Is Your Utility the Next Poster Child for a Water Quality Governance Crisis?

DR ANNETTE DAVISON
‘Poster Child’

“someone or something that is used to represent a particular quality”

(Cambridge Dictionary)
Could you be next?

• Do you know what your products and services are?

• Do you know who you supply products and services to?

• Where your water quality handover points are?

• What water quality requirements do you have at those supply or handover points?

• What is being monitored to ensure compliance with the requirements?

Death toll from Havelock North gastro crisis may rise

17 Aug, 2019 6:00am

Seven deaths are possibly linked to the Havelock North gastroenteritis outbreak in August 2016. Photo / File

Local Govt Equivalent: Councillors

‘Corporate to Coalface’

Authority
- Legal and formal framework in which an organisation operates
- Provides a person or organisation with the power to conduct an act or act in a certain manner

Responsibility
- Expected standard of duty of an individual working on behalf of an organisation
- Compliance requirements of a particular position

Accountability
- Judgement against what is in place
- Degree depends on:
  - What you should have known and when
  - What you should have done and when

General Council Responsibilities

- Guiding Principles and IPR Principles:
  - Consider the **diverse needs and interests** of the community
  - Undertake **transparent** decision-making and **accountability**
  - Manage lands and **other assets** so that current and future local community needs can be met in an **affordable** way
  - Manage **risks** to the local community or area or to the council effectively and proactively

*Source: Councillor Handbook 2017*
Drinking Water Operating Context

Australian Drinking Water Guidelines 2011

‘The Framework for Management of Drinking Water Quality’

Water Quality Guideline Values

Public Health Act 2010 (NSW)

Public Health Regulation 2012 (NSW)

NSW Guidelines for Drinking Water Management Systems

Drinking Water Management System (‘Quality Assurance Program’)

NSW Health (regulator)
Reviews DWMS
‘is’ or ‘is not satisfied’ with the contents — There is no ‘approval’ or ‘endorsement’
Can require ‘audit’ of DWMS

Review and Audit Guideline
What if we add more ‘products and services’?
## Who are your Supply Chain Parties?

<table>
<thead>
<tr>
<th>Party</th>
<th>Service/Role</th>
</tr>
</thead>
<tbody>
<tr>
<td>Auditor</td>
<td>Provision of regulatory and operating licence compliance audit services.</td>
</tr>
<tr>
<td>Chemical supplier</td>
<td>Provision of treatment chemicals.</td>
</tr>
<tr>
<td>Material supplier</td>
<td>Provision of materials used in contact with drinking water.</td>
</tr>
<tr>
<td>End user</td>
<td>Receipt of water service/product from the utility.</td>
</tr>
<tr>
<td>Consultant</td>
<td>Provision of advice to utility.</td>
</tr>
<tr>
<td>Contractor</td>
<td>Provision of contracting services to utility.</td>
</tr>
<tr>
<td>Utility executives and directors (including Councillors)</td>
<td>Responsibility for direction and higher oversight.</td>
</tr>
<tr>
<td>Utility business units</td>
<td>Responsibility for managing services which support correct operation of the overall enterprise.</td>
</tr>
<tr>
<td>Utility managers</td>
<td>Responsibility for system management and operational oversight.</td>
</tr>
<tr>
<td>Utility operators</td>
<td>Provision of operation and maintenance services.</td>
</tr>
<tr>
<td>Water Resource Manager</td>
<td>Statutory guardian of the water resource.</td>
</tr>
</tbody>
</table>

What are your Supply Chain Risks?

<table>
<thead>
<tr>
<th>Party</th>
<th>Potential Risk Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Auditor</td>
<td>• Too ‘hands-off’ in applying the relevant Drinking-water Compliance Requirements and ensuring utility compliance with its Water Safety Plan.</td>
</tr>
</tbody>
</table>
| Chemical supplier | • Contaminants in the treatment chemicals above Australian Drinking Water Guideline and or utility specification values.  
                    • Low or no stock resulting in inability to provide fit for purpose water and/or customer levels of service.               |
| Material supplier | • Materials leach health-related and/or taste and odour chemicals into drinking water.  
                         • Materials are not certified to AS/NZS 4020.  
                         • Materials are certified to AS/NZS 4020 but fail in practice.                     |
| End user       | • ‘Creative’ plumbing resulting in potential for cross connection.                                                                                     |

The Governagram!

1. **Source Water**
2. **Treatment**
3. **Treated Water Network**

**Governance Key (Customers):**
- A. Raw Water Customer Agreement
- B. Signage at Point of Use
- C. Water Supply Agreement PWU2006-83
- D. Standard Drinking Water Customer
- E. Water Supply Agreement XYZ2014-456
- F. Water Carting Agreement and Guideline
- G. Memorandum of Understanding
- H. Nothing current

- Raw Water Customer
- Picnic Site General Public User
- PWU Public Water Corporation
- Standard Drinking Water Customer
- ABC Private Water Pty Ltd
- Water Carters R Us
- Fire and Rescue Agency
- Parks and Wildlife Service

[Link to Image: https://www.42kinformation.com/2019/04/dont-get-caught-on-the-hop-understanding-your-water-quality-handover-points/]
When you don’t get it right........
Flint (USA) in a Nutshell (2014)

- As a cost cutting move, source of Flint’s water was changed
- New water was corrosive, leaching out lead from fittings
- Up to 9000 children (a susceptible group to lead poisoning) have been estimated to have been exposed
- Legionnaire’s outbreak also due to incident
- Increase in fetal deaths and babies being born at least 150 grams lighter, in those exposed to the alternative river water source

How would you feel?
<table>
<thead>
<tr>
<th>Position</th>
<th>Name</th>
<th>Misdemeanors</th>
<th>Felonies</th>
<th>Tempering with Evidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>City of Flint Laboratory and Water Quality Supervisor</td>
<td>Michael Glasgow</td>
<td>Yes</td>
<td></td>
<td>Dismissed</td>
</tr>
<tr>
<td>City of Flint Director of the Department of Public Works</td>
<td>Howard Croft</td>
<td>Yes</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>City of Flint Utilities Director for the Department of Public Works</td>
<td>Daughtery Johnson</td>
<td>Yes</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>MDEQ District 8 Water Supervisor</td>
<td>Stephen Busch</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MDEQ District 8 Water Engineer</td>
<td>Michael Pryby</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MDEQ former Chief of Drinking Water and Municipal Assistance</td>
<td>Liane Sheler-Smith</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MDEQ Water Quality Analyst</td>
<td>Adam Rosenthal</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MDEQ Specialist for Community Drinking Water Unit</td>
<td>Patrick Cook</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MDHHS Director</td>
<td>Nick Lyon</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MDHHS Chief Medical Executive</td>
<td>Kellen Walke</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MDHHS Director, Program for Maternal, Infant and Early Childhood Home Visiting</td>
<td>Nancy Pooeler</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MDHHS Data Manager for the Healthy Homes and Lead Prevention program</td>
<td>Robert Scott</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MDHHS Former Director of the Bureau of Epidemiology and State Epidemiologists</td>
<td>Corrine Miller</td>
<td>Yes (Plead ed no contest)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emergency Manager</td>
<td>Darrell Fearnley</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emergency Manager</td>
<td>Gerald Ambrose</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Havelock North - Context

• August 2016 - Bore water exposure pathway:
  – Contaminated water flowing into a pond from neighbouring paddocks close to the bore.
  – Water flowed to the bore and the bore pump drew the contaminated water through the bore and into the distribution system
  – Contaminated water from nearby paddocks flowed into roadside drains and entered the bore chambers, as seals were loose allowing ingress

• Water was not chlorinated because it was thought to be secure

Source: https://www.dia.govt.nz/Government-Inquiry-into-Havelock-North-Drinking-Water
Outcome

- Over a third of town residents ill with campylobacteriosis
- 45 were hospitalised
- 3 deaths may have occurred
- >$NZ21 million costs

http://thedailyblog.co.nz/2016/08/21/must-read-tdb-investigation-into-what-is-happening-in-our-water/
Findings

• Failure to meet source water protection responsibilities under the Resource Management Act

• Knowledge and awareness of the source water and the risks fell below the required standards

• Did not embrace or implement the high standard of care required of a public drinking-water supplier

• Omissions made in assessment of risks to the drinking water supply

• Failure by mid-level managers, who delegated tasks but did not adequately supervise or ensure their implementation resulting in delays to developing and implementing a mandatory Water Safety Plan.
Closing

• Know your water products and services.
• Know your drinking water obligations.
• Understand the hazards and risks to drinking water supply.
• Ask for information on ‘operation’ of the water supply (CCP reports).
• Understand your regulator’s requirements.
• Commit appropriate resources to protecting your community’s water supply public health outcomes.

“The offenders are not being sentenced as the cause of the Walkerton water tragedy. They are being sentenced for their failure to discharge their public duty and thereby endangering the lives, safety, or health of the public.”

(O’Connor, 2002)
We profoundly know water™
annette@d2kinformation.com

RISK EDGE
STRATEGY PLANNING CONTROL
annette@riskedge.com.au

OneWater Advocates

We profoundly know water™
annette@d2kinformation.com