

**Ontario Water Works Association ("OWWA") and Ontario Municipal Water Association ("OMWA") Recommendations to the Walkerton Inquiry on Water Conservation/Water Quantity Matters - Part II - Public Hearing 5  
September 6-7, 2001**

Part of the scope of Public Hearing 5 is to consider recommendations relating to water quantity. In this regard, the American Water Works Association (of which the OWWA is a section), as part of a series of policies on drinking water protection, has adopted a policy on water conservation that the OWWA/OMWA support in the context of future drinking water protection in Ontario. Accordingly, the OWWA/OMWA urge that in its final report to the Ontario government, the Commission recommend that the Government adopt and support policies, programs, and procedures to encourage water conservation in the manner set out in the following AWWA policy:

**AWWA POLICY ON WATER CONSERVATION**

*Adopted by the Board of Directors Jan. 27, 1991, revised Jan. 31, 1993 and June 15, 1997*

**The American Water Works Association (AWWA) strongly encourages water utilities to adopt policies and procedures that result in the efficient use of water, in their operations and by the public, through a balanced approach combining demand management and phased source development.**

To this end, AWWA supports the following water conservation principles and practices:

1. efficient utilization of sources of supply;
2. appropriate facility rehabilitation or replacement;
3. leak detection and repair;
4. accurate monitoring of consumption and billing based on metered usage;
5. full cost pricing;
6. establishment of water-use-efficiency standards for new plumbing fixtures and appliances and the encouragement of conversion of existing high-water-use plumbing fixtures to more efficient designs;
7. encouragement of the use of efficient irrigation systems and landscape materials;
8. development and use of educational materials on water conservation;

9. public information programs promoting efficient practices and water conservation by all customers;
10. integrated resource planning;
11. water reuse for appropriate uses; and
12. continued research on efficient water use practices.

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In support of the above policy, the OWWA/OMWA commend to the Commission consideration of the following AWWA White Paper on Water Conservation:

### **AWWA WHITE PAPER ON WATER CONSERVATION AND WATER UTILITY PROGRAMS**

*Approved June 28, 1995*

Water conservation can be defined as practices, techniques, and technologies that improve the efficiency of water use. Increased efficiency expands the use of the water resource, freeing up water supplies for other uses, such as population growth, new industry, and environmental conservation.

Water conservation is often equated with temporary restrictions on customer water use. Although water restrictions can be a useful emergency tool for drought management or service disruptions, water conservation programs emphasize lasting day-to-day improvements in water use efficiency.

#### **The Role of Water Conservation**

Community water supply management requires balancing the development of adequate water supplies with the needs of the utility's customers. Traditionally, water utilities have focused primarily on developing additional supplies to satisfy increasing demands associated with population growth and economic development. Increasingly, however, water utilities throughout the United States are recognizing that water conservation programs can reduce current and future water demands to the benefit of the customer, the utility, and the environment.

The increasing efforts in water conservation, often called demand-side management, are spurred by a number of factors: growing competition for limited supplies, increasing costs and difficulties in developing new supplies, optimization of existing facilities, delay or reduction of capital investments in capacity expansion, and growing public support for the conservation of limited natural resources and adequate water supplies to preserve environmental integrity.

The focus of any supply strategy is to satisfy customer water needs in the most cost-effective and efficient manner, minimizing any adverse environmental impact and preserving the quality of life. Although conservation is sometimes an alternative to developing additional supplies, it is more often one of several complementary supply strategies for a utility. A conservation strategy, like any supply strategy, is part of a utility's overall planning and part of the integrated resource planning to ensure that all important community objectives and environmental goals are considered.

Water conservation in the broad sense is a key element in the day-to-day management of the modern water utility. Sound management includes the following basic water conservation practices:

- reduction of unaccounted-for water through universal metering and accounting of water use, routine meter testing and repair, and distribution system leak detection and repair;
- cost-of-service based water rates; and
- public information and education programs to promote water conservation and to assist residential and commercial customers with conservation practices.

Beyond these fundamental conservation practices, effective water conservation programs are tailored to the needs and priorities of each community and recognize local and regional water demand characteristics and water supply availability.

### **Water Savings and Reliability**

Conserved water can be considered a reliable water source. Great strides have been made over the past decade in evaluating and documenting the effectiveness of various conservation programs. Today there is a body of knowledge on water conservation, gained from the experiences of utilities, that provides a relatively high degree of confidence in the reliability and predictability of various water conservation measures. Some water planners feel, however, that the predictability and permanence of conservation measures have not been proven to the same degree as traditional supply measures.

The reliability of conserved water depends on accurate estimates of potential savings, expected benefits, and costs. Careful analysis and planning is a prerequisite to major utility investments in conservation programs. Reliability concerns also underscore the ongoing need for utilities to monitor and document the effectiveness of their conservation programs, just as they do water supplies and facilities.

Long-term conservation programs can affect short-term demand management practices. Reductions in water demands from long-term conservation programs and reductions from short-term demand management measures can overlap. Customers who have installed retrofit devices under long-term conservation programs may have less ability or willingness to further conserve.

In the event of water shortages, agencies with broad-based water conservation programs are able to mitigate short-term and long-term effects better than those without a conservation program.

### **Financial Aspects of Conservation**

Conservation programs typically involve up-front costs, including revenue losses. The full benefits of conservation are realized only after all savings have materialized. However, reduced water sales because of conservation often develop slowly in small increments that can be accommodated in periodic rate adjustments. Over the long-term, conservation can decrease a utility's need for new capital facilities for supply acquisition, treatment, storage, pumping, and distribution. It may also reduce the costs of operating those facilities. Deferring investment in such facilities or reducing their size can provide significant cost savings. In areas experiencing population growth, conservation can provide additional capacity to accommodate growth, resulting in a larger customer base over which to spread future capital costs. Water rates may be lower with conservation than without.

Water conservation can affect wastewater collection and treatment systems. Reduced hydraulic loadings can improve treatment performance in terms of effluent quality and reduced operating costs. Reducing wastewater flows through conservation can result in cost savings by deferring the need to enlarge wastewater treatment facilities.

**Rates** - The first goal of any rate structure is to generate sufficient revenues to maintain efficient and reliable utility operations, and the second is fairness in the allocation of utility service costs. Generally, it is possible to satisfy both of these goals in a rate structure that encourages water conservation or penalizes excessive water use.

Conservation-oriented water rate structures by themselves do not constitute an effective water conservation program. Rate structures work best as a conservation tool when coupled with a sustained customer education program. Customer education is important to establish and maintain the link between customer behaviour and their water bill. Utility customers require practical information about water-conserving practices and technologies. Participation in other water conservation programs, such as plumbing-fixture retrofit and replacement programs, can also be enhanced by rate incentives and customer education. Finally, public acceptance of rate structure changes is often enhanced if customers understand the need for and benefits of water conservation.