

For Wastewater Treatment Plants (WWTPs) where effluent reuse has not previously been satisfactorily explored, an environmental condition has been developed for inclusion in an updated permit/EPN.

Condition

- I. A feasibility study for reuse of effluent from the activity must be submitted to the Director within 6 months of the date on which these conditions take effect, or a date otherwise specified in writing by the Director. The study must be to the satisfaction of the Director and must include:
 - I.1. a strategic evaluation of the potential for the establishment of an effluent reuse scheme;
 - I.2. details of investigations undertaken to maximise the reuse of treated effluent discharged from the activity including identification of potential land areas and uses suitable for reuse and a summary of discussions undertaken with potential end users to enable reuse; and
 - I.3. where reuse is feasible, a written commitment from the person responsible to implement a reuse scheme including an action plan with timelines for completion of significant actions.

This guideline has been prepared to offer guidance to the person responsible to ensure sufficient information is contained in the Effluent Reuse Feasibility Study to satisfy this condition requirement.

Background

The *State Policy on Water Quality Management 1997* (the Policy) describes the framework for water quality management in Tasmania. Section 15.1 the Policy states that “a regulatory authority must not authorise a point source discharge pollutant to surface waters or ground waters unless it is satisfied that:

- a) it is not practical to avoid the need for the discharge of wastes by re-cycling or re-use ...
- b) land application of the wastewater in an environmentally acceptable and sustainable manner is not practical ...”

When reviewing existing point source discharges or assessing proposals, regulatory officers must therefore ensure that these criteria are fulfilled.

The *Environmental Guidelines for the Use of Recycled Water in Tasmania* (DPIWE, 2002) and the *Australian Guidelines for Water Recycling: Managing Health and Environmental Risks, 2006* (NRMMC, EPHC & AHMC) should be consulted in the preparation of this study.

Study Contents

The person responsible must complete an Effluent Reuse Feasibility Study for the WWTP with the aim of achieving full reuse. If full reuse is not achievable due to climatic, geographic or land use restrictions, a partial reuse scheme may still be an option and must be scoped.

The study must include the following:

Identify Potential Options

- Discussion on the reuse options (urban/residential, agricultural or industrial applications) within a realistic proximity to the WWTP and the quantity and quality of effluent which will be required for each reuse option.

- Summary statistics for the previous six months of water quantity and quality data from the WWTP (as a minimum).
- A map identifying the potential land areas or activities suitable for reuse.
- Identification of any WWTP-specific trade waste or effluent quality characteristics which are problematic for reuse.
- Identification of any climatic, geographic or land use restrictions which limit the adoption of effluent reuse.

Consultation

- Evidence of consultation process with identified possible end users. Options include evidence of advertising, public meetings, transcripts of interviews with interested parties. A summary of end users' level of interest in effluent reuse is to be documented. Where there is interest in reuse, more detail should be provided on the proposed use. If agricultural reuse is proposed, include the likely crops to be irrigated. If the high cost of recycled water for the end user is a limiting factor, a comparison of the cost of effluent against other water sources should also be documented.

Scope Options

- For irrigation reuse options, maps are to be provided depicting land use, planning scheme restrictions, land capability, watercourses, areas prone to flooding, or where there is a high water table, or significant groundwater use. A desktop summary of soil types on areas proposed for irrigation should also be provided. If located in an area identified as having soil salinity or sodicity concerns, this should be discussed.
- Any other site-specific obstacles to implementing reuse which cannot be easily overcome should be identified - e.g. human health risks, threatened species, cultural heritage etc.
- A Water Balance Assessment is required to demonstrate adequate consideration of irrigation reuse options. This should be completed in accordance with the methodology outlined in Section 7 of the *Environmental Guidelines for the Use of Recycled Water in Tasmania, 2002*.
- If full effluent reuse is not a definite option, options should be scoped for varying degrees of partial reuse (e.g. partial reuse with some storage, partial reuse with no storage). A partial reuse option may achieve comparable environmental benefits to the alternative of WWTP upgrade with full discharge to surface waters.

Report Conclusions & Recommendations

- Based on the desk top assessment, outline preferred options for sustainable effluent reuse. For each reuse option scoped costing estimates should be provided. This should include cost of approvals, key infrastructure for reuse scheme and any upgrades required to the WWTP. An estimate of the cost of WWTP upgrade to meet AMT (or alternative projected site specific emissions limits) should also be provided.
- Details of rationale behind the decision making process must be included (e.g. a triple bottom line assessment of the various options).
- The conclusions and recommendations of the study should be presented and a commitment to implement reuse, where it is found to be feasible, is to be clearly made and signed off by the Chief Executive Officer.