

CANADIAN WATER NETWORK
KNOWLEDGE TRANSLATION PROJECT FOR SMALL DRINKING WATER SYSTEMS
WORKSHOP NO. 2: DECEMBER 16, 2008

Responses to Questions to Policy Makers:

1. *Will policy changes and regulatory amendments be developed concurrently with the risk assessment process and infrastructure? Or will one need to be developed to work within the other?*
 - It can be difficult to gauge unintended consequences of changes in policy.
 - Need to consider implications or regulatory changes for the small system: which small systems are most affected, and how front-line staff can communicate the implications, and help the operators manage changes to their system.
 - Health Canada is trying to find a risk assessment tool that can be implemented across Canada, to take advantage of economies of scale. While it would be helpful to have one tool that could be implemented nationwide, an alternative approach may be to develop a list of critical elements for a risk assessment tool, so jurisdictions could develop/adapt their own tool.

2. *Will adequate time and resources be available to develop and implement the risk assessment tool and the necessary infrastructure?*
 - It can take significant time and effort to properly use a risk assessment tool.
 - If a tool were developed for use throughout Canada, consideration must be given to whether all provinces would have access to, or could implement, the necessary resources and infrastructure to make full use of the tool.
 - Inspectors need to have access to necessary equipment beyond that of a drinking water tool; need visual documentation of the water system as either a process diagram, schematic or a series of photos. Chlorine test kits would be helpful. Although the colilert reagent test is not universally acceptable (it is used in the Northwest Territories), there may be merit in using it as a screening tool elsewhere.

3. *Will a funding program be available to assist small water systems in implementing post-assessment risk management activities?*
 - It is difficult for small systems to get funding. New municipalities and aging infrastructure generally take priority, depending on risk. It may take years for a municipal system on a BWO to get funding from a federal-provincial infrastructure program.
 - Small systems generally are not on the radar for the federal-provincial-territorial funding processes. Identifying the number of small systems that have water quality issues due to the lack of sufficient funding and bringing attention to this issue may give small systems a stronger voice as a group, which they do not have individually.
 - For very small systems, issues usually come down to available money. It can be difficult to see past the price tag when presenting a rationale for water supply upgrades, regardless of how much funding is being provided by the province (e.g.: many small communities in Newfoundland with chronic water issues rejected a proposal for a subsidized stand-alone drinking water system, even though the province offered a 90/10 split of costs).

- There is the potential to use small systems that are “success stories” as case studies to convince stakeholders to invest in water supply improvements. There is a need to develop an understanding of the factors at the political and/or operational level that were pertinent to the 'success' in these case studies. The case studies must then be communicated effectively. There is real merit in identifying a number of these success stories.
- In some provinces (e.g.: Newfoundland and New Brunswick), small municipalities are generally opposed to combining their water supplies; the municipalities feel they would be losing their identity. In contrast, it is common in Alberta for small municipalities to pool their resources. Consideration should be given to using the Albertan communities as case studies to show that this can be a cost-effective means of improving the standard of care for small municipal systems.
- It helps for the provinces to have crown corporations set up to distribute funds.
- In BC, there is a loan system to facilitate opportunities for small water system improvements.
- EPCOR (Edmonton) has a 25-30 year mortgage system for small water system improvements.

4. *How should the tool balance issues of confidentiality and transparency with respect to the reporting protocol?*

- In general, need to encrypt data for security/confidentiality purposes.

I. *How much information is made available to the Owner/Operator?*

- A risk assessment tool could include links to recent guideline documents and plain language documents regarding changes in legislation for distribution to operators.
- The risk assessment process can be used to foster due diligence for water systems that do not have direct regulatory oversight. The output from the risk assessment process could be used to help stakeholders understand for what they are responsible, help them “keep up with” best management practises, and also give them a basis for investment when weaknesses are detected.
- There is a need to flag “urgent” issues. Operators and stakeholders need to understand why “high priority” is attached to a particular recommendation.

II. *How much information is made available to the public?*

- As much as possible, Newfoundland aims to make as much of the information that is collected available to the public. Information is often gathered based on a trusting relationship with the communities; do not want to break that trust. Getting owner/operator permission before posting the results is important (e.g.: THM study).
- New Brunswick has a new privacy and public information act. It can be difficult to protect personal information with respect to very small systems (e.g.: 4 houses). There is also the Right to Information Act, so if the public requests information that the government has, it is distributed while blocking personal information.
- New Brunswick does not collect any analytical data; individual systems collect their own data and report it. Water quality maps are available on the website based on private water data, with personal information for the different supplies erased.
- When New Brunswick did an arsenic investigation in 500 homes, data was made available in aggregate form, with no identification of the different locations/addresses.

- Manitoba developed a database, using individual wells where they were subsidizing monitoring activities. Lab results were input based on the GPS location of the well. If there was an increase in a particular parameter in a cluster of wells that drew from a certain aquifer, it indicated that there were issues with the water quality for that source.

5. *What are the expectations for the inspector and the tool?*

I. *Should entering relevant data into the risk assessment tool represent a screening process to identify aspects of the water system that require further inspection, or should it represent the entire risk assessment process?*

- A risk assessment tool could provide inspectors with a summary document regarding high risk aspects before leaving the site. It would be beneficial to develop links to recommendations regarding operational practises/ technologies that could be used to address high risk aspects.

II. *Does the inspector gather relevant information using the tool so that senior personnel can perform the risk assessment and identify risk management measures?*

- For any of the risk assessment tools that are currently in use, it is important to have an inspector/regulator involved. Operators can be biased due to familiarity with plant operations or, in extreme cases, can even be misleading. It is critical to have an expert to help interpret the findings of the tool.

6. *Ideally, what would the relationship between the inspector and the Owner/Operator be? Is the inspector responsible for enforcement, as well as abatement (e.g.: carrot vs. stick analogy)?*

- In many cases, front-line regulators are troubleshooting, not taking an enforcement role as much as an abatement/advisory role. A positive relationship has been built with the operators; they trust the experience and training of the front-line staff.
- Most policy makers felt that, for small water systems, the output from a risk assessment tool should be used as a “carrot” to communicate with stakeholders and to help them find the optimal solution for their system.
- Output from the risk assessment process could include or be used to develop recommendations regarding corrective actions to address medium or high risk aspects, and schedules for these actions to be implemented. As the risk rating increases, the tool could become more “stick”, and less “carrot”.
- The “carrot” approach works better than the “stick” approach. Newfoundland has invested in training, and has a mobile training unit outfitted with equipment that a typical water system operator would use. The mobile unit visits communities, provides training on-site using the operator’s equipment (similar to the Walkerton Clean Water Centre in Ontario). It is difficult to enforce regulation with fines... no one wants volunteer operators to quit, as the water would be even more unsafe.
- Generally, policy makers do not think a strict enforcement approach would work with private systems --they would not have the resources, and infrastructure programs would not apply to them. In the end, fines take money away from the owner/operator of the small system and leaves them with less money to invest in the system.

7. *Can inter-departmental arrangements be made to ensure that inspectors have access to relevant documentation (e.g.: Adverse Water Quality Incidents, Boil Water Advisories, Water Well Records, laboratory results), as well as technical and policy experts who can provide inspectors with guidance on specific issues?*
- Field staff need a means of communicating with experts. One option is to use an online “Whiteboard” (e.g.: a whiteboard along the lines of the AquaSanitas online Forum through the University of Guelph). The US EPA developed a small systems hotline, which is used as a clearinghouse for relevant documents/information.
 - Ideally, the tablet/PDA being used by field inspectors would be synced with a mainframe, which would also allow access to lab reports when in the field. This would also allow all of the information collected to be reviewed and for inputs as part of the risk assessment process to be saved to a central location upon completion of the inspection. This would require a significant investment in order to purchase the necessary equipment and develop the infrastructure.
 - For older, hard copy-only documents (e.g.: Water Well Records, Engineering Evaluation Reports), the inspector would request that the operator locate the relevant documents prior to the site inspection, so they can be reviewed during the site visit. If the information is not available, the inspector might assume a worst case scenario (e.g.: assume the well is GUDI).
 - Conservation authorities have been collecting information regarding old, existing wells. In Ontario, this will become the most complete source of information.
 - In Ontario, PHI’s may not have the same level of training and expertise as MOE staff; it may be more difficult for them to address questions from operators regarding high risk aspects of a water system. MOHLTC is trying to work with MOE to identify personnel to take on the “expert” role.
8. *Who will provide clarification with respect to the roles, responsibilities, and jurisdictions covered by different federal and provincial ministries?*
- Lack of clarity for roles and responsibilities regarding small water systems is an on-going issue.
 - New Brunswick has a liaison committee between Environment and Health that meets on a monthly basis to discuss upcoming guidelines and changes to existing legislation. Each department meets with its regional coordinators every 6-8 weeks to disseminate information regarding these changes.
 - In Newfoundland, the interdepartmental drinking water committee meets once per month to discuss upcoming guidelines, consultations on legislation, etc. This central committee was formed after Walkerton.
9. *How will communication between these regulatory bodies be coordinated in the event of an emergency in order to ensure an efficient, organized response?*
- Health Canada’s approach is to work with regulators, and bring all relevant projects to the table when meeting with them. The provinces are generally supportive when sharing information, but the means of sharing/distributing information needs to be optimized. Health Canada is more interested in the methodology of sharing information regarding risks than identifying the risks themselves.

Additional Concerns Raised by Health Canada & Policy Makers:

10. Communicating changes in regulations, guidance documents to small system stakeholders?

- The current means of disseminating information are not sufficient to reach small systems. Small systems were unaware of guidelines and white papers that were made available at conferences. Most operators receive information regarding guidelines from other operators. Issues of trust, familiarity with the source/person providing the information are important.
- Technology can be a barrier to communication for less computer-literate operators. Need to ensure that information is available to all potentially interested/affected operators and stakeholders, and have different ways of connecting/networking with them. Can EHOs/PHIs distribute/communicate information?
- Operators may be members of different organizations that have newsletters (CWWA, ACWWA, BCWWA); this may be a way of disseminating information.
- Small systems are often the least involved/least consulted stakeholders, due to their small size relative to municipalities.

11. Other tools that can be used to provide small systems with guidance, outside of regulatory documents and guidelines?

- Utilities and small water systems often are not aware of guideline changes. Are there more broad indicators that can be used to assess source water quality or treatment performance independent of applicable regulations? Can these be used to guide decision making?
- Health Canada has modified the CCME water quality index for this purpose. A treatability ranking tool was added, but needs to be field-tested.
- The US EPA has developed a treatment technology survey/database aimed at small systems. Based on information input by the user, it provides general directions regarding treatment. This could be used until a similar resource is developed for Canada.

12. Issues associated with Boil Water Advisories?

- A tool that designates systems as low/medium/high risk may help make things more consistent with respect to issuing BWOs. It is good to have a reference when issuing orders.
- Want to avoid over-regulating the actions that systems must take for a BWO to be lifted. Some systems will do the bare minimum, and can't afford to go beyond that.
- Small systems do not necessarily follow BWOs. If the water system has been under a long-term BWO or BWOs are issued on a regular basis, then users are less likely to be compliant than if BWOs are rarely issued for the system.
- When a BWA is issued, after a while, users get complacent. Often, there is no indication of illness in the community when a BWA is issued. Newfoundland has a high proportion of BWAs compared to the rest of the country, but generally does not have waterborne disease outbreaks. It is difficult to determine whether BWAs are actually working.
- It is difficult to definitively identify drinking water as the source during an outbreak.
- It is difficult to detect small outbreaks. In small communities, residents may be acclimatized, and only visitors will show symptoms. It is tough to identify at ground level.