

Public Health Risk Management Plans turning risk into opportunity.

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Under the Health Drinking Water Amendment Act 2007, Public Health Risk Management Plans (PHRMP) are required to be prepared and implemented by all Water Suppliers. The timing is related to the size of the population served, for larger supplies those over 10,000 people by 1 July 2009 those less than 500 is 2012 or 2013 for very small neighbourhood supplies.

The PHRMP process provided by the Ministry of Health is well defined, includes examples to follow and has been available since 2001 so by now all large water supplies should have a completed and assessed PHRMP and most medium supplies a draft PHRMP ready for assessment by a drinking water assessor (DWA).

For those smaller water supplies embarking on the PHRMP process the Ministry of Health website www.moh.govt.nz/water contains a "how to prepare a PHRMP" as well as guide document for pretty much every aspect of source, treatment and distribution for a water supply. Within each guide are events, such as a process failure or contamination that could cause a risk to public health. There are accompanying preventative measures to reduce the likelihood or consequence of that risk. Checks to make sure the preventative measures or controls are working and signs to look for that they aren't. With corrective actions to take that form the basis of a contingency plan for that event.

Although the process laid out by the MoH is straight forward it can be time consuming and complex when a Council has multiple water supplies with varying sources and differing treatment methods. For some Councils the resources and expertise may not be available in-house for such an undertaking. Many Engineering Consultants have staff skilled in PHRMP preparation and using a consultant who also has a good knowledge of the particular water supply do assist with the risk assessment is advantageous. The outcome of the risk assessment is determining where improvements to the supply should be made.

These improvements are then put into a schedule. To gain approval from a DWA the improvement schedule will need to include the level of risk assessed, a timetable for introduction and assigned responsibilities. An important part of that process is in ranking the improvements. The risk levels are not the only factors when ranking the improvements; consideration needs to be given to prioritising those improvements where a barrier to contamination is missing particularly disinfection and those that can be made at little cost. Many of the lower cost procedural improvements will be applicable for all supplies giving better value for those Councils with multiple suppliers

The next step is to integrate these into daily operations and planning processes. If they aren't then all the effort to prepare the PHRMP is wasted and the Act states that the PHRMP needs to be implemented. This is where the risks are turned into opportunities.

Opportunities to improve:

- Water Quality
- Treatment Processes
- Upskilling Staff
- Asset Management
- Maintenance Procedures
- Contractual Arrangements

- Customer Service Levels
- Water Conservation
- Capital Works Planning

Turning the Improvement Schedule into opportunities will depend largely on the prioritisation process and in grouping of the improvements into projects. By using the prioritisation process relating to risk level, barriers and low cost to enhance the areas of asset management, long term planning etc listed above. Take for example if a water supply requires Protozoa treatment to meet the Drinking Water Standards. To enable Treatment Plant upgrades to be accurately budgeted for, other lower cost improvements should be addressed first to ensure the design parameters are well understood. Those other improvements may relate to protecting and monitoring the source water quality and determining source quantity in relation to growth forecasts. Monitoring pressures and flows in the network to determine the actual demand and leakage will help developing appropriate demand management strategies. Accurate modelling of the reticulation from that data will assist planning network upgrades to reduce the public health risks associated with pressure fluctuations, mains breaks, backflow, and reservoir storage capacity.

The opportunities for improvement covers many areas of business of water supply, so too the responsibility for undertaking the various improvements will not sit with one person. Although a person should be responsible for ensuring that the works are actually done. The PHRMP process is not an isolated system to gain the most benefit it needs to be integrated with all other business processes such as budgets, Asset Management Plans, LTCCP etc. PHRMP like all risk assessments is ongoing requiring feedback, updating and performance assessment this too should be linked and timed to match other process updates and reviews. This will ensure that public health is a primary focus throughout the business, turning the risks into opportunities to provide better public health. Which of course when you are a water supplier you are just that a public health provider.