



4700 Dixie Road
Mississauga, Ontario L4W 2R1
Canada
www.ppic.com

Dr. David A. Dzombak
Chair Environmental Engineering Committee
Carnegie Mellon University
Department of Civil and Environmental Engineering
Pittsburgh, PA 15213-3890.

August 6, 2009

Dear Dr Dzombak,

I wanted to make a few comments and observations on the overall charge to the ECC regarding the Consultation on the Aging Water Infrastructure Research Program. I applaud EPA for tackling this important issue. I believe that much of what is proposed will bring value to the industry; however I can not help that think that we may be trying to answer some of the wrong questions. Instead of asking what technologies are required to help utilities make decisions about aging infrastructure in the future, we should be asking how utilities can use existing technologies (as indentified in previous EPA studies) to make decisions about aging infrastructure today! By focusing on technology development we are giving utilities justification on delaying implementation of any sort of meaningful condition assessment program.

The reality is that decisions are being made on assets that are worth hundreds of millions of dollars based on poor information and indirect indications such as age, location and environment. There are many examples where large scale replacement projects have been justified under the guise that technologies do not exist or are too expensive to deploy. In most cases this just isn't true. When the cost of an assessment is judged against the time it might take to collect data, there is a perception that condition assessment is expensive. When judged against magnitude of the decisions that are faced by the CFO of a utility when prioritizing capital budgets the value of the information far outweighs the cost.

There is no doubt that improvement in assessment technologies is required however it is unlikely that we will ever be able to find every piece of information on the current wish list. The EPA and others have already identified a range of technologies (many of which are the results of decades of fundamental research and years of commercial development) that can provide critical information about aging infrastructure right now. Multi-million dollar decisions can be vastly improved by spending hundreds of thousands of dollars on direct assessment using technologies that exist today.

Many asset management programs make very limited use of condition assessment technologies arguing that technologies are so expensive that it should only be used where the consequence of a failure is unacceptably high. Since most assessment projects require considerable setup efforts,

the best way to drive unit inspection costs down is to increase the rate at which utilities adopt technologies. EPA should consider how to promote the systematic use of assessment techniques throughout entire systems and on regular intervals.

The Government Accounting Standards Board in their Statement 34 has offered opportunities for proactive utilities to strengthen their balance sheets by implementing a qualified asset management program (including condition assessment). EPA should consider offering incentive for utilities that engage in using “science and engineering” to assess the condition of their infrastructure. This encouragement could come in the form of grants for utilities that engage in a “qualified condition assessment program”. Such a program might run over a 3-5 year period and use technologies that EPA is aware of. There should be clear guidelines on what sort of activities qualify under “condition assessment” and the grant should be repayable if the assessment program is not completed. This would allow the initial costs of the “evaluation” of technologies to be covered by EPA but would allow a much wider range of conditions (pipe materials, bedding, regional differences...) to be considered. The increase in technology utilization will allow technology providers to reduce costs (based on business volumes) and will encourage technology innovation. The impact of EPA encouraging 100 water utilities to use available technologies in proactive long term condition assessment programs, will be far greater than if EPA spends an equal amount developing next generation technologies.

The question regarding what role EPA should play is an interesting one. It is difficult to be a “validator” of technology. The development of a testing facility that can provide meaningful results to the industry seems a daunting task. The variance in pipe materials, historic pipe manufacturing practices, bedding conditions, construction practices, environmental and operating conditions, failure modes and technology applications suggest that at best the facility will allow a small subset of actual conditions to be simulated and tested. The value of such specific tests to the more general case will always be suspect. The EPA should aim to drive utilization of technology to the benefit of the industry.

Much has been made of the infrastructure funding gap. The funding gap is severely overstated because much of the infrastructure that is in the ground that is close to or even beyond its design life is actually in good condition and could be safely operated for many years to come. The challenge is to systematically identify which areas have deteriorated and have not and to take appropriate actions. Technologies are commercially available today that allow this to be done and the adoption of these technologies by the mainstream utilities is our best opportunity to bridge the infrastructure funding gap.

I would be pleased to meet with you or the committee to provide further details on my thoughts on how the EPA can help address aging pipeline infrastructure.

Yours sincerely

Dr. Brian J Mergelas, PhD
President and CEO