

# Water recycling regulation in Victoria: present and future



## Water Recycling

IHEA

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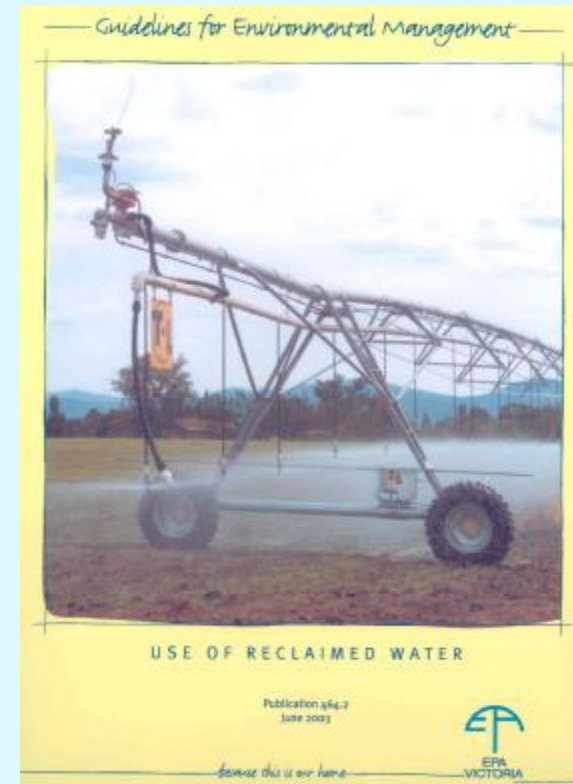
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# Traditional drivers for water recycling

- 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](http://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](http://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](http://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](http://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
<b>Drinking</b>	-	X	X	X	-	X	X	X
<b>Food preparation</b>	-	X	X	X	-	X	X	X
<b>Personal Washing</b>	ü	C	X	X	ü	X	X	X
<b>Swimming pool</b>	ü	C	X	X	ü	C	X	X
<b>Laundry trough</b>	ü	C	C	X	ü	C	X	X
<b>Washing machine</b>	ü	C	ü	C	ü	C	C	C
<b>Outdoor use</b>	ü	ü	C	C	ü	C	C	C
<b>Toilet flushing</b>	ü	ü	ü	C	ü	C	C	C
<b>Surface irrigation</b>	ü	ü	C	C	ü	C	C	C
<b>Subsurface irrigation</b>	ü	ü	ü	C	ü	C	C	C
<b>Fire Protection</b>	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.