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WEFTEC 2008 AAEE/AIDIS/WEF Breakfast Presentation  
McCormick Place on October 20, 2008 at 7:30 a.m.  
Room S103c, South Building, Level 1

I'm pleased and honored to be your alphabet soup breakfast speaker. I recall speaking at this event several years ago and telling about some of the District's environmental challenges.

Today and looking forward, I wish to focus my remarks on the future in these six themes.

- ∞ Public education
- ∞ Science
- ∞ Watershed
- ∞ Management
- ∞ Fiscal responsibility
- ∞ Public service

### **Public education**

It has been said that water will be to the next century what oil was to the last century. Well, in the eighth year of the new century we are far from being finished with oil, but water is moving to center stage. As this occurs, do we have confidence that water is viewed and understood by the public as more essential and valuable as oil? At present, I think not, but this must change.

Generally, people know that: cold is on the right, hot is on the left, when it has served its purpose it disappears down a drain, and my monthly water bill, including the sewer charge, is too high.

Some unfortunate folks live where it floods and they know that water can bring disaster to their lives. And those who accidentally or adventurously, do not heed warnings about water and may become sick or lose their lives. In these situations, water is not forgiving and we as water professionals can only think of ways to avoid disaster the next time.

Water is too compartmentalized by use. Congress passed separate legislative packages for drinking water, clean water, beach water, storm water, flood water, irrigation water, etc. The Administration has followed this with programs in federal agencies and departments, also in silos. Communication inertia sets in and cooperation is difficult at best. This is lost on the public, who at best knows that water is simply water. Drink it, wash in it, irrigate with it, use it for recreation and fight it when it threatens life or property.

There is a new awareness for educating the public about water. WEF is to be commended for their work in this area. Many advocacy groups educate the public about their particular area of interest. Whether it is the earth, natural resources, rivers or wildlife,

water is an essential part of each. Often these are helpful, but not comprehensive. Recently, an organization was launched called the Clean Water America Alliance. It is a 501(c)(3) educational organization and will be successful if it can live up to the demand for public education. Your organization can now become a Founding Member. Not just educating government officials and policy makers, but more importantly, the public, so that a broader base of knowledge and support can be brought to bear on the future of water, leading to prudent legislation, reasonable regulation and individual appreciation and respect for water.

Like the land conservation ethic of years ago we need a water conservation ethic. We have the talk about conservation, but we don't have the walk. Do you let the water run unnecessarily? Turn off the irrigation system during a spell of wet weather? Have a restrictor in your shower head? Hotels have a water conservation message in the lavatory, but change the towels daily anyway.

Public education is critical because of the impact that water conservation will have on the rates charged for service. Relatively fixed costs and lower consumption will result in higher rates. The customer may ask why am I conserving water when my bill continues to increase? Perhaps we need to rethink our rates structure and have a flat charge for service plus a rate-based fee for usage. This is one reason we at the District find comfort in using the property tax for most of our revenue. It is value-based, rather than usage-based, the affluent pay more per capita for their effluent and the less-affluent pay less.

My vision for the future is a better effort at public education about water, its value, its limits, its dangers. This education must be revolutionary in scope and its delivery is a responsibility we as water professionals must bear. Failure to educate is not an option.

### **Science**

Science must be the foundation of water-related decision making. We have seen much good science used in regulatory and rulemaking decisions, but of late there appears to be movement into emotionally driven decision making. I was personally involved in the sewage sludge rulemaking that resulted in the 1993 Part 503 rule, assisting Dr. Cecil Lue-Hing, who led a stakeholder process to get the science correct after the aborted 1989 draft rule. This is an example of a stakeholder led effort to keep EPA focused on good science. The effort was enormous and consumed considerable resources outside of the federal agency. The resulting rule has stood the test of time and beneficial use remains a national goal.

The current search for nutrient standards is an example of non-science nonsense. Despite attempts to find a scientific basis and coming up short in several states, much emotion and political pressure is on to just implement some limit. If successful, we will be faced with considerable expenditures and the consumption of energy to operate nutrient removal facilities to achieve no environmental benefit. The net benefit to the environment may be negative.

Public health in effluent-dominated or effluent-impacted recreational waters will become a priority. EPA bacterial criteria applies for beaches, but there are precious few beaches on our inland rivers that receive treated wastewater effluent. The District is expending over ten million dollars to do the science that EPA never did. It shouldn't be this way.

Integral with the good science regulatory approach is the matter of risk. Advocates pursue a risk free approach, but life without risk doesn't exist. To abandon some practices because they cannot be risk free is unrealistic. Our focus should be on managing risk to an appropriate level and developing regulations that accept reasonable levels of risk.

The beneficial reuse of biosolids has become a victim of risk-free thinking on the part of those who ignore the facts. Time and again, allegations of biosolids causing illness or death have been proven to be erroneous, yet these beliefs persist, fanned by opportunists and careless journalism. We must remain alert to these challenges.

Science must also guide us in determining what uses are technologically attainable in receiving waters at reasonable cost. Cost aside, it is doubtful that science can demonstrate the ability of urban impacted streams to become quality habitat for aquatic life propagation.

Will green technology save us? Just because it is green isn't enough. Science must come to our aid and tell us what works and what doesn't. Long term performance and maintenance is critical to this determination. There appears to be creditable evidence for the effectiveness of a number of green technologies, but we must be assured that green technologies are managed properly over time. Asset management and preventive maintenance must be applied to green technologies, as well as pumps, structures, etc.

Porous pavements, green roofs, rain gardens, etc, all have to be properly managed to maintain the promised infiltration capacity over time and the old adage "It's not the initial cost, but the upkeep" applies. Owners and regulators must be aware of these life cycle cost considerations and management of these assets.

My vision of the future is one where federal, state and local governments employ good science, stakeholder input and life-cycle cost impacts for all decision making for environmental controls, regulations and technologies.

### **Watershed**

The watershed must become the management unit for achieving the goals of the CWA and other water-related environmental programs. Until we take a holistic view of water in all its forms and sources in a watershed we will not move any closer toward achieving these goals.

The air, land and water all interact and are interdependent in a watershed. All organizations and people within a watershed must share responsibility toward achieving these goals. To focus only on the stream and not the agents causing impairment is short

sighted. The totality of the watershed must be our focus to achieve source water protection, preservation of resources, water use allocation and wastewater reuse.

Our current approach to water is fragmented and ineffective in that separate management, planning and regulatory programs exist for drinking water, wastewater, groundwater and stormwater. Regulations are driven by litigation rather than prioritization. Management and planning are undertaken for single water purposes and lack recognition of multiple water impacts and issues. Air and land programs and regulations often do not recognize the impact on water use. Clean Water Act regulation is focused on point sources while nonpoint sources remain unregulated.

How the land is used and abused is a dominant influence on stream quality, especially for urbanized watershed with a high degree of impervious cover. To correct this, we need to focus on the watershed. This will not be easy as it will impact diverse interests not now part of the solution.

A recent creative approach is to certify watersheds. Many watersheds will be challenging, such as the Chicago area, which lies in a watershed extending into neighboring states and counties, is heavily impacted by urban development and has the natural water flows reversed. Obviously it will be necessary to begin with more simple and straightforward watersheds.

The watershed permit must not remain an ideal, but should be put into practice. A new generation of permit writers will be needed. The devil will certainly be in the details and perhaps we need to go step by step starting with combining existing point source permits into a system permit for multiple point sources. The District could be under one system permit, rather than seven individual permits.

My vision of the future is one where the watershed is the fundamental management unit, where watershed based planning, management and regulation work together to achieve remarkable results.

### **Management**

How can we better manage our infrastructure and watersheds? We should be employing asset management, best practices, preventative maintenance, decision support systems, environmental management systems, operational monitoring and control, etc. Until these state-of-the-art techniques are broadly embraced by utilities, our infrastructure will continue to decline and the funding gap will widen.

A focus on customer needs is necessary to better align the management of our infrastructure and service to achieve economy, effectiveness and longevity. Water utilities provide service to the public and as long as we recognize this and make this our mission, our work shall not be in vain, we will be appreciated and our customers will feel well served.

EPA has been promoting their four pillars of sustainable infrastructure, namely, better management, full cost pricing, efficient water use and watershed approaches. How will these four pillars become implemented? Following this, EPA along with WEF, NACWA and others joined forces to identify the ten attributes of efficiently managed water sector utilities in a handy publication. The National Biosolids Partnership now has 23 certified agencies with independently verified environmental Management Systems. That is only 23 out of 16,000 POTWs. A few brave and progressive utilities are pursuing the ISO 14,001 EMS standard for plant-wide operations.

When will implementation of these management techniques become widespread? Unlike the construction grant days when money brought needed changes, EPA is not in a good position today to make change happen. Organizations like WEF or NACWA should vigorously influence their members through promotions, awards, competitions, mentoring and peer-pressure, to move utilities to adopt these more progressive management methods.

Managers also need to address water use conservation and efficiency. Many utilities employ creative promotional programs directed to their customers. Both water and wastewater utilities must advance their efforts to promote wastewater reuse. A combined water and wastewater utility would more likely enable reuse in a service area than would separate utilities.

In areas of abundant and low-cost water supply, like Chicago, movement toward wastewater reuse will be slow. Areas at the other end of the spectrum pursue wastewater reuse out of necessity.

My vision of the future is one where environmental management systems are adopted by utilities and satisfaction of customer needs becomes a primary objective of management.

### **Fiscal responsibility**

The CWA brought us the construction grants program and kick-started our efforts to achieve the goals of the CWA. Grant funding induced needed changes in financing and management and brought us to nearly universal practice of secondary treatment. Today, we have a huge national gap in funding for water infrastructure because we became accustomed to federal handouts. Should the current financial panic and federal rescue be followed by an environmental panic and federal rescue?

Through asset management and fiscal planning, we at the District, as are others, are able to meet our needs. We offer economy to our customers, have the highest rating for bond sales, provide competitive compensation to our employees, have an excellent retirement plan and engage in proactive public outreach to educate our customers. We take advantage of state revolving loans when available and rely on our Illinois General Assembly to authorize adequate authority for non-referendum bond funding for the capital improvement program.

Greater federal funding may have a place in resolving the “gap,” but whatever the funding mechanism, always remember that the customer ultimately pays. We at the District prefer that the customer pay us for the service received and in so doing recognizes the value of our service. This gives us the proper incentive to practice excellence in managing the District and makes us accountable to the taxpaying customer.

If our taxpayers paid higher taxes or fees to the federal government for the use of water, that would weaken our relationship with them. Our incentive would be to please the federal or state funding agency. The users of our services would not pay our costs, but pay some nationalized per capita. Their dollars may go to the east or west coast.

If there is a place for federal funding programs it should be an expansion of the current loan program and come with suitable strings to require the loan recipients to establish sustainable management programs and fiscal planning to the end that utilities become self sufficient.

My vision of the future is one where utility management employs life-cycle costs in capital decision making, full-cost pricing in rate determinations and fiscal planning for long-term independent fiscal health.

### **Public service**

I believe there is something special about public service. I have been fortunate to play a role in a cleaner Chicago Waterways System. I’ve also been fortunate to spend my career at an organization that is a leader in the field. The District encourages its employees to become professionally active and associate with other outstanding professionals. We treat employees fairly and respectfully. We provide for the welfare of retirees.

To develop a sense of public service, employees should be reminded often that their effort is not only appreciated, but contributes to a greater good. We in the water utility profession have a valued work force and are recognized by our customers as generally providing good service. Recruiting and keeping good talent is critical to successful utility operation and efficiency. For employees to feel they are part of an important and respected organization we must develop and maintain good customer relations and a positive public image, and provide training to develop and sustain these talented employees. Appreciation, respect, responsibility and training, along with good compensation and benefits, are the incentives to keep this talent in our employ.

Employees have good ideas and we must listen to and respect this innovative, creative and self-motivated talent.

My vision of the future is one where public service is a sought after career for talented professionals having rewards commensurate with the service extended and the people served appreciate and respect the public servant.

In closing, please notice that I haven't included sustainability as a theme and that is because it is my belief that the principles of sustainability should be included in all our decisions and programs. It is not a separate field of expertise or practice. Each staff member should be trained to employ sustainable practices in what they do and in the decisions they make.

Thank you.