characterised.

Trade Waste dischargers with prescribed pre-treatment[2] include:

Classification A activities - Premises that prepare and/or serve hot food or foods that generate an oily/greasy waste:

- Bakery (pies, sausage rolls, quiches, cakes, pastries with creams or custards)
- Bistro
- Boarding house/hostel kitchen
- Butcher
- Café/coffee shop/coffee lounge
- Cafeteria
- Canteen
- Fast food outlet
- Chicken/poultry shop
- Club
- Community hall[3]
- Commercial kitchen/caterer
- Nursing home
- Patisserie
- Supermarket
- Doughnut shop
- Fish shop (cooking on-site)
- Function centre
- Hotel
- Ice cream parlour
- Motel
- Nightclub
- Pizza cooking
- Restaurant
- Sandwich shop/salad bar
- Take away food outlet.

Other commercial Classification A activities:

- Car detailing
- Craft activities > 1000 L/d
- Dental surgery with X-ray
- Lawnmower repairs
- Mechanical workshop
- Stone working
- Veterinary (with X-ray)
- Waterless mini-lab

.

Classification B activities:

- Auto dismantler
- Bus/coach depot
- Construction equipment maintenance & cleaning
- Equipment hire
- Maintenance & cleaning
- Glass cutting & grinding
- Graphic arts
- Medical centre (with X-ray)
- Hospital (with or without X-ray)
- Optical services (at medical or educational facilities, workshops)
- Oyster processing – shucking
- Panel beating
- Photographic lab
- Radiator repair
- Screen printing
- Service station forecourt
- Shopping complex
- Water wash mini-lab
- X-ray radiologist

- **Other Classification A activities:** fish shop (fresh fish for retail).

[1] A Category 1A discharger who does not have appropriate pre-treatment equipment or fails to maintain such equipment is required to pay $1.75/kL (2011/2012$)

[2] Excludes low impact activities, listed under Category 1A.

[3] If the type and size of kitchen fixtures installed enable catering for large functions.

9.9 Category 3 Discharger

Large or industrial waste dischargers

Category 3 liquid trade waste dischargers are those conducting an activity which is of an industrial nature and/or which results in the discharge of large volumes (over 20 kL/d) of liquid trade waste to the sewerage system. Any Category 1 or 2 discharger whose volume exceeds 20 kL/d becomes a Category 3 discharger, except shopping complexes and institutions (e.g. hospitals, educational facilities, correctional facilities, etc.)

Large trade waste dischargers and other Classification C activities include:

- Abattoir
- Bakery (wholesale)
- Brewery
- Cooling towers
- Cosmetics/perfumes manufacture
- Dairy processing (milk/cheese/yoghurt/ice cream etc.)
- Food processing (cereals/cannery/condiments/ confectionary/edible oils/fats/essence/ flavours/fish/fruit juice/gelatine/honey/meat/ pickles/smallgoods/tea & coffee/vinegar/yeast manufacture etc.)
- Fruit and vegetable processing
- Flour milling
- Glue manufacturer
- Egg processing
- Pet food processing
- Plants nursery (open areas)
- Potato processing
- Poultry processing
- Saleyards
- Seafood processing
- Soft drink/cordial manufacture
- Starch manufacture
- Sugar refinery
- Tanker washing
- Tip leachate
- Transport depot/terminal
- Water treatment backwash
- Wholesale meat processing
- Winery
- Wine/spirit bottling.

Dischargers of industrial waste include the following Classification C activities:

- Acid pickling
- Adhesive/latex manufacture
- Agricultural & veterinary drugs
- Anodising
- Bitumen & tar
- Bottle washing
- Cardboard & carton manufacture
- Carpet manufacture
- Caustic degreasing
- Chemicals manufacture and repackaging
- Contaminated site treatment
- Cyanide hardening
- Detergent/soaps manufacture
- Drum washing
- Electroplating
- Engine gearbox reconditioning
- Extrusion & moulding (plastic/metal)
- Feather washing
- Fellmonger
- Felt manufacture
- Fertilisers manufacture
- Fibreglass manufacture

- Filter cleaning
- Foundry
    - Galvanising
    - Glass manufacture
    - Ink manufacture
    - Laboratories (exclude those in Categories 1A and 2)
    - Liquid wastewater treatment facility (grease trap receival depot and other pump-out waste depot)
    - Metal finishing
    - Metal processing (refining/rumbling/ non-cyanide heat treatment/phosphating/photo engraving/ printed circuit etching/sheet metal fabrication etc.)
    - Mirrors manufacture
    - Oil recycling (petrochemical) and refinery
    - Paint stripping
- Paint manufacture
- Paper manufacture
- Pharmaceuticals manufacture
- Plaster manufacture
- Powder coating
- Printing (newspaper, lithographic)
- Sandblasting
- Slipway
- Tannery
- Timber processing (joinery & furniture/plywood/hardwood)
- Textile manufacture (wool dyeing/ spinning/scouring)
- Truck washing (internal)
- Waxes & polishes

9.10 Monitoring

Essential Energy will carry out inspections of the premises of all liquid trade waste dischargers and their treatment facilities at least once per annum. Inspections of commercial premises preparing hot food may be carried out 4 times per annum. Inspection of the large and industrial dischargers will be carried out as specified in approval conditions.

The Applicant may be required to monitor the liquid trade waste discharge as a condition of an approval or agreement. They may also be required to pay for any sampling and testing of liquid trade waste undertaken by Essential Energy.

For this purpose, an inspection/sampling point, where the waste can be inspected and sampled, will be specified in the approval and/or agreement. This point will normally be located after the pre-treatment facility. The discharger may need to install a suitable method of flow measurement.

Essential Energy may require the discharger to:

- Install a permanent primary measurement device
- Measure the volume and flow rate using the permanently installed flow measurement system (such as a flow metering system); or
- Install a flow measurement device on a temporary basis and obtain enough data to determine a basis for assessing the flow rate and volume; and
- Provide a system which allows obtaining a flow weighted composite sample.

Testing of samples is to be undertaken by a NATA-registered or other laboratory recognised by Essential Energy to ensure reliable and accurate results. Where the discharger is sampling the effluent, Essential Energy may randomly take duplicates to confirm the waste characteristics.

9.11 Liquid Trade Waste Services Agreement

In addition to its approval, Essential Energy may require certain dischargers, including those who wish to discharge liquid trade waste in large volumes (discharge >20 kL/d) or industrial waste (Classification C type discharges) into its sewerage system to execute a liquid trade waste services agreement. The agreement will set out the conditions associated with the discharge and execution of the agreement will be a condition of the approval issued by Essential Energy. The conditions will be binding on the applicant and Essential Energy. The agreement will be for a period of up to five years. No discharge is to be made to Essential Energy's sewerage system until an agreement or an interim agreement has been executed.

Provision can be made in the agreement for (in addition to Essential Energy's approval conditions):

- Additional conditions for discharge of liquid trade waste
- Cancellation of the agreement and/or order to cease the discharge if the discharger is found to be in breach of the agreement or the liquid trade waste approval or, in the opinion of Essential Energy, the waste is adversely affecting the sewerage system or the environment
- Entry by Essential Energy officers to inspect the liquid trade waste collection, treatment, monitoring and disposal systems
- The applicant to notify Essential Energy in advance of any changes that may affect the quality and quantity of the liquid trade waste; and
- The amount of bond/security to be lodged with Essential Energy prior to discharging to the sewerage system.

9.12 Enforcement of Approvals and Agreements

Any person who fails to obtain Essential Energy's approval to discharge liquid trade waste into the sewerage system, or fails to comply with the conditions of the approval, may be liable to a penalty as provided under clause 143 of the *Water Management (General) Regulation 2011 (Discharge requires discharge approval).*

Polluting of any waters by a discharger of liquid trade waste who does not have a Essential Energy approval or who fails to comply with the conditions of the approval is an offence under section 120 (1) of the *Protection of the Environment Operations Act 1997*. In addition, under section 222 of this Act, Essential Energy may issue a penalty notice (i.e. an on-the-spot fine) to such a discharger. At any stage if a discharge approval has not been complied with, the inspecting officer may issue a penalty infringement notice.

Any person who fails to comply with the terms or conditions of a liquid trade waste services agreement (i.e. there is a breach of the agreement) will be required to indemnify Essential Energy against any resulting claims, losses or expenses. Suspensions may also apply and may include a notice to cease the discharge.

A maximum of two orders may be sent to comply with agreement conditions. Upon failure to comply with conditions after two orders to comply have been issued, a disconnection notice may be issued. Notification will also be sent to the NSW Department of Health, notifying the department of intent to disconnect the sewer service for failure to comply with discharge approvals.

Note: To disconnect the trade waste service, disconnection of the sewerage service may not be required.

9.13 Modification and Revocation of Approvals

Essential Energy reserves the right to modify or revoke an approval to discharge liquid trade waste to the sewerage system in any of the following circumstances:

- If the approval was obtained by fraud, misrepresentation or concealment of facts
- For any cause arising after the granting of the approval which, had it arisen before the approval was granted, would have caused the Essential Energy not to have granted the approval
- For failure to comply with a requirement made by or under clause 145 of the *Water Management (General) Regulation 2011* relating to a condition of the approval; or
- For failure to comply with a condition of the approval.

9.14 Prevention of Waste of Water

Water must be used efficiently and must be recycled where practicable. It is an offence under clause 121 of the *Water Management (General) Regulation 2011* to waste or misuse water. Dilution of trade waste with water from any non-process source including Essential Energy's water supply, bore water, groundwater and/or storm water as a means of reducing pollutant concentration is therefore strictly prohibited.

9.15 Effluent Improvement Plans

Where the existing liquid trade waste discharged does not meet Essential Energy's requirements, the applicant may be required to submit an 'Effluent Improvement Plan' setting out how Essential Energy's requirements will be met.

The proposed plan must detail the methods and actions proposed to achieve the discharge limits and a timetable for implementation of the proposed actions. Such actions may include more intensive monitoring, improvements to work practices and/or pre-treatment facilities to improve the effluent quality and reliability.

9.16 Due Diligence Programs and Contingency Plans

For *Classification A,* a discharger is not required to submit either a due diligence program or a contingency plan. A discharger may be required to submit a due diligence program and a contingency plan for *Classification B* where it is considered that the discharge may pose a potential threat to the sewerage system. If required a due diligence program and contingency plan must be submitted to Essential Energy within six months and three months respectively of receiving a liquid trade waste approval. CEOM7046.02 Liquid Trade Waste Due Diligence outlines the requirements for these plans.

For *Classification C,* a discharger must provide a due diligence program and contingency plan to Essential Energy within six months and three months respectively of receiving a liquid trade waste approval.

It should be noted that:

- If the discharger has an accredited environmental management system in place, a due diligence program and contingency plan will not be required. However, proof of accreditation must be provided to Essential Energy with the application
- Where Essential Energy considers there is potential risk to the sewerage system from a discharge, it may request a due diligence program and contingency plan be submitted prior to commencing the discharge

10 SUMMARY

10.1 The Five Steps to Approval

The approval process involves five steps:

- **Step 1 – Pre-application consultation**

  Contact Essential Energy prior to making an application so that an inspection can be conducted and requirements can be discussed to ensure a successful application, and to determine if an application is required (See Part 1 for discharges exempt from application)

- **Step 2 – Receiving the application**

  Complete the required application, with attachments, which will be provided.

- **Step 3 – Assessing the application**

  Essential Energy will assess the application against requirements for discharge.

- **Step 4 – Seeking written administrative advice**

  Essential Energy may be required to seek written administrative advice from the New South Wales Office of Water.

- **Step 5 – Finalising the determination**

  Application will be approved or approved with conditions or denied. Dischargers will be required to enter into a Liquid Trade Waste Services Agreement.

10.2 Trade waste Fees and Charges

Essential Energy provides sewerage and liquid trade waste services on a commercial basis. Essential Energy's fees and charges are determined by the Independent Pricing and Regulatory Tribunal (IPART) after an extensive public consultation process.

Liquid trade waste discharged to the sewerage system from industrial, commercial or other non-residential customers can impose significant costs on sewage transport and treatment facilities. To recover these costs and to ensure removal of existing cross-subsidies from residential customers, appropriate fees and charges are levied for liquid trade waste.

Essential Energy's liquid trade waste fees may include:

- Application fee
- Annual trade waste fee
- Re-inspection fee
- Trade Waste usage charge
- Excess mass charges
- Food waste disposal charge
- Non-compliance trade waste usage charge
- Non-compliance excess mass charge and pH charge
- Non-compliance penalty.

10.2.1 TABLE 5 - Summary of Trade Waste Fees and Charges1

Discharge Category	Application Fee	Quarterly Non – Residential Sewerage Bill with appropriate Sewer Usage Charges	Annual Trade Waste Fee	Re – Inspection Fee (when required)	Trade Waste Usage Charge / KL	Non-Compliant Trade Waste Usage Charge / KL (If required)	Excess Mass Charges / Kg	Non – Compliance Excess Mass Charges/kg and pH Charges/kL (if required)	Non – Compliance Penalty (if required)
1	Yes[2]	Yes	Yes	Yes	No	Yes[3]	No	No	Yes
1A	Yes	Yes	Yes	Yes	No	Yes[3]	No	No	Yes
2	Yes	Yes	Yes	Yes	Yes	Yes[3]	No	No	Yes
3	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes

[1] In addition, a Food Waste Disposal Charge/bed will apply where Essential Energy has approved the use of an existing food waste disposal unit for a hospital, nursing home or other eligible facility, additional food waste disposal charge will be payable annually.
[2] not applicable for dischargers exempted in Table 1
[3] a non-compliance trade waste usage charge of $1.75/kL (2011/12$) will be applied for Category 1 dischargers and $16.03/kL (2011/12$) for Category 2 dischargers who have not installed or properly maintained appropriate pre-treatment equipment.

10.2.2 Application Fee

The application fee recovers the cost of administration and technical services provided by Essential Energy in processing applications for approval to discharge liquid trade waste to the sewerage system. The application fee will be allocated on the basis of the category into which the discharger is classified and reflects the complexity of processing the application.

10.2.3 Annual Trade Waste Fee

The purpose of this fee is to recover the cost incurred by Essential Energy for administration and the scheduled inspections each year to ensure a liquid trade waste discharger's ongoing compliance with the conditions of their approval.

As part of an inspection, Essential Energy or its agents may undertake monitoring of the liquid trade waste discharges from premises or business. Such monitoring may include but is not limited to, flow measurement and the sampling of the liquid trade waste. **Where more than one instance** of such monitoring is undertaken by Essential Energy, or its agents, in a financial year, the cost involved may be recovered from the discharger.

Annual liquid trade waste fees are determined on the basis of the category of the discharger and are proportionate to the complexity of their inspection and administration requirements.

Where the discharger is required to pay for monitoring this will be charged on the basis of full cost recovery, in view of the adverse impact of wastes with a high concentration of oil and grease on Essential Energy's sewage transportation system. The cost of scheduled inspections is included in the annual trade waste fee for such premises, depending on discharge category. Refer to the annual gazettal notice for current charges.

The annual fee for Category 3 dischargers will be set on a case by case basis depending on the complexity of monitoring required (for charging purposes and other administrative requirements).

Annual Trade Waste Fee's will be charged at a daily rate upon commencement of a trade waste services agreement.

10.2.4 Re-Inspection Fee

Where non-compliance with the conditions of an approval has been detected and the discharger is required to address these issues, Essential Energy will undertake re-inspection to confirm that remedial action has been satisfactorily implemented. Essential Energy will impose a fee for each re-inspection. A re-inspection may include the monitoring of liquid trade waste discharges, the cost of which may be recovered from the discharger.

10.2.5 Trade Waste Usage Charge

The trade waste usage charge is imposed to recover the additional cost of transporting and treating liquid trade waste from Category 2 dischargers.
Trade Waste Usage Charge ($) = Q x $/kL
Where Q = Volume (kL) of liquid trade waste discharged to sewer (determined as the volume of water usage multiplied by the Trade Waste Discharge Factor).
Where $/kL = Trade Waste Usage Charge or Non-Compliant Trade Waste Usage Charge

Note: As indicated on page 30 of the Water Supply, Sewerage and Trade Waste Pricing Guidelines, existing Category 2 dischargers who have not installed and maintained appropriate pre-treatment facilities will be required to pay a non-compliant trade waste usage charge.

Refer to the annual gazettal notice for current charges.

10.2.6 Excess Mass Charges

Excess mass charges will apply for substances discharged in excess of the deemed concentrations in domestic sewage shown in Table 6, below. For excess mass charge calculation, equation (1) below will be applied.

A calculation equation is used to determine the appropriate charges. Excess Mass Charges apply to Category 3 dischargers only.

10.2.7 TABLE 6 - Deemed Concentration of Substances in Domestic Sewage

SUBSTANCE	CONCENTRATION (mg/L)
Biochemical Oxygen Demand (BOD5)	300
Suspended Solids	300
Total Oil and Grease	50
Ammonia (as Nitrogen)	35
Total Kjeldahl Nitrogen	50
Total Phosphorus	10
Total Dissolved Solids	1000
Sulphate (SO4)	50#

The concentration in the potable water supply to be used if it is higher than 50mg/L.
N.B. Substances not listed above are deemed not to be present in domestic sewage.

Note: While, equation (1) is applicable for excess mass charges for wastes complying with acceptance limits in the CEPG7046 Water: Discharge of Liquid Trade Waste Policy, Essential Energy will use an exponential type equation for certain large trade waste dischargers with high strength waste as shown in equation (2) below for BOD higher than 600mg/L and in equation (3) for pH being outside the approved range. Equation (2) provides a strong incentive for dischargers to reduce the strength of waste and will be applied in cases where Essential Energy approves acceptance limits higher than 600mg/L. In addition, equation (5) will be used where the discharger has failed to meet their approved BOD limit on at least 2 instances in a financial year.

Equation (3) provides an incentive for dischargers to apply appropriate pH correction so their waste remains within the approved pH limits. Where a large discharger fails to meet their pH limits on 2 or more occasions in a financial year, Essential Energy will require the discharger to install and permanently maintain a pH chart recorder or data logger as control of pH is critical to minimising odour and corrosion problems in the sewerage system.

The excess mass charge is calculated by using equation 1.

Liquid Trade Waste Excess Mass Charges ($) = $$\frac{(S - D) \times Q \times U}{1{,}000}$$

S = Concentration (mg/L) of substance in sample.

D = Concentration (mg/L) of substance deemed to be present in domestic sewage.

Q = Volume (kL) of liquid trade waste discharged to the sewerage system.

U = Charging rate ($/kg) for discharge of substance to the sewerage system.

Charging rates (U) used in equation (1) are as shown in Essential Energy's annual gazette notice.

With regard to BOD, equation 1 applies to BOD_5 up to 600 mg/L.

Equation for BOD_5 > 600mg/L

$$\frac{(\text{Actual } BOD_5 - 600mg/L)}{(600mg/L)}$$

1 $$\text{Charges for } BOD_5 (\$/Kg) = 2C \times \frac{(\text{Actual } BOD_5 - 300mg/L) \times 1.05}{600mg/L}$$

Where C = the charging rate ($/kg) for BOD_5 600 mg/L

Actual BOD – the concentration of BOD_5 as measured in a sample

For example if C = $0.623/kg, equation (2) would result in the following excess mass charging rates:

$0.623/kg for BOD_5 600mg/L
$1.96/kg for BOD_5 1200mg/L
$5.05/kg for BOD_5 2400mg/L

The Excess Mass Charge for BOD is calculated by using equation 1:

$$\text{Excess Mass Charge for BOD (\$)} = \frac{(S - D) \times Q \times U}{1{,}000}$$

10.2.8 Food waste disposal charge*

Where Essential Energy has permitted the use of a food waste disposal unit for an existing hospital, nursing home or other eligible facility, the following additional food waste disposal charge will be payable annually.

Food Waste Disposal Charge ($) = B xUF

Where B = Number of beds in hospital or nursing home.
UF = Annual charging rate ($/bed) for a food waste disposal unit at a hospital or nursing home.

Note: *The annual charging rate is $25.50/bed (2011/12$)*

* For existing installations only. New installations are not permitted.

10.2.9 Non-compliance charges

Category 1a and 2 Dischargers

If the discharge has not installed or maintained appropriate pre-treatment equipment, the following trade waste usage charges will be applied for the relevant billing period:

Category 1a Discharger - $1.75/kL (2011/12$)
Category 2 Discharger - $16.03/kL (2011/12$)

Category 3 Discharger

Non-compliance pH Charge

Equation (3) is used for waste with pH being outside the approved range. This equation provides an incentive for dischargers to apply appropriate pH corrections so their waste remains within approved pH limits. Essential Energy may require industrial and large dischargers to install and permanently maintain a pH chart recorder or data logger as control of pH is critical to minimizing odour and corrosion problems in the sewerage system.

Charge for pH where it is outside the approved range for the discharger.

2 Charge ($/kL) = k x (actual pH – approved pH)* x $2^{(\text{actual pH – approved pH})*}$

* absolute value to be used
Where k = pH coefficient = 0.389 (2011/2012$) and needs to be adjusted in accordance with changes in the CPI.

Example: *If* Essential Energy *has approved the pH range 8.0 to 9.0 for a large discharger generating high strength trade waste in order to prevent corrosion and odour problems in the sewerage system.*

Case 1: pH measured 7.0
Charge ($/kL) = 0.389 x [7 – 8] x $2^{[7-8]}$ *= $0.778/kL*

Case 2: pH measured 11.0
Charge ($/kL) = 0.389 x [11-9] x $2^{[11-9]}$ *= $3.112/kL*

Non-compliance excess mass charges

Where a discharge quality fails to comply with the approved concentration limits of substances specified in Essential Energy's approval conditions (or the acceptance criterion listed in Essential Energy's trade waste policy), Essential Energy incurs additional costs in accepting and treating that waste. Essential Energy may also face problems with effluent and biosolids management.

In order to recover Essential Energy's costs, equation (4) shall apply for non-compliance excess mass charges, except for BOD where equation (5) shall apply.

4 Non-compliance Excess Mass Charges ($) = $\frac{(S - A) \times Q \times 2U}{1{,}000} + \frac{(S - D) \times Q \times U}{1{,}000}$

Where:

S = Concentration (mG/L of substance in sample.

A = Approved maximum concentration (mg/L) of pollutant as specified in Essential Energy's approval (or liquid trade waste policy).

Q = Volume (kL) of liquid trade waste discharged for the period of non-compliance.

U = Excess mass charging rate ($/kg) for discharge of pollutant to sewerage system, as shown in Essential Energy's annual gazette notice.

D = Concentration (mg/L) of substance deemed to be present in domestic sewage.

Non-compliance excess mass charges for BOD

If a discharger has failed to meet the approved maximum concentration of BOD on two or more instances in a financial year, the non-compliance excess mass charging rate for BOD U_n will be levied on the basis of equation (5):

U_n is the BOD non-compliance excess mass charging rate.

$$\textbf{5} \qquad U_n = 2C \times \frac{(\text{Actual } BOD_5 - 300\text{mg/L}) \times 1.05}{600\text{mg/L}} \times \frac{(A - 600\text{mg/L})}{(600\text{mg/L})} + = 4C \times \frac{(\text{Actual } BOD_5 - A) \times 1.05}{600\text{mg/L}} \times \frac{(\text{Actual } BOD_5 - A)}{(600\text{mg/L})}$$

For example, if C = $0.623/kg, BOD_5 actual (measured) level is 2400 mg/L and the approved maximum concentration of BOD (A) is 1000 mg/L, equation (5) would result in a non-compliance excess mass charging rate of $8.02/kg.

Non-compliance Excess Mass Charge for BOD is calculated using equation (1).

The non-compliance excess mass charges shown above are in lieu of the excess mass charges in section 10.2.6

Essential Energy will continue applying the above non-compliance excess mass charges until the quality of discharge complies with Essential Energy's approved quality (or the trade waste policy) limits, within the time frame determined by Essential Energy for remedying the problem. If the discharger fails to rectify the problem within this time frame, the discharger may be required to cease discharging liquid trade waste into Essential Energy's sewerage system and may also be required to pay a 'non-compliance penalty' as indicated in the following section.

10.2.10 Non-compliance Penalty

The non-compliance penalty covers instances where Essential Energy may seek compensation for its costs relating to legal action, damage to infrastructure, incurred fines and other matters resulting from illegal, prohibited or unapproved liquid trade waste discharged to the sewerage system. Also included are fines under:

- Protection of the Environment Operations Act 1997, section 120(1) (Pollution of any waters by a discharger who fails to comply with the conditions of approval for discharge of liquid trade waste to sewer).

10.2.11 Discharge of Stormwater to the Sewerage System

The discharge of stormwater, surface and subsoil waters to the sewerage system is prohibited under this policy. As indicated in section 8.4, the acceptance of first flush stormwater runoff may be permitted. A charge of $16.03 k/L (2011/12$) will be applied to Category 3 dischargers in accordance with the non-compliance trade waste usage charge, if approval is granted to accept the above waters. Excess mass charges will also be applied in accordance with section 10.2.6.

10.2.12 Responsibility for Payment of Fees and Charges

Property (land) owners are responsible for the payment of fees and charges for water supply, sewerage and liquid trade services provided by Essential Energy. Where another party (lessee) leases premises any reimbursement of the lessor (property owner) for such fees and charges is a matter for the lessor and the lessee.

The owner of the property will be billed for water supply, sewerage and liquid trade waste services provided and it is the owner's responsibility to pay such fees and charges within the period specified. The owner may arrange to recover such fees and charges through the lease arrangement between the owner and the occupier.

10.2.13 Bond

Where a discharge is considered to be high risk:

- i.e. the discharger may not comply with the discharge approval; a "Bond" may be imposed on the discharger, or
- Where a discharger has on previous occasions failed to comply with a discharge approval a "Bond" may be imposed on any new agreement.

The bond is to consist of 100% of the estimated annual liquid trade waste fees and charges for the trade waste discharger.

Note: If the **nature of a discharge** is high risk, then it is advisable to impose a bond.

Note: All dischargers of liquid trade waste to Essential Energy's sewerage system should be aware that they are subject to prosecution and imposition of fines under the Water Management Act 2000 and Regulations, the Protection of the Environment (Operations) Act 1997 and Regulations. In addition to fines, Essential Energy may recover costs of damages and fines incurred by Essential Energy as a result of an illegal liquid trade waste discharge.

Monetary values quoted in this policy are for the 2011/2012 year only. Outside this financial year they are to be used for example purposes only. For actual pricing (2011/2012) used refer to the current annual gazettal notice for current charges.

11 ATTACHMENT A

11.1 Manuals related to CEOM7046

Policy Number	Policy Name
CEOM7046.01	Water: Liquid Trade Waste Policy Summary
CEOM7046.02	Water: Liquid Trade Waste Due Diligence Program
CEOM7046.03	Water: Liquid Trade Waste Approval and Enforcement
CEOM7046.04	Water: Liquid Trade Waste Fees and Charges
CEOM7046.05	Water: Liquid Trade Waste Application Form
CEOM7046.06	Water: Liquid Trade Waste Application Attachment (Commercial Food)
CEOM7046.07	Water: Liquid Trade Waste Application Attachment (Mechanical Repairers)
CEOM7046.08	Water: Liquid Trade Waste Application Attachment (Laboratory)
CEOM7046.09	Water: Liquid Trade Waste Application Attachment (Animal Wash)
CEOM7046.10	Water: Liquid Trade Waste Application Site Inspection Report
CEOM7046.11	Water: Liquid Trade Waste Discharge Observation Sheet
CEOM7046.12	Water: Liquid Trade Waste General Conditions of Approval
CEOM7046.13	Water: Liquid Trade Waste Services Agreement
CEOM7046.14	Water: Liquid Trade Waste Exempt from Application
CEOM7046.15	Water: Liquid Trade Waste Non Compliance Order
CEOM7046.16	Water: Liquid Trade Waste Notice of Determination

12 REFERENCES

CEOM7046.02 - Water: Liquid Trade Waste Due Diligence Program

Water Management Act 2000 and Regulations

Protection of the Environment (Operations) Act 1997

Protection of the Environment Operations (General) Regulation 2009

13 REVISIONS

Issue Number	Section	Details of Changes in this Revision
3	All	Recommendations from NSW Office of Water (N.O.W) adopted following referral of policy to N.O.W for comment.
	All	Department of Water and Energy (DWE) changed to New South Wales Office of Water (NOW)
	All	$2002/2003 values change to 2011/2012
	10	Significant changes to charging descriptions
	9	Change from NSW Water Supply, Sewerage and Trade Waste Pricing Guideline 2002 to NSW Independent Pricing and Regulatory Tribunal Determination and Final Report 2010
4	All	Document reached its next review date and no changes were made, updated issue number and published date only.