

Water recycling regulation in Victoria: present and future



Water Recycling

IHEA

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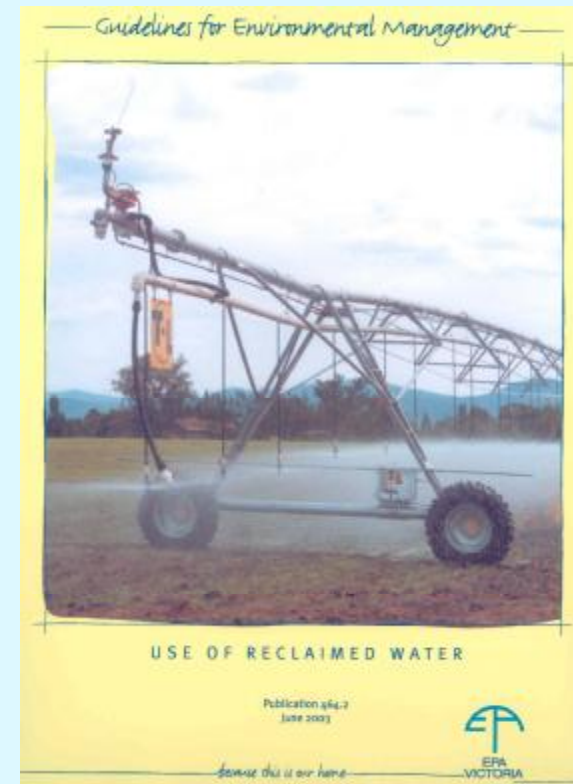
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Traditional drivers for water recycling

- Environment protection through minimisation of waste discharge to waterways.
 - Land/crop irrigation from municipal/industrial treatment plants.
 - Land/crop irrigation from animal effluent treatment plants.
 - Garden watering and land irrigation from onsite treatment systems in unsewered areas. Includes household greywater reuse.

Existing regulatory framework: *Environment Protection Act 1970*

- Discharges to environment must be managed so as to not adversely affect the receiving environment.
- Guidelines for Environmental Management: Use of Reclaimed Water:
 - Classes of water, fit for specific uses (health related), and relevant controls (risk management focus).
 - Class A schemes require both EPA and DHS endorsement.
- Dual pipe guidelines October 2005.



DHS role

- Derive health-related water quality objectives.
- Endorse Class A schemes, with focus on treatment process evaluation to ensure water quality objectives are reliably met.
 - Validation of processes.
 - Ongoing process monitoring and control established within preventive risk management framework.

Class A recycled water

- Health-based microbiological standard
- For uses with high potential for public contact



Current challenges

- Limited data available for pathogen removal (esp. viruses and protozoa) by treatment processes.
- Industry perception of degree of validation and monitoring required for treatment processes is often vastly different to ours.
- Managing public scrutiny of our role, the framework and standards, and recycling schemes.
- Community confidence.

Gaps in existing framework

- Human health protection considered for those activities picked up under EP Act.
- No coverage of:
 - Treatment of sewage/greywater for use within a building, with no direct discharge to environment.
 - Stormwater.
 - Industrial process water.
 - Potable reuse?

New drivers for water recycling

- Water shortage!
 - Drought
 - Population growth
 - Degrading river systems
 - Climate change
- Pushing water recycling applications towards the gaps.
- Need to review the regulatory framework

Addressing the gaps

- EPA/DHS Guidelines: Dual Pipe Water Recycling Schemes: Health and Environmental Management
- National Water Recycling Guidelines
- Review of the framework for alternative urban water supplies
 - Actions 5.42 and 5.43 under the Victorian Government White Paper *Our Water Our Future*

Regulatory review - approach

- Partnership between EPA and DHS, with multi-stakeholder involvement.
- Screening assessment of alternative water sources and uses to prioritise high-risk areas.
- Detailed risk assessment to determine the level of regulatory oversight required.
 - Legislation, guidelines or education/information.
- Guiding principles:
 - Focus on environmental and health risks
 - Establish regulatory requirements
 - Provide authoritative guidance
 - Establish a transparent process

Issues

- What level of risk requires regulation?
- Who should regulate?
- How is this best integrated with the existing framework?
- How do we allow for innovation and flexibility while retaining confidence that health will be protected?
- We're all on a steep learning curve.
- Public complacency?

Guiding principles

- **Fit-for-purpose water quality objectives.**
 - Evidence-based water quality objectives
- **Preventive risk management**
 - Catchment to end use
 - Assurance of water quality
 - Include systems such as HACCP
- **Oversight (e.g. health department endorsement) likely to be necessary in high risk areas.**

Draft Guidance on Rainwater for Healthcare facilities

- Research shows that the quality of water in rainwater tanks varies due to a number of factors such as location, condition of the catchment (roof) area, design and maintenance.
- Currently in Victoria there is no regulation around the use of rainwater for domestic/commercial purposes,
- For facilities that do not have access to a managed drinking water supply, usually reticulated to their site by their local water supplier, rainwater can be used.
- Use professionals with knowledge on water treatment, and properly monitored and maintained. Such systems may include the use of filters and disinfection.

Draft Guidance on Rainwater for Healthcare facilities-cont'

- For facilities that have access to a drinking water supply managed by their local water supplier, use this for drinking and food preparation purposes; and
- Rainwater could be used for toilet flushing, showering, garden watering, fire services and laundry uses. Use signage to say not for drinking .
- Rainwater tanks that need mains drinking water top-up should be provided with backflow prevention.
- Also, check whether a building permit is required from your local Council.

Draft Guidance on Rainwater for Healthcare facilities-cont'

- The Department's brochure 'Your Private Drinking Water Supply' explains the basics for maintaining rainwater tanks, available on the web at www.health.vic.gov.au/environment/water/tanks.htm
- Further guidance can be found in 'Guidelines for the use of non-potable water in food businesses' available on the Food Safety website at: www.health.vic.gov.au/foodsafety/downloads/nonpotablewater-guide.pdf

Draft Guidance on Rainwater for Healthcare facilities–cont'

- The State Government's Discussion Paper, *A Framework for Alternative Urban Water Supplies (Section 9.3)*, released in March 2006 further discusses a framework for the use of rainwater, and is available on the web at:

www.epa.vic.gov.au/water/Reuse/urban.asp

- For more detailed information about identifying and managing risks with rainwater tanks, the booklet produced by enHealth *Guidance on the use of rainwater tanks* can be found at

www.enhealth.nphp.gov.au/council/pubs/documents/rainwater_tanks.pdf

The Big Picture

•Refer Discussion Paper, Pg 12

	Single Site				Multiple Site			
	Rainwater	Stormwater	Greywater	Sewage	Rainwater	Stormwater	Greywater	Sewage
Drinking	-	X	X	X	-	X	X	X
Food preparation	-	X	X	X	-	X	X	X
Personal Washing	ü	C	X	X	ü	X	X	X
Swimming pool	ü	C	X	X	ü	C	X	X
Laundry trough	ü	C	C	X	ü	C	X	X
Washing machine	ü	C	ü	C	ü	C	C	C
Outdoor use	ü	ü	C	C	ü	C	C	C
Toilet flushing	ü	ü	ü	C	ü	C	C	C
Surface irrigation	ü	ü	C	C	ü	C	C	C
Subsurface irrigation	ü	ü	ü	C	ü	C	C	C
Fire Protection	ü	ü	C	C	ü	C	C	C

ü = Enable use.

C = Control use.

X = Use not recommended at this stage.

- = Where a reticulated drinking water supply is available, it is recommended that the supply be used for this use.