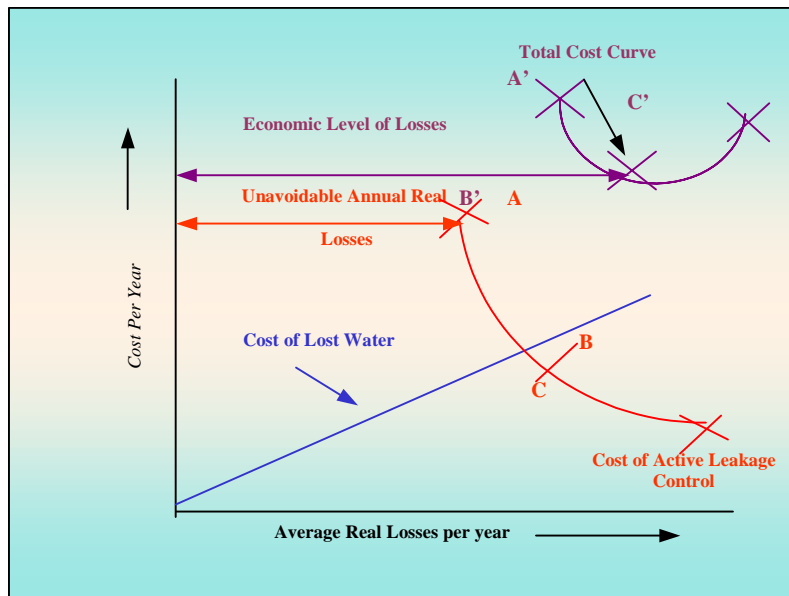


## Water Loss Management Study



The Greater Vancouver Water District (GVWD) appointed Earth Tech to develop draft policies or commitment options that could be incorporated into the Region's Drinking Water Management Plan (DWMP) to establish a level of commitment towards reducing water losses. The study had to address both transmission and distribution systems and produce material relevant to both the GVWD and its member municipalities. The first step in the study was to investigate water loss reduction policies/commitment options in other jurisdictions. Earth Tech consulted with eight water transmission and distribution systems from Canada, the US, the UK, Australia and South Africa that had made significant progress in reducing its water losses. Aspects covered were the approaches used, cost to implement, economic benefits and level of system loss achieved.

As part of the "top-down" assessment of the GVWD water system losses, a water balance according to the International Standard Water Audit (see above) was conducted. One of the findings of the water balance was that the potential meter inaccuracies on the large GVWD sales meters could potentially overshadow the water losses within the system, indicating that the correct sizing and selection of water meters is crucial to accurate flow measurement and leak detection.

Four water loss reduction policies were developed for both the GVWD and the member municipalities. These options ranged from the status quo to a Vigorously Pro-active option, which would involve activities such as leak location using noise correlation, and implementing District Metered Areas (DMA's) within the distribution systems to better focus the member municipality's leak detection efforts. These, and other recommendations were included in the Draft Report submitted to the GVWD in January 2003.

### PROJECT DETAILS

CLIENT: Greater Vancouver Water District  
 LOCATION: British Columbia, Canada

### REFERENCE INFORMATION

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### PROBLEM

The Greater Vancouver Water District (GVWD) wanted to develop water loss management policies and commitment options applicable at the Regional and Municipal level.

### CHALLENGES

To develop water loss reduction policies and commitment options that would reflect current world best practices in the field of water loss reduction. Unique policies and commitment options fit for the GVWD.

### SOLUTION

Conducted a world-wide best practice scan of water loss reduction strategies for four water transmission- and four water distribution systems. Investigate metering practices of the GVWD and make recommendations for enhancing the level of confidence in estimating system losses. Develop water loss reduction policies based on the approach, cost to implement, economic and the level of system loss achieved.

### BENEFITS

With the introduction of filtration of the GVWD's potable water, the per-unit cost of water is expected to increase significantly. The study will provide guidelines for the GVWD and its member municipalities to reduce its water losses, thereby reducing O&M expenditure. Reduced water losses has the potential to defer capital expenditure on new water sources, and will show that the GVWD and its member municipalities are exemplary stewards of the water source.