

Presentation to the Roundtable on **DRINKING WATER QUALITY**

The Canadian Council of Professional Engineers is the national organization of the 12 provincial and territorial associations/ordre which regulate the practice of engineering in Canada and license the country's 160,000 plus professional engineers.

I'm very pleased to be here today because the engineering profession cares deeply about the quality of Canada's drinking water and we welcome the chance to participate in a national forum such as this. I would like to commend your efforts, Mr. Chair, in bringing this issue to the attention of the House of Commons and for striking this impressive, non-partisan committee to make recommendations to the government.

As professional engineers, we have two main reasons for getting involved in the dialogue about public policies on drinking water quality. First, engineers contribute much of the technical expertise in the provision of drinking water. The design of water treatment plants and distribution systems, construction management, commissioning, operations and maintenance and even the development of new technologies to improve water safety – these are all the work of professional engineers.

Our second reason for becoming involved is equally compelling. As members of a self-regulated profession, engineers are legally accountable and responsible for their work. We are obliged by law to undertake work in a way that protects people, property and the environment. And our

July 17, 2001

10 a.m. to 5 p.m.

Room 237-C

Centre Block, House of Commons

Code of Ethics requires us to put the public welfare above all other interests.

It is within this context that I'd like to offer the Committee a series of seven recommendations developed by the engineering profession and ratified by the Canadian Council of Professional Engineers' national Board of Directors. I'll quickly list the nature of these recommendations and then go back and deal with them in more detail. Our recommendations address the following issues:

- the recognition of provincial jurisdiction,
- the need for effective regulatory oversight,
- the concepts of accountability, responsibility and enforcement,
- the provision of adequate financial resources from the federal government,



- the human resource capacity and capability requirements,
- public education about safe drinking water, and finally,
- the need for a multiple line of defence to ensure the quality of Canada's drinking water.

Now to elaborate. CCPE recognizes the regulatory authority of provincial and territorial governments for drinking water. I'm pleased

to see that this jurisdictional sensitivity is echoed in the wording of the Motion passed by the House of Commons which says the federal government should act "with the provinces and territories, respecting their jurisdiction". At the same time, we fully support the need for stronger national drinking water guidelines to establish technical standards so that all Canadians can benefit from collective technical expertise.

Second, effective regulatory oversight is necessary to protect the public and the safety of the water supply. There must be flexibility in assigning enforcement and regulatory powers to the most appropriate level of government. But regardless of who is charged with it, effective regulatory oversight must exist.

Third, the concepts of accountability, responsibility and enforcement with serious consequences are key to the safety of Canada's water supply systems. CCPE supports a system of professional accountability whereby engineers and other professionals in their respective fields take responsibility for the safety of drinking water systems

throughout the planning, design, construction, commissioning, operation, maintenance and decommissioning stages of the systems' life cycles. We support public accountability by requiring mandatory and publicly-accessible reporting for all water supply systems. The report should include information on both water quality indicators and the overall systems themselves throughout their life cycles.

Next, the federal government must provide adequate financial resources to support a sustainable and planned approach over the full life cycle of the

water system. Emphasis should be placed on the following areas:

- funding for research and development for improved systems, processes and technologies;
- national guidelines development; and
- infrastructure projects.

Proper funding must also be available to ensure adequate and timely maintenance of the treatment and distribution systems.

Fifth, safe drinking water ultimately depends upon having the human resource capacity and capability necessary to identify drinking water related public health issues and to put measures and safeguards in place to address these issues. This means that colleges and universities, government agencies, professional associations and private firms must commit to building this human resource capability. An important factor in the planning and design stages of drinking water systems is properly matching the sophisti-

EFFECTIVE REGULATORY OVERSIGHT IS NECESSARY TO PROTECT THE PUBLIC AND THE SAFETY OF THE WATER SUPPLY.

cation of the water supply systems to the training and ability of those who will ultimately operate and maintain the systems.

Our sixth recommendation deals with public education about the importance of safe drinking water. Canada needs this if we hope to gain political support for the adequate funding and regulation of public drinking water systems. Further, we need to educate the public to alert both public and private water purveyors to their responsibilities and to promote wise land use planning that considers impacts on drinking water supplies.

Our final recommendation deals with the need to adopt a multiple line of defence with three distinct components:

- First, the protection and risk assessment of the water supply and the source. While this is an important element in protecting community water supplies, unfortunately it is too often used as the only line-of-defence, leading communities into a false sense of security
- Second, the treatment system. To be effective, treatment systems must be properly designed, operated, maintained, and monitored and adequate funding must be made available over the life-cycle of the treatment system. Proper operation and maintenance is crucial to the performance of the system. Operators need to be adequately trained and certified to ensure they understand how to operate the equipment and the impact their role has on protecting public health and safety. To do this work

they require adequate financial, but also technical resources throughout the system's life-cycle. The existing procurement process typically recognizes the need for capital investment and the importance of engineering design at the time the treatment facility is initially constructed. However, there is seldom recognition of the need for engineering assistance over the life-cycle of the treatment system, nor is there usually provision for setting aside a sinking-fund to provide capital resources for major equipment repairs or for the eventual replacement of the system at the end of its operating life.

- And third, the distribution system and measures to ensure contamination does not occur. This requires financial and technical resources to monitor the system in an effective manner and ensure the data is reviewed and communicated in a timely manner. Finally, improved monitoring technology is required to enable timely detection of problems with water quality

Equal emphasis must be placed on all lines of defence, with sufficient redundancy and flexibility contained within each component. Ensuring safe drinking water requires that water quality be managed consistently from beginning to end, from the source to the consumer.

I'll conclude my remarks by saying again how pleased I am to have been invited here today and to tell you that the engineering profession is committed to joining with other groups working to ensure the safety of Canada's water supply.

ENSURING SAFE DRINKING WATER REQUIRES THAT WATER BE MANAGED CONSISTENTLY FROM BEGINNING TO END, FROM THE SOURCE TO THE CONSUMER