

Environmental Science & Engineering Magazine celebrates two decades of publishing

By Tom and Steve Davey



Many things are conceived at parties and, appropriately, it was at a publisher's party in 1987 that the idea of a new environmental magazine was raised by a friend: "Why don't you launch your own environmental magazine?" he enquired. He knew that both of us had been editors of *Water & Pollution Control Magazine (W&PC)*, and that the Davey family worked closely with both the Water Environment Association of Ontario and the Ontario Water Works Association.

It seemed like a good idea and during WEFTEC '87 in Philadelphia we formally announced the launch of *Environmental Science and Engineering Magazine*. The reaction was most favourable.

The first issue rolled off the presses in February 1988 and was immediately embraced by the industry. The very first editorial comment by Tom Davey was titled: "Why low-bid systems are bad for the Canadian environment", a theme which touched a nerve in both consultants and suppliers. This issue also carried an article by Federal Environment Minister Tom McMillan, which echoed the magazine's stance on under-priced drinking water. He argued that price drove consumption. When water was undervalued, it would be wasted, leading to environmental neglect and pollution.

The first issue also carried an article by Ontario Environment Minister Jim Bradley about the Municipal Industrial Strategy for Abatement (MISA) program. The objective was the virtual elimination of persistent toxic substances entering the environment. It called for strict monitoring and testing programs and resulted in a surge of spending in the environmental industry. Unfortunately, government emphasis on the MISA program was short-lived, when the Liberal Party lost to the New Democrats, in the 1990 election. Many analytical laboratories, which had geared up for an anticipated demand for their services due to the MISA program either went out of business, or abandoned the environmental market.

One key component of the Ontario government's plan to deal with toxic substances, such as PCBs, was the creation of the Ontario Waste Management Corporation in the early 1980s. Unfortunately, the OWMC became endlessly stymied by public opposition and activist groups against the use and location of its waste incineration facility and disposal site. Ultimately, after spending some \$120 million in studies, the OWMC was abandoned, without ever treating as much as a handful of waste.

In the late 1980s, *ES&E* carried many staff-written articles advocating the use of PCB contaminated wastes as fuel for cement kilns. The articles stressed that the rotary kilns were a good idea because they could harness the thermal properties of the wastes while making cement; that the PCBs had a long residence time in the flame, leading to almost total destruction; and that there was a saving in valuable fuel used instead of conventional incineration. However, public opinion was against the use of PCB wastes as fuel and this option was abandoned. Much of Canada's PCB wastes ultimately were directed to the United States.

Leak detection from underground storage tanks also became an important issue in the late 1980s. In the July 1991

issue of *ES&E*, an article by Richard Rush and Keith Metzger, of XCG Consultants, reported that there were approximately 70,000 retail gasoline storage tanks in Canada. Studies had shown that 20-25% of these were found to be or were suspected to be leaking. "The remediation cost could be many tens of billions of dollars – the same order of magnitude as the annual Canadian federal deficit," stated the authors.

The fearsome "hole in the ozone layer", caused largely by chlorofluorocarbon emissions, dominated the news in the 1980s. *ES&E* published several articles on methods to recapture CFCs, including those by Dusanka Filipovic, who played an active role in the development of an innovative technology to recapture CFCs from refrigeration and air conditioning equipment when serviced or decommissioned. Ms. Filipovic later won several awards for her engineering work, including the Engineering Medal for Research and Development from Professional Engineers Ontario. The ozone layer, which once dominated media coverage, is no longer as newsworthy since its recovery seems to be well underway.

Early on, after its launch in 1988, *ES&E* reported on the increasingly important role of environmental laboratories and how labs could now measure toxins to parts per quadrillion. This was analogous to one second in 32 million years, surely space age achievements, yet laboratories were, and still are, too often the forgotten profession in environmental remediation.

Non-point pollution sources, such as oil contamination in stormwater, began to be tackled in the early 1990s. In response, sophisticated catchment systems were developed to separate and retain oil in catch basins. One Canadian company, Stormceptor, has been at the forefront of this technology and has designed and sold thousands of stormwater separation units, throughout Canada and many other countries around the world.

In the 1990s, new and improved treat-

ment processes emerged. Membrane technology for both drinking water and wastewater developed at an astonishing rate. Ozone, probably first used in Canada in Québec, is now used in drinking water plants in Ontario and other parts of Canada. Ultraviolet (UV) disinfection, too, is increasingly used in both drinking water and wastewater management.

The same decade brought great change to Canada's consulting engineers. In the November 1995 issue of *ES&E*, George Powell, of CH2M Gore & Storie, stated that "as the consulting industry in Ontario downsized from about 13,000 in 1990 to under 10,000 in 1995 to react to the slowdown in the domestic market, the need to develop opportunities internationally grew." He went on to say that "international design/build/own/operate/transfer, BOOT projects as they are often called, are becoming the norm."

Throughout the 1980s and 1990s, the out of sight, out of mind attitude towards water mains and sewer lines resulted in gross neglect of cleaning, repairing and replacing this infrastructure.

In 2001, this attitude changed when eight people died and some 2,000 were made seriously ill, some perhaps permanently, from *E. coli* 0157:H7 contamination in Walkerton, Ontario's drinking water supply. Stan and Frank Koebel were workers at the Walkerton Public Utilities Commission at the time of the tragedy. Frank worked as the water foreman while Stan worked as the Commission's supervisor. Both would eventually plead guilty to falsifying reports and were formally sentenced in December 2004, with Stan receiving a year in jail and Frank, nine months of house arrest. Reaction to their sentencing was mixed. Some felt it was justice served, while others believed the tragedy was the result of many other factors, and that it could have happened elsewhere at any time.

In 2002, Justice Dennis O'Connor released The Walkerton Report, which made some 93 recommendations and added new vigour and commitment to revitalizing Canada's water and wastewater infrastructure. Among its many recommendations was mandatory certification, which has created a new level of professionalism among water plant operators.

As the Ontario government had closed down its operator training facility in the mid '90s, mandatory operator certification has created an opportunity for private sector operator training.

Another victim of the Walkerton tragedy has been acceptance of the land application of biosolids, with many landowners and municipalities denying permission to do so in order to play it safe. Following a fire at a soon to be commissioned sludge pelletization facility, the biosolids disposal situation in Toronto became so desperate that the city currently trucks its biosolids to a landfill in Michigan. The city recently purchased a landfill site near London, Ontario, where its biosolids will eventually be landfilled.

In the January 2008 issue of *ES&E*, Phil Sidwa, of Terratec Environmental, wrote that "considering the acceptance of recycling by society, the rejection of landfills and the overwhelming evidence of climate change, the arguments raised against the land application of biosolids that have met strict quality standards are not realistic."

Infrastructure manufacturing has become a very high-tech operation in recent years. On one field trip in 2006 *ES&E* staff saw an advanced, totally robotic operation where concrete, sand, water and gravel were converted into huge concrete pipes which could be installed the next day. Other infrastructure technologies have also shown significant engineering advances which make their products more versatile, permanent and fiscally competitive.

The issue of global warming, first raised by Tom Davey in a 1968 *Water & Pollution Control Magazine* editorial comment, again took centre stage in Canada, with the government ratifying the Kyoto Accord in 2002. The cost/benefit debate surrounding this issue still rages. Who could have predicted that Al Gore, a former Vice President of the United States, would be honored with a Nobel Prize in 2007 for his environmental activities focusing on global warming?



Tom Davey (left) with Environment Minister Lucien Bouchard



Tom Davey (centre) receives his AWWA award



Denise Simpson (left) with Penny Davey at ACE 07



Sandra Davey with George Powell of CH2M HILL Ltd.



Penny Davey with Ontario Environment Minister Norm Sterling



Tom Davey with Ontario Environment Minister Brenda Elliot



Steve Davey (left) receives his Bedell Award from WEF president Joe Stowe



Dusanka Filipovic, standing, with Tom Davey, ES&E co-founder and editor.

The Water Environment Federation has also recognized global warming as a key issue facing both the water and wastewater industries. Last summer was one of the driest on record and many areas of Canada experienced drought-like conditions. In 2007 *ES&E* ran an article about Victoria, BC's imaginative public relations campaign to reduce water consumption by 20-30%.

Global water supply is an ever-increasing problem and *ES&E* has strongly supported Water For People. This charitable organization was set up to provide clean drinking water to Third World countries using appropriate, inexpensive and sustainable technology. Outbreaks of lethal diseases which haunted Europe and the Americas for centuries have either been vastly reduced in Third World

countries or eliminated thanks to Water for People. Many *ES&E* articles have postulated that environmental engineers have perhaps done as much for public health as the medical profession. *ES&E*'s Sales Director, Penny Davey, serves on the board of Water for People Canada.

When we launched *ES&E* in 1988, our goal was to make it a voice for Canada's water, wastewater and environmental protection professionals. During that time, *ES&E* staff have been extensively involved with and have won awards from the Water Environment Federation, the American Water Works Association, Environment Canada, the Water Environment Association of Ontario and the Canadian Business Press.

ES&E intends to provide a vigorous forum where issues affecting environmental professionals can be debated and where new technologies, projects and policies can be introduced.

Tom Davey is Editor, and Steve Davey is Publisher of Environmental Science & Engineering Magazine.

"Congratulations to Environmental Science and Engineering on 20 years of great environmental journalism!"



"Canada's premier biosolids company managing municipal and industrial non agricultural source materials. 25 years of experience. State of the art equipment. Nutrient management specialists and Certified Crop Advisors on staff. Beneficial re-use through land application, including our exclusive high solids injection system, pelletizing and other "Class A" technologies. Municipal and industrial digester, tank, lagoon and routine pumping station cleanout specialists with Canada's only mobile inorganics screening and grit removal and dewatering equipment. Mobile dewatering innovators offering mechanical, geo-synthetic and blending methods."



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