Tankered Recycled Water Supply Policy

Water Unit
Environmental Health Directorate

Government of **Western Australia**
Department of **Health**

TANKERED RECYCLED WATER SUPPLY POLICY

Definitions

The terms used within this document have the following meanings:

General Approval means the approval to supply recycled water to water carriers, granted by the Department of Health to the Licensed Wastewater Provider or Mine Site.

Approval means Approval to access recycled water, granted through a *Recycled Water Approval – Tankered Supply.*

Approved Recycled Water Carrier means a water carrier that has applied for and received notification of approval to access tankered recycled water supply at the Wastewater Treatment Plant (WWTP).

Customer means the purchaser of recycled water from the Licensed Wastewater Provider or Mine Site;

Customer Infrastructure means infrastructure to convey and use the recycled water after the delivery point;

Compliant means compliant with the Australian Water Recycling Guidelines (Phase 1) 2006 and the *Guidelines for the use of Recycled Water in Western Australia.*

Guidelines means the ***"Australian Guidelines for Water Recycling: Managing Health and Environmental Risks" (Phase 1) 2006*** as published by the Natural Resource Management Ministerial Council, Environmental Protection and Heritage Council and the Australian Health Ministers Conference, November 2006 and the Guidelines for the use of Recycled Water in Western Australia.

Infrastructure means pipes, meters, valves, pumps, storage facilities, electrical equipment and other items used to transfer and use recycled water;

Intended Use means the purpose to which the customer intends to employ the recycled water.

Tanker Logbook means the dedicated logbook kept on board of each tanker to record the volume and destination of each load carried by that water carrier;

Master Logbook means the logbook kept at the tanker filling point at the Licensed Wastewater Provider or Mine Site for recording the volume and destination for each load of recycled water;

On-site Infrastructure means recycled water infrastructure on the customer's site, usually from the recycled water meter tailpipe to the end use.

Recycled Water Agreement means the supply agreement between The Licensed Wastewater Provider or Mine Site and the Water Carrier, in practice defined by the terms and conditions of the Approval;

Recycled Water (Supply) Management Plan means the plan for the safe generation and supply of recycled water held by the Licensed Wastewater Provider or Mine Site;

Recycled Water (Use) Management Plan means the plan for the safe distribution and use of recycled water held by the water carrier and/or the water carrier's customer;

Recycled Water means treated municipal wastewater produced at a WWTP and supplied to the Water Carrier under the terms of the Approval;

Supplier means the Wastewater Provider of Mine Site as the retailer of recycled water;

Supplier Infrastructure means the Infrastructure required for delivering the Recycled Water from the WWTP to the Delivery Point;

1 Purpose

This document describes the procedure for the Licensed Wastewater Provider or Mine Site to supply recycled water to Water Carriers for subsequent beneficial use. The purpose of this document is to provide:

- a planning and implementation framework for the safe use of tankered recycled water supply.
- a framework for the development a recycled water management plan for submission to the Department of Health.

2 Water Quality

Tanker Recycled Water should comply with the below Water Quality Specification:

Parameter	Units	Specification	Frequency	Where Sampled
E.coli	Cfu/100ml	<10	Weekly	Cl_2 Contact Tank
Biological Oxygen Demand	mg/L	<20	Weekly	Cl_2 Contact Tank
Suspended Solids	mg/L	<30	Weekly	Cl_2 Contact Tank
Turbidity	NTU	<5(95%)	Continuous	Cl_2 Contact Tank
pH	pH units	6.5-8.5	Continuous	Cl_2 Contact Tank
Chlorine Residual	mg/L	0.2-2	Continuous	Cl_2 Contact Tank

3 Prohibited Uses for tankered recycled water

Prohibited uses for tankered recycled water include but are not limited to:

i. All residential and domestic uses, including residential laundry, cooking, consumption, garden or landscape irrigation, pool filling, house washing, car washing, pavement washdown, filling fountains and water features, and domestic evaporative coolers;
ii. Watering stock;
iii. Irrigation of food crops (except sugar cane);
iv. Industrial purposes with high potential for human contact;
v. Industrial purposes where significant aerosols are generated;
vi. Irrigation of active sporting surfaces;
vii. Irrigation of above ground open space without access controls.

4 Water Carrier Approval

4.1 General

The Department of Health must first grant approval to the Licensed Wastewater Provider or Mine Site to supply recycled water to water carriers.

The Licensed Wastewater Provider or Mine Site must require all water carriers to seek Approval to access recycled water. The Customer is generally not

required to seek Approval since it is the access to recycled water rather than the Customer's use that is the subject of the approval.

A customer seeking tankered recycled water supply must ensure that only Approved water carriers are employed.

Responsibility for the safe management of recycled water passes to the water carrier at the point of delivery.

Upon successful assessment of the application, the Licensed Wastewater Provider or Mine Site shall provide the customer with a notification of Recycled Water Approval valid for a period of one year unless earlier revoked.

4.2 Application Form

An Applicant requesting tankered recycled water supply shall apply to the Licensed Wastewater Provider or Mine Site for "Recycled Water – Tankered Supply" Approval on a formprovided by The Licensed Wastewater Provider or Mine Site.

The Application form shall contain information as follows:

i. The Applicant's intended use for the recycled water;
ii. The Applicant's details including depot address, postal address, trading name, and contact details;
iii. A nominated contact person;
iv. The number, type and capacity of tankers for which Approval is sought;
v. The names of all tanker drivers for which Approval is sought (every tanker driver nominated must have successfully completed an The Licensed Wastewater Provider or Mine Site Recycled Water Induction); and
vi. A declaration that the Applicant agrees to the terms and conditions of the Approval.

4.3 Tanker Inspections

When notifying of successful Approval, The Licensed Wastewater Provider or Mine Site will advise the Applicant that approval is granted subject to the nominated tankers satisfying The Licensed Wastewater Provider or Mine Site's requirements for tankers. The water carrier shall make arrangements for inspection of the tanker prior to its first drawing water to confirm that it complies with the requirements described in the Approval terms and conditions.

The Licensed Wastewater Provider or Mine Site shall record the nominated tankers' compliance in a register.

4.4 Tanker Requirements

All tankers must be approved by the Licensed Wastewater Provider or Mine Site.

A recycled water tanker shall not be used to deliver water for domestic purposes.

An approved tanker shall:

i. have a capacity greater than 500 litres;
ii. be configured to prevent spillage or leakage while stationary or in transit;
iii. be maintained in good order;
iv. have all taps permanently capped, or notified with signage indicating 'Non Potable – Not for Drinking';
v. receive recycled water from the Delivery Point via a 75mm (3") Camlock fitting or equivalent;

An approved tanker shall prominently display the following signage:

i. Rear of tanker: "Non-Potable" and pictograph indicating 'Do Not Drink' with shortest dimension 100mm.
ii. Rear of tanker: 'Avoid contact with recycled water' and pictograph indicating 'Avoid Contact' with shortest dimension 100 mm.
iii. Sides of tanker: 'Recycled Water' (white bold capital font on full lilac background), minimum font height 50 mm, and minimum background height 100 mm.
iv. Side or rear of tanker: Panel indicating 'Registered Recycled Water Carrier' and the Licensed Wastewater Provider or Mine Site logo, "Not for Human Consumption", and pictographs indicating 'Do Not Drink' and 'Avoid Contact'.

4.5 Recycled Water Information Sheets

The Licensed Wastewater Provider or Mine Site shall prepare Recycled Water Information Sheets (RWIS) for tankered supply.

The Recycled Water Information Sheets shall be prepared in the format of NOHSC Material Safety Data Sheets and shall be reviewed and amended where necessary at three-month intervals.

Recycled Water Information Sheets shall be issued with Application forms and be available on request from The Licensed Wastewater Provider or Mine Site.

5 Recycled Water Management Plans

5.1 5.1 General

A Recycled Water Management Plan documents a risk-based system for managing the safe use of recycled water.

The Licensed Wastewater Provider or Mine Site should prepare a Recycled Water Supply Management Plan which shall be evaluated and approved by the Department of Health.

The User should prepare a Recycled Water Use Management Plan which shall be evaluated and approved by the Licensed Wastewater Provider or Mine Site.

5.2 5.2 Recycled Water Supply Management Plan

Because most classes of recycled water are considered unsafe for human consumption, the Supplier is required to apply management controls to distributors and users that eliminate risk or reduce it to acceptable levels.

The acceptability of recycled water uses is determined by risk assessment, which is the first stage in preparation of a compliant Recycled Water Management Plan. The risk assessment must demonstrate that it is possible to reduce risk to an acceptable level.

The Licensed Wastewater Provider or Mine Site should prepare a Recycled Water (Supply) Management Plan and should encompasses all supplier infrastructure and activities associated with the supply of recycled water. It demonstrates the supplier's capability to reliably and safely provide recycled water that is fit for the intended use.

A risk assessment should be completed. The DOH recommends that the required risk assessment:

i. Complies with AS/NZS 31000:2009 Risk Management – Principals and Guidelines;
ii. Specifically addresses each of the key process steps identified in the process flow diagram;
iii. Uses the likelihood, consequence and risk tables;
iv. Describes the uncontrolled risk and the controls required to reduce risk to acceptable levels;
v. Applies controls to all Moderate, High or Very High risks such that they are reduced to acceptable level (i.e. Low).
vi. Maintains consistent description of controls, including any reference to the Standard Controls described in Section 6.

Taking into account intended uses, unintended uses and environmental discharges, the risk assessment should address risks to the following receptors at each process step:

i. Site employees and visitors via:

- Ingestion
- Aerosol inhalation
- Contact
- Ingestion through unintentional release
- Ingestion through cross-connection
- Deliberate or inadvertent misuse

ii. The community via:

- Aerosol inhalation - off site or downstream
- Ingestion - off site or downstream

- Contact - off site or downstream
- Ingestion through unintentional release - off site or downstream
- Odour/atmospherics

iii. The environment (being surface water, ground water, soils, plants, atmosphere) via:

- Release to surface water
- Release to ground water
- Release to atmosphere

5.3 Recycled Water Use Management Plan

The User should prepare a Recycled Water (Use) Management Plan that encompasses all on-site infrastructure and activities associated with the use of recycled water by the water carrier and the customer. It demonstrates that foreseeable on-site and off-site environmental and community health risks resulting from the use of recycled water have been identified and reduced to an acceptable level.

The Applicant's Recycled Water (Use) Management Plan shall, at a minimum, refer to the following:

i. Nomination of intended use/s;
ii. Supervision of intended use/s;
iii. Project description
iv. Contacts
v. Recycled Water Approval conditions;
vi. Recycled Water inductions;
vii. Reference to the Standard Controls described in Section 6
viii. Tanker signage and differentiation of supply from potable water;
ix. Good hygiene practice;
x. Avoidance of spillage, leakage, run-off or ponding from the tanker or the use site;
xi. Application Techniques
xii. Contingency Plans
xiii. Avoidance of overspray to unintended receptors;
xiv. Record keeping, including the maintenance of Tanker logbooks and Recycled Water (Use) Management Plans.

6 Standard Controls

6.1 General

The controls nominated in this section are described as Standard Controls for Tankered Recycled Water.

All Recycled Water (Use) Management Plans are expected to contain reference to the Standard Controls, plus any additional controls required to eliminate risk associated with the Customer's recycled water use.

The Standard Controls are:

i. Supervision;
ii. Maintenance of System Integrity;
iii. Differentiation of Systems (principally tanker signage);
iv. Recycled Water Induction Training;
v. Good Hygiene;
vi. Prevention of Overspray, Run-off or Ponding;
vii. Nil Discharge to stormwater; and
viii. Record Keeping, Auditing and Review.

6.2 Supervision

Every recycled water use requires supervision. In most occasions, the tanker driver shall act as the Recycled Water Supervisor.

The Recycled Water Supervisor shall assume the responsibilities described below:

i. To ensure there exists no on-site infrastructure;
ii. To obtain instruction in the use of recycled water, such instruction being provided or approved by The Licensed Wastewater Provider or Mine Site in the form of Recycled Water Induction;
iii. To be the contact person for the customer in matters regarding on-site activities and the use of recycled water;
iv. To oversee recycled water use on the customer's site in accordance with the Recycled Water (Use) Management Plan;
v. To ensure that all site operations personnel are trained in the use recycled water and are familiar with the provisions of the Recycled Water (Use) Management Plan;
vi. To maintain records as required by the Recycled Water Approval;
vii. To operate and control the discharge of recycled water in a way that prevents human consumption, health risk or environmental risk;
viii. To prevent cross-connection to potable water systems or backflow to potable water systems; and
ix. To report to The Licensed Wastewater Provider or Mine Site any incidents involving recycled water.

6.3 Maintenance of System Integrity

The maintenance of a separation between recycled water and potable water systems is fundamental to preventing direct ingestion of recycled water.

The following controls should be applied to all recycled water activities covered by a Recycled Water (Use) Management Plan:

i. Recycled water tankers shall not subsequently be used for carrying potable water for domestic purposes.
ii. Recycled water tankers must be maintained in good and secure order to prevent leakage, spillage or overflow.

iii. All tankers shall:
iv. Have all taps permanently capped, or notified with signage indicating ‘Non Potable – Not for Drinking’;
v. Receive recycled water from the Delivery Point via a 75mm (3”) Camlock fitting or equivalent to prevent accidental connection to potable water hydrant;
vi. No systems involving on-site infrastructure (storage, pipelines, pumps, fittings etc.) shall be delivered to, unless a separate application to the DOH has been made and approval granted.
vii. On-site infrastructure must be constructed and inspected in accordance with AS/NZS 3500.1: 2021 – Section 9 - Non- Drinking Water Services.

6.4 Differentiation of Systems (principally tanker signage)

Recycled water tankers shall be clearly marked so that they cannot be mistaken for potable water tankers.
An approved tanker shall prominently display the following signage:
i. Rear of tanker: “Non-Potable” and pictograph indicating ‘Do Not Drink’ with shortest dimension 100mm.
ii. Rear of tanker: ‘Avoid contact with recycled water’ and pictograph indicating ‘Avoid Contact’ with shortest dimension 100 mm.
iii. Sides of tanker: ‘Recycled Water’ (white bold capital font on full lilac background), minimum font height 50 mm, and minimum background height 100 mm.
iv. Side or rear of tanker: Panel indicating ‘Registered Recycled Water Carrier’ and an The Licensed Wastewater Provider or Mine Site logo, “Not for Human Consumption”, and pictographs indicating ‘Do Not Drink’ and ‘Avoid Contact’;
v. All taps: Permanently capped, or notified with signage indicating ‘Non Potable – Not for Drinking’;

At the entrance to any recycled water use site, prominent notification should inform employees and visitors that recycled water is in use. This information should also be notified during all employee and visitor inductions.

6.5 Recycled Water Induction Training

The Licensed Wastewater Provider or Mine Site must provide Recycled Water Induction training to all tanker drivers to familiarise themselves with the safe use of recycled water and the function of Recycled Water Management Plans.

It shall be the responsibility of the Recycled Water Supervisor (i.e. the tanker driver or the customer) to ensure that all site operations personnel are trained in the use of the relevant class of recycled water and are familiar with the provisions of the Recycled Water (Use) Management Plan.

6.6 Good Hygiene

The Recycled Water Induction Training will inform all participants of good hygiene measures to be followed where exposure to recycled water may occur.

Recycled Water Supervisors are to ensure that all employees with the potential to be exposed to recycled water are aware of the need for good hygiene and that adequate facilities for these requirements are met.

6.6.1 General precautions

- Avoid unnecessary contact with recycled water;
- Wash and dry hands thoroughly before handling food, eating, drinking or smoking
- Report details of any illness to Recycled Water Supervisor, including illness affecting household contacts.
- Do not report for work if suffering from diarrhoea or vomiting.
- Ensure all cuts and abrasions on exposed areas of skin are covered with a waterproof dressing.
- Wear clean protective clothing.

6.6.2 Hand washing:

It is important to wash and dry hands prior to handling food, eating, drinking or smoking. The following facilities are necessary at the use site:

- Wash hand basin with running water.
- Soap.
- Means for drying hands after washing (i.e. paper towels, drier, hand towels)

6.7 Prevention of Overspray, Run-off or Ponding

Conditions that directly or indirectly cause overspray or run-off of recycled water outside of the intended recycled water use area, or cause ponding of recycled water on the use site, shall be controlled to the greatest extent possible through the application of the best practical technology or methodology. If under the conditions prevailing the tanker driver cannot prevent overspray, run-off or ponding as described above, then the delivery of recycled water shall cease. Where the intended recycled water use is irrigation, irrigation water shall always be applied in a manner compatible with the infiltration rates of the soil type in the recycled water use area (i.e. a deficit watering regime).

6.8 No Discharge to Stormwater

The User of recycled water must agree to reduce to a practical minimum the discharge of recycled water to stormwater drains. If under the conditions of work the operator cannot reduce the level of discharge to stormwater to an insignificant amount, then the delivery of recycled water to the process must cease.

6.9 Record Keeping, Auditing and Review

6.9.1 Record Keeping

To maintain a complete record of tankered recycled water movements, all tanker drivers shall maintain a tanker logbook. Logbooks shall be provided by

the Licensed Wastewater Provider or Mine Site on successful approval of the applicant and later as required.

The following information for each tanker load of recycled water collected from The Licensed Wastewater Provider or Mine Site's filling point shall be recorded and held within the applicable tanker:

i. Date of collection;
ii. Source of Recycled Water
iii. Address to which recycled water was delivered;
iv. Volume supplied to each address;
v. Intended End use of the recycled water and;
vi. Name and signature of the driver indicating the veracity of the entry.

The logbook shall be delivered to The Licensed Wastewater Provider or Mine Site when it is completed and a new one issued.

The logbook should be kept onboard the Tanker at all times when transporting Recycled Water.

6.9.2 Auditing and Reports

Scheduled audits of the Approval holder's logbook records and compliance with applicable Recycled Water (Use) Management Plans shall be conducted by the Licensed Wastewater Provider or Mine Site. Audits shall be conducted with the following frequency:

- Within three months of commencement of supply; and
- Annually.

Records of audits shall be held:

- by the Licensed Wastewater Provider or Mine Site; and
- at the premises of the Approval holder.

Annual report shall be submitted the Department of Health.

6.9.3 Review

To ensure that Recycled Water (Use) Management Plans remain current and continually improve, an annual review of the document shall be scheduled.

Records of annual management plan reviews shall be kept:

- by the Licensed Wastewater Provider or Mine Site; and
- at the premises of the Approval holder.

7 More Information

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