

## National Drinking Water Advisory Council

### Summary Meeting Notes

November 8 - 9, 2001

Washington, DC

Prepared by Horsley & Witten, Inc.  
Sandwich, Massachusetts

**Members of the NDWAC Council:**

Dr. David P. Spath, Chairperson  
Ms. Brenda Johnson, Designated Federal Officer  
Ms. Mary Pesina Baiza  
Dr. Graciela I. Ramirez-Toro  
Mr. Henry M. Duque  
Dr. Jeffrey K. Griffiths  
Dr. L.D. McMullen  
Mr. Kenneth J. Merry  
Ms. Diana Neidle  
Ms. Vicky Ray  
Mr. John P. Scheltens  
Mr. Dennis Schwartz  
Mr. Bradford McLane  
Mr. Peter D. Thornton  
Dr. Thomas Yohe  
Dr. Richard Bull, Science Advisory Board Liaison

**Also Present:**

Mr. Bill Diamond  
Ms. Cynthia Dougherty  
Mr. Tom Grubbs  
Mr. G. Tracy Mehan III  
Mr. Dan Schmelling  
Mr. Ephraim King  
Ms. Lisa Almodovar  
Ms. Maggie Javdan  
Ms. Elizabeth Corr  
Mr. David Travers  
Mr. Jeff Kempic  
Ms. Janet Pawlukiewicz

**Thursday, November 8, 2001**

**I. Opening Remarks -Dr. David Spath, Ms. Cynthia Dougherty**

- The Chair of the National Drinking Water Advisory Council (NDWAC), Dr. David Spath, welcomed the participants, and asked each member to introduce themselves.
- The agenda was revised and housekeeping issues were discussed.
- Ms. Cynthia Dougherty welcomed the participants and spoke about where EPA has been over the last few years in terms of dealing with the 1996 Safe Drinking Water Act Amendments (SDWA) and associated challenges. EPA is putting or has put in place a number of new tools, enabled by Congress, that provide a more holistic approach to drinking water protection. There has been considerable progress in terms of capacity of development, operator certification in all of the states, source water assessments, drinking water state revolving funds in all states, and developing future regulations.
- Ms. Dougherty summarized developments with the following rules:
  - Information Collection Rule;
  - Stage One Disinfection Byproducts Rule;
  - Stage Two Disinfection Byproducts Rule;
  - Public Notification Rule;
  - Interim Enhanced Surface Water Treatment Rule;
  - Long Term 2 Enhanced Surface Water Treatment Rules;
  - Consumer Confidence Report Rule;
  - Filter Backwash Rule;
  - Radionuclides Rule;
  - Unregulated Contaminant Monitoring Rule; and
  - Groundwater Rule.
- In order to assure that these rules are implemented effectively, EPA is conducting training, guidance, technical assistance and outreach, and working with both states and water systems. Ms. Dougherty thanked NDWAC for its help and guidance with these programs.
- With respect to the Arsenic Rule, Ms. Dougherty thanked those NDWAC members participating on the Cost Panel. The recommendations from that Panel may be helpful to other EPA projects as well.
- In terms of future challenges, Ms. Dougherty posed the following questions:
  - How do we approach future rulemaking, which has been an issue for EPA for

- quite a while?
- How do we make sure that we have the information that we need to judge whether or not we have been successful at what we are doing?
  - How do we make source water protection real?
  - What is our appropriate level of infrastructure investment for the federal government or others to be making? Who pays?
  - In terms of system capacity, how do we ensure the drinking water systems are sustainable into the future?
  - How do we ensure that most water systems are more secure as soon possible, in terms of physical, chemical, or biological threats?

### **Regulatory Program**

#### **II. Stage 2 Disinfectants/Disinfection Byproducts Rule: Status and Key Issues- Mr. Thomas Grubbs, EPA**

- The Stage 2 Disinfection Byproducts Rule was developed through a Federal Advisory Committee Act Committee. The Advisory Committee met for about a year and half from March of 1999 to September of 2000, when the recommendations were signed. Twenty-one members met, representing public water systems, state and local health and regulatory agencies, consumer representatives, public health representatives, equipment and chemical manufacturers, and EPA. The Advisory Committee looked at new treatment and occurrence data that was collected under the Information Collection Rule. The National Rural Water Association, among others, conducted a survey of small systems and a cost analysis of various regulatory alternatives. Main considerations included the effects of disinfection byproducts (DBPs) on reproductive and developmental health and *Cryptosporidium* (to be addressed under Long Term 2 Enhanced Surface Treatment Water Rule), because it is the microorganism most resistant to treatment. The full group came up with a number of consensus recommendations including:

- Maximum Contaminant Levels (MCLs) for the Stage 1 rule of 80 micrograms per liter for total trihalomethanes (TTHM) and 60 micrograms per liter for haloacetic acids (HAA5) remain the same, but with compliance being calculated as a locational running annual average. In addition, a system would have to meet a locational running annual average of 120 micrograms per liter for TTHM and 100 for HAA5 at each monitoring location beginning three years after the rule is finalized until the date for compliance with 80 and 60 as a locational running annual average. This requirement is in addition to the Stage 1 Disinfection Byproducts MCLs of 80 and 60 as a running annual average. With a locational running annual average, a more equitable protection across the system is provided.

- Interestingly, unlike trihalomethanes, which tend to increase in level as long as there are reactants, haloacetic acids very often reach a peak and then decline. This is believed to be due to biological activity in the distribution system that uses the haloacetic acids as food. The Advisory Committee recommended that due to these unusual occurrences, there should be a distribution system evaluation to determine what the best monitoring locations are.
  - The Advisory Committee addressed the impacts of the Stage 2 DBP requirements. The compliance criteria will involve a requirement that compliance be achieved at every monitoring location. However, as this is an annual average, the Advisory Committee expects this requirement to have minimal effect on smaller systems, which generally have only a single monitoring location under Stage 1 DBPR.
  - The Advisory Committee also recommended that EPA address the issue of consecutive systems. The Advisory Committee is concerned with some of the DBP issues associated with consecutive systems. A consecutive system is a system that buys or otherwise receives some or all of its finished water from another public water system on a regular basis (e.g. 60 days per year).
- The rationale for establishing consecutive systems includes:
    - Economies of scale;
    - Availability of water; and
    - Access to high quality water sources.
  - EPA's first drinking water rules do mention consecutive systems, and provide authority to states to modify monitoring requirements to the extent that systems are interconnected. For 20 years that was about the only mention of the issue. The Advisory Committee recommended that EPA propose that all wholesale and consecutive systems comply with the provisions of the Stage 2 DBP Rule. The intent was to protect customers exposed to DBPs at unknown levels, where no monitoring was required.
  - The Advisory Committee recommended that the Stage 2 provisions be applied to all community water systems and non-transient, non-community water systems that added disinfectant, other than UV, or delivered water disinfected other than with UV. The Advisory Committee recommended that consecutive systems be covered under the rule even if they did not actually add disinfectant, but delivered water that had been disinfected and therefore would be expected to have DBPs.
  - The Advisory Committee recommended that EPA develop monitoring provisions that will provide equivalent protection for consecutive systems.

### **III. Council Discussion**

- The Council discussed the nature of the timing of the monitoring and compliance requirements for consecutive systems.
- Numerous issues face consecutive systems including length of time in the distribution system, quantity, different state approaches, and the large variation in water chemistry throughout the year. These issues contribute to the complexity of regulating such systems.
- There are potential disincentives for a community to tie in to a consecutive system. The Council discussed some of these along with possible provisions and flexibility to reduce disincentives.

### **IV. Long Term 2 Enhanced Surface Water Treatment Rule (LT2ESWTR): Status and Key Issues - Mr. Dan Schmelling**

- The intent of the LT2ESWTR is to supplement the existing regulations as opposed to modifying existing treatment requirements.
- The public health threat that the rule will address is *Cryptosporidium*, of particular concern in drinking water systems because it is highly resistant to chemical disinfectants.
- Additional remaining health concerns will be addressed by the rule, including adequacy of filtration and risk of *Cryptosporidium* in unfiltered systems.
- The LT2ESWTR will also deal with the costs of construction of covering existing or new finished water reservoirs.
- EPA collected a significant amount of new information subsequent to developing Stage 1 DBP and the LT2ESWTR Rule. Most significant among this information is the occurrence of *Cryptosporidium*. The ICR and ICR supplemental survey of drinking water sources have been completed. Significant developments in the analysis and treatment for *Cryptosporidium* have occurred. In addition, EPA has acquired additional data on the infectivity of various strains of *Cryptosporidium*.
- Another development involves examining the vulnerability that a given system has to *Cryptosporidium*. The recommendation for the LT2ESWTR is that filtered systems would conduct monitoring for *Cryptosporidium* in their source water and based on results of the monitoring, systems would be assigned to one of four bins based upon the results of the monitoring.

- The Advisory Committee also put forth for consideration the notion of making a toolbox of different treatment and management options that systems could use to meet additional treatment requirements. Mr. Schmelling provided some examples of these options for large and small systems.
- A schedule of compliance will outline requirements and needs, based upon the number of years following promulgation of the Rule.

## **V. Council Discussion**

- Small systems will be required to monitor for *Cryptosporidium* twice per month. Both small and large systems will be required to collect a minimum of 24 samples. Large systems will be collecting at least one sample per month over two years. Small systems will be collecting at least two samples per month over one year. The intent is to sample representative source waters.
- EPA is developing a program to approve laboratories that will conduct the *Cryptosporidium* analyses. EPA is also developing a data system to allow electronic recording of this data. In addition, EPA is developing guidance manuals on a number of relevant topics.
- A key issue that EPA would like the NDWAC to address is the microbial toolbox and what steps EPA can take to make implementation of the toolbox feasible.
- In addition, EPA would like NDWAC to consider the specification of the criteria and credits in the regulation, as well as the compliance option.
- The group discussed the location of sampling points, monitoring frequency, log removal credits, state flexibility, and other technical issues for various systems (such as groundwater under the influence of surface water) and how the LT2ESWTR rule might apply.
- One member was very apprehensive about the ability to draft a comprehensive rule that adequately covers the myriad of systems across the country. Another member reminded the group that the bottom line remains the protection of public health.
- Dr. McMullen and Dr. Spath discussed the state of current research on nitrite, nitrosamines, and their relationship to chlorine as a disinfection agent.

## **VI. Challenges facing the Drinking Water Community - Mr. G. Tracy Mehan**

- Mr. Mehan expressed his thanks and that of the Administrator for the hard work of the NDWAC on the arsenic rule.
- Mr. Mehan explained that EPA is going to look at cost as it pertains to arsenic, not in terms of infrastructure (as NDWAC did), but in terms of affordability in the context of the rule itself and exemptions and other statutory and regulatory issues.
- The Administrator has given EPA a green light to explore the possibility of a multistakeholder committee to address wastewater and drinking water infrastructure challenges.
- Of immediate concern is the security issue. Time is being spent on tools and training for public water systems. Following September 11, 2001, EPA has been trying to come to grips with what its role should be regarding the security of the nation's water supplies.

## **VII. Council Discussion**

- Mr. Mehan recommended that the NDWAC pose recommendations to EPA on regulatory applications with respect to affordability of the arsenic rule in short order as EPA plans to move on this issue fairly quickly.
- A member inquired where EPA plans to go with non-point source issues as they relate to source water protection. Mr. Mehan responded that the TMDL program is a good approach to bringing information to bear on a watershed basis, including the non-point source issue. Point and non-point source trading may provide incentives for people to move forward with environmental protection in a cost-effective manner.
- One member stressed that the NDWAC report on infrastructure deals with cutting-edge technology that would be tremendously beneficial from a security point of view.
- Another member wanted to point out that the affordability issue is very important to small systems. It is easy to forget that there are 180,000 systems in the country and 90 percent of those that are regulated are small systems. It is crucial to look at the long-term affordability and sustainability (operation and maintenance) of these facilities as well.

## **VIII. Arsenic Rule: Status and Next Steps - Mr. Ephraim King, Director, Standards and Risk Management Division, OGWDW**

- Mr. King distributed the letter the Administrator is sending to Congress announcing her decision on arsenic. The conclusion was that the standard of 10 was appropriate and should proceed as established, with the effective date extended.



- The work done on arsenic incorporates the entire regulatory framework under which drinking water regulations are developed.
- Public debate intensified on the basic underlying science, the benefits, issue of a threshold, and cost.
- Mr. King went through the history of the arsenic rule to date and presented the key findings of the expert panel reports. The National Academy of Sciences report on arsenic was based upon approximately 300 or more new published articles on arsenic since the 1999 NAS report.
- The NDWAC cost panel held a series of meetings to examine the issue of cost of compliance, and concluded the EPA cost estimates were credible, but recommended decreasing the cost multiplier. The group emphasized that the uncertainty surrounding cost estimates should be more transparent. The issue of affordability received considerable attention by the work group.
- Mr. King summarized the EPA's Science Advisory Board's (SAB) report on benefits, noting the SAB said EPA's approach to calculating latency was too simplistic, that benefits for people with certain diseases should be examined specifically, and that the approach to evaluation of non-fatal illness should be changed.
- The cost panel's recommendations are probably going to be reflected in technical guidance. The recommendations suggest that EPA develop models of aggressive, proactive, point-of-use systems and try to define for communities what kinds of ordinances, participation, and community training would comprise an effective community outreach program.

## **IX. Council Discussion**

- Mr. Scheltens described a recent report prepared by the State of New Mexico that analyzed arsenic levels for all public water systems in the state, broke the systems into categories and applied a methodology to determine which type of treatment was most appropriate for the system. The conclusions of the report were similar to the cost panel's conclusions.

## **X. Contaminant Candidate List & 6 Year Review: Status and Next Steps - Mr. Ephraim King, Director, Standards and Risk Management Division, OGWDW**

- EPA was required to promulgate a contaminant candidate list (CCL) 18 months after adoption of the 1996 SDWA amendments. A list of 60 contaminants was developed, 10 microbial and 50 chemical. EPA must consider regulation of at least five contaminants on the list every five years and determine whether or not to regulate. A preliminary determination

notice about which contaminants EPA plans to move forward on regulating will be published soon.

- A CCL research plan is being developed to guide development of future regulations.
- An approach to developing a second list of contaminant candidates, called CCL 2, has been developed by the National Academy of Sciences.
- Mr. King discussed the six year review requirements established in the 1996 SDWA Amendments. 68 national water regulations are up for review. NDWAC developed a protocol for evaluating these regulations. The work group recommendations addressed health effects assessments, treatment technology and treatment feasibility, and the economic impacts of changing an MCL. There is an August 2002 deadline for final decision on the six-year review.
- For the six-year review, support documents regarding health effects, and analytical methods will be provided for each contaminant.
- As part of the research plan for the CCL, there are four broad categories of data needs identified, including: 1) health effects 2) treatment technology 3) analytical methods and 4) occurrence. Each contaminant is evaluated against these four areas, and where there are gaps, the most effective way to fill the data gaps is determined.

## **XI. Council Discussion**

- The research plan is developed less on a contaminant by contaminant basis, but is more focused on how to identify research gaps when looking at any contaminant on CCL and CCL2. EPA summarizes what types of data do we need in order to get us to the point where a decision could be made on whether or not to regulate that contaminant?
- The focused, detailed research projects plans are provided as appendices to the research plan.

### **National Strategies to Protect Public Health**

## **XII. Waterborne Microbial Disease Strategy: Status and Next Steps - Ms. Lisa Almodovar, Office of Science and Technology**

- The EPA Program is comprised of multiple divisions, experts, and steering member efforts. Ms. Almodovar presented the Council with the Waterborne Microbial Disease Strategy document and discussed portions of it.

- EPA has found a large increase in human and animal wastes and a closer proximity between the two. This includes the issue of all these emerging pathogens.
- There are constant genetic shifts and more antibiotic use with release into the environment. Organisms are starting to reflect some resistance to these antibiotics.
- Interspecies transfers and co-evolution of pathogens also must be considered.
- People can be exposed from many routes, not just drinking water.
- EPA's matrix at the back of the strategy document shows what EPA does and does not do and what are the needs.
- One approach of the strategy was to better integrate the Safe Drinking Water Act with the Clean Water Act programs and provide better public health protection. This involves reducing human exposure to pathogens in our waters by reducing the sources of the contamination or reducing the exposures from water media.
- Finally, there is the need to develop a risk assessment approach for microbial pathogens to provide criteria or other controls.
- EPA would also like to provide model management mechanisms for non-point growth potentials; smart growth, for example.
- Due to a constrained budget, EPA has limited its strategy to four major areas that it could address in the short term with resources and tools available now. Examples provided included:
  - Consistent and uniform criteria and monitoring protocols for pathogens across all water media;
  - Risk assessment guidelines for microbial pathogens;
  - Contaminant sources guidance; and
  - Other water uses and discharges -- this issue would include water re-use and under-regulated or non-regulated discharges of microbes.

### **XIII. Council Discussion**

- A member questioned the use of indicators and surrogates when the science is almost at a point where specific pathogens can be identified with ease.
- A member was concerned that EPA take precautions to make determined efforts to communicate with agencies outside EPA, like FDA, which will have a stake in these programs.

- A member noted the need to get community groups involved in the process.
- Mr. King pointed out that development of drinking water/water quality criteria will drive TMDLs and will then drive the regulation of at least point sources and to some degree non-point sources on a particular watershed or stream reach. The TMDL process will basically create a forum for the debate on the allocation of responsibility to occur.
- A member noted that there will be a real problem with the agricultural community as far as regulating pathogens, nutrients, and pharmaceuticals. So far every regulation has just been an idle threat.
- Another member was concerned that if a large, basically untouched watershed were required to install filtration, then that would allow for development in that watershed at least to the point that the treatment allows.

**XIV. Drinking Water Research Strategy & Implementation: Status and Next Steps - Ms. Maggie Javdan, OGWDW**

- The Research Strategy is being developed because Section 202 of the SDWA Amendments of 1996 required EPA to develop a strategy for drinking water research activities and to integrate that strategy into the Agency's ongoing planning activities. The strategy covers:
  - health effects;
  - analytic methods;
  - contaminant occurrence;
  - treatment of the components of the risk paradigm; and
  - establishment of priorities for future research to support the drinking water program.
- EPA is developing a state of science document for 70 contaminants which includes a look at ongoing research, cross-cutting issues, data gap analysis, research needs, criteria for prioritization, and finally research priorities.
- The Research Strategy will address the following:
  - waterborne pathogens;
  - *Cryptosporidium*;
  - pathogens under contaminant candidate list 1 (CCL1);
  - emerging pathogens which includes pathogens that will come out in the CCL2;
  - chemical contaminants;

- DBPs;
  - arsenic;
  - chemicals on the six-year review list and the CCL1 chemicals; and
  - other emerging chemicals.
- There are five cross-cutting emerging issues:
    - sensitive subpopulations;
    - distribution system;
    - source water assessment;
    - contaminant mixtures; and
    - future scenarios.
  - A NDWAC workgroup has been formed to deal with the cross-cutting issues and will provide advice on the content of the strategy and to make sure that the research priorities are balanced and of high quality.
  - The draft background documents are expected to be finished by December 2001 and at that point EPA will start drafting the strategy. A final strategy is scheduled for December 2002.
  - EPA is developing a tracking system called the Drinking Water Research Information Network. The purpose of this data system is to track information about ongoing research at EPA and internationally at the university level. This will promote coordination and avoid duplication. This project is in collaboration with the Office of Research and Development. Data will be merged with the environmental information management system (EIMS).

## **XV. Council Discussion**

- In response to a question from a member, Ms. Javdan explained that the NDWAC workgroup decided to deal with the mixtures issue as they deal with the separate group of contaminants. For example, when they talk about the DBPs on the DBP documents, they will bring out the mixture issue.
- Regarding international efforts, EPA has not considered developing countries in its tracking system yet, however there is a lot of interest in this avenue. So far there is no peer review of the research.
- In addition, epidemiology and health effects research will be included in the program.

## **XVI. EPA Water Programs Integration Project - Mr. Bill Diamond**

- The Council sent a recommendation to the Administrator in support of increased coordination of activities under the Clean Water Act and SDWA programs, and to facilitate improvements in drinking water and public health. Mr. Diamond provided materials to the Council detailing progress of the program. Some of the highlights of his discussion included the following:

- inconsistencies between programs;
- inadequate program coordination;
- public confusion or lack of understanding; and
- the need to increase efficiency of programs by way of closer project overview.

- In terms of goals, the idea is to identify barriers and remove them, identify benefits (e.g. cost reductions), streamline processes to reduce duplication and redundancies, and address statutory burdens and resource allocations.

- Actions taken to date have been in the data collection and analysis phase. In addition, interviewing over a broad subject base has been conducted, leading to the identification of a number of areas and activities that need to be addressed to improve the underlying aspects of the federal regulatory and program activities. These identified activities fall within seven broad categories where project planning efforts will be concentrated.

## **XVII. Council Discussion**

- Discussion ensued regarding the difficult nature of setting standards, criteria, and designations for water bodies and the need for developing the information side of this equation.

- Dr. McMullen suggested that maybe this issue may require legislative activity, but perhaps another designation such as source water might be appropriate here?

- A member suggested bringing out the positive benefits of water quality improvements in any presentations made by the group.

- A member suggested that the group consider in depth public water supply definitions, criteria, and antidegradation policies.

- Another member brought up the issue of pathogen criteria for public water supplies. The group hopes to improve work on this issue.

- A member stressed the importance of maintaining regular communication with groups such as the Association of State and Interstate Water Pollution Control Administrators (ASIWPCA), Association of State Drinking Water Administrators (ASDWA), and the

Ground Water Protection Council (GWPC).

- Mr. Spath reminded the Council the timing of the project is critical because all the states are going through source water assessment program activities that will be completed in 2003. He encourages EPA's leadership through both drinking water and clean water sides to get together to get the information coming out of the source water assessment program to the right people so that decisions can be made, even across jurisdictions.
- Dr. Yohe stressed that communications can be improved in the Clean Water Act and the SDWA. Dr. Yohe objected to tradeoffs between the two programs because of the priority for public health protection. Mr. Diamond responded that while it is impossible to ignore the statutes, the question is how to meet the requirements of the law and maintain public health and ecological objectives as priority endpoints.

PROCEEDINGS were adjourned until the following day.

**FRIDAY, NOVEMBER 9, 2001**

**Implementation Initiatives**

**I. Review of Day 1 - Dr. David Spath, Chair, NDWAC**

Dr. Spath reiterated that although during the previous day, the Agency was looking for recommendations from the Council on the Stage 2 Disinfection Byproducts Rule and the Long Term 2 Rule, it was obvious from the discussion that the Council was not going to come to some closure on such recommendations. As far as the arsenic rule, the number is history; however, the implementation will be a significant issue. The Council also discussed the CCL and the Six Year Review, concluding that considerable work will be involved. Additionally, the Council discussed source water protection strategies, water borne microbial disease strategy, and the Water Programs Integration Project.

**II. Recognition of Service to Council - Ms. Cynthia Dougherty**

Ms. Dougherty recognized exemplary service to the Council by Mary Baiza, Pete Thornton, Tom Yohe, John Scheltens, and L.D. McMullen. EPA has published in the Federal Register a request for nominations for new members and received approximately 60 responses. They expect to make decisions regarding new members during January, 2002.

**III. ASDWA/EPA State Capacity Effort - Ms. Elizabeth Corr, Associate Director, Drinking Water Protection Division, OGWDW**

- Previously there was discussion of a concern that states were having about their ability to implement the drinking water program, particularly given the new wave of regulations and programs that are coming out of the 1996 SDWA Amendments.
- At that time, the states and EPA agreed to take a closer look at these issues and formed a workgroup including state drinking water program directors from Vermont, Washington, Idaho, and Kentucky. EPA Regions III, IV, VI, and headquarters were also represented. The goal of the project has been to credibly document resource shortfalls in dollars and staff that states may face in future years. In addition, it is important to identify programmatic barriers to successful implementation of the drinking water program, and to identify potential solutions to those barriers.
- The project is about to move into a data gathering phase which will be followed by analysis of the data and production of a national report with the assistance of the workgroup. The self-assessment instrument is ready to be sent out. ASDWA will be gathering the data using this broad self-assessment tool. EPA expects to work with ASDWA at that point to analyze the data and develop a final report.



- A key aspect of the report is the need to convey the public health risks and to present multiple solutions to problems identified.
- The state has to adopt the rules, implement the programs, and play a critical role in stressing the public health benefits of the program. The states have had a presence in public health protection for drinking water safety prior to a federal program, through the period of pre-1996 Amendments, and now with the increased emphasis on technical assistance since the 1996 Amendments.
- Under the 1996 Amendments, EPA is looking at approaches that are more flexible, locally targeted, and potentially less costly for public water systems as a whole because of flexibility. However, some of these approaches are more difficult for states to implement. They are more complex, require more time and attention, and there are higher transaction costs.
- Ms. Corr presented an example that indicates current challenges for state programs in implementing the Total Coliform Rule. States have new challenges on top of old work that they still need to do.
- EPA is now considering, even as the data collection phase is beginning, how to present the data and make the report understandable. The Council recommended that the workgroup remember that the audience of the report includes the public, therefore the report must contain a summary in very plain English.

#### **IV. Council Discussion**

- Ms. Vicky Ray emphasized that the states are supportive of this project and will find the model very useful.
- Dr. Griffiths stressed that he found it profoundly disturbing that there is a sense that states cannot accomplish what they will be asked to do. Dr. Spath responded that it is likely that the states will work with the Regions to prioritize program activities.
- Ms. Corr explained that there have been two rounds of pilots, with 18 states substantially filling out this instrument. This project was again presented at the recent ASDWA meeting stressing the participation of the states. States may require technical assistance in filling out the instrument. This assistance will be provided by ASDWA.
- A member recognized that public health infrastructure has not kept up with the need over the last couple of decades. Small systems will have difficulties, including financial, in addressing serious issues in order to achieve compliance.
- A Council member suggested a creative way to partner large and small systems would help the states out.

## **V. Infrastructure: Activities Update - Mr. David Travers, OGWDW**

- The first question in the infrastructure discussion is: what is the need? In February 2001, EPA released its second needs survey which documented a total need of about \$151 billion over the next 20 years. This includes all 54,000 community water systems, and about 21,400 non-transient, non-community water systems.
- EPA acknowledges that the need estimate is conservative. EPA tries to address this issue in a “gap analysis” by providing alternate estimates of need. One alternate is from the Water Infrastructure Network (WIN) of April, 2000 with an estimate of about \$380 billion over 20 years. There is obviously a substantial difference between the two estimates. The WIN report relied on modeled pipe replacement needs conducted by an AWWA study. EPA instead used documented needs.
- Most of the need is in the form of pipe replacement. Treatment is the second largest category.
- Mr. Travers explained that the needs survey and the “gap analysis” only capture the beginning of the tail of the ramp-up in replacement costs. EPA expects much of the need will occur beyond that 20-year period as the infrastructure is aging.
- EPA is in the process of conducting a “gap analysis” report. The “gap” is the difference between capital and operation and maintenance needs and actual spending. The question to EPA is how to address the challenge given the magnitude of the gap. The draft report has been submitted for stakeholder and peer review. EPA has received comments and is in the process of reviewing those comments and making revisions to the report. The next step is to brief the Assistant Administrator, the Administrator, and allow for OMB review.
- Mr. Travers described the perspective of the WIN Coalition report and its recommendations. He also addresses the difference in perspective that the H2O Coalition adopts. These groups include ways to manage and disburse money in their recommendations.
- The program that EPA runs, which the states administer is the Drinking Water State Revolving Fund (SRF). Mr. Travers reviewed the 2002 budget request, how Congress has been addressing infrastructure needs this year, monitored infrastructure related bills introduced, and conducted briefings for Congressional staff.
- The Congressional Budget Office has also investigated what the needs are and what the gap is. It is expected to put out a report on the methods that different groups such as EPA, WIN, and AWWA use to assess infrastructure needs and gaps.
- The Administrator has also asked the Office of Water to convene a blue ribbon panel to discuss infrastructure.

- OGWDW is also going to prepare a report to Congress on the Drinking Water State Revolving Fund program.

## **VI. Council Discussion**

- A member wanted it to be known that the U.S. Department of Agriculture also has financial support for small systems. The General Accounting Office (GAO) is finalizing a report on the financial support that federal agencies and states have historically provided for water infrastructure improvements. The GAO report should be available later this month and Ms. Brenda Johnson will distribute to interested Council members.
- Mr. Tracy Mehan proposed the idea of forming a blue ribbon panel to the Administrator, who saw the need for persons at high levels, particularly governors, to discuss the water infrastructure issue.
- One member questioned that if economies of scale make the traditional regulations affordable for the large systems, why wouldn't systems replacement appear as affordable through those same economies of scale? The group agreed that this is an issue that needs to be resolved.
- One member suggested tying infrastructure costs to the quality of raw source water and releasing this information to the public.
- A member wanted to encourage responsible use of SRF funds. There have been cases of abuse of the system.
- A member reminded the group that included in the funding equation should be a review of a system's sustainability.
- Another member suggested that there is an opportunity to plant the kernels of thought for future water demand, gray water, and water reuse. It might be wise to consider now when putting in new pipe in terms of the amount of pipe to install.
- A reminder was made that the majority of the infrastructure that needs to be replaced was originally built for fire fighting and waste conveyance.
- Another member made the statement that as infrastructure is replaced, it doesn't necessarily need to be replaced in kind.

## **VII. Small System Affordability: Key Issues - Mr. Jeff Kempic**

- Mr. Kempic wanted to stress to the Council at the outset that there are a lot of

perspectives and definitions of what affordability is. Mr. Kempic's talk was confined to the narrow definition of affordability in the SDWA Amendments as it relates to technologies for small systems. He described in detail the following:

- technology assessments are made for three size categories as defined in the SDWA;
  - compliance technology;
  - variance technology which combines system size and source water quality; and
  - ineligibility of small systems receiving variance grants for time exemptions.
- Mr. Kempic emphasized that this is not a no cost solution for small systems. Treatment costs for variance technologies will remain. There will also be a fair amount of administrative cost associated with variance procedures. The primary approach will be to utilize data from EPA's Community Water Systems Surveys, which are conducted about every five years.
  - Mr. Kempic noted that many of the tools and approaches coming out the Council's arsenic rule cost Working Group's recommendations are beyond the narrow scope of the national level affordability criteria, but they remain very useful.
  - In addition, many working group members felt that the small system variances were not an effective way to reduce the burden on small systems.

### **VIII. Council Discussion & Recommendation**

- Ms. Dougherty explained that EPA is in the process now of sorting out how they're going to approach a Congressional mandate to review the Agency's affordability criteria and how small system variance and exemption programs should be implemented for arsenic. EPA wants to extend this review beyond arsenic generally and is considering asking NDWAC for recommendations.
- One member was concerned about inflated water utility rates and consequences for lower income consumers. He suggested that EPA look at providing incentives for water utilities to address this issue.
- Another member noted that some small systems support very wealthy communities, while other small systems support low income communities. If current methods of aggregating information are used, this distinction is lost. The Council conducted a thorough discussion on this aspect of the affordability criteria.
- Another member noted that a central affordability issue is operation and maintenance. The technology installed will still have an operation and maintenance cost associated with it and the mechanism that reviews these programs must address this.

- Mr. Scheltens noted that in addressing affordability in the arsenic cost working group, it was recognized that arsenic was only the tip of the iceberg and that it transcends arsenic at a much higher level.
- Dr. Griffiths noted that the optimal level for arsenic is 3, not 10, but the lower level is a burden financially in some locations. It should be noted the role affordability plays in setting public health targets.

NOTE: The Council reiterates its recommendation from the Arsenic Cost Panel to form a NDWAC subcommittee, or workgroup, to study affordability related to the SDWA generally, and that NDWAC recognizes EPA has a request from Congress on affordability related to the arsenic rule. Although the timing may not coincide with the broader look at affordability, EPA, if it uses a different group, should use a diverse group of individuals similar to NDWAC.

### **IX. Critical Infrastructure Protection - Ms. Janet Pawlukiewicz, Interim Director, EPA Water Protection Task Force**

- Since September 11, 2001, the Agency has established a Water Protection Task Force. The Task Force is taking actions to support utilities' in assessing their vulnerability to terrorist action, and prepare appropriate emergency response plans that take the appropriate actions to respond to a terrorist attack.
- The Water Protection Task Force is also working with wastewater systems in the United States.
- There has been interest and support from stakeholders on both the water and wastewater side in the formation and charge of the Task Force.
- Ms. Pawlukiewicz discussed potential chemical and biological threats to water and wastewater systems.
- EPA is working with a number of agencies and organizations to develop tools, provide training, undertake pilot programs, distribute information to utilities, and improve our state of knowledge on potential drinking water threats.

### **X. Council Discussion**

- One member expressed his lack of confidence in the safety of the water and waste water systems, especially on a local level, and elaborated on specifics of this issue.
- Another member noted that EPA has an Emergency Response Team that is working

closely with local systems.

- Members noted that local water systems often were asked to only call the FBI and the Health Department if the system decided a threat was credible.
- Another member noted the importance of communicating health and risk information to medical professionals.
- A member suggested the importance of obtaining funding to better prepare and protect utilities now before the event of an emergency.

**XI. Agenda/Next Meeting - Dr. David Spath, Chair NDWAC**

Dr. Spath wrapped up the meeting and left open the agenda and date of a future meeting.

**ADJOURN:** 12:42 pm.

**I certify that, to the best of my knowledge,  
the foregoing minutes are complete and  
accurate.**

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**Dr. David P. Spath, Chairperson, National  
Drinking Water Advisory Council**

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**Date**

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**Ms. Brenda Johnson, Designated  
Federal Officer, National Drinking Water  
Advisory Council**

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**Date**