



Tasmanian Public Health Emergencies Management Plan

Drinking Water Supply Incident Associate Plan

Issue:	Issue 1
Approved:	Dr Roscoe Taylor
Date:	21 December 2011

Section 1 Overview

1.1 Glossary

Table 1 Glossary

Term	In the context of this plan, this term means:
Drinking Water	water intended for human consumption
Potable Water	water that is acceptable for human consumption
Private Water Supply	a water supply that is not under the management or control of a regulated entity to supply drinking water to a premise that is used for – (a) commercial purposes included but not limited to a hotel, motel or bed and breakfast; (b) health purposes including a nursing home, hospital or hospice; (c) educational purposes including a school, school camp or community camp; or (d) imprisonment or detention purposes including a prison farm.

1.2 Acronyms

Table 2 Acronyms

Acronym	Stands for:
ADWG	Australian Drinking Water Guidelines (2004)
BWAP	Boil Water Alert Protocol
DWQMPs	Drinking Water Quality Management Plans
DPIPWE	Department of Primary Industries, Parks, Water & Environment
ICP	Incident Communication Protocol
NHMRC	National Health & Medical Research Council
TPHEMP	Tasmanian Public Health Emergencies Management Plan
WQRA	Water Quality Research Australia

1.3 Introduction

1.3.1 Aim

The aim of this plan is to describe the governance and emergency management arrangements required to respond to a drinking water supply incident and/or a fluoride overdose incident which causes or has the potential to cause harm to public health.

1.3.2 Scope and Application

This plan applies to drinking water supply incidents that meet the definition of a public health emergency (PHE) in the Tasmanian Public Health Emergencies Management Plan (TPHEMP). A water supply incident is an unintended contamination or supply system failure that causes or has the potential to cause harm to public health via consumption of drinking water.

The nature of the incidents covered by this plan are:

- Contamination of drinking water with any harmful pathogens and/or their toxins at levels above Australian Drinking Water Guidelines (2004) (ADWG) health guideline values, including:
 - Detection of *E.coli* in drinking water
 - Detection of *Cryptosporidium* or *Giardia* species in drinking water

- Contamination of drinking water with any chemical (natural or otherwise e.g. blue green algae toxins) at levels above ADWG health guideline values. The chemical may contaminate the drinking water supply including as a result of, but not limited to:
 - the water treatment processes' inability to remove the contaminants from the source water, or
 - the treatment processes utilized e.g. production of disinfection by products, or
 - excessive use of water treatment chemicals, or
 - contaminants originating from the water treatment chemicals themselves
- Chlorination or filtration failure
- Contamination due to overdose with fluoridating agent.

This plan does not cover the response to:

- Chemical, biological, radiological, nuclear (CBRN) terrorist threats in which drinking water is used as the vehicle of transmission as the lead agency is Tasmania Police under the Tasmanian Emergency Management Plan.
- Detection of pesticides and other chemical contaminants in Tasmanian waterways where there is no direct risk to public health as the lead agency is the Department of Primary Industries, Parks, Water & Environment (DPIPWE).
- A significant disruption to the supply of drinking water which is not related to a water quality issue as the lead agencies are the water corporations in collaboration with local councils. If however the emergency supply of drinking water is of a non-potable standard, then DHHS would have responsibility for this aspect of the incident.

Section 2 Governance and Management

2.1 Roles of Government and Emergency Management Partners

Government

Public and Environmental Health Service (PEHS) - The role of the PEHS is to ensure the provision of safe drinking water by regulating the water corporations who own/manage public drinking water supply systems. In this role, the PEHS provides specialist advice on technical aspects of drinking water supply incidents, including interpretation of laboratory results.

PEHS also provides regulatory and technical advice and support to local councils in their respective roles in regulating private water supplies.

Fluoridation Committee – The emergency management role of the ministerial Fluoridation Committee is to provide expert advice on matters of water fluoridation.

Local Councils - The local councils register and regulate private water supplies (i.e. drinking water not reticulated through a public water supply system managed by the water corporations).

Other partners

Water Corporations - The Tasmanian Water and Sewerage Corporations, namely Ben Lomond Water, Cradle Mountain Water and Southern Water are the service providers of reticulated drinking water throughout Tasmania. These water corporations operate and manage the infrastructure associated with the provision of reticulated drinking water.

2.2 The Legal Framework

The legislative basis for emergency management arrangements in Tasmania is provided through the *Public Health Act 1997*. In accordance with Division 2 – Emergency Powers of the *Public Health Act 1997*, section 14(1), the Director of Public Health is vested with the authority to declare that a PHE exists if satisfied that the situation requires it.

Of most relevance to this plan is the *Public Health Act 1997 Drinking Water Quality Guidelines 2005* Section 10 which describes the process relating to the instigation and removal of boil water notices. Other relevant legislation includes the *Fluoridation Act 1968* and the *Fluoridation (Interim) Regulations 2009*.

2.3 Current Management Responsibilities

Table 3 Overarching Emergency Management Roles and Responsibilities for a Drinking Water Supply Incident

Unit	Roles and Responsibilities
Population Health	Regulator - Water supply contamination (including overdose with fluoride)
Water corporations	Water supply contamination (including overdose with fluoride)
Local councils	Water supply contamination – private water supply systems

Section 3 Emergency Management Arrangements

Section 3.1 Prevention and Mitigation

3.1.1 Current Arrangements and Elements

Management of drinking water is only one of many environmental health matters which the PEHS manages. With regard to identification and prevention measures in order to avoid drinking water supply incidents, strong relationships have been formed with the water corporations which through legislation are required to manage drinking water supply systems using a risk based approach.

The public health legislative framework ensures potential threats to public health are identified by the water corporations and notified to PEHS which then guides/directs the water corporations in ensuring the risk is managed appropriately.

Furthermore, water corporations have developed Drinking Water Quality Management Plans (DWQMPs) for each drinking water supply system which outlines inherent (or otherwise) risks to water quality within each supply system and details of preventative measures which are implemented to ensure such risks are managed appropriately. The water corporations have identified and manage critical control points within the large drinking water supply systems. These critical control points have water quality trigger values which indicate potential loss of control of the system. These trigger values activate a series of corrective actions (which include notification to PEHS) to contain the potential water quality incident.

With regard to water fluoridation, the *Fluoridation Act 1968* and subordinate legislation prescribe notification requirements within a prescribed timeframe thus ensuring a prompt response to potential fluoride overdose incidents.

Section 3.2 Preparedness

3.2.1 Current Arrangements

a) Networks and Support Arrangements

Fluoridation Committee - The ministerial Fluoridation Committee is to provide expert advice in matters of water fluoridation.

Water Quality Research Australia (WQRA) - PEHS is an Associate Member of Water Quality Research Australia (WQRA). WQRA undertakes collaborative research for the water industry and is a repository of scientific evidence/data and expertise for national application on drinking water quality. PEHS uses WQRA as a source of expert advice on specific water quality topics.

b) Emergency Planning

Incident Communication Protocol (ICP) - An ICP has been developed by PEHS which provides the process for notification of incidents to and between government agencies as well as with numerous stakeholders.

Boil Water Alert Protocol (BWAP) - This protocol was developed as a subset of the ICP for the specific notification and response by PEHS and the water corporations to incidents posing significant microbiological risk to public health. Refer Appendix 5.2 for the BWAP.

Emergency Response Plans (ERPs) - These plans are developed and owned by the water corporations. They address the multiple incident types relevant to a water corporation, with drinking water quality incidents being one such type. These documents are provided to PEHS with restricted and secure access.

c) Operational Preparedness

With regard to drinking water supply incidents, PEHS has one State Water Officer and three Regional EHOs that are adequately skilled in the provision of regulatory direction for the water corporations and any on-site inspection/sampling if required. Furthermore, the State Water Officer would be able to provide expert advice on technical matters relating to water quality. However if a level 1 response or greater is instigated, PEHS business continuity would be significantly impacted.

d) Administration Systems

Non-compliant analytical results received from laboratories are entered and stored in Excel spreadsheets. Hardcopies of the laboratory results are stored on file.

Section 3.3 Response

3.3.1 Overview

Irrespective of the source of information (e.g. water corporation, general public etc), PEHS would alert the Director of Public Health (DPH) to the situation, if a possible risk or threat were imminent, to determine whether that incident met the definition of a PHE.

PEHS would then:

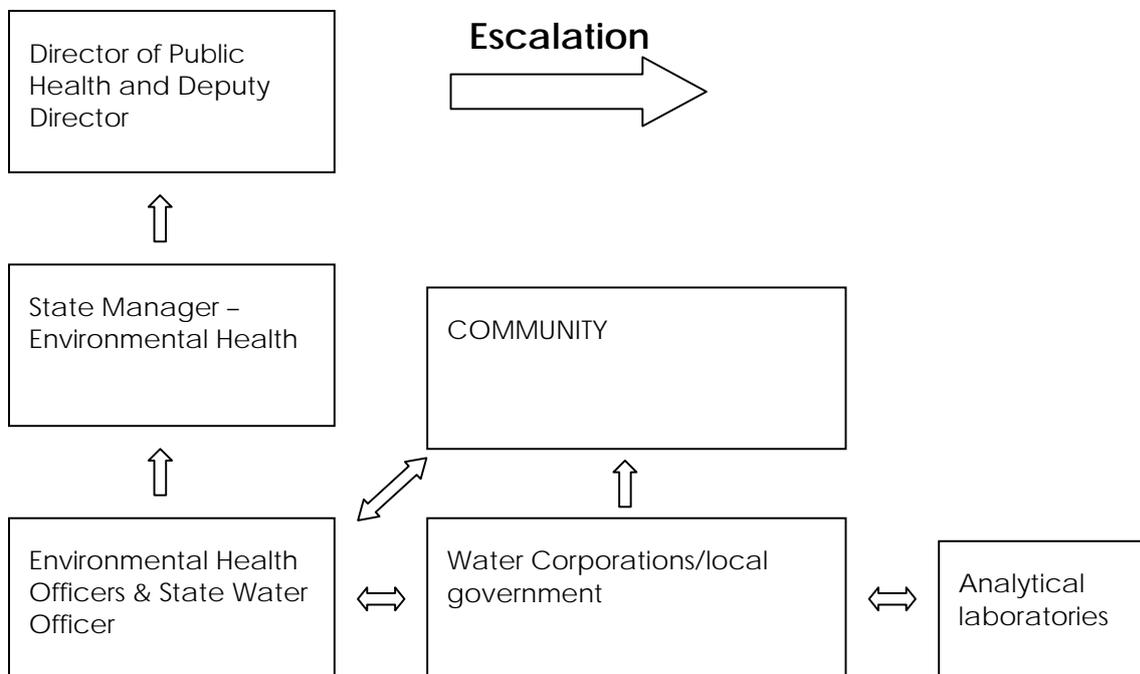
- Consult with the relevant water corporation/local council (in the case of a private water supply system) to determine the current situation and respond to the incident and provide regulatory direction.
- Brief the DPH as required and provide information for media releases, if necessary.

- Where appropriate, brief other Population Health staff and outline operational roles, tasks and responsibilities.
- Where appropriate, liaise with other Units for assistance and share information on developments.
- Where appropriate, brief other Government Departments and affected Local Councils on intended actions.
- Provide and receive regular updates to/from, the Emergency Communication Centre if activated.
- Ensure that Departmental procedures continue until the stand down announcement is given.

3.3.2 Command, Control and Coordination

The command, control and coordination arrangements for a PHE that are specified in the TPHEMP apply to drinking water supply incidents, with incident specific response primarily from PEHS.

Figure 1 Communication Summary to Inform Command, Control and Coordination



3.3.3 Emergency Powers and Authority

The *Public Health Act 1997* provides the legislative basis for PHE management arrangements in Tasmania, supporting the functions of the DPH in protecting the Tasmanian community from the impact of PHEs.

Specifically, Division 2 – Emergency Powers of the *Public Health Act 1997* details key powers which provides the DPH with statutory authority to declare a PHE, and to take any action or give any directions necessary to eliminate the threat, as considered appropriate. Other emergency provisions include special powers, compensation and reporting requirements under Division 2.

More generally, emergency powers are invested in the State Emergency Management Controller through the *Emergency Management Act 2006*.

3.3.4 Response Strategies

Table 4 Summary of Typical Response Actions

Escalation Stage	Response
Alert/Standby	<ul style="list-style-type: none"> Notification of a potential risk to water quality which threatens public health. Risk assessment done by PEHS and DPH advised. PEHS provides regulatory advice to water corporations and oversee corrective actions undertaken by water corporations.
Level 1 Response	<ul style="list-style-type: none"> DHHS Incident Controller established. Provision of public information and warnings in collaboration with water corporations. If required, independent sampling undertaken by PEHS. If warranted, the Public Health Emergency Operations Centre (PHEOC) is activated. Immediate actions could include restricting use of affected water and/or provision of emergency supply by water corporations.
Level 2 Response	<ul style="list-style-type: none"> If liaison with water corporations indicate they are unable to contain contamination and/or provide emergency water supply of water then statewide coordination of the health response and/or external assistance is required. DHHS activates other EOC(s). DHHS ECC is activated, staff and resources are mobilised and the DHHS Incident Controller coordinates the whole-of-health response. PHEOC and other DHHS EOC(s) operational.
Level 3 Response	<ul style="list-style-type: none"> PHE results in whole-of-government response. Incident control transferred to State Controller (Commissioner of Police). State Crisis Centre (SCC) activated. Australian Government/other jurisdictional assistance sought where necessary.
Stand-down	<ul style="list-style-type: none"> On assessment that statewide coordination of the response is no longer required, the State Crisis Centre is stood-down. DHHS ECC is stood down when statewide coordination of health response no longer required. PEHS continues to manage the incident as required.

3.3.5 Roles and Responsibilities

- a. The DPH will be appointed as the Incident Controller.
- b. PEHS is to provide specialist advice on technical aspects of drinking water supply incidents with particular reference to:
 - Interpretation of laboratory results
 - Public health risk assessment
 - Provision of regulatory direction to the water corporations
 - Provision of public information and warnings solely and in collaboration with the water corporations
 - Triggering the escalation of the emergency
 - Overseeing the mitigation and recovery process undertaken by the water corporations.

PEHS also provides public health advice to other lead agencies in matters relating to detection of pesticides and other contaminants in Tasmanian waterways. PEHS also provides technical advice to local government Environmental Health Officers (EHOs) during incidents.

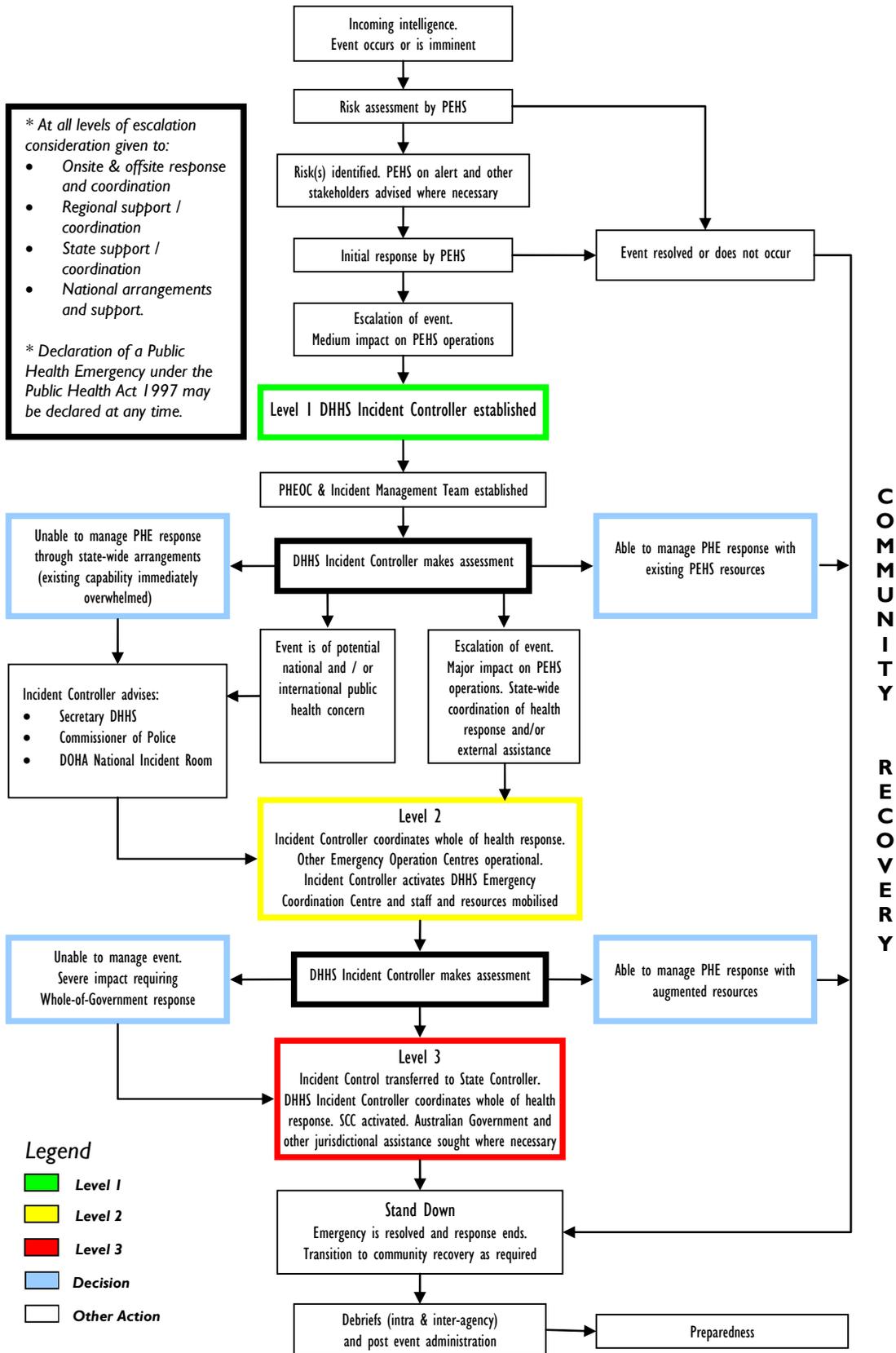
- c. The State Water Officer (within PEHS), in consultation with the DHHS Incident Controller, is responsible for:
- specialist advice and briefings to the Incident Controller and/or Deputy Director of Public Health on technical aspects of response to a drinking water supply incident;
 - assisting with interpretation of analytical results;
 - assist in public health assessment;
 - provide regulatory and expert advice to water corporations to determine the severity of the public health threat;
 - advice on corrective actions and media statements; and
 - liaison with WQRA for expert advice/information if required.

Other parts of Population Health may be asked to assist with tracking the extent of water contamination and interpretation of analytical results, as well as sampling on site (if required).

- d. If a clinical response is necessary, the relevant Area Health Services will be responsible for providing the necessary support
- e. Local Councils - The Local Councils register and regulate private water supplies (i.e. drinking water not reticulated through a public water supply system managed by the water corporations). During a drinking water incident associated with a private water supply, the Local Council EHO would provide regulatory direction to the private water supplier. Furthermore Council EHOs would liaise with food premises to mitigate contamination of food with contaminated water.
- f. Water Corporations - The Tasmanian Water and Sewerage Corporations, namely Ben Lomond Water, Cradle Mountain Water and Southern Water are the service providers of reticulated drinking water throughout Tasmania. These water corporations operate and manage the infrastructure associated with the provision of reticulated drinking water and therefore have a key role in mitigation, detection, correction and recovery of drinking water supply incidents.
- g. Concerned persons may also contact water corporations for information regarding the incident, however all health-related enquiries should be directed to Population Health, and potentially General Practitioners (GPs) where applicable.
- h. Contact details for key stakeholders are included in the ICP.

3.3.6 Figure 2 DHHS PHE Incident Response Action & Decision Pathway

The following TPHEMP diagram also applies to drinking water supply incidents.



3.3.7 Other Response Elements

a. Emergency Notification, Communications and General Public Information –

Communication will be made a high priority during an emergency. Detailed communication protocols (including roles and responsibilities) are included in the PHEOC Management Protocol. The ICP also contains information regarding the communication process for incident notification.

PEHS will provide appropriate and technical information to the DPH and others to assist with preparation of communication materials.

All media and communications (including strategic planning) will be coordinated by the designated Emergency Communications Coordinator. Communication materials must be approved prior to release.

1) Situation reports and other internal communications: Regular situation reports contain information to inform the health response. They will also help inform vital activities such as:

- Staff communication through the Health Emergency Extranet
- Other avenues of internal communication such as email updates
- General public communication
- Stakeholder communication.

2) General public communications: All communications to the public must focus on developments relating to the health aspects of the emergency and protective measures that might be adopted. Information may be used for:

- media releases (health alerts) and responses to media enquiries
- briefing health spokespeople for press conferences and interviews (talking points)
- developing content for DHHS emergency website and Health Emergency Extranet
- PEHS hotline and external call centre scripting (Service Tasmania and Tasinet)
- advertising, community service announcements, marketing material, direct mail and email networks.

3) External stakeholder communications: Timely information must be provided to key stakeholders through:

- urgent fax streams to GPs and community pharmacists
- stakeholder specific alerts (DHHS services, other government agencies, local government, schools and non-government organisations)
- scripting (for hospital switchboards).

Mobile phones and/or email would be used to transmit information from the field back to the PHEOC and to PEHS, for analysis. Land lines and email would be used to transmit information to other jurisdictions, if necessary.

b. External Support Arrangements –

Additional resources, from the Australian Government and/or other State and Territory jurisdictions, would be sought if necessary via Emergency Management Australia. Enlisting assistance from Tasmania Police or the Tasmania Fire Service or other agencies would follow standard protocols via the SCC.

c. Finance and Records Management –

The DPH and Deputy DPH can authorise PEHS expenditure during an emergency. PEHS would collate records of investigations and analytical results.

d. **Debriefs –**

Debriefs within PEHS would be run by the Deputy DPH after the emergency. Debriefs for other parts of the DHHS and outside assistance would be coordinated by the DPH and held once the situation has resolved.

Section 3.4 Community Recovery

3.4.1 Current Arrangements and Elements

Refer to section 3.4 of the TPHEMP for general community recovery aspects relating to drinking water supply incidents.

Section 4 Plan Administration

4.1 Plan Contact –

This plan is maintained by the PEHS of the DHHS. Contact details:

- a. State Water Officer
- b. Email: public.health@dhhs.tas.gov.au
- c. Mail: Public and Environmental Health Service, DHHS, GPO Box 125, Hobart TAS 7001

4.2 Review Requirements and Issue History

This plan is to be reviewed at least once every 2 years after approval by the DPH.

This issue entirely supersedes the previous issue of this plan. Superseded issues should be destroyed, or clearly marked as superseded and removed from general circulation.

Issue No.	Year Approved	Comments/Summary of Main Changes
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4.3 Distribution List

This plan is issued electronically on the DHHS website, after it is approved. Courtesy print copies are provided as follows:

Level	Organisations/Positions
State:	• N/A
Regional:	• Water Corporations, Local Councils

4.4 Validation of this Plan

Arrangements in this plan will be validated within the 2 year review cycle by:

- a) conducting discussion exercises of activities included in this plan by July 2013.

Section 5 Appendices

5.1 Associated Documents

5.1.1 Legislation

	Title	Agency
State	<i>Emergency Management Act 2006</i>	DPEM (SES)
	<i>Public Health Act 1997</i>	DHHS
	Public Health Act, Drinking Water Quality Guidelines 2005	DHHS
	<i>Fluoridation Act 1968</i>	DHHS
	<i>Fluoridation (Interim) Regulations 2009</i>	DHHS

5.1.2 Plans/Agreements

	Title	Custodian
State	Tasmanian Emergency Management Plan	DPEM (SES)
	State Special Plan for Public Health Emergencies (TPHEMP)	DHHS
	State Special Plan for Community Recovery	DPAC
Regional	Regional Emergency Management Plans (North-West, Northern, Southern)	

5.1.3 Other Related Documents

	Title	Enquiries
National	Australian Drinking Water Guidelines 2004	NHMRC
State	Incident Communication Protocol	DHHS
	Boil Water Alert Protocol	DHHS/Water Corporations
Other	Water Corporations – Drinking Water Quality Management Plans (restricted)	Water Corporations

5.2 Boil Water Alert Protocol

The attached document is relevant to Cradle Mountain Water however this protocol is exactly the same for all three water corporations.