

National Drinking Water Advisory Council

Meeting Notes

July 21 – 23, 2010

Hotel Palomar
2121 P Street, NW
Washington, D.C. 20037

Prepared for:
United States Environmental Protection Agency
Office of Ground Water and Drinking Water
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Attendees

National Drinking Water Advisory Council (NDWAC)

Gregg Grunenfelder, Chair, Assistant Secretary, Division of Environmental Health,
Washington State Department of Health, Olympia, WA

Jeff Cooley, Utilities Division Operations Manager, Vacaville, CA

Denis Diemer, General Manager, East Bay Municipal Utility District, Oakland, CA

Elston Johnson, Manager, Public Drinking Water Section, Texas Commission on
Environmental Quality, Austin, TX

Maria Elena Kennedy, Executive Director, Quail Valley Environmental Coalition,
Rancho Cucamonga, CA

Timothy Kite, Water Superintendent, Long Creek Township Water Department,
Decatur, IL

Olga Morales, Rural Development Specialist, Rural Community Assistance Corporation,
Dona Ana, NM

Douglas Owen, Vice President and Chief Technology Officer, Malcolm Pirnie, Inc.,
White Plains, NY

David Saddler, Manager, Water/Wastewater and Propane Department, Tohono O'odham
Utility Authority, Sells, AZ

Carl Stephani, Executive Director, Central Connecticut Regional Planning Authority,
Unionville, CT

Hope Taylor, Executive Director, Clean Water for North Carolina, Durham, NC

Robert Vincent, Environmental Administrator, Bureau of Water Programs, Florida
Department of Health, Tallahassee, FL

Jennie Ward-Robinson, Executive Director, Institute for Public Health and Water
Research, Chicago, IL

June Weintraub, Senior Epidemiologist, San Francisco Department of Public Health, San
Francisco, CA

Centers for Disease Control and Prevention (CDC) Liaison

Dr. Max Zarate-Bermudez, Division of Emergency and Environmental Health Services,
National Center for Environmental Health, CDC, Atlanta, GA

U.S. Environmental Protection Agency (EPA) Attendees

Pam Barr, Director, OGWD, Standards and Risk Management Division (SRMD), Office
of Ground Water and Drinking Water (OGWDW)

Ron Bergman, Chief, Drinking Protection Branch, Drinking Water Protection Division
(DWPD), OGWDW

Sonia Brubaker, Environmental Protection Specialist, DWPD, OGWDW

Heather Case, Deputy Director, Office of Environmental Justice (OEJ)

Ann Codrington, Acting Director, DWPD, OGWDW

Elizabeth Corr, Associate Director, DWPD, OGWDW

Cynthia Dougherty, Director, OGWDW

Mindy Eisenberg, Associate Chief, Protection Branch, DWPD, OGWDW

Sheila Frace, Acting Deputy Director, DWPD, OGWDW

Randy Hill, Deputy Director, Office of Wastewater Management (OWM)
Chuck Job, Chief, Infrastructure Branch, DWPD, OGWDW
Jeff Jollie, Hydrogeologist, Protection Branch, DWPD, OGWDW
Dennise Keehner, Director, Office of Wetlands, Oceans, and Watersheds (OWOW)
Suzanne Kelly, Acting Branch Chief, Prevention Branch, DWPD, OGWDW
Richard Keigwin, Director, Pesticide Re-evaluation Division, Office of Pesticide Programs (OPP)
Ephraim King, Director, Office of Science and Technology (OST)
Audrey Levine, National Program Director for Drinking Water Research, Office of Research and Development (ORD)
Wynne Miller, Acting Chief, Standards and Risk Reduction Branch (SRRB), SRMD, OGWDW
Keara Moore, Special Assistant to the Director, OGWDW
Suzi Ruhl, OEJ
Peter Shanaghan, Environmental Engineer, Infrastructure Branch, DWPD, OGWDW
Pete Silva, Assistant Administrator, Office of Water (OW)
Tom Speth, Division Director, Water Supply and Water Resources Division, ORD
Jackie Springer, Administrative Assistant, OGWDW
Nancy Stoner, Deputy Assistant Administrator, OW
David Travers, Director, Water Security Division (WSD), OGWDW
Lee Whitehurst, Geologist, Protection Branch, DWPD, OGWDW
Jim Willis, Director, Chemical Control Division, Office of Pollution Prevention and Toxics (OPPT)
Lauren Wisniewski, Environmental Engineer, WSD, OGWDW

Designated Federal Officer (DFO)

Tom Carpenter, OGWDW

Members of the Public

Manja Blazer, IDEXX Laboratories, Inc.
Erica Brown, Association of Metropolitan Water Agencies (AMWA)
Debra Bryant, Ferguson Group
Alexa Bryne, Rural Community Assistance Partnership (RCAP)
Susan Carter, Environmental Working Group (EWG)
David Clark, RCAP
Daneen Farrow Collins, CDC
Tom Curtis, American Water Works Association (AWWA)
Erinna Kinney, Association of Public Health Laboratories (APHL)
Cynthia Lane, AWWA
Nneka Leiba, EWG
Vanessa Leiby, The Cadmus Group, Inc.
Erica Martinson, Inside Washington Publishers
Olga Naidenko, EWG
Steven Padre, RCAP
Sean Roberts, Beveridge and Diamond, PC
Alan Roberson, AWWA

ChiHo Sham, The Cadmus Group, Inc.
Burleson Smith, Policy Navigation Group, Inc.
Wayne Sula, Hollingsworth and Vose Co.
Jim Taft, Association of State Drinking Water Administrators (ASDWA)
Ed Thomas, National Rural Water Association (NRWA)
Steve Via, AWWA
Lauren Weir, AWWA

Meeting Summary: Wednesday, July 21, 2010

OPENING REMARKS

Tom Carpenter, Designated Federal Officer (DFO), and **Gregg Grunenfelder**, Chairman, opened the meeting and provided an overview of the agenda. One council member, Lisa Sparrow, was not in attendance.

DRINKING WATER STRATEGY

Cynthia Dougherty, Director, OGWDW

Cynthia Dougherty summarized the proposed *National Drinking Water Strategy*. The proposed *Strategy* will address contaminants as groups, rather than one at a time; foster the development of new drinking water treatment technologies; use the authority of multiple statutes to help protect drinking water; and partner with states to share more complete data from monitoring at public water systems. The goals for the new *Strategy* include:

- Providing more robust public health protection in an open and transparent manner;
- Assisting small communities to identify costs and energy efficient treatment technologies; and
- Building consumer confidence by providing more efficient sustainable treatment technologies to deliver safe water at a reasonable cost.

EPA would like to engage partners and stakeholders through the Fall of 2010 to receive their input on the proposed *Strategy*. A listening session at the American Water Works Association (AWWA) conference was held in the Spring of 2010, and a facilitated web dialogue will be held in late July 2010. Ms. Dougherty encouraged the Council's participation in the web dialogue and emphasized the value of their input.

Mr. Grunenfelder asked for clarification regarding the number of listening sessions.

Ms. Dougherty clarified that there will be more listening sessions. EPA is working with Regional offices to schedule other meetings to engage stakeholders.

ADDRESSING GROUPS OF CONTAMINANTS UNDER THE SAFE DRINKING WATER ACT

Pam Barr, Director, SRMD, OGWDW and Wynne Miller, Acting Chief, SRRB, SRMD, OGWDW

Pam Barr and **Wynne Miller** presented further detail regarding the first principle in the *Drinking Water Strategy*, addressing contaminants as group(s). The idea is to identify opportunities within the Safe Drinking Water Act (SDWA) process where it would be

appropriate to consider contaminants as group(s). Potential factors to consider when defining groups include:

- Similar health effect endpoint(s);
- Measured by common analytical method(s);
- Known or likely co-occurrence; and
- Use of common treatment or control processes.

Ms. Miller provided examples of possible groups under evaluation and factors EPA is considering to support grouping decisions. The examples include volatile organic compounds (VOCs) or semi-volatile organic compounds (SOCs) with a Maximum Contaminant Level Goal (MCLGs) of zero, nitrosamines, and chloroacetanilides.

Ms. Barr invited the Council's input regarding the value of these example contaminant groups. She emphasized that these groups and the criteria for identifying groups are preliminary at this time.

Next steps in the process include:

- Facilitated web dialogue, to be held on July 28 – 29, 2010;
- Host additional listening sessions;
- Identify topics for the August 2010 experts meetings and identify potential experts;
- Plan for the September 2010 stakeholder meeting; and
- Develop an approach to begin work on potential groups by fall 2010.

Ms. Kennedy asked if disadvantaged communities are being taken into consideration in discussions with stakeholders and requested more detail on how EPA is approaching that.

Ms. Barr responded that EPA is considering disadvantaged communities in their outreach strategies and that one of the goals of the web dialogue is to reach disadvantaged communities.

Ms. Morales asked if waivers for group(s) of contaminants are being considered.

Ms. Barr indicated that waivers for group(s) of contaminants need to be considered.

Ms. Ward-Robinson commented that communication strategies for non-traditional communities need to be considered. It is important to identify people in positions of leadership within key groups in disadvantaged communities. Ms. Ward-Robinson also explained that there is a technology gap in many of these communities, so it is important to look beyond web-based approaches. Social marketing strategies should also be used to engage the public. Through these media, it is essential to communicate the expectations and goals of public participation in the *Strategy* development and to articulate the important public health message.

Ms. Barr invited NDWAC members to provide additional ideas and strategies for outreach for EPA to consider.

Ms. Ward-Robinson offered to share more information with Ms. Barr regarding engaging disadvantaged communities and the public.

Mr. Zarate-Bermudez inquired as to whether EPA will include communities or professional groups working on the oil spill in the Gulf of Mexico.

Ms. Barr responded that communities or professional groups working on the oil spill in the Gulf of Mexico are not specifically being considered. For drinking water, EPA is focused more on the ingestion of contaminants, where as exposure to contaminants as a result of the oil spill is more incidental.

Ms. Kennedy emphasized that outreach needs to be multilingual and suggested using EPA's Beyond Translation program as a resource. There is a technology gap, as disadvantaged communities do not have access to the internet and are often far away from libraries. There is a need to engage in non-traditional forms of communication to bridge this gap.

Ms. Morales expressed concerned about the short timeframe in which EPA is trying to solicit public input. Disadvantaged communities need to be engaged over time, and it is important to identify organizations that have credibility within communities. Due to time constraints, EPA might not be able to get meaningful community input.

Mr. Grunenfelder asked whether EPA has looked at approaches in other parts of the world (e.g., European Union or Australia).

Ms. Barr indicated that EPA is continuing to look at examples from other countries. The pesticide standard for EU is a total aggregate standard, but each country can decide what contaminants are included, and each is tested individually.

Ms. Weintraub explained that analytic methods have limits of detection, and it is impossible to predict how technologies will change over time. Detection methods are getting closer to being able to detect near zero levels of contamination. It will be important not to equate low levels of detection with health effects as levels of detection drop more quickly than our understanding of related health impacts.

Ms. Miller agreed on the importance of analytic method detection limits and on health impacts being a key driver for setting drinking water standards.

Mr. Kite explained that as a water treatment plant operator, some contamination issues are seasonal. There is a need to look at the source and who is causing the problem as some are naturally occurring. It is going to take more investments in treatment facilities. Mr. Kite also commented that waivers for seasonal issues should be considered.

Mr. Owen explained that groups of contaminants fall into two fundamental categories: (1) those that have health effects and (2) those that can be removed. Contaminants should be grouped according to common modes of action and interaction. It is difficult to make determinations about what can cause health effects, and we do not have all of the needed health effects data. On the treatment side, there is a need to look at the intersection of the contaminants identified as a group. The health effects may be known, but can the contaminants be removed? Or, there are contaminants that can be effectively removed, but the health effects are unknown. The goal should be to determine if there are ways to balance the health effects and treatment options to have the most impact.

Ms. Dougherty replied that the purpose of the *Strategy* is to develop regulations that are protecting public health. The groups need to be based on public health protection.

Mr. Johnson asked if source water protection is being considered, as resources are constrained for developing new treatment processes.

Ms. Barr replied that one of the areas EPA wishes to research is the protection of source water and the benefits of improving source water quality.

Mr. Grunenfelder commented that there is a need to consider a comprehensive approach.

Mr. Saddler commented that analytic processes far exceed treatment processes that are available, and water costs increase with increased treatment. There is also a need to consider disadvantaged communities.

Mr. Cooley described an example in Pennsylvania where pharmaceutical drugs were detected in drinking water and caused a decrease in public confidence. It is important to communicate with the customers, especially as it is possible to detect lower levels of contaminants and emerging contaminants. There is a need for a holistic approach. Utilities that do their own analytics and sampling need assistance.

Ms. Weintraub stressed that public health is a point of interest. Risk management is necessary to manage contaminants, and it is important to engage at the point source. It is also important to manage perceptions, especially within emerging and disadvantaged communities. There is a communications gap between communities and governing authorities despite the growing list of contaminants. This needs to be managed through education and communication with an emphasis on the reality of lifestyle practices and implications on water quality. These factors should be considered as part of risk management strategy.

Ms. Morales commented that there is a lot of useful existing and historical data, particularly at the state level. Existing sources of data should be gathered in one database and be made available. Ms. Morales also commented that as the new *Strategy* is being developed, it is important to consider sampling requirements. The option of testing for individual contaminants should be preserved. If sampling is done for a group of

contaminants and it is found that one exceeds the MCL, individual sampling should be allowed going forward as to reduce the cost to the community.

Ms. Barr mentioned that EPA collected historic data from 45 states for the 6-year review of existing standards. However, they are only accepted electronically.

Mr. Vincent commented that point of entry treatment, such as carbon or membrane technology, may be an option for small systems.

Mr. Grunenfelder strongly encourages EPA to hold an expert panel, as it would be valuable to have a detailed discussion. Mr. Grunenfelder also suggested including state and territorial health officials (Association of State and Territorial Health Officials) and experts with a toxicology background on the expert panel.

Ms. Barr clarified that EPA is planning to hold an expert meeting. One question EPA has is whether to hold it before or after the public stakeholder meeting in September 2010.

Ms. Miller emphasized that it is important to understand the key technical and scientific aspects, and to determine which experts and disciplines should be engaged.

Mr. Owen commented that treatment processes currently in place may be removing contaminants that have health risks that have yet to be fully understood. It is possible that the treatment processes currently in place are creating greater health risk reduction than can be calculated when contaminants are individually assessed. In determining groups of contaminants, there is a relationship among properties of contaminants that are common, potential health effects as a result of these common properties, and the removal by treatment processes.

Ms. Weintraub expressed concern that there isn't necessarily a relationship between toxicological effects and health effects, and that more evidence is needed for what the health effects are and at what levels they occur. It is important to determine how to prioritize groups of contaminants from a public health perspective. For example, the goal is to "prevent cholera" and ensure protection against microbiological contaminants.

Mr. Grunenfelder emphasized the need to ensure that past successes are protected as EPA moves forward with the proposed *Strategy*. Discussions regarding reshaping the public health system, modifying the system to address emerging issues and modifying business practices are essential.

USING EPA'S AUTHORITY UNDER THE FEDERAL INSECTICIDE, FUNGICIDE, AND
RODENTICIDE ACT (FIFRA) TO PROTECT DRINKING WATER

*Richard Keigwin, Director, Pesticide Re-evaluation Division, OPP, and Pam Barr,
Director, SRMD, OGWDW*

Richard Keigwin reviewed relevant pesticide statutes, the registration and review process, and opportunities for collaboration. The EPA, Food and Drug Administration (FDA), U.S. Department of Agriculture (USDA), and states are involved in licensing pesticides. Under FIFRA, EPA conducts a review of pesticides to ensure continuity in protecting public health and the environment. EPA is required to review all pesticides every 15 years. Mr. Keigwin identified opportunities for collaboration between SDWA and FIFRA, including:

- Coordinating regulatory efforts;
- Sharing monitoring programs;
- Collaboration on risk assessment;
- Increasing understanding of existing usage data; and
- Developing analytical methods.

Mr. Keigwin invited the Council's input on these and other areas for collaboration.

Ms. Kennedy asked for clarification regarding farm workers who are exempt from regulations.

Mr. Keigwin clarified that the statutes require consideration of all non-occupational exposures. The focus is on looking at effects on consumers (i.e., eating food with residue). Farm worker exposure is considered when looking at whether the product is safe to use. Additionally, it is considered in the licensing process which takes into account all potential pathways of human health exposure.

Ms. Kennedy emphasized the need for labeling in English and Spanish. From a natural resources protection perspective, users need to be able to understand the label.

Mr. Keigwin added that OPP received a letter from the Migrant Clinicians Network encouraging bilingual labels. OPP is in the process of getting public input on how to best achieve this. They are currently researching other examples (e.g., Canada and Puerto Rico, which have their own licensing decision and bilingual requirements). OPP's recommendation will be developed through a policy statement and on a case-by-case basis. Mr. Keigwin invited input regarding other languages labels should be provided in.

Mr. Stephani asked what percent of the cost of the review process is shouldered by the manufacturers.

Mr. Keigwin replied that companies pay a registration fee which helps support the review process and is about one-third of the cost of the review process. Manufacturers

also pay data generation costs. However, data are proprietary and are not public information. Evaluations are available to the public, but data themselves are not.

Mr. Stephani asked whether increasing the percent companies contribute to the review process is under consideration.

Mr. Keigwin responded that registration fees have been collected for eight years and that maintenance fees have been collected for 20 years. It is important for the public to pay for part of the evaluation, as there is a public good that results from investment of public funds. Manufacturers of compounds should also contribute.

Mr. Grunenfelder inquired whether there is a set of criteria for how pesticides are prioritized for the review process.

Mr. Keigwin responded that the focus has been on taking into account the last time a significant evaluation was conducted of the compound. Mr. Keigwin added that the registration review of organic phosphates is conducted as a group. There is potential for parallels to be drawn between the registration review process and the consideration of regulation by groups of drinking water contaminants.

Mr. Grunenfelder encouraged continued thinking along those lines.

Mr. Vincent inquired as to the establishment of a liability pool or fee that could help treatment systems correct issues from banned pesticides.

Mr. Keigwin commented that legacy chemicals are chemicals which have been banned but still exist in the environment. Once the compound is no longer registered in the U.S., there is no provision under FIFRA to regulate the contaminant.

Mr. Vincent commented that banned contaminants exist in the water and inquired whether there is a bonding requirement for the manufacturer to fix mislabeled pesticides?

Mr. Keigwin responded that there is not a provision to hold manufacturers monetarily liable.

Mr. Vincent asked if there is a program for enforcement for application, as applicators do not follow the labels.

Mr. Keigwin responded that there are programs to better train applicators including safe application and use of pesticides. State lead agencies train and inform applicators, which in turn, updates the worker safety process.

Ms. Weintraub asked how staff is assigned to the review process; how many people work on a re-evaluation and how are areas of expertise assigned.

Mr. Keigwin responded that staff is assigned to the review process depending on the program. Each discipline has representation, and there are typically ten to 12 people working on a review across OPP, including risk managers and risk assessors.

USING EPA'S AUTHORITY UNDER THE TOXIC SUBSTANCES CONTROL ACT (TSCA) TO PROTECT DRINKING WATER

Jim Willis, Director, Chemical Control Division, OPPT and Pam Barr, Director, SRMD, OGWDW

Mr. Willis reviewed the responsibilities of OPPT under TSCA and the Pollution Prevention Act, namely for ensuring that industrial chemicals for sale and use in the U.S. do not pose unreasonable risks to human health or to the environment. In September 2009, the Administrator announced that EPA would develop chemical action plans that would outline the potential risks and the steps the Agency will take to address those risks. EPA released five action plans (phthalates, polybrominated diphenyl ethers - PBDEs, long-chain perfluorinated chemicals, and short-chain chlorinated paraffins). EPA anticipates releasing three additional action plans in the coming weeks. Mr. Willis explained that the Agency has selected the 'low hanging fruit' to address first and is now working with colleagues to address some of the more complex issues. Additionally, it is important to look 'upstream' to identify opportunities to address releases and use of chemicals at the source and prevent contamination of drinking water resources.

OPPT is also supporting the Endocrine Disruptor Screening Program and working to ensure public access to TSCA-related health and safety data.

Mr. Grunenfelder asked if there is a focus on promoting green chemistry and providing safer alternatives.

Mr. Willis responded that EPA grants green chemistry awards through the "Design for the Environment" program. This program is for new chemicals that are based on or create safer processes in their use.

Mr. Stephani asked whether EPA has looked to other countries for examples of chemical banning programs and their effectiveness.

Mr. Willis responded that looking at the work other countries do is always useful and that they exchange work regularly. EPA has exchanged data and assessments to the extent data are not confidential.

Mr. Cooley commented that it is encouraging to hear about the cross-agency work, and, that there is the need to look at new, more innovative ways to work together. Mr. Cooley asked if there is authority to require companies to submit exposure and health and safety data and if those data are collected by the companies themselves.

Mr. Willis responded that companies are required to provide data they currently have, and that EPA can require new tests.

Mr. Cooley asked what triggers the review process.

Mr. Willis responded that new chemicals require submission of a pre-manufacture notice, while existing chemicals require data for high production volumes. Section 8E of TSCA requires the immediate submission of data once a chemical poses risk of injury.

Mr. Cooley asked whether OPPT conducts chemical facility inspections.

Mr. Willis responded that OPPT's authority is limited to enforcement related activities.

Ms. Morales expressed support for the Administrator's vision to encourage collaboration across the Agency. Ms. Morales asked if there is any discussion regarding the financial responsibility of manufacturers and emphasized the need for the EPA programs and federal agencies to discuss financial responsibility of manufacturers.

Mr. Willis commented that there is no full cost accounting provision in TSCA. Chemical companies and manufacturers have been litigated because people have been injured. There are fewer than 7,000 chemicals that are produced at over 25,000 pounds (lbs). Many chemicals listed in the inventory are out of production, but there is no way to take them off the list. The inventory of chemicals is a residual list of everything that has been in commerce.

Mr. Grunenfelder commented that there has not been a lot of federal leadership in regard to TSCA reform. Washington State has taken it upon itself to assess chemicals. For example, WA has banned PBDEs and certain products, but has not seen a lot of concern from manufacturers. Mr. Grunenfelder asked if the voluntary phase-out program is an effective means to phase out chemicals.

Mr. Willis responded that there are significant challenges to a voluntary phase-out program. However, regulations tend to take a long time, but voluntary programs can be developed more quickly. It is important to ensure that voluntary reductions are legitimate, so following up with a regulatory cap is an important piece to a voluntary program. It provides an opportunity to achieve something sooner than regulations could.

Mr. Grunenfelder commented that there is a need to promote product manufacturer stewardship.

Mr. Willis commented that the chemical industry has a "Responsible Care" program to ensure good downstream stewardship of products. However, many companies do not actually know what consumers do with their product. It is important to start to look at who are the customers.

Mr. Vincent asked whether methods for the removal of chemicals from water and the best available treatment technology for removal from water are considered in the application process.

Mr. Willis responded that there are pre-manufacture notices that require water monitoring around facilities, and the significant new use rule applies to anyone else that manufactures a chemical. It is easier to regulate new chemicals rather than existing chemicals.

Mr. Cooley commented that there is a private sector versus public agency issue. For example, through the National Pollutant Discharge Elimination System (NPDES), permits for wastewater treatment plants, the regulations on the public sector are stronger than for private sector.

DEVELOPING DRINKING WATER TECHNOLOGY INITIATIVES

Audrey Levine, National Program Director for Drinking Water Research, ORD and Tom Speth, Division Director, Water Supply and Water Resources Division, ORD

Ms. Levine provided an overview of ORD's research support for the contaminant groupings. This includes coordinating across ORD's National Research Programs (e.g., Safe Products for a Sustainable World, Safe and Sustainable Water Resources), leveraging and providing outreach to external partners and stakeholders, and developing outcome-oriented research activities. ORD has identified research challenges in moving forward with addressing contaminants as groups. These include identifying optimal ways to group contaminants to provide information on health risks, identifying the criteria for developing and adopting new technologies (e.g., public health protection, effectiveness, affordability, resiliency, reliability, operational ease, sustainability, water and energy environmental footprint), identifying protocols that are effective for validating technologies, and ensuring affordable and sustainable water technologies.

Mr. Speth provided an overview of drinking water technologies in regard to the *Drinking Water Strategy*. The development of drinking water technologies focus on three areas: screening and monitoring, treatment, and infrastructure. The goal is to develop protocols to evaluate and validate new technologies, conduct field demonstration projects with a focus on sustainability and affordability, and engage the private sector in the development of these technologies. To date, multi-contaminant and arsenic demonstration programs have been conducted.

Mr. Stephani inquired about the selection process of the technology used in the pilot projects and whether the manufacturers were included in the decision.

Mr. Speth explained that they issued a Request for Proposal (RFP) to the industry for each pilot system. Based on RFPs received, a technology was selected. The decision regarding the type of technology to use was ultimately the utility's choice.

Mr. Stephani asked whether the process for selecting technologies was effective.

Mr. Speth responded that they used an assortment of technologies for the 50 demonstration sites and looked at several technologies for each site.

Ms. Taylor inquired as to the number of utilities in the pilot program and the size of those utilities.

Mr. Speth responded that they provided the capital, but the utility had to support operations and maintenance (O&M) costs, which is a struggle for some utilities. The size of the systems varied from small trailer parks to those serving over 10,000 people.

Mr. Diemer commented that it is good to see an effort in coordinating resources and inquired as to the percentage of ORD's budget that is going to health effects research and whether there has been a shift in funding to support the research programs.

Ms. Levine responded that they are able to leverage additional resources by coordinating across the Agency.

Ms. Morales commented that one of the pilot projects is in one of her communities. The arsenic problem was very expensive to address, and they ended up taking a regional approach.

Ms. Dougherty commented that part of the pilot program was to see what would and wouldn't work.

Mr. Speth commented that technology can be pricy, and some communities struggle with O&M costs.

Mr. Owen commented that it is also important to determine how to use existing technologies more efficiently rather than spending resources on inventing new technologies. As groups of contaminants are being identified, it is important to think about how available technologies can be used to remove these groups. There is also an important training component for state agencies and utility employees when new technologies are implemented. For example, it was a challenge in some locations to adopt the ultraviolet disinfection guidance manual developed by USEPA without states adding requirements that were counterproductive to the effectiveness of implementation.. There is a need to focus on adopting well thought out guidance that USEPA prepares.

Mr. Speth commented that the sustainability of technology is an important factor.

Mr. Johnson commented that there is also the need to evaluate technology from a capacity standpoint.

Mr. Speth commented that sites were selected with varying flow rates, water quality, size, and distribution systems.

Ms. Weintraub asked whether the arsenic demonstration work is summarized on EPA's website.

Mr. Speth responded that there is a link on the EPA website: (<http://www.epa.gov/safewater/arsenic/index.html>), and that presentations have been developed to train states.

Ms. Weintraub asked whether the states are using results to identify or develop regulations.

Mr. Speth responded that it is more about getting states comfortable with the technologies. States were concerned about granting approval for a certain process without feeling comfortable with the process.

Ms. Weintraub asked what the plan is to incorporate the findings from these studies into the arsenic standard.

Ms. Dougherty responded that when EPA issues Maximum Contaminant Levels (MCLs), it is a performance standard. EPA has also issued a list of technologies that will work for large and small systems. Issuing the arsenic rule leads to more research on arsenic treatment technology. EPA's Office of Management and Budget (OMB) developed a review tool to better measure the effectiveness of rules once they are issued and to estimate what the benefits have been.

Ms. Weintraub commented that, as an epidemiologist, there is always so much uncertainty. It would be useful to think about ways treatment-based standards and guidance can fit in with a retrospective look at regulatory changes. It seems like the *Strategy* is reliant on toxicology. How does that get translated further to known or observed human health effects?

Mr. Speth agreed that the *Strategy* really doesn't get at that.

Ms. Levine commented that EPA is starting to look at exposure research and that there is a need for more research in that area.

Mr. Saddler commented that one of his systems was an arsenic demonstration project and that good data and information came out of the study.

Mr. Speth commented that EPA worked with companies to adapt technologies for the specific needs of the utility. This approach also gave utilities more time and improved technology.

Mr. Zarate-Bermudez asked whether health concerns were criteria for site selection and whether there is a monitoring program that can provide the appropriate information.

Mr. Speth commented that epidemiological studies have found a relation with reproductive and developmental endpoints and that there is a need to link toxicology with epidemiological studies. It is important to look at contaminants of emerging concern.

Mr. Cooley commented that these types of programs are very valuable for informing the public about what works and he asked what the process for site selection is.

Mr. Speth responded that RFPs were issued; after which EPA consulted with water primacy agencies and utilities. It was a process of discernment. The lowest cost option was not always selected but what worked best for the community.

Mr. Saddler asked for more information regarding outreach to states and utilities, as EPA reached out to the regions but not specifically to the states or utilities.

Ms. Levine added that there were also geographic criteria.

DEVELOPING SHARED ACCESS TO PUBLIC WATER SYSTEMS (PWS) MONITORING DATA
Ann Codrington, Acting Director, DWPD, OGWDW

Ms. Codrington provided a summary of the *Drinking Water Strategy's* efforts to improve shared access to monitoring data. The goal of improving access to monitoring data is to facilitate information and data exchange capabilities between states and EPA, strengthen the review of potential drinking water health concerns, share data analysis tools with states, and implement a range of interactive communication tools. Ms. Codrington asked for input from the Council regarding three main questions:

- What information will consumers want to see to explain data?
- How should the data be displayed?
- What stakeholders should be consulted?

Ms. Dougherty commented that an additional consideration is how can systems, states and EPA ensure data quality.

Mr. Grunenfelder commented that the focus seems to be around compliance monitoring data and inquired as to whether occurrence data were included.

Ms. Codrington responded that EPA's focus includes not only compliance, but also occurrence information that can be used in the six-year review. Data trends are also considered.

Ms. Dougherty added that improving shared access to PWS monitoring data includes providing better access to all of the data systems currently report to the states.

Mr. Grunenfelder suggested engaging the Centers for Disease Control and Prevention (CDC) Environmental Public Health Tracking Network, as one component of the

tracking system is water. One of the challenges is to develop text to help the public interpret data correctly.

Ms. Dougherty responded that the EPA has been working with the CDC and is an active partner in the Environmental Public Health Tracking Network.

Ms. Morales inquired about the barriers for states in terms of submitting their data to the federal government.

Ms. Dougherty responded that states are required to submit inventory and violations to EPA. Now that data can be submitted electronically, EPA is looking more closely at how they can be sharing and collecting information. The data are publicly available if requested.

Ms. Morales commented that state level data are an asset in moving to groupings of contaminants but had not considered the fact that states have their own reporting method. Ms. Morales also inquired whether the states use the Drinking Water Watch.

Ms. Dougherty responded that most states use the State Drinking Water Information System (SDWIS). Florida and Washington do not use SDWIS.

Ms. Morales asked whether it is the laboratory's responsibility to upload data to SDWIS.

Ms. Dougherty responded that states usually upload data to SDWIS.

Mr. Grunenfelder added that now that the states are getting data electronically from the lab, there is an opportunity to move to a common data platform.

Ms. Dougherty commented that EPA is looking at opportunities and barriers to getting data uploaded electronically.

Mr. Grunenfelder commented that time for transition to a new data platform or data reporting requirements is essential. There is a need to set the direction and give people time to move to a common vision.

Ms. Morales expressed concern regarding the short timeframe.

Ms. Dougherty added that Region 9 uses a different data system.

Ms. Weintraub commented that data quality is an important consideration. There is a tendency for people to want to compare data across jurisdictions (i.e., compare disease data of San Francisco to the rest of California). Ms. Weintraub added that data often do not reflect the quality of the water delivered to customers. In smaller systems that use multiple sources, a single average might not represent the accurate quality of the water. Ms. Weintraub also suggested utilities as possible stakeholders.

Ms. Dougherty was in agreement and commented that data needs to be better presented in consumer confidence reports.

Ms. Weintraub inquired regarding the tests and pilots before posting data and whether this has been conceptualized. How are data submitted and received?

Ms. Codrington responded that the focus has been on the transfer of information. Quality checks are being conducted, and errors are being addressed.

Ms. Levine added that focusing on what people are saying about the data is a good idea.

Ms. Taylor commented that it is critical to have all of the monitoring data, not just the compliance data. It would be helpful to provide a link, similar to the one on the Toxic Release Inventory, which gives information about the chemical.

Mr. Johnson asked whether SDWIS can handle changes in compliance as they appear.

Ms. Codrington responded that yes, that is the goal.

Ms. Dougherty commented that an issue is to update models for SDWIS Federal and State. It would be helpful to be able to update both at the same time.

Mr. Cooley commented that Consumer Confidence Report (CCR) information is valuable, but that it is not typically used at the household level. CCRs are not effective in getting the information out to the public. To help get information out, a calendar with the CCR information for residents was distributed, which combined information from other programs that needed to get information out to the public regarding drinking and wastewater. Each month the calendar had information on a different topic and identified what the customer can do to help.

Mr. Kite commented that CCRs contain a lot of information. Mr. Kite suggested developing a brief cover letter that summarizes the results to distribute to the public. Mr. Kite also mentioned that he has trouble accessing the NPDES reporting tool online.

Sheila Frace responded that EPA is looking at other web-based systems that are more user friendly.

Ms. Dougherty commented that as the labs report water quality data, systems can look at them before EPA can access them.

Mr. Grunenfelder commented that the cross-agency approach is appreciated, and that it is very important to establish the new data structure and allow time for transition. It takes longer than anticipated.

Ms. Dougherty responded that it will be important to transition to a new data platform in parallel with the larger effort. It is important that the transition go smoothly, and that it is

done in concert with the states. It will be important to ensure that EPA has the information needed and is able to provide information to the public.

COUNCIL DISCUSSION

Mr. Diemer commented that regarding regulating contaminants as a group, it is good that EPA has held listening sessions and that NDWAC is addressing it at the meeting. It is essential that there be a real opportunity for input. Mr. Diemer added that it is not clear on how the public participation and input is going to be used to help regulatory decision-making happen more efficiently and suggested putting together an outline or proposal to garner feedback.

Ms. Dougherty responded that the intent is to have an outline or proposal in September 2010, but would like to receive input upfront.

Mr. Diemer commented that input from the listening session is valuable.

Ms. Dougherty invited the Council's participation in the web dialogue.

Ms. Morales asked for clarification regarding whether the Council is being asked to make recommendations at this point and wondered if the Council has enough information to make recommendations.

Ms. Dougherty responded that EPA has laid out ideas for an approach and would like to hear from stakeholders and advisors on the approach. The Council's input is particularly valued.

Ms. Morales expressed concern regarding making recommendations so early on in the process.

Mr. Diemer asked for clarification regarding the three groups of contaminants identified and whether EPA wants recommendations to move forward with two of these groups.

Ms. Dougherty clarified that the table of contaminant groups provided contained examples of potential groups. EPA is looking to identify groups that are straightforward and can provide the best public health protection. For example, VOCs are identified as potential groups listed on the contaminant candidate list (CCL), and their six-year review of existing regulations identified four contaminants for change. EPA wants to identify groups that have a clear public health benefit. The ones listed on the slide are not necessarily the groups that will be selected but are provided as a starting point.

Mr. Diemer inquired whether it is possible that a combination of groups that provides better public health protection will be identified.

Ms. Dougherty responded that that is a possibility; however, EPA thinks this is a good path forward and is seeking guidance on how to move forward. It is possible that it may be determined that this path does not provide that much more public health protection.

Ms. Barr encouraged the Council to think about whether there is a group of contaminants that is really ripe for this approach through which we would get good public health protection.

Mr. Grunenfelder emphasized the extent of the project and that it will be important for it to be an iterative process. EPA's resources should be prioritized, and geographic differences should also be considered when developing groups of contaminants. Nutrient management and groundwater contamination (i.e., nitrates and pesticides) could provide a focal point for interagency cooperation and enhancement. This approach could provide focus on a major problem. Occurrence and co-occurrence should also be considered in order to make progress in the near term.

Ms. Dougherty commented that Ephriam King, Director, OST and Denise Keehner, Director, OWOW, will discuss this in their presentation during the second day of the NDWAC meeting.

Ms. Taylor commented that in the feedback from the AWWA conference listening session, source water protection was identified as an issue. Source water protection is more cost effective than treatment and can potentially bring more people together.

Ms. Dougherty agreed that source water protection is important to consider.

Ms. Weintraub commented that every consumer is being exposed to a different mixture of contaminant groups and encouraged EPA to regulate them according to what was proposed (i.e., commonalities, health effects, analytic methods, and co-occurrence).

Mr. Grunenfelder commented that it is important that past successes are built upon and that there is a mutual benefit for all.

Ms. Barr commented that by looking at what factors were part of early successes, there may be ways to achieve the same quality in a better way (i.e., have one measurement). There is the potential to save utilities money by taking this approach.

Ms. Dougherty commented that EPA has been working for the past ten years regarding how to develop CCLs. There were originally 7,000 contaminants evaluated, and they have been narrowed down to 116, which are on the CCL. We now need to work on the next step to evaluate contaminants with an opportunity to protect public health in the regulatory development process. It would be useful to look at whether there are contaminants on the CCL that make sense to group together from a public health standpoint. Some contaminants did not make it to the final CCL, because we do not know if they pose a threat to public health.

Mr. Saddler emphasized that groupings should be done according to public health effects. It should also be considered that when one contaminant is treated, multiple other contaminants may be removed. There is not a good understanding of what other contaminants are being removed.

Mr. Grunenfelder commented that the data management piece should be data driven. However, there are barriers for public water systems around data management. There is a need to understand what the future platform for data should be and change the expectation for labs to report electronically. There are a series of steps to take to end up with a system that works well and can manage all of the data.

Mr. Owen encouraged EPA to consider the contaminants that are on the CCL and determine what groups they would fit in. The next step would be to determine what of the other 7,000 compounds might fall into these groups. Once a group of contaminants with similar properties has been identified, then ask the questions: Is there enough information? Can we do something about it? Are there treatment techniques? Mr. Owen also suggested looking at the World Health Organization (WHO) guidelines, which evaluate various groups and recommend a guideline for surrogates or a subset of contaminants even if there is not enough information to regulate the entire group. This might provide insight or a place to start.

Ms. Weintraub commented that the new *Strategy* seems to be moving away from standards based regulation. For example, utilities are implementing best available treatment to meet the standard. Good source water protection and good treatment technology are both important. Treatment technologies remove more than the intended contaminants. Ms. Weintraub also commented that the pace at which the public receives information has changed the way the research community disseminates information. We need to be in a position to be able to respond to information as it comes out.

Ms. Dougherty added that Ms. Weintraub's comment speaks to the Administrator's point regarding the fact that there is more and more information and chemicals. A new approach needs to be developed to address it all. The focus is not only on SDWA, but also on considering groups within the current context (e.g., MCL or treatment techniques). The goal is to be able to make the same determinations we make now (i.e., what is the adverse effect?) and determine if this can be done for multiple contaminants. It might be possible to identify an indicator MCL, group MCL, or individual MCL depending on the contaminants.

Mr. Saddler asked for clarification regarding the timeframe of the proposed *Strategy*.

Ms. Barr confirmed that EPA is currently working to identify a framework within which to identify groups. The goal is to identify one group of contaminants by fall 2010.

Ms. Dougherty clarified that EPA will not have the data system developed by fall 2010 but just the framework for moving forward. EPA is working with other agencies.

Approximately 40 of the 116 contaminants on the CCL are pesticides, so there is a good starting point for collaboration.

Ms. Taylor encouraged EPA to group contaminants with same or similar health outcomes.

Mr. Vincent commented that all of the work on the CCL is a good starting point and some have similar treatment methods. The 6-year review and analysis provides an opportunity to group and prioritize contaminants.

Ms. Morales cautioned EPA from over grouping contaminants. There are a lot of contaminants for which data from the states are not available. All of the data we need to make the grouping decision are not yet available.

Mr. Cooley expressed concern regarding the current lack of funding and lack of available resources. It is important to identify what is the added value of grouping contaminants.

Ms. Dougherty added that part of the issue is that there are additional contaminants that should be regulated, and it needs to be determined how to best identify and regulate them. There might be opportunity to focus on larger groups or by geographic scale.

Mr. Cooley commented that there are a very small number of violations for regulated criteria. Utilities may have other things they want to focus on that are more important to providing water.

Ms. Ward-Robinson commented that focus should be placed on public health and identifying the public health risks of contaminants. The public health benefits of treating specific contaminants could be aggregated, and then each contaminant could be prioritized or ranked accordingly. All of the data needed to make these determinations do not exist.

Ms. Dougherty encouraged the Council to think about if and how it would like to form recommendations to the Administrator.

Ms. Weintraub encouraged stakeholder involvement, and commented that feedback from the listening session at the AWWA conference is important. Ms. Weintraub also inquired whether there are similar plans with other stakeholder groups and how the stakeholder involvement process is going to proceed.

Ms. Barr replied that the AWWA conference was a unique opportunity, and that there are not other obvious opportunities with other stakeholder groups that immediately present themselves.

Ms. Dougherty added that the web dialogue will be another opportunity for stakeholder engagement. There are over 170 people registered to participate representing the entire

drinking water community. CDC did a similar approach a few months ago which was successful. A website will also be provided where people can submit information.

Ms. Weintraub commented that maybe the results of the web-dialogue can lead to a more focused group (e.g., industry, health officers group, state and territorial epidemiologists, laboratory people, biologists, etc.).

Ms. Dougherty added that the AWWA listening session was a diverse mix of stakeholders.

Mr. Zarate-Bermudez commented that CDC held a National Conversation on Environmental Health. It is important to focus on information that is available, and developing more information on the health effects of groups may be a good place to start. If the contaminant groups approach is taken, experts should participate in the process. An important group to contact is the American Chemical Society, as they are developing the chemicals that are on the market.

Ms. Morales commented that many small systems are dealing with one contaminant, and they are mostly concerned with identifying the treatment technology needed in order to comply with the regulation. The contaminant grouping approach may provide an opportunity to develop technology. Technologies that are already in place should also be considered. Reverse osmosis (RO) is not the best option, but often the only option with multiple contaminants.

Mr. Owen commented that the biggest drivers for surface water systems are existing regulations. There is the need for systems to diversify their portfolio and use more compromised sources as a result of climate change and urbanization. However, under the existing regulatory approach, there is complexity as the solutions for these compromised sources are often more energy intensive and can have poorer recovery. It is important to figure out how to manage technology implementation and energy use simultaneously. While it is important to focus on contaminants that have health impacts, the public isn't always aware of these impacts; utilities must also consider aesthetics, as the public perceives those properties as an indicated or water quality.

Mr. Vincent added that the cost of removal is increasing, and infrastructure is a problem. In regard to new contaminants, it is important to determine what should be tested for next. Treatment technologies for near future issues (e.g., hormones, antibiotics) need to be developed.

Mr. Grunenfelder commented that special treatment is a struggle for small systems. The focus should be on setting systems up to be successful and sustainable.

Mr. Johnson commented that small systems don't have technical capacity to deal with advanced treatment technologies, and that there should be training provided.

Mr. Cooley commented that there is a more informed and educated public than ever before, and that information is more readily available. This combination raises the public's expectations.

Ms. Ward-Robinson added that because consumers are much more educated, it is imperative to understand the marketplace, the consumer, and be able to communicate with consumers respectfully. The international community may provide examples on how to prepare, train and educate operators to address emerging technologies, especially for small systems. Ms. Ward-Robinson suggested forming a group or finding a way to get information back to EPA through a small community network and offered to work with others on this effort.

Mr. Zarate-Bermudez commented that the wastewater sector also has challenges with treatment technology, and that it is important to include them in the discussion.

Ms. Dougherty commented that Clean Water Act (CWA) regulators are going to talk during the second day of the NDWAC meeting and look at some issues from the wastewater sector. One of the challenges is to keep infrastructure up with population growth.

Ms. Frace commented that population growth makes it hard to keep up with regular contaminants. Water treatment technologies tend to get more energy intensive.

Mr. Kite commented that source water is changing, and future source water will change. Small systems should consider hooking up to larger systems.

Meeting Summary: Thursday, July 22, 2010

RECAP OF PREVIOUS DAY AND COUNCIL DISCUSSION

Greg Grunenfelder, Chairman and Tom Carpenter, DFO

Mr. Grunenfelder provided a summary of Day 1 and an overview of the second day of the NDWAC meeting.

Ms. Kennedy commented that part of the recommendations should be to continue to encourage the Administrator's support of disadvantaged communities and a strong commitment to environmental justice.

Mr. Owen commented that it would be helpful to reaffirm that the purpose of the *Strategy* is to focus on groups of contaminants that have the greatest public health impact. This should be the underlying principle. To the extent possible, treatment technologies that can overlap with groupings and provide multiple contaminant removal should be identified. It is possible to provide confidence to consumers by removing "poster child" contaminants that also remove a broader range of contaminants. It will be necessary to develop ways to communicate that to the public.

Mr. Diemer commented that the *Strategy* is innovative, and there is the potential to improve public health. However, Mr. Diemer expressed concern that health effects research is a primary obstacle and suggested the Council look back at previous recommendations made to the Administrator regarding health effects research.

Mr. Grunenfelder added that the Council has written multiple letters encouraging more health effects research. The SDWIS platform needs to be renewed, and investment in a data management system is difficult in hard economic times. The Council's recommendations to the Administrator provide an opportunity to highlight the need for investment.

Mr. Stephani asked for clarification regarding the percentage of the cost of the review of contaminants that industry provides. If industry only provides one-third of the cost of review, the remainder is federal money. Mr. Stephani encouraged the re-evaluation of the extent to which the industry shoulders the burden.

Ms. Dougherty confirmed that industry contributes about one-third of the cost of review for pesticides. However, for other contaminants, that is not necessarily the case.

Ms. Kennedy commented that economically challenged communities are bearing the brunt of harmful contaminants, and that industries producing them are not on the hook. The burden should be spread more evenly among consumers and producers. There is also the need for more clinical trials to determine the effects on human health.

Mr. Grunenfelder agreed that product stewardship is important.

Ms. Weintraub commented that transparency of data and making information more available is important and encouraged EPA to be cautious, as there is a constellation of issues disadvantaged communities are facing, and the focus should not be on drinking water as the root cause of disparities.

Mr. Zarate-Bermudez commented that the multiple barrier approach to production of safe water is important as is an integrated approach to manage water sources and to supply drinking water.

Ms. Morales added that a two-prong approach should be considered: short-term and long-term. In the short term, EPA should work with the information available. However, decisions should be made cautiously as not to take a wrong turn. There is enough information to group some contaminants, while there are others where more research is needed.

Ms. Dougherty added that as a group approach is being considered, monitoring for individual contaminants should continue.

CLEAN WATER ACT INTEGRATION

Denise Keehner, Director, OWOW, Ephraim King, Director, OST, Randy Hill, Deputy Director, OWM

Ms. Keehner presented an overview of the nexus of CWA and SDWA. Addressing nutrient pollution is a high priority for the Administrator, as nitrogen and phosphorus pollution is one of the top three causes of water impairments. Nutrients have impacts across the spectrum (i.e., public health impacts, water quality impacts, and ecological impacts). EPA is making progress with states to address some of these issues and is interested in hearing from NDWAC and the drinking water community regarding actions that can help advance nutrient pollution control.

Mr. King discussed existing data and analysis which provide a strong foundation of science and research. Drinking water programs across the country have a major stake in maintaining clean source waters. Efforts to date have been focused on local pilot projects, but there is a need to move beyond pilots to state-wide programs. This could be achieved through stronger partnerships at the state and local level and by linking CWA and SDWA. EPA is looking to NDWAC to assist in developing the partnership with state and local agencies to develop accountability frameworks, to identify information that links economic costs with drinking water impacts, and assist in leading a national dialogue on the impacts of nutrient pollution on drinking water.

Ms. Taylor commented on work to support numeric standards in North Carolina, stating that they have been partnering with the water treatment facilities to try to keep the

pressure on. Ms. Taylor also inquired regarding the shortfalls of narrative criteria and whether there is a fact sheet of responses to help advocate for numeric standards.

Mr. King responded that there is a joint OGWDW and OW report of the Innovations Task Group that identified case studies that may provide resources at (<http://www.epa.gov/waterscience/criteria/nutrient/>).

Ms. Kennedy inquired as to whether failing septic systems were included in the discussion. Failing septic systems are a big issue in California. In rural communities in California, many people are on private septic systems which are adding to impaired water bodies.

Mr. King agreed that failing septic systems are an important issue and are a major source of pollution in certain watersheds. There is a predictable rate of failure, and they are a serious problem.

Ms. Frace commented that EPA has a partnership with associations to try to improve the nation's management of septic systems. One key challenge is that they are generally not regulated by any federal law. The technologies are fine, but O&M is the issue. EPA is trying to promote management structures to help manage, repair, and replace septic systems.

Ms. Kennedy commented that people on the coast and in cities don't realize that septic systems are widely used. A public relations campaign that is focused on impacts to drinking water supply would be helpful.

Mr. Grunenfelder inquired regarding the Innovation Task Force, what is being done to continue their work, and whether there is an initiative to move the report forward. In Washington, nutrients are an issue, and they impact private and public water supplies. EPA has an opportunity to act as more of a convener and to help identify solutions. One challenge is determining how to get people outside of the boundaries of political jurisdictions involved.

Mr. King responded that having EPA work with Regions to convene drinking water and water quality professionals is a great idea. Regions need to document the lack of understanding of the impact and scope of the problem. Regarding private septic systems, it is important for local officials to understand impacts on groundwater. In regards to follow-up to the Innovation Task Force, EPA drinking water managers have done a good job following up on the report, while water quality folks are still trying to determine a path forward.

Mr. Grunenfelder commented that clean water and safe drinking water folks are not naturally coming together, and that it takes a concerted effort.

Mr. Diemer asked for clarification regarding the five sources of water pollution and the percent of loading contributed by each.

Mr. King responded that it varies depending on the region of the country. For example, in the Chesapeake Bay, urban/storm water runoff contributes ~ 40%, and agriculture, livestock, and crops contribute about ~60%, while in the Mississippi Basin, urban/storm water contributes ~20%, while agriculture, livestock, and crops contribute ~80%.

Mr. Diemer commented that California struggles with runoff from agriculture and livestock because it is exempt and unregulated, and there are no means to address the issue.

Mr. Hill responded that OWM's principle area is to develop regulations and manage NPDES. A large percent of the agriculture sector is exempt from regulations under the clean water program. Concentrated animal feeding operations (CAFOs) require permits. EPA is developing two rules with the goal of getting a better inventory of the CAFO community and proposing a regulation to get information about CAFOs across the country.

Mr. King commented that the CWA triennial review process, where a state has to revisit their standards, may not be sufficient. The drinking water community could engage in this process more than it does and push for numeric standards. Drinking water facility managers best understand threats to water, which would be another opportunity to get those with a stake working to improve the CWA.

Mr. Kite commented on the Decatur, IL water treatment system and discussed many of the issues within the watershed which are a result of non-point sources.

Mr. King commented that in the Decatur drinking water system, EPA invested in outreach with the farming community. Mr. King asked if Council members have examples of drinking water systems that have engaged successfully with the community for EPA to develop models, approaches, or case studies.

Mr. Cooley commented that as a utility manager in Northern California, there is a need for more partnering and collaboration to happen. For example, Northern California is experiencing algal blooms in lakes, and the treatment plants have not been able to treat the water, which then leads to taste and odor problems and erosion of public confidence.

Mr. King agreed that identifying high priority actions and having the Regions play a convening role is a good idea. It is important to consider the costs and would like recommendations from NDWAC regarding these topics.

Mr. Johnson commented that there is a need for a standard definition of implementation of source water protection that includes watershed protection. There is also a need to continue work on septic issues. Consistency in maintenance (or lack thereof) is a major contributor to water quality issues.

Mr. Hill agreed that source water protection plans and watershed plans should be linked, and that septic systems should be a focus.

Mr. Saddler commented that planning, permitting, and developing are issues that water systems do not have direct control over. There is a need to bring together federal agencies that control funding and the need to provide assistance in updating archaic ordinances and codes.

Mr. Vincent commented that Florida has numeric standards and asked whether they are cost effective.

Mr. King responded that it depends on what region of the state and the type of source water. Florida does not have a numeric system, so it is challenging to determine where the impairments are. One way to do that is to look for N/P concentrations in intakes.

Mr. Vincent inquired whether label restrictions for fertilizers are enforceable.

Mr. King responded that they are not enforceable for environmental reasons.

Mr. King commented that in Florida, local communities have passed fertilizer bans, which the state supports.

Ms. Keehner commented that under TSCA's existing chemicals program, there is the possibility under Section 6 to look at N/P and use management regulations.

Ms. Weintraub commented that there are economic costs related to drinking water impacts (e.g., climate, rainfall) and the associated impacts on irrigation needs and water supply. Ms. Weintraub inquired as to whether this is being addressed or included in end loading calculations.

Ms. Keehner responded that the Total Maximum Daily Load (TMDL) development considers potential implications of climate change. However, impacts can be localized and it requires downscaled models.

Ms. Taylor commented that states are poorly implementing triennial reviews. However, it might provide a mechanism through which numeric standards can be addressed. Support from water utilities is also important in advocating for numeric standards.

Mr. King suggested holding listening sessions as a way to get input on revision to triennial reviews, in identifying the standards, and in creating a public process.

Mr. Stephani commented that through the Central Connecticut Regional Planning Agency, towns are approving more projects with impervious surfaces, and there is a need for stronger emphasis on restricting the amount of impervious surfaces allowed. There is a need to educate local governments. States do not typically have a good handle on what

projects get approved and how they are designed. One way to reach cities and towns is to work through regional planning agencies, which cover urban and rural towns.

Mr. Hill responded that EPA is looking at revising the NPDES permit regulations that govern municipal stormwater sewer systems to focus on ex-suburbs. Municipalities should account for post construction environmental impacts and match the hydrology of pre-development by reducing impervious surfaces. Mr. Hill encouraged the Council to provide examples regarding these issues.

COUNCIL DISCUSSION

Mr. Grunfelder facilitated a discussion regarding the development of recommendations to the Administrator. Two letters of recommendation are to be drafted: one regarding the *Strategy* and the other focused on nutrient management issues. These will allow the Council the opportunity to highlight support for moving to numeric standards and to encourage increased collaboration between the CWA and SDWA.

Mr. Grunfelder summarized previous discussions to identify potential items of recommendation. These include:

- Support Administrator's initiative and upcoming stakeholder process to get more public input;
- Emphasis on public health focus;
- Strong support for disadvantaged/environmental justice communities;
- Treatment technologies should address multiple groupings; and
- Reevaluation.

Mr. Diemer cautioned that there are going to be many questions to be carefully and thoughtfully reviewed. Regulatory processes on individual contaminants add another level of complexity.

Ms. Weintraub asked for clarification regarding the consensus process among the Council.

Mr. Grunfelder responded that the Council has been good at reaching consensus, and that the goal is to work toward consensus.

Discussion of Nutrient Management Issues

Mr. Diemer commented that there should be a commitment to work together across departments, and that both CWA and SDWA should be recognized and supported. Mr. Diemer also expressed concern that some of the major sources of loadings are from CAFOs, livestock, and agriculture, which are currently unregulated, unmonitored, and exempt. This is a good opportunity to correct the problem holistically and not exclude or exempt major contributors to the problem.

Mr. Saddler commented that water and wastewater systems have to deal with problems that come from outside sources or where the system does not have jurisdiction. Consumer education is an important aspect. It will be important to involve federal agencies that control the funds, educate planning and zoning boards, take a holistic approach, and try to motivate areas outside of immediate jurisdictions.

Ms. Morales added that it is not strictly about regulations. Regulation by itself is not the solution. There needs to be accountability from communities and other federal agencies. The problem needs to be looked at in a comprehensive approach.

Ms. Kennedy encouraged the continuation of the discussion on failing septic systems.

Mr. Vincent commented that N/P issues are ecological. Stormwater and sewage contain a lot of chemicals and pathogens that get into the groundwater. This could be better controlled. Fertilizer is not being regulated and is an important problem to address. Unintended consequences of nutrient removal make new wetlands, increase wildlife, and increase microbial load.

Ms. Weintraub inquired as to whether weather and rainfall are taken into consideration in end loading calculations. Irrigation practices change in dry or wet years, leading to potential over irrigation in wet year and higher end loadings. This issue is also related to the depletion of available drinking water sources.

Mr. Grunenfelder added that soil types are also a consideration in loading.

Ms. Taylor commented that independent assessments of cost and benefits of regulation need to be conducted. The cost effectiveness of regulations needs to be considered.

Mr. Cooley commented that at the local and regional level, there are changes occurring with regard to water supply. It is important to try to prepare for impacts by increased regulation of non-point sources (e.g., livestock feeding operations). This will require behavior change and buy-in from the public. There needs to be a sense ownership of the problem and education to support that.

Mr. Zarate-Bermudez commented that CDC conducted a study of the performance of conventional wastewater systems. The focus was on the North Carolina coast and quantifying the amount of nutrients. The hope is to make the study available to the public shortly.

Mr. Grunenfelder added that O&M of septic systems over time is the key and is fundamentally dependant on the local community. It has taken about six years to get local traction in oversight of wastewater management. An EPA working group focused on identifying best management practices (BMPs) for local programs that are successfully addressing their issue would be very useful.

Ms. Frace commented that EPA documented BMPs that could be implemented at the local level, and they are now in the process of doing local case studies. The goal is to develop two reports, one for state governments and one for local governments. The reports are expected to be out in four to six months.

Ms. Morales commented that the Rural Community Assistance Program (RCAP) has been successful in helping communities set up onsite wastewater treatment systems. There is the need for a public educational component that educates the public and regulators on the importance of protecting water sources.

Mr. Owen commented that point and non-point source pollution is the crux of the issue. There is a need to emphasize different kinds of solutions instead of being purely focused on engineered solutions. For example, New York City is challenged with watershed protection. In some instances, it is cheaper to educate and pay farmers to change farming practices, thereby protecting the source water, rather than build a filtration plant. Water quality is improved, and the program is continuing to look at how to “internalize” these types of externalities (outside of the direct control of the municipal agency) by financial and other means. Nutrient trading between point sources and non-point sources to meet receiving water nutrient limits needs to be considered as a possible solution throughout the country.

Ms. Taylor commented that in North Carolina’s major river basins, there is an effort to implement strategies that address point and non-point source pollution, but there is not enough accountability. Numeric nutrient criteria could help with this.

Mr. Vincent commented that the National Environmental Services Center’s Small Flows magazine has materials about nutrient management (see <http://www.nesc.wvu.edu/smallflows.cfm>).

Mr. Cooley commented that there is an issue with failing septic systems, but there is also an issue with non-existent septic systems. There is a need for funding for demonstration projects. Affordability in areas that do not perk is an issue. It is also important to educate the community on the importance of septic systems and their effects on groundwater quality.

Ms. Kennedy added that there is a need to work with the communities. Regulators all too often impose solutions and walk away.

Mr. Grunenfelder asked for volunteers to draft a letter to the Administrator regarding nutrient issues. Ms. Kennedy, Mr. Diemer, and Mr. Saddler volunteered.

PUBLIC PARTICIPATION

Steve Via, Regulatory Engineer, AWWA, and **Ed Thomas**, Environmental Engineer, National Rural Water Association (NRWA), made public comments on behalf of their respective organizations.

Mr. Via expressed AWWA's support for the *Strategy* and emphasized the importance of NDWAC expressing their support for the *Strategy*. As groups of contaminants are considered, it is important to take cost effective risk reduction into account. Long-term, sustainable solutions are important. Information sharing is a key element of the *Strategy*. A 'one-stop information gateway' is a good idea, but one that needs to be flushed out over time and phased in. Additionally, assisting in data transfer and ensuring that utilities have the data they need is important.

Mr. Via also expressed AWWA's support for focusing on CWA and SDWA linkages and would like to see more focus on non-point source management under CWA. Nutrient management has been a focus of AWWA, as they have developed a paper on nitrate and the cost of compliance. This area would also provide an opportunity to address algal toxins.

Mr. Via also commented on the need to build a dialogue around these issues. In the past, the dialogue has been around resource conservation. AWWA and other association members can provide a good fulcrum to address dialogue.

Mr. Thomas added that the *Strategy* should consider affordability of treatment options, should be sensitive to disadvantaged communities, and should focus on public health benefits. Mr. Thomas also shared frustration from a TMDL project in New Mexico that was incorrectly calculated. The community is forced to use the funds to address the TMDL problem, while they would rather use funds to address failing septic systems.

Mr. Cooley expressed concern about affordability issues at small and medium sized systems. AWWA has done a great job of promoting safe drinking water. There is a need to better understand and educate the public.

Mr. Kite added that there is a need to partner with AWWA and NRWA to move forward. Waivers should also be accounted for in the *Strategy*.

OFFICE OF WATER – PERSPECTIVES ON DRINKING WATER PRIORITIES

Pete Silva, Assistant Administrator, OW and Nancy Stoner, Deputy Assistant Administrator, OW

Mr. Silva thanked NDWAC for their time and effort and provided an overview of some of the issues and challenges at the policy level for the Office of Water's priorities. There are new sources of pollution (e.g., pharmaceuticals and non-point sources) that are more difficult on which to engage the public. There is more crossover between wastewater and drinking water fields, as pollution affects both sectors. The challenge is to implement,

enforce, and manage effective initiatives. From a policy perspective, it is important to break down the communication silos and use information technology to our advantage.

Ms. Stoner added that many issues are related to source water quality. There is an effort to expand the scope of CWA to emphasize the protection of headwaters and wetlands. Legislation has been introduced on the Hill. There was a recent rulemaking to address stormwater pollution from new and re-development. This relates directly to water quality and quantity issues. There is also an effort to address CAFOs and the contaminants associated with them. EPA would like to work with the Council on engaging the public on nutrient issues.

Mr. Grunenfelder commented that as EPA looks at performance measures and getting systems back into compliance, there is a need for communities to be involved and engaged. There is tension between timeliness and identifying the resources and funds.

Mr. Silva agreed that it is an important discussion in which EPA is engaged.

Ms. Kennedy commented that there is a need to look at failing septic systems which often falls under the radar and thanked Mr. Silva for his visit to rural California.

Mr. Silva added that land use issues at the local level are an important issue. There is an effort to provide guidance to the states and provide them with funding through the State Revolving Fund (SRF).

Mr. Kite commented that affordability for small systems is of concern. It is important to take a 'common sense approach' and to be able to fix the problems. Utilities need to be given time to implement/develop a plan.

Ms. Dougherty added that EPA provides exemptions to systems to allow them time to come into compliance.

Ms. Morales commented that there is the need to integrate different water programs, and that regulations may not be the only solution. There needs to be a level of accountability at the community level, for both the problems and the solutions. It will be important to determine how to bridge that gap and decide when to regulate.

Mr. Silva agreed that it is difficult for small communities to meet regulations and find funding.

Ms. Ward-Robinson commented that public engagement is needed. There is a gap with respect to public awareness of actions. The fundamental driver of public education should be public health. The public needs a better understanding of the management and utility of water. They may also be able to provide solutions.

Mr. Silva agreed that industry has not historically done a good job of communicating with the public regarding the value of water.

Ms. Ward-Robinson replied that where public education has been implemented, increased water rates have not been resisted. It would be helpful to develop a framework for engaging the public.

Mr. Silva added that it is also about involving the public in identifying solutions.

Mr. Cooley commented that day to day operations absorb the capacity of utilities. EPA could assist utilities in doing business better, meeting compliance, and communicating with customers.

Mr. Silva added that EPA could do a better job at working with industries. EPA is working with Department of Energy (DOE) on energy saving technologies.

ENVIRONMENTAL JUSTICE CONSIDERATIONS FOR DRINKING WATER INITIATIVES

Heather Case, Deputy Director, OEJ, Suzi Ruhl, OEJ

Ms. Case provided an overview of EPA's commitment to environmental justice (EJ). The goal is to integrate EJ considerations into the decision making process and ensure that external stakeholder voices are heard; empower vulnerable communities to build healthy, sustainable communities; apply regulatory tools to protect vulnerable communities, and improve internal integration and accountability of EJ issues. Ms. Case encouraged the Council's participation in hosting meetings, convening groups that include members of community-based organizations, and in conducting research and developing policies that incorporate input from EJ experts.

Ms. Taylor asked whether there is any consideration of long-term impacts as a lever to assist in the restoration of water or consideration of long-term disproportionate impacts to downstream resources.

Ms. Ruhl responded that EJ communities often do not have the benefit of public water. EPA is trying to piece together authorities that can address contamination of the drinking water sources.

Mr. Saddler added that disadvantaged systems in small rural communities are a concern, particularly regarding the affordability of water bills, once treatment is put into place. The effects of full cost pricing should be considered, as many systems are trying to maintain viability. Reallocation of funds from metro areas to rural areas should be considered.

Ms. Ruhl responded that the key is confronting the reality and coming up with a solution. The first step is to plan to develop some solutions. The partnership for sustainable communities is energy focused. It needs a water focus too.

Mr. Cooley added that there is a need to identify a champion in the community to increase community involvement. The community needs to be able to sustain a system.

Mr. Vincent commented that groundwater contamination is of concern. In Florida it seems to be related to banned pesticides and how it impacts wells in low income areas and small water systems. There is no program for groundwater surveillance.

Mr. Diemer commented that metropolitan systems also have affordability and EJ issues and encouraged a focus on non-point sources, urban runoff, and CAFOs. End of pipe treatment solutions are expensive and can result in affordability issues.

Ms. Case responded that issues of CAFOs were raised during the public comment period. There is a need for more data regarding CAFOs. CAFOs are a national enforcement initiative.

Mr. Grunenfelder commented that EPA should be as focused as possible and address high priority public health issues/protection and infrastructure issues. SRF funds are limited and pre-allocated to climate change or green infrastructure.

Ms. Case commented that public health is the focus, especially within EJ communities, as there is a multiplicity of exposure and no means to address the issues.

Ms. Ruhl added that there is a need to educate the public and encouraged members of the Council to sign up for the OEJ list-serve (subscribe at: https://lists.epa.gov/read/all_forums/subscribe?name=epa-ej).

UPDATE ON SMALL SYSTEMS CAPACITY DEVELOPMENT AND LEAD IN SCHOOLS

Ron Bergman, Chief, Drinking Water Protection Branch, DWPD, OGWDW and Mindy Eisenberg, Associate Chief, DWPD, OGWDW

Mr. Bergman reviewed EPA's small systems capacity approach. In 2009, EPA consulted with NDWAC regarding this issue and has since been working to incorporate NDWAC's recommendations, including the principle that access is not based on the ability to pay, using a variety of strategies, focusing on long-term sustainability, and targeting systems most in need. EPA has been focused on the Safe Drinking Water in Schools and Child Care Facilities Initiative. The goal is to encourage compliance and housekeeping practices and lead testing so as to increase confidence in the public water system. This will also ensure children have a safe alternative to sugar-sweetened beverages. For schools that are a public water system, the focus is on tracking compliance; while for schools that are served by a public water system, the focus is on testing and outreach.

Ms. Dougherty added that it would be beneficial to involve schools and/or science centers in sampling and testing procedures.

Mr. Bergman responded that there are a number of ways testing has been done. Massachusetts requires systems to test in schools for lead. Involvement of the community lags behind.

Mr. Grunenfelder commented that the need for violations to be resolved within six months is an unrealistic timeframe. In regard to school issues, Washington has a comprehensive Environmental Health and Safety Program that includes administrators. EPA should also look for opportunities to work with the Department of Education to better understand the link between healthy environment, healthy buildings and students' ability to learn.

Mr. Bergman responded that EPA and the Department of Education have signed a Memorandum of Understanding (MOU). There are a lot of competing issues in schools. School nurses are typically very interested in this project. There is a need to identify organizations that can fund some of the testing.

Ms. Dougherty added that the Healthy Schools Initiative is broader than water and other health issues, such as addressing obesity.

Ms. Morales identified the need to strengthen capacity development and educate the general public. The community has to have input in determining the level of service. This is a challenge for communities in states without permitting processes.

Mr. Bergman responded that states need to have a capacity development program in order to be eligible for SRF funds, which helps some small systems.

Ms. Weintraub added that schools should take the lead, as there is a large educational component. For example, San Francisco immigrant communities tend to develop false knowledge that public drinking water is not clean. This can be addressed by the promotion of using tap water in schools. Students will take information and habits back to their households. The movement to ban sugar-sweetened beverages needs to be accompanied by a similar movement to promote tap water, provide reusable bottles, and provide water stations.

Ms. Ward-Robinson added that it is important to create a bridge between education, health and the environment through children to build to the future. Simultaneously, we need to be sensitive to budget challenges.

Mr. Zarate-Bermudez added that, for small systems, there is a notion of having safe water from drinking water plants. CDC has identified outbreaks and cases related to water related diseases. The cost of this must be taken into account when talking about the challenges.

Mr. Johnson commented that in some states financing and capacity issues are the responsibility of separate agencies. This makes funding distribution difficult. There is a

need for more oversight and coordination from EPA and the Regions regarding how funds are managed.

UPDATE ON CLIMATE READY WATER UTILITIES (CRWU) WORKING GROUP

Olga Morales, NDWAC, Jeff Cooley, NDWAC, David Travers, Director, WSD, OGWDW, Lauren Wisniewski, Environmental Engineer, WSD, OGWDW

Ms. Morales, Mr. Cooley, and Mr. Travers presented an update on the CRWU Working Group's Adaptive Response Framework. The Framework is based on an Assess, Plan, Implement, and Evaluate approach and presents 13 recommendations utilities should implement to address climate change. The workgroup anticipates providing the NDWAC with a final report for comment and review in the fall. The final report will also contain sections on Tools, Trainings, Products and Incentives and Program Integration.

Mr. Grunenfelder identified the need for community engagement and communication for sustainable change, and in the development of adaptation, strategies for human health impacts as a result of climate change.

Ms. Morales responded that there is a need to inform the community, so that they can determine the level of service which determines level of affordability.

Ms. Wisniewski added that these issues are also important in the adaptive management framework.

Mr. Grunenfelder commented that climate change influences water supply, and communities may be forced to look at alternative supplies. It will be important to consider how the regulatory structure can deal with these changes, while ensuring public health protection throughout.

Mr. Cooley responded that this issue is included in the incentives part of the recommendations.

Mr. Grunenfelder inquired whether the regulatory structure accommodates innovation.

Mr. Travers responded that recommendations six and ten address the need for regulatory changes.

Mr. Diemer added that it is important to stress the planning and development processes and effective maintenance practices. This is a very affordable way to begin to deal with the problem. Consumer education is also important.

Mr. Owen inquired whether there is any discussion within the Working Group regarding decision support planning approaches for dealing with uncertain situations. There is a great deal of uncertainty regarding climate change impacts.

Mr. Travers responded that this is embedded in the Adaptive Response Framework through the Assess, Plan, Implement and Evaluate process. The framework strongly encourages utilities to consider a scenario-based planning approach, which requires the design of an adaptive strategy that is robust against a number of scenarios, rather than optimizing against one scenario. There tends to be an emphasis on downscaling models, which provides a false sense of reassurance and a misleading sense of precision. There is a need to embrace the uncertainty and to develop strategies that can cut across a number of scenarios.

Ms. Dougherty clarified that the Working Group will finalize its report, and it will be presented to the NDWAC. The Council will then decide at that meeting whether to adopt it as the Council's recommendations. She added that changes can be made before the report is sent to the Administrator.

Mr. Kite commented on the feasibility of small systems being able to implement the Framework and suggested a checklist approach to make it easy to do a quick scenario.

Ms. Morales added that the Working Group is putting together the report. The Council can decide if to send it on to EPA as recommended or to amend it. If recommendations are made to EPA, EPA will be responsible for its implementation down to the community level.

Mr. Cooley added that the focus should be on low cost/no cost approaches.

Mr. Kite commented that EPA has produced some good tools, but that there is a need for additional tools for small systems.

Mr. Grunfelder added that there will be a transition between recommendations to EPA and implementation.

COUNCIL DISCUSSION

Follow-up for day three: Mr. Diemer, Ms. Kennedy, and Mr. Saddler will develop a draft letter of recommendation for the Administrator regarding nutrient issues. Mr. Carpenter and Mr. Grunfelder will develop a draft letter of recommendation for the Administrator regarding the Drinking Water Strategy.

Meeting Summary: Friday, July 23, 2010

UPDATE ON REGULATORY MATTERS

Pam Barr, Director, SRMD, OGWDW

Ms. Barr provided an overview of the SDWA regulatory process. On the CCL3 (published in 2009), over 7,000 potential contaminants were evaluated and 116 are listed (104 chemicals, 12 microbes). EPA will work to evaluate these contaminants in groups, as well as individually, to make Regulatory Determinations for those with the greatest public health risk. The Unregulated Contaminant Monitoring Rule (UCMR) lists 25 contaminants that require monitoring. SRMD has also been working in partnership with 21 states to help water systems optimize existing treatment and is working with the Water Research Foundation (WRF) to develop a priorities document on research and data collection needs.

Ms. Kennedy inquired why perchlorate is not being regulated.

Ms. Barr explained that EPA has not yet decided whether to regulate perchlorate. EPA is currently reviewing data and information and will make a determination by the end of the year.

Ms. Weintraub inquired about cryptosporidium testing methods and the implications for using the method as compliance with the Long Term Treatment Rule 2 (LT2).

Ms. Barr offered to provide an expert on cryptosporidium testing methods to follow up with interested members. It is a difficult method, and EPA has a technical assistance program to help support it. The LT2 Rule includes another round of cryptosporidium monitoring but will not be ready by 2015.

Mr. Saddler requested an update on arsenic.

Ms. Barr responded that there is a new date on the arsenic risk assessment, and she will send information to Mr. Grunenfelder. It has received a lot of public attention, as it has just completed the six-year review process.

Ms. Dougherty added that updating the risk assessment is the first step in evaluating the Rule and the next is to focus on implementing the Rule.

Mr. Grunenfelder commented that EPA consults with the NDWAC throughout the process and inquired as to the next steps.

Ms. Barr responded that EPA consults with the NDWAC before a proposed Rule. The Lead and Copper Rule is probably next.

Ms. Dougherty added that there are formal statutory requirements before the proposal of a regulation, NDWAC consultation being one of those requirements.

Mr. Vincent requested an update on the perchloroethylene/trichloroethylene (PCE/TCE) notice and on microbes.

Ms. Barr responded that the six-year notice was May 2010. Forty-five states gave EPA compliance monitoring data, and EPA is looking at what health information is available. The March 2010 notice addresses each of the 71 contaminants, analytical feasibility, health effects, occurrence and the ability to measure. Four of these contaminants are candidates for revisions.

Regarding microbes, under UCMR3, EPA is considering some of them. The sample collection and analysis process is different from chemicals that have been done in the past. EPA has approved UCMR labs to help assist in this process. EPA also pays for the small system analysis, while large systems pay themselves. It is a more difficult sampling regime to implement.

Mr. Zarate-Bermudez asked for more information regarding revisions to the Lead and Copper Rule. There are long-term challenges including sample size, site selection, information on the number of houses that currently have a problem, and the estimated population.

Ms. Barr responded that she is not aware that EPA has the numbers of houses with lead or copper problems. There are some data for lead paint in homes. Lead surface lines are sample criteria for lead. The Lead and Copper Rule does not require random sampling, only the highest risk homes do. It is important to determine how and at what level the risk remains.

ENERGY AND WATER

Suzanne Kelly, Acting Branch Chief, Prevention Branch, DWPD, OGWDW, Lee Whitehurst, Geologist, Protection Branch, DWPD, OGWDW, Jeff Jollie, Hydrogeologist, Protection Branch, DWPD, OGWDW

Ms. Kelly provided an overview of EPA's activities around water and energy, focusing on Geological Sequestration (GS) rulemaking and hydraulic fracturing.

Geological Sequestration

Mr. Kite inquired whether EPA is involved in the CO₂ sequestration project in Illinois and whether they are publicly sharing the research. The FutureGen plant in Illinois is a zero emissions facility and received funding from DOE. It is located near drinking water resources.

Ms. Kelly responded that Region 5 has been actively involved and is sharing results through a public and private partnership.

Ms. Dougherty added that DOE is funding the pilot projects and is beginning to fund commercial scale pilot projects. There is an effort to make sure communities are involved in the process.

Mr. Cooley inquired as to the predictions for how many wells are expected to go in.

Ms. Kelly responded that there is not currently a national incentive for GS. The goal is to have 6-10 additional demonstrations.

Mr. Whitehurst: The goal is to have 5-10 commercial scale GS capture, transport, and inject projects by 2015. By 2020, the goal is to have implemented a plan to diminish barriers to widespread implementation.

Ms. Kelly added that one of the major barriers is the cost of capture.

Ms. Dougherty added that the most expensive part is the cost of capturing carbon dioxide (CO₂), and there is currently no economic reason to act (i.e., no climate legislation). The hope is that there will be thousands of wells someday.

Lee Whitehurst commented that climate legislation is needed to provide economic incentives.

Ms. Dougherty added that EPA is committed to continuing to look at the GS Rule and its effectiveness.

Mr. Grunfelder asked whether CO₂ injection can currently be done under UIC Rule, absent a specific GS Rule.

Ms. Dougherty responded that it is allowed under Class 5 or Class 1 experimental wells.

Mr. Saddler commented that NDWAC previously submitted concerns about the GS process, pilots, and funding.

Ms. Dougherty responded that DOE financially supports most of the pilots.

Mr. Saddler identified the need for safeguards and inquired what is in place in addition to test wells and water quality monitoring. What is the protocol, if it is determined that there is a problem and there are issues with groundwater contamination?

Ms. Kelly responded that the program has safeguards built in, such as the site characterization process and multiple monitoring requirements. There is also ongoing evaluation through the permitting process.

Ms. Dougherty added that the regulations for Class 1 hazardous waste wells require safeguards to ensure that the injectate will not move. Through the proposed changes to the final rule, the GS rule will be as strict if not more strict than those required for Class 1 wells. They are also considering financial responsibility requirements, specifically for CO₂.

Mr. Saddler asked for additional information regarding remediation.

Ms. Dougherty responded that there is a financial responsibility to ensure remediation can be afforded.

Ms. Kelly added that the projects are evaluated as they operate to allow for adjustments in methods and to ensure they do not behave in a manner that is not expected.

Mr. Saddler commented that one seismic event could affect site selection and inquired as to what the methods are for remediation once groundwater is contaminated.

Ms. Kelly responded that there must be a monitoring program in place to track and detect changes and to allow for changes in operational conditions if needed. There is a requirement for a seismic potential evaluation if the site is prone to seismic events. The goal is 100% permanent containment.

Hydraulic Fracturing

Mr. Saddler commented that hydraulic fracturing technology has already been widely deployed. Chemicals in fracturing fluids are proprietary. Is the information needed available?

Ms. Dougherty responded that hydraulic fracturing has been used for decades in the oil and gas industry. It had not previously been considered part of the UIC program. Horizontal fracturing methods now being used allows deeper drilling, uses more water and allows access to shale gas deposits. Some of the chemicals used in the fracturing process are proprietary; however, states can require disclosure. Wyoming is requiring information to be provided by law; EPA is working on how to get all of the information needed.

Mr. Diemer added that it is essential to know what the chemicals impacts are on drinking water and inquired whether fate and transport of chemicals were included in the 2012 study.

Ms. Dougherty responded that this is information that EPA hopes to get from the case studies.

Mr. Grunenfelder commented that hydraulic fracturing is a popular technology, and that it is currently being used. Completion of EPA's study is two years out. Is it possible for EPA to slow down development until the study is completed?

Ms. Kelly responded that EPA is trying to move fast to get information and inform policy decisions, but there is a need for quality data and the desire to ensure that it is a sound study.

Ms. Dougherty added that states have other authorities to deal with hydraulic fracturing (e.g., endangerment authority and others under CWA). Wyoming and Pennsylvania are looking at this issue closely.

Ms. Ward-Robinson added that Texas A&M, Department of Public Health has been asked about best practices related to the amount of water that is required in a location that is water scarce. There is a need for public education as there is a clear lack of public understanding. Is there any effort to get ahead of this by a stakeholder engagement process that includes the public in a viable way?

Ms. Dougherty responded that public meetings are being held in areas of the country with significant increases in gas development. The goal is to tell the public about the study and hear their concerns. It is also a way to keep the public informed. ORD also consulted the Science Advisory Board, which recommended the establishment of an advisory group that would represent stakeholders, especially affected communities, and would establish a transparent process.

Ms. Ward-Robinson added that public engagement throughout the process would be very helpful and would help improve accountability.

Mr. Saddler inquired whether there have been other reported problems outside of water use concerns.

Ms. Dougherty responded that there have been a number of problems reported related to the management of chemicals and wastewater on the surface. People at meetings are raising concerns regarding private water supplies. The goal of the case studies is to look at places where hydraulic fracturing is occurring and where it is proposed and analyze the impacts on water resources and the life cycle of water throughout the process.

Ms. Taylor commented that North Carolina has shale deposits that are conducive to hydraulic fracturing. However, the regulations currently prohibit it. Gas companies are being extremely strategic. Ms. Taylor asked how extensive the authority is for states to take broader action.

Ms. Dougherty responded that it would likely be a substantial endangerment to underground sources of drinking water or it would otherwise impact public health. For example, a CAFO in California leaked and affected a private well, which led to an enforcement action against the CAFO.

Ms. Weintraub asked for additional information regarding how the locations of public hearings were determined and what the process was for consideration of public comments.

Mr. Jollie explained that EPA asked the public for recommended sites to use in the case study. EPA then systematically evaluates sites to determine which will give the best information.

Ms. Kelly added that information from the public meetings will inform study design.

Mr. Vincent commented that the financial piece to the permitting process is important. Operators should be required to have bonds, insurance, and the financial capacity to deal with unexpected consequences.

Ms. Kelly added that fracturing fluids including diesel are regulated by the SDWA. Otherwise fluids are exempt, unless a state has specific regulations.

Mr. Zarate-Bermudez added that it is important to protect public health and the environment. Potential impacts to public health and how the public health community can be involved should be considered.

Ms. Kelly commented that the goal of the study is to ensure that the right questions are being asked, that EPA is communicating results successfully, and that EPA is including public involvement.

UPDATE ON AMERICAN RECOVERY AND REINVESTMENT ACT (ARRA)

Peter Shanaghan, Environmental Engineer, Infrastructure Branch, DWPD, OGWDW

Mr. Shanaghan provided an update on ARRA funding. Drinking Water SRF programs received \$2 billion, which was distributed based proportionally on a state's share of national need. Tribes received 1.5% of funding. The Green Project Reserve required states to use at least 20% of funds for water efficiency, energy efficiency, environmental innovations, or green infrastructure.

Mr. Grunenfelder commented that this program was very successful, but it added challenges and stresses for states (e.g., new requirements, tight timeline, high level of expectation and scrutiny). However, it was highly successful, and it demonstrated the strength of the partnership between EPA and states. EPA's leadership demonstrated that they were able to anticipate the needs of the states and to provide the needed guidance.

Mr. Shanaghan agreed that states had unprecedented deadlines. EPA started talking with states early on to ensure the funding could be distributed quickly. States with furlough days had limited capacity (e.g., California).

Mr. Grunenfelder added that there is such a large magnitude of need, and that Washington did not combine ARRA funds with base funds. They received 350 applications for ARRA funds and entered into 21 contracts.

Mr. Cooley expressed concern with the requirement of shovel-ready projects and the ‘use it or lose it’ requirement. There was an influx of applications which overwhelmed the California state office. ARRA funds did not really address the long-term funding gap of drinking water infrastructure; they only addressed some immediate needs.

Mr. Shanaghan responded that the point is well taken. There are conflicting policy objectives and a tension between good projects from an infrastructure replacement and repair perspective versus projects that increase compliance. There is a need to figure out how to do green projects. Additional funds were provided in the form of the 2010 subsidization, but these could not be optimized due to requirements.

Mr. Cooley commented that the ‘Buy American’ requirement was challenging to meet, as some products are made in America by firms owned by foreign companies.

Mr. Grunenfelder added that the funding that was available didn’t come close to meeting all needs.

Mr. Stephani commented that there was a similar problem with transportation ARRA funds, as they couldn’t be used to address long-term infrastructure projects and went into maintenance work instead.

Mr. Shanaghan clarified that there were different forms of subsidies. 70% of funding went out in the form of grants (i.e., will never be paid back).

Mr. Stephani asked for additional information regarding the national average of systems that have health-based violations.

Mr. Shanaghan replied that he is unsure of the national average. States were trying to use funds to deal with the most difficult compliance issues.

Mr. Zarate-Bermudez asked for more information regarding the types of health-based violations.

Mr. Shanaghan responded that most health violations involved MCLs, TCR, or chemical standards. Of violations of primary drinking water regulations, the most common was TCR and arsenic.

Mr. Carpenter will distribute a factsheet to the Council.

Ms. Morales commented that most of the funding went to large entities, and that small utilities may not have the ability to deal with the reporting requirements. There is

significant new funding for 2010-2011 and new data collection requirements. There is the need to identify opportunities for smaller systems to tap into funds.

Mr. Shanaghan responded that funding did not largely go to large systems. There were a large number of small assistance agreements under \$500,000. In response to the fact that the program is so hard for small systems to access, EPA has asked contractors to go out and pull together a history of what states did to make it easier for small systems to have access. EPA wants to document those changes.

Ms. Morales added that it is a challenge for small systems to apply for federal funding when they need to have a preliminary engineering report and an environmental report, as many don't have the financial ability to develop these reports.

Mr. Shanaghan responded that other innovative programs have been developed to assist small systems.

COUNCIL DISCUSSION

Discussion of Letter of Recommendations Regarding Drinking Water Strategy

Ms. Taylor commented that affordability of treatment technologies is an issue and that the affordability of implementation should be considered. Additionally, the focus should be on identifying groups of contaminants that use similar analytic methods.

Mr. Zarate-Bermudez commented that there should be a multiple barrier approach to protecting the source water and water supply. There should be a more integrated approach to dealing with the problem, and not just to be focused on technological solutions.

Mr. Grunenfelder will add these comments to the introduction of the letter (i.e., source protection, treatment technology, comprehensive management).

Ms. Morales asked where existing rule development fits in, as it will impact the regulatory framework. Through the discussion regarding climate change, there is potential for the existing regulatory framework to be challenged and an opportunity to talk about drinking water. How we move beyond the regulatory framework to community level action should also be addressed.

Mr. Grunenfelder responded that the focus of the letter is a comment on a strategy of moving forward within the construct of the existing statute. Topics mentioned might be for future discussion.

Ms. Morales agreed that they can be expressed as future discussion topics.

Ms. Weintraub added that suggesting ways to move outside the structure does not have to detract from what is happening now. This is an opportunity to express a shared vision for the future.

Ms. Ward-Robinson emphasized the need to engage the public.

Mr. Cooley commented that laboratory analytical technologies are developing rapidly and it increases our ability to better detect contaminants at much lower levels. However, treatment technologies are lagging behind. Public education is also important.

Mr. Grunfelder emphasized the need to focus on meaningful public health benefits. The technology to detect contaminants is far exceeding our understanding of potential public health impacts.

Ms. Weintraub added that health effects research does not always keep pace with our ability to detect contaminants.

Ms. Barr added that it is important to consider the health effects of mixtures, not just individual contaminants.

Ms. Ward-Robinson commented that it is important to educate the public.

Ms. Weintraub emphasized the need to reaffirm source water protection and a multi-barrier approach.

Mr. Vincent added that this is a complementary add-on to what is being done now. ORD funding issues play into health effects research.

Ms. Barr commented on affordable technology and the need to identify the next generation of drinking water technology. Affordability in the context of large versus small systems should also be considered.

Mr. Saddler added that available technology should also be considered.

Mr. Kite commented that new technology is often not affordable.

Ms. Morales added that affordability is determined by a community's resources.

Mr. Grunfelder commented that the Council will not define affordability in recommendations.

Discussion of Letter of Recommendations Regarding Review of Nutrient Management

Mr. Grunfelder emphasized the need to highlight connections between CWA and SDWA and the need for closer collaboration.

Ms. Taylor asked for clarification regarding the phrase “enhance and prioritize” and the use of “representatives.”

Ms. Morales stated that these will be reworded.

Mr. Saddler added that there is a need to educate decision makers and funding agencies.

Ms. Morales responded that there is often a disconnect between staff and decision makers.

Mr. Saddler added that all agencies are going to have to work together.

Mr. Grunenfelder suggested highlighting regulators and stakeholders.

Ms. Kennedy suggested including funding agencies as well.

Ms. Weintraub suggested clearly stating references to SDWA and CWA and strengthening the statement regarding consumer education.

Ms. Kennedy commented that the fact that end pipe users pay the price for upstream activities needs to be addressed.

Ms. Weintraub suggested stating earlier in the letter the emphasis on SDWA and CWA synergies and stewardship.

Ms. Kennedy added that outreach regarding NPDES permits is needed.

Mr. Cooley added that stewardship should be emphasized.

Drafts of both letters will be distributed to the Council in the coming week.

CLOSING

The Council identified potential items for the fall 2010 NDWAC meeting:

- Update on the *Drinking Water Strategy* and the proposed framework for grouping contaminants;
- Compliance and Enforcement Assistance Office an discussion of corrective action;
- Update on ARRA and SRF from Mr. Shanaghan;
- CRWU Report;
- Update on EPA’s budget and priorities for the next fiscal year;
- Septic systems and small onsite wastewater systems and EPA’s decentralized wastewater program;
- CDC projects and public health alerts;

- Colorado Salmonella outbreak;
- Update on the Chemical Security Act (HR2868); and
- Testing methods:
 - o Research support and strategy for ensuring improved methods, and
 - o Implications for enforcement and regulation.

Appendix I: Agenda

Wednesday, July 21, 2010

8:00- 8:30 8:30-8:45 am	New Member Registration and Coffee Welcome <i>Purpose: Review agenda and follow-up since the last meeting</i>	Gregg Grunenfelder, NDWAC Chair, Tom Carpenter, DFO
8:45- 9:00 am	Drinking Water Strategy – <i>Purpose: Present an overview of the Drinking Water Strategy and its four principles for discussion by the Council. EPA is seeking the Council's advice on next steps and how to implement the Strategy. Additional presentations will focus on each of the Strategy's principles and detailed discussions though out the first day.</i>	Cynthia Dougherty, IO
9:00-10:00 am	Addressing Groups of Contaminants Under the Safe Drinking Water Act.	Pam Barr, SRMD Wynne Miller SRMD
10:00-10:15 am	BREAK	
10:15- 11:15 am	Using EPA's Authority Under the Federal Insecticide, Fungicide, and Rodenticide Act to Protect Drinking Water.	Richard Keigwin, OPP Pam Barr, SRMD
11:15 – 11:45 am	Using EPA's Authority under the Toxic Substances Control Act to Protect Drinking Water.	Jim Willis OPPT Pam Barr SRMD
11:45 -12:30 pm	Council Discussion <i>Purpose: Discuss issues identified during the morning presentations and clarify any questions from the Council</i>	Gregg Grunenfelder NDWAC Chair
12:30- 1:30 pm 1:30 – 2:30 pm	LUNCH Developing Drinking Water Technology Initiatives	Tom Speth, ORD Audrey Levine, ORD
2:30- 3:15 pm	Developing Shared Access To Public Water Systems (PWS) Monitoring Data.	Ann Codrington, DWPD Elizabeth Corr, DWPD Ron Bergman, DWPD
3:15-3:30 pm	BREAK	
3:30- 5:00 pm	Council Discussion <i>Purpose: Discuss issues identified during the day's presentations and clarify any questions from the Council.</i>	Gregg Grunenfelder NDWAC Chair Tom Carpenter, DFO
5:00 pm	ADJOURN	

Thursday, July 22, 2010

8:00- 8:30 am	Registration and Coffee for Members	
8:30 – 9:00 am	Recap of Previous Day and Council Discussion	Gregg Grunenfelder NDWAC Chair Tom Carpenter, DFO
9:00 -10:00 am	Clean Water Act Integration	Ephraim King, Director OST Denise Keehner, Director, OWOW
10:00 – 10:15 am	BREAK	
10:15 -11:30	Council Discussion <i>Purpose: Discuss issues identified during the Drinking Water Strategy presentations and, clarify any questions from the Council and identify next steps for the Council.</i>	Gregg Grunenfelder, NDWAC Chair
11:30-12:30	PUBLIC PARTICIPATION	
12:30-1:30	LUNCH	
1:30 – 2:00 pm	Office of Water – Perspectives on Drinking Water Priorities	Pete Silva and Nancy Stoner, Office of Water
2:00 – 2:30 pm	Environmental Justice Considerations for Drinking Water Initiatives <i>Purpose: Present Initiatives at EPA under the Office of Environmental Justice and questions from the Council</i>	Heather Case, OEJ
2:30 – 3:15 pm	Update on Small System Capacity Development and Lead in schools <i>Purpose: Present two drinking water issues and their respective environmental justice considerations and questions from the Council.</i>	Ron Bergman, DWPD Mindy Eisenbeg, DWPD
3:15-3:30 pm	BREAK	
3:30 – 4:30 pm	Update on Climate Ready Water Utilities WG <i>Purpose: Discuss status of working group – charge and membership – and other activities to support the CRWU effort</i>	Olga Morales, NDWAC Jeff Cooley, NDWAC David Travers, WSD
4:30- 5:00 pm	Council Discussion <i>Purpose: Discuss issues identified during the day’s presentations and clarify any questions from the Council.</i>	Gregg Grunenfelder, NDWAC Chair
5:00	ADJOURN	

Friday, July 23, 2010

8:00-8:15 am	Registration and Coffee for Members	
8:15-9:00 am	Update on Regulatory Matters	Pam Barr, SRMD
	<i>Purpose: Provide update on RTCR, Regulatory Determinations, Six-Year Review, UCMR3, and other regulatory-related activities.</i>	
9:00-10:15 am	Energy and Water	Ann Codrington, DWPD
	<i>Purpose: Provide update on status of geologic sequestration rule and overview of activity related to hydraulic fracturing</i>	
10:15 – 10:45 am	Update on <i>American Recovery and Reinvestment Act</i> and State Revolving Fund	Chuck Job, DWPD Peter Shanaghan, DWPD
10:45-11:30 am	Council Discussion	Gregg Grunenfelder, NDWAC Chair
	<i>Purpose: Discuss issues identified during the meeting and determine need for formal recommendation or additional work.</i>	
11:30-12:00	Issues for Discussion at Fall 2010 Meeting and Wrap Up	Gregg Grunenfelder, NDWAC Chair
12:00	ADJOURN	

Appendix II: Presentations

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Developing Drinking Water Technology Initiatives	Tom Speth, ORD Audrey Levine, ORD	Pg. II - 37
Developing Shared Access To Public Water Systems (PWS) Monitoring Data	Ann Codrington, DWPD Elizabeth Corr, DWPD Ron Bergman, DWPD	Pg. II - 50
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Office of Water – Perspectives on Drinking Water Priorities	Pete Silva and Nancy Stoner, Office of Water	No presentation slides
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Update on <i>American Recovery and Reinvestment Act</i> and State Revolving Fund	Chuck Job, DWPD Peter Shanaghan, DWPD	Pg. II - 117

A New Approach for Clean, Safe Drinking Water

National Drinking Water Advisory Council
July 21, 2010

Cynthia Dougherty, Director
Office of Groundwater and Drinking Water



Drinking Water Strategy

- Address contaminants as groups rather than one at a time.
- Foster development of new drinking water treatment technologies.
- Use the authority of multiple statutes to help protect drinking water.
- Partner with states to share more complete data from monitoring at public water systems.

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Goals for the New Vision

By pursuing these actions, EPA will:

- Provide more robust public health protection in an open and transparent manner.
- Assist small communities to identify cost and energy efficient treatment technologies.
- Build consumer confidence by providing more efficient sustainable treatment technologies to deliver safe water at a reasonable cost.

3

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Addressing Contaminant as Group(s) Under the Safe Drinking Water Act

NDWAC
July 21, 2010

Pamela Barr, OGWDW-SRMD
Wynne Miller, OGWDW-SRMD



Overview

- **Primary objective** – Discuss and solicit input on the first principle in the DW Strategy, addressing contaminants as group(s).
- **Outline**
 - Background
 - SDWA Regulatory Processes
 - How we got here?
 - Why address contaminants as group(s)?
 - Overall Goal and Outreach Efforts
 - SDWA Regulatory Processes and Opportunities to Consider Contaminant Group(s)
 - Defining Groups - Factors to consider in developing a good group
 - Overarching Questions for NDWAC
 - Next Steps
 - Appendices



Statutory Requirements for the Various Drinking Water Regulatory Processes (1996 SDWA Amendments)

- 1) **Contaminant Candidate List (CCL)** – SDWA requires EPA to develop a list of contaminants that are known or anticipated to occur in drinking water and to publish the list every five years.
- 2) **Regulatory Determination for CCL** – EPA must decide whether or not to regulate at least five CCL contaminants with a national primary drinking water regulation (NPDWR) after evaluating criteria specified under the 1996 SDWA; Publish determinations on a five year cycle.
- 3) **Unregulated Contaminant Monitoring** – SDWA requires EPA to establish criteria for a program to monitor unregulated contaminants, and to identify no more than 30 contaminants to be monitored, every five years.
- 4) **Regulation Development** - If EPA decides to regulate a contaminant via the regulatory determination process, the Agency has 24 months to propose and 18 months to finalize the Maximum Contaminant Level Goal (MCLG) and the NPDWR. SDWA requires that we evaluate a number of components as part of the standard setting process.
- 5) **Six Year Review** – Once a contaminant is regulated, EPA is required to review and, if appropriate, revise the existing National Primary Drinking Water Regulation (NPDWR) every six years. If make a decision to revise a standard, SDWA requires that we evaluate a number of components as part of the standard setting process.

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Why Address Contaminants as Group(s) for Drinking Water?

- Evaluating and addressing contaminants as groups during the regulatory process may:
 - Be less time consuming and resource intensive
 - Account for risks from multiple contaminants
 - Deal more effectively with an increasing # of emerging contaminants
 - Provide water systems with an opportunity to make best long-term decisions on capital investments

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Overall Goal and Outreach Efforts

By Fall 2010 –

- Develop approach for addressing contaminants as group(s) and identify a potential group for EPA to begin regulatory efforts.

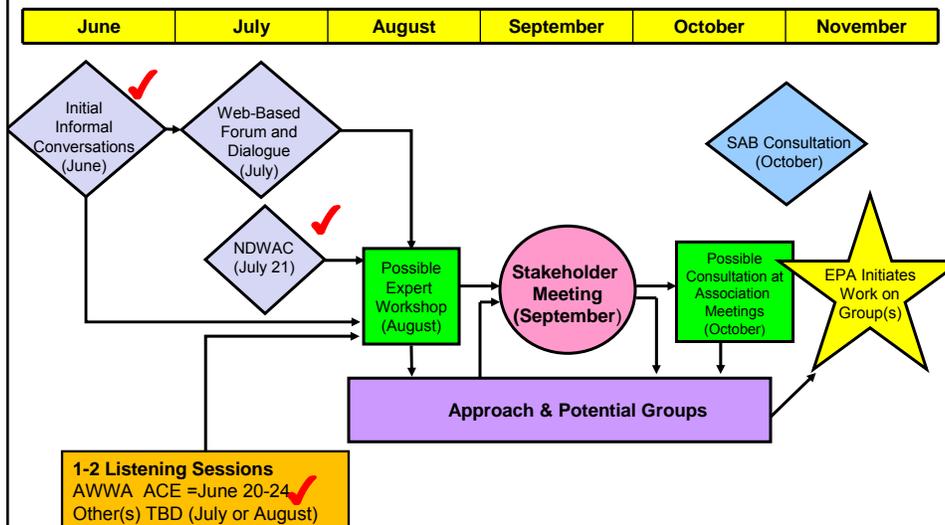
- In developing approach, allow public input opportunities:
 - Initial Informal Conversations
 - Listening Sessions
 - Web Based Tools (Forum and Dialogue)
 - Expert Consultation(s)
 - Stakeholder Meeting

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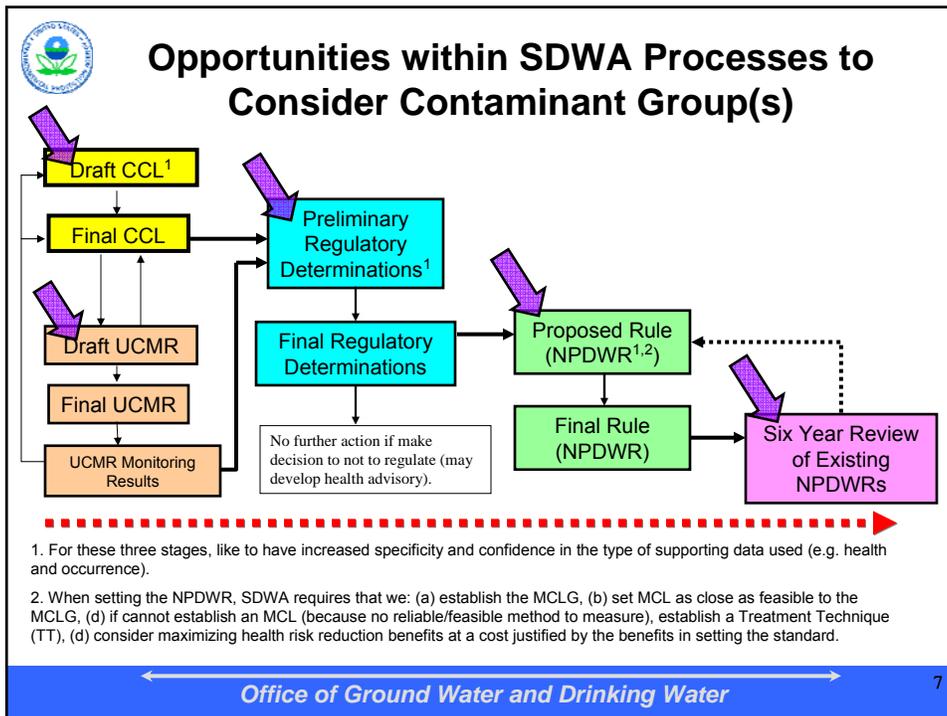
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Outreach Efforts for Addressing Contaminant(s) as Groups



6



-
- Defining Group(s) Potential Factors to Consider**
- Has similar health effect endpoint
 - Measured by common analytical method(s)
 - Known or likely co-occurrence
 - Uses common treatment or control processes
- “Good” group has as many of these factors as possible.
- Office of Ground Water and Drinking Water 8



Examples of Currently Regulated Groups

- **Gross Alpha*** (essentially group MCLG and MCL)
 - MCLG = Zero (carcinogens); MCL = 15 pCi/L (based on feasibility and risk)
 - Measure "gross alpha" with a single method to determine if exceed MCL
 - If exceed 15 pCi/L MCL, then measure uranium
 - Subtract uranium from gross alpha, if still exceed, then speciate to find culprit(s)

- **Beta Photon/Particle Emitters**** (also group MCLG and MCL)
 - MCLG = zero (carcinogens); MCL = 4 mrem/yr (dose)
 - Measure gross beta/photon emitters (allowed to subtract Potassium 40)
 - Convert from pCi/L to dose; if exceed then speciate to find culprit(s)

- **Haloacetic Acids (HAA 5)**
 - Individual MCLGs for some; Group MCL = 0.06 mg/L
 - Measure and add individually to determine if exceed MCL

- **Viruses**
 - MCLG = zero; Specifies Treatment Technique

*Covers ~ 58 alphas (if don't include the short lived alphas)

** Covers ~179 individual beta and photon emitters; EPA could have established individual MCLGs of zero for each one but concluded that "[d]espite differences in radiation type, energy, or half-life, the health effects from radiation are identical, although they may occur in different target organs and at different activity levels" (56 FR 33050, July 18 1991 at p. 33079).



Potential Groups for Further Evaluation Just Ideas at this Point

Factors	Potential Groups To Consider		
	VOCs *or SOCs** With MCLG = 0	Nitrosamines**	Chloracetanilides****
Similar Health Effect Endpoint?	Carcinogens	Carcinogens but evaluating further	Some may be carcinogens but evaluating further
Common Analytical Method(s)?	VOCs 524.3 and 524.2 SOCs 525.2 & 515.4 Add up individually?	521 (MS/MS)	525.2 (GC/MC) Parents 535 (LC/MS/MS) Degradates
Are any occurring and are they co-occurring?	Most commonly mix of TCE/PCE; see a few others co-occurring with TCE/PCE. Some SOCs do; not all	NDMA mostly; others minor; likely co-occurrence since formed in same manner	Minimal occurrence in UCMR but evaluating other data sources especially considering seasonal applications; However, parents and degradates will likely co-occur
Common Treatment or Control Process?	VOCs= Typically aeration and carbon SOCs = GAC	Possibly a common control process since may be formed by a similar mechanism	Appears to vary depending on compound

* 8 Regulated carcinogenic VOCs = 1,2-Dichloropropane, Benzene, Carbon Tetrachloride, Tetrachloroethylene, Trichloroethylene, Vinyl Chloride, Dichloromethane, 1,2-Dichloroethane; ~ 10 unregulated VOCs that may be carcinogenic but need further evaluation = MTBE, 1,1-dichloroethane, 1,3-butadiene, Oxirane methyl, urethane, 1,2,3 trichloropropane, Ethylene oxide, nitrobenzene, aniline, benzyl chloride

** Regulated Carcinogenic SOCs = Acrylamide, Alachlor, Benzo(a)pyrene (PAHs), Chlordane, 1,2-Dibromo-3-chloropropane (DBCP), Di(2-ethylhexyl) phthalate, Dioxin (2,3,7,8-TCDD), Epichlorohydrin, Ethylene dibromide, Heptachlor, Heptachlor epoxide, Hexachlorobenzene, Polychlorinated biphenyls (PCBs), Pentachlorophenol, Toxaphene

***NDMA, NDPA, NDPA, NDEA, NMEA, NDYR

**** Acetochlor, Alachlor, Metolachlor and their ESA and OA degradates.



Next Steps

- Hold facilitated web dialogue July 28-29th
 - www.webdialogues.net/epa/dwcontaminantgroups
- Host additional listening sessions
- Begin identifying “key topics” for August expert meetings and potential experts
- Begin planning for the September 2010 stakeholder meeting (likely in DC)
- Develop approach and begin work on potential group by Fall 2010



Preliminary Questions Soliciting Input from NDWAC

1. What other factors should EPA consider in deciding what makes a good group? Of the ones identified, are some factors more important than others and/or should there be a hierarchy?
2. What are some potential approaches for addressing contaminants as groups?
3. What are the key (2-3?) technical or scientific aspects that EPA may need to consider?
4. What are the key (2-3?) implementation aspects that EPA may need to consider?
5. Can you provide examples of contaminant groups (2-3?) that may present a meaningful opportunity to protect public health and reduce risk?
6. Do you have suggestions on key topics and experts?



Contacts

For additional information or questions about the concept of addressing contaminants as group(s), please contact:

- Pamela Barr - barr.pamela@epa.gov; 202-564-3752
- Wynne Miller - miller.wynne@epa.gov; 202-564-4887
- Eric Burneson - burneson.eric@epa.gov; 202-564-5250



Appendices



Appendix A - CCL 3 106 Chemicals and 12 Microbes

1,1,1,2-Tetrachloroethane	alpha-Hexachlorocyclohexane	Estrone
1,1-Dichloroethane	Aniline	Ethynyl Estradiol (17-alpha Ethynyl Estradiol)
1,2,3-Trichloropropane	Bensulide	Ethoprop
1,3-Butadiene	Benzyl chloride	Ethylene glycol
1,3-Dinitrobenzene	Butylated hydroxyanisole	Ethylene oxide
1,4-Dioxane	Captan	Ethylene thiourea
17 alpha-Estradiol	Chlorate	Fenamiphos
1-Butanol	Chloromethane (Methyl chloride)	Formaldehyde
2-Methoxyethanol	Clethodim	Germanium
2-Propen-1-ol	Cobalt	Halon 1011 (Bromochloromethane)
3-Hydroxycarbofuran	Cumene hydroperoxide	HCFC-22
4,4'-Methylenedianiline	Cyanotoxins (3)	Hexane
Acephate	Dicofthos	Hydrazine
Acetaldehyde	Dimethipin	Mestranol
Acetamide	Dimethoate	Methamidophos
Acetochlor	Disulfoton	Methyl bromide (Bromomethane)
Acetochlor ethanesulfonic acid (ESA)	Diuron	Methyl tert-butyl ether
Acetochlor oxanilic acid (OA)	Equilenin	Metolachlor
Acrolein	Equilin	Metolachlor ethanesulfonic acid (ESA)
Alachlor ethanesulfonic acid (ESA)	Erythromycin	Metolachlor oxanilic acid (OA)
Alachlor oxanilic acid (OA)	Estradiol (17-beta estradiol)	
	Estriol	



Appendix A - CCL 3 106 Chemicals and 12 Microbes

Molinate	Profenofos	Adenovirus
Molybdenum	Quinoline	Caliciviruses
Nitrobenzene	RDX	<i>Campylobacter jejuni</i>
Nitroglycerin	sec-Butylbenzene	Enterovirus
N-Methyl-2-pyrrolidone	Strontium	<i>Escherichia coli (O157)</i>
N-Nitrosodiethylamine (NDEA)	Tebuconazole	<i>Helicobacter pylori</i>
N-nitrosodimethylamine (NDMA)	Tebufenozide	Hepatitis A virus
N-Nitroso-di-n-propylamine (NDPA)	Tellurium	<i>Legionella pneumophila</i>
N-Nitrosodiphenylamine	Terbufos	<i>Mycobacterium avium</i>
N-nitrosopyrrolidine (NPYR)	Terbufos sulfone	<i>Naegleria fowleri</i>
Norethindrone (19-Norethisterone)	Thiodicarb	<i>Salmonella enterica</i>
n-Propylbenzene	Thiophanate-methyl	<i>Shigella sonnei</i>
o-Toluidine	Toluene diisocyanate	
Oxirane, methyl-	Tribufos	
Oxydemeton-methyl	Triethylamine	
Oxyfluorfen	Triphenyltin hydroxide (TPTH)	
Perchlorate	Urethane	
Perfluorooctane sulfonic acid (PFOS)	Vanadium	
Perfluorooctanoic acid (PFOA)	Vinclozolin	
Permethrin	Ziram	



Three Regulatory Determination Criteria Specified under the 1996 amendments to SDWA *

SDWA requires EPA to publish a MCLG and promulgate an NPDWR for a contaminant if the Administrator determines that -

- 1) *The contaminant may have an adverse effect on the health of persons;*
- 2) *The contaminant is known to occur or there is substantial likelihood that the contaminant will occur in public water systems with a frequency and at levels of public health concern; and*
- 3) *In the sole judgment of the Administrator, regulation of such contaminant presents a meaningful opportunity for health risk reduction for persons served by public water systems.*



*SDWA Section 1412(b)(1)

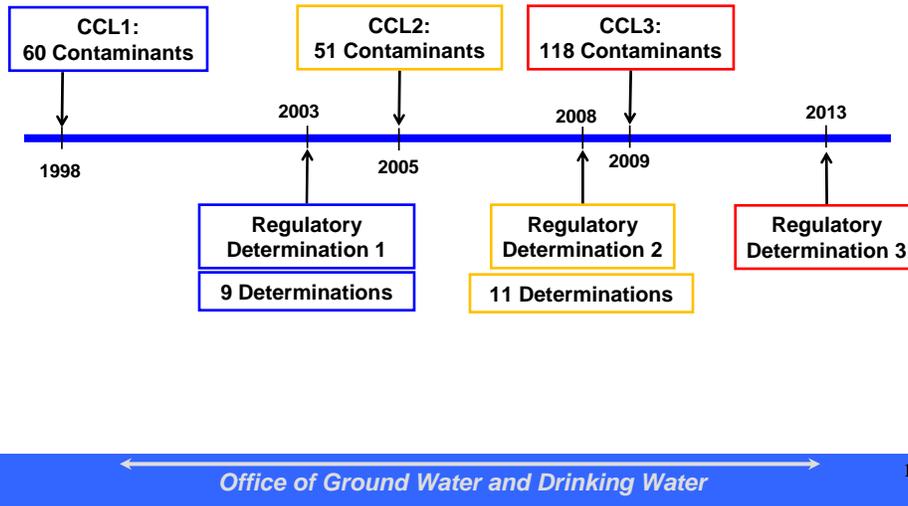


General Approach for Evaluating the Regulatory Determination Statutory Criteria

#	Statutory Criteria	Information To Consider During Evaluation
1	Is the contaminant likely to cause an adverse effect on the health of humans?	<ul style="list-style-type: none"> • Most recent Agency risk assessment (IRIS, OPP, OW), the potential health effects, and the Reference Dose (RfD) and/or cancer slope factor. • Use health information to derive a health reference level (HRL) in order to evaluate occurrence (for non-carcinogens 20% RSC default used as screening).
2	Is the contaminant known or likely to occur in public water systems (PWSs) at a frequency and level of concern?	<ul style="list-style-type: none"> • Evaluate drinking water occurrence data at the HRL. • Primary source for drinking water occurrence data is the Unregulated Contaminant Monitoring Regulation (UCMR). Also use previous Unregulated Monitoring Contaminant Surveys. • If available, review supplemental information (e.g. USGS, State data).
3	In the sole judgment of the Administrator, does regulation of the contaminant present a meaningful opportunity for health risk reduction for persons served by PWSs?	<p>Consider variety of factors which include:</p> <ul style="list-style-type: none"> • Population exposure (typically based on drinking water occurrence information); for non-carcinogens, consider relative exposure from drinking water and other sources (i.e., RSC) • Sensitive populations • National distribution of occurrence • Supplemental sources of exposure information could also be considered (e.g., urine/blood biomonitoring) <p>Also may begin evaluating control and treatment feasibility</p>



Timeline of CCL and Regulatory Determinations



Appendix B - UCMR 2

10 Assessment Monitoring

- 3 Explosive
 - hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)
 - 2,4,6-trinitrotoluene (TNT)
 - 1,3-dinitrobenzene
- 7 Insecticides and Flame Retardants
 - Dimethoate
 - Terbufos sulfone
 - 5 Brominated Flame Retardants

15 Screening Survey

- 9 Acetanilide pesticides/degradation products
 - Acetochlor
 - Acetochlor ESA
 - Acetochlor OA
 - Alachlor
 - Alachlor ESA
 - Alachlor OA
 - Metolachlor
 - Metolachlor ESA
 - Metolachlor OA
- 6 Nitrosamines
 - N-nitroso-diethylamine (NDEA)
 - N-nitroso-dimethylamine (NDMA)
 - N-nitroso-di-n-butylamine (NDBA)
 - N-nitroso-di-n-propylamine (NDEA)
 - N-nitroso-methylethylamine (NMEA)
 - N-nitroso-pyrrolidine (NPYR)



Appendix D – Currently Regulated Contaminants

Acrylamide	1,2-Dibromo-3-chloropropane (DBCP)	Nitrate (as nitrogen, N)
Alachlor	1,2-Dichlorobenzene (o-Dichlorobenzene)	Nitrite (as N)
Alpha particles	1,4-Dichlorobenzene (p-Dichlorobenzene)	Oxamyl (Vydate)
Antimony	1,2-Dichloroethane (Ethylene dichloride)	Pentachlorophenol
Arsenic	1,1-Dichloroethylene	Picloram
Asbestos	cis-1,2-Dichloroethylene	Polychlorinated biphenyls (PCBs)
Atrazine	trans-1,2-Dichloroethylene	Radiums
Barium	Dichloromethane (Methylene chloride)	Selenium
Benzene	1,2-Dichloropropane	Simazine
Benzo(a)pyrene	Dinoseb	Styrene
Beryllium	Diquat	2,3,7,8-Tetrachlorodibenzo-p-dioxin
Beta particles/Photon Emitters	Endothall	(2,3,7,8-TCDD or dioxin)
Bromate	Endrin	Tetrachloroethylene (PCE)
Cadmium	Epichlorohydrin	Thallium
Carbofuran	Ethylbenzene	Toluene
Carbon tetrachloride	Ethylene dibromide (EDB)	Total trihalomethanes (TTHM)
Chloramines	Fluoride	Toxaphene
Chlordane	Giardia lamblia	2,4,5-Trichlorophenoxypro-pionic acid
Chlorine	Glyphosate	(2,4,5-TP or Silvex)
Chlorine dioxide	Halooacetic acids (HAA5)	1,2,4-Trichlorobenzene
Chlorite	Heptachlor	1,1,1-Trichloroethane
Chromium (total)	Heptachlor Epoxide	1,1,2-Trichloroethane
Coliform	Hexachlorobenzene	Trichloroethylene (TCE)
Copper	Hexachlorocyclopentadiene	Uranium
<i>Cryptosporidium</i>	Lead	Vinyl chloride
Cyanide	Legionella	Viruses
2,4-Dichlorophenoxyacetic acid (2,4-D)	Lindane	Xylenes (total)
Dalapon	Mercury (Inorganic)	
Di(2-ethylhexyl)adipate (DEHA)	Methoxychlor	
Di(2-ethylhexyl)phthalate (DEHP)	Monochlorobenzene (Chlorobenzene)	



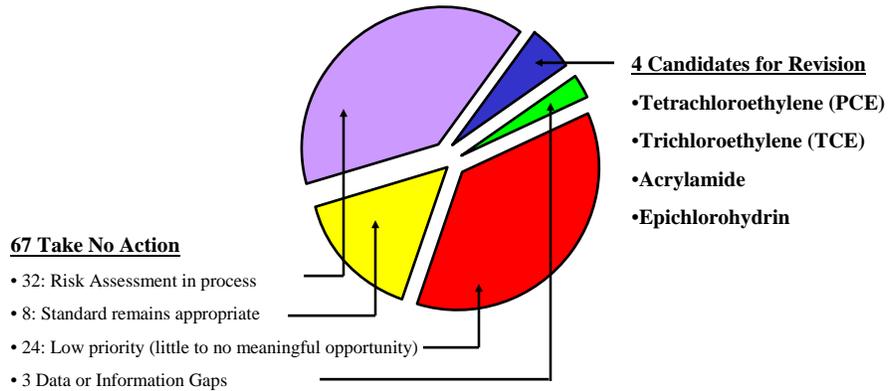
Background on CCL and Regulatory Determinations

- **CCL1 and Its Regulatory Determinations**
 - March 1998 - Published CCL 1 and listed 60 contaminants.
 - July 2003 - Published final determination “not to regulate” 9 of the 60 contaminants.
- **CCL 2 and Regulatory Determinations**
 - February 2005 - Published CCL 2 and carried forward 51 remaining CCL 1 contaminants.
 - July 2008 - Published final determination “not to regulate” 11 of the 51 contaminants.
- **Final Regulatory Determinations for CCL 3 due July 2013.**
 - September 2009 - Published CCL 3 and listed 116 contaminants.
 - July 2013 - Final determinations due.



Six Year Review 2

Published March 2010; performed a detailed review of 71 existing standards



Office of Ground Water and Drinking Water



Using EPA's Pesticide Authorities to Protect Drinking Water

Rick Keigwin
Pesticide Re-evaluation Division
Office of Pesticide Programs

July 2010

United States Environmental Protection Agency



Scope of Discussion

- Pesticide statutes
- Registration Review Program
- Opportunities for collaboration

1

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National Pesticide Program Strategic Goal

“Protect public health and the environment through sound science, transparency, and the rule of law”

2

United States Environmental Protection Agency



Pesticide Program Priorities

- Be an effective gateway to the marketplace
- Be an effective steward of existing pesticides
- Enhance our science and policy framework
- Enhance our overall programmatic management to allow us to better deliver on our vision

3

United States Environmental Protection Agency



What is a pesticide?

- Any substance or mixture of substances intended for preventing, destroying, repelling, or mitigating any pest, including unwanted species of plants and animals. Such as:
 - insecticides
 - fungicides
 - rodenticides
 - plant growth regulators
 - thinning agents
 - antimicrobials
 - biopesticides
 - herbicides
 - nematicides
 - miticides
 - defoliants
 - desiccants
 - fumigants

4

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Agency Roles in Pesticide Licensing

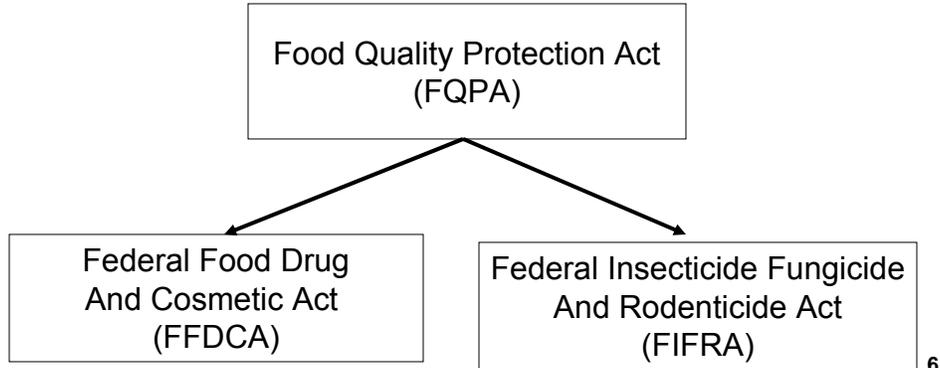
- U.S. Environmental Protection Agency (EPA)
 - Register use of pesticides
 - Establish tolerances (MRLs)
 - Register pesticide producing establishments
 - Enforce rules on pesticide production, distribution, sale and use
- Food and Drug Administration (FDA)
 - Enforce compliance with tolerances (MRLs) on foods and feeds, except meat and poultry
- U.S. Department of Agriculture (USDA)
 - Enforce compliance with tolerances (MRLs) on meat & poultry
 - Development of data to support EPA dietary risk assessments
 - Pesticide research
- States
 - Register products before sale or distribution
 - Enforce labels

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Key Statutes Governing Pesticide Regulation



United States Environmental Protection Agency

6



Overview of Key Pesticide Statutes

- Federal Food, Drug, and Cosmetic Act
 - EPA establishes maximum residue limits
 - Safety standard: "Reasonable certainty of no harm"
- Federal Insecticide, Fungicide, and Rodenticide Act
 - Licensing of pesticide products
 - Safety Standard: "No unreasonable adverse effects"
 - "Label is the law" principle

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7



Pesticide Regulatory Programs

- Registration
 - New Active Ingredients and New Uses
 - Tolerance Setting
 - Individual Products and Amendments
- Registration Review
 - Periodic re-evaluation of all registered products

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Other FIFRA Provisions

- Data call-in (§3(c)(2)(b))
- Adverse effects reporting (§6(a)(2))
- Emergency exemptions (§18)
- Special local needs (§24(c))

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Registration Review

- FIFRA provision requires periodic review of each pesticide's registration
- Covers all pesticides
- 15-year review cycle
- Flexible, transparent, open process
- Includes public participation
- Ensures continuity in protecting human health and the environment

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Registration Review Program Implementation

- Began implementation in 2007
- Over 1100 active ingredients
- Includes:
 - National ESA assessments
 - Endocrine disruptor screening program

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United States Environmental Protection Agency



Decision Paradigm

- What has changed since the pesticide's last assessment?
- How significant is this change?
- Do we need new information?
- Is the regulatory position likely to change as a result of the new information?

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United States Environmental Protection Agency



Beginning the Process

- EPA assembles background information, prepares preliminary work plan for case, places in docket for comment period
- Reviews public comments and additional information received
- Final work plan states if new risk assessments are required and if data call-in is needed

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United States Environmental Protection Agency



Completion of Registration Review Process

- Issue Data Call-In
- Complete new risk assessments
- Consult with FWS and NMFS, if needed
- Publish decision for comment
- Implement decision

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United States Environmental Protection Agency



General Schedule

- Year 1: Scoping
- Year 2: Data Generation
- Year 3: Continue Data Generation
- Year 4: Data Review
- Year 5: Risk Assessment
- Year 6: Risk Management

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United States Environmental Protection Agency



Public Participation in Registration Review

- Multiple opportunities for participation
 - Preliminary Workplan
 - Preliminary Risk Assessment
 - Proposed Decision
- Data submission
 - Use and usage
 - Water monitoring data
 - Additional available fate or toxicity data
 - Comments on problem formulations, scoping documents
 - Comments on additional data likely to be called in

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U n i t e d S t a t e s E n v i r o n m e n t a l P r o t e c t i o n A g e n c y



Additional OPP Priorities

- Implementation of the Endocrine Disruptor Screening Program
- Meet obligations under the Endangered Species Act
- Promote protection through education
- Enhance collaboration across government

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U n i t e d S t a t e s E n v i r o n m e n t a l P r o t e c t i o n A g e n c y



Opportunities for Collaboration

- Coordinate SDWA and FIFRA regulatory efforts
- Share monitoring data across programs
- Collaborate on risk assessment
- Better understand existing usage data
- Development of analytical methods
- Others?

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United States Environmental Protection Agency



For More Information

- Registration Review
www.epa.gov/oppsrd1/registration_review/
- Schedule for Beginning Reviews
http://www.epa.gov/oppsrd1/registration_review/schedule.htm
- Pesticide Registration Review Status
http://www.epa.gov/oppsrd1/registration_review/reg_review_status.htm

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United States Environmental Protection Agency



Using EPA's Authority under the Toxic Substances Control Act (TSCA) to Protect Drinking Water – an Overview

Jim Willis, Director
Chemical Control Division, OPPT
National Drinking Water Advisory Council Summer Meeting
July 21, 2010



Office of Pollution Prevention and Toxics (OPPT)

- OPPT is responsible for assuring that industrial chemicals for sale and use in the U.S. do not pose unreasonable risks to human health or to the environment
 - TSCA
 - Pollution Prevention Act



TSCA Overview

- Enacted in 1976, TSCA sets a national program with broad authority to:
 - Gather information on new and existing chemical substances and mixtures
 - Require testing of chemicals
 - Screen and control unreasonable risks of new and existing chemicals
 - Coordinate with other Federal agencies
- TSCA:
 - Title I – Core, including new Mercury Ban
 - Title II - Asbestos
 - Title IV - Lead-based paint
- Current interest in Congress to amend TSCA

3



TSCA Inventory and Inventory Update Rule -- Section 8

- TSCA Inventory Original inventory contained around 62,000 existing chemicals
 - New chemicals that go into production are added to the Inventory
- Inventory Update Rule (IUR) and amendments
 - Every 5 years, companies submit screening-level, exposure-related information on the nearly 7,000 substances produced at >25,000 lbs
 - EPA makes the information publicly available, unless there are confidentiality claims.
 - The IUR data are used to support risk screening, assessment, priority setting and management activities.
 - EPA will soon be proposing a number of IUR amendments
- Current Inventory ~ 84,000 chemicals

4



New Chemicals Program -- Section 5

- TSCA requires that EPA review new chemicals before they be introduced into the marketplace.
 - Companies must submit chemical identity, use, anticipated production volume, exposure and release information, and all existing, available test data
 - EPA's 90-day review determines if there is a need to prohibit or limit manufacturing by requiring testing or through risk management measures
 - Provides initial opportunity for encouraging use of greener, safer chemicals.

5



New Chemicals Program – Section 5

- EPA has reviewed more than 40,000 new chemicals since the passage of TSCA
 - Many never go to market based on EPA concerns
 - EPA has taken range of regulatory actions on more than 5,000 chemicals
 - If manufacturing or importing commences:
 - EPA must be notified and the chemical is added to the TSCA Inventory
 - Also covers biotechnology, nanotechnology

6



Existing Chemicals Program

- Existing chemicals are those listed on the TSCA Inventory
- TSCA provides authority to:
 - Require companies to submit health, safety, exposure and other and risk-related data (§8)
 - Require companies to test chemicals for health and environmental effects (§4)
 - Test Rules
 - Enforceable Consent Agreements
 - Address risks
 - Authority to limit or ban chemical (§6)
 - Significant New Use Rule (§5)
 - Subpoena information (§11)

7



Other TSCA Provisions

- Imminent Hazards [§ 7]
- Relationship to Other Federal Laws [TSCA § 9]
- Export Notification [TSCA § 12(b)]
- Import Certification [TSCA § 13]
- Disclosure of Data [TSCA § 14]
- Citizen Petitions [TSCA § 21]

8



National Program Chemicals

- PCBs
- Lead
- Asbestos
- Mercury
- Formaldehyde

9



Enhancing EPA's Chemical Management Program – Administrator Priority

“More than 30 years after Congress enacted the Toxic Substances Control Act, it is clear that we are not doing an adequate job of assessing and managing the risks of chemicals in consumer products, the workplace and the environment. It is now time to revise and strengthen EPA's chemicals management and risk assessment programs.”

EPA Administrator, Lisa Jackson, Jan. 23, 2009

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Administrator Announcement

- On September 29, 2009, Administrator Jackson outlined her framework for the Agency's Chemical Management Program, including:
 - A set of Administration principles to help inform the legislative reform discussions.
 - A four-pronged comprehensive approach to enhance the Agency's current chemicals management program.

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Essential Principles for Reform of Chemicals Management Legislation

1. Chemicals Should be Reviewed Against Safety Standards that are Based on Sound Science and Reflect Risk-based Criteria Protective of Human Health and the Environment.
2. Manufacturers Should Provide EPA with the Necessary Information to Conclude That New and Existing Chemicals are Safe and Do Not Endanger Public Health or the Environment.
3. Risk Management Decisions Should Take into Account Sensitive Subpopulations, Cost, Availability of Substitutes and Other Relevant Considerations.

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Essential Principles for Reform of Chemicals Management Legislation

4. Manufacturers and EPA Should Assess and Act on Priority Chemicals, Both Existing and New, in a Timely Manner.
5. Green Chemistry Should Be Encouraged and Provisions Assuring Transparency and Public Access to Information Should Be Strengthened.
6. EPA Should Be Given a Sustained Source of Funding for Implementation.

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Enhanced Chemical Management Program

- Comprehensive effort includes:
 - New regulatory risk management actions.
 - Development of chemical action plans which will target risk management efforts on chemicals of concern.
 - Requiring information needed to understand chemical risks.
 - Increasing public access to information about chemicals.

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New Regulatory Risk Management Actions

- EPA is taking risk management actions on a number of chemicals, including:
 - Lead – renovation and remodeling, tire weights
 - Mercury – switches, measuring devices, and other products
 - Formaldehyde – emissions from pressed wood
 - PCBs – use and distribution in commerce
 - Glymes – new uses of 14 glymes
 - Nanomaterials

15



Chemical Action Plans to Target Risks

- In Sept. 2009 announcement, Administrator announced that EPA would develop chemical action plans that will outline the potential risks and the steps the Agency will take to address those risks.
- EPA identified an initial list of six chemicals, chosen on the basis of multiple factors, including:
 - available hazard, exposure, and use information; potential concern for children's health; use in consumer products; presence in human blood, PBT characteristics, and production volume

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Chemical Action Plans

- On Dec. 30, 2009, EPA released the first four action plans on:
 - Phthalates (8 chemicals)
 - PBDEs (penta-, octa- and deca-)
 - Long-chain perfluorinated chemicals
 - Short-chain chlorinated paraffins.
- On March 29, 2010 EPA released the action plan for Bisphenol A (BPA).

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Future Action Plan Cases

- EPA anticipates releasing action plans on the following chemicals within the coming weeks:
 - Nonylphenol/ethoxylates
 - Hexabromocyclododecane
 - Dichlorobenzidines
- EPA is also considering the following chemicals as potential action plan candidates:
 - Diisocyanates
 - Firemaster 550
 - Nitrosamines
 - Flame retardants
 - Musk xylenes
 - n-Hexane

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Action Plan “Actions”

- EPA is applying a broad range of regulatory and non-regulatory actions to follow-up on the action plans, including:
 - Adding chemicals to the new 5(b)(4) concern list
 - Developing voluntary phase-outs with producers and users which will be backstopped with regulation
 - Developing test rules to generate health and safety data
 - Adding chemicals to the Toxics Release Inventory
 - Action to ban chemicals under TSCA section 6
 - Significant New Use Rules to prevent re-introduction into risky uses
 - Design for the Environment initiatives to help companies shift away from problematic chemicals.
- Action plans are being developed in conjunction with other EPA programs, and can be targeted to meet their strategic aims.

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Additional OPPT Priorities

- Supporting the Endocrine Disruptor Screening Program (EDSP) and taking a leading role in issuing orders for list 2 chemicals other than pesticide active ingredients
- Ensuring, through the voluntary HPV Challenge, and through test rules where needed, that all chemicals produced at >1 million pounds have a publicly available minimum data set
- Implementing a program whereby all nanoscale materials produced in or imported into the US are notified to EPA, and have test data developed and/or exposures controlled, where appropriate.
- Ensuring broad public access to all TSCA-related health and safety data, including through challenging industry claims of confidentiality.

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Resources

- Essential TSCA Reform Principles
 - <http://www.epa.gov/oppt/existingchemicals/pubs/principles.html>
- Enhanced Chemical Management Program
 - <http://www.epa.gov/oppt/existingchemicals/pubs/enhanchems.html>
- Chemical Action Plans
 - <http://www.epa.gov/oppt/existingchemicals/pubs/ecactionpln.html>
- Inventory Update Rule (IUR) Reporting
 - www.epa.gov/iur
- Control of Nanoscale Materials under TSCA
 - <http://www.epa.gov/oppt/nano>

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Research Support for Drinking Water Strategy: Contaminant Groupings Drinking Water Technology Initiatives



Dr. Audrey D. Levine, P.E.
National Program Director
Drinking Water Research Program

Dr. Thomas F. Speth P.E.
Division Director (Acting)
Water Supply and Water Resources
Division

Office of Research and Development
National Program for Drinking Water Research
August 27, 2010

National Drinking Water Advisory Council
Summer Meeting, Washington, DC; July 21-23 2010



DRINKING WATER RESEARCH PROGRAM

Drinking Water Strategy

- Address contaminants in groups for regulatory development rather than one at a time so that enhancement of drinking water protection can be achieved cost-effectively.
- Foster development of new drinking water technologies to address health risks posed by a broad array of contaminants.
- Use the authority of multiple statutes to help protect drinking water.
- Partner with states to share more complete data from monitoring at public water systems.

Research emphasis

- **Address contaminants in groups for regulatory development rather than one at a time so that enhancement of drinking water protection can be achieved cost-effectively.**
 - Intramural approach using expertise across ORD's research programs
 - Extramural –STAR program
- **Foster development of new drinking water technologies to address health risks posed by a broad array of contaminants.**
 - Intramural transdisciplinary research
 - Extramural including STAR, SBIR, other partners

3

Approach

- Strategic realignment of research focus
 - Coordinate across ORD's National Research Programs
 - Safe Products for a Sustainable World—includes Human Health Research, EDCs, Computational Toxicology
 - Safe and Sustainable Water Resources—integrated program that includes drinking water and water quality research programs
 - Leverage and outreach to external partners and stakeholders
 - NSF, USGS, CDC, etc
 - Water Research Foundation, Water Environment Research Foundation, Water Reuse Research Foundation, Global Water Research Coalition
- Develop outcome-oriented research activities

4

Research Challenges

- What are the optimal ways to group contaminants to provide information on health risks?
- What are the criteria for developing and adopting new technologies?
 - *Public health Protection
 - *Effectiveness
 - * Resiliency
 - * Operational ease
 - * Environmental footprint (energy, water)
 - *Affordability
 - * Reliability
 - * Sustainability
- What protocols are effective for validating technologies?
- How can EPA promote the advancement of affordable and sustainable water technologies?

5

DW Strategy: Contaminant Groups

- Examples of grouping paradigms
 - Analytical approaches
 - Health effects
 - Mode of Action
 - Sources
 - Occurrence
 - Treatability
- Research activities
 - Evaluate existing regulated contaminants and CCL for grouping options
 - Research on physical-chemical-biological reactions that impact health risks
 - Computational Toxicology
 - Link groupings to treatment technologies

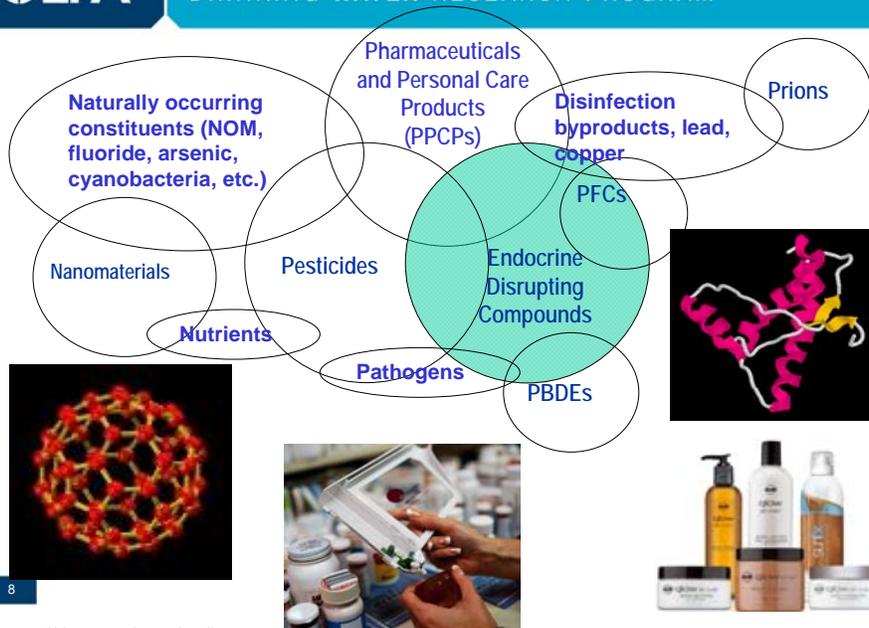
6

Example of linkages between technology and health risks

- Disinfection
 - Control of known and emerging pathogens
 - Disinfection byproducts (known and unknown)
 - Changing characteristics of DBP precursors
 - Natural Organic Matter
 - Inorganics (dissolved solids, nitrogen, etc.)
 - Algal byproducts
 - Nitrification, Solids Accumulation, Corrosion control
 - Lead and Copper Release
- Need to consider health risks during technology evaluation

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Range of Water Contaminants



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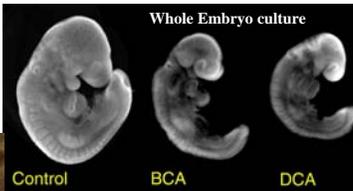
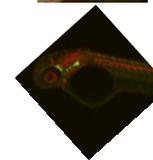
*Not an exhaustive list.

Strategic evaluation of water quality outcomes and health risks from technology decisions

- Disinfection—multiple options
 - Chlorine
 - Chloramines
 - Chlorine Dioxide
 - Ozone
 - UV
- Health risks
 - Traditional toxicity testing (in vivo)
 - Use in vitro testing to screen for a broad spectrum of health risks
 - Focus on mixtures (groups) vs individual constituents
 - Build and correlate to body of work on disinfection byproducts and other drinking water contaminants

Health Effects and Exposure Research

- Toxicity testing
 - Toxicity pathway identification
 - Screening Assays
 - Modeling virtual tissues (liver, embryo, cardio-pulmonary), organs, systems
 - Traditional Assays
 - In vitro assays (cells, cellular components, tissues)
 - In vivo testing
- Mixtures—
- Epidemiology studies
- Biomarkers of exposure



Drinking Water Strategy: Four Principles:

- Address contaminants in groups for regulatory development rather than one at a time so that enhancement of drinking water protection can be achieved cost-effectively.
- Foster development of new drinking water technologies to address health risks posed by a broad array of contaminants.
- Use the authority of multiple statutes to help protect drinking water.
- Partner with states to share more complete data from monitoring at public water systems.

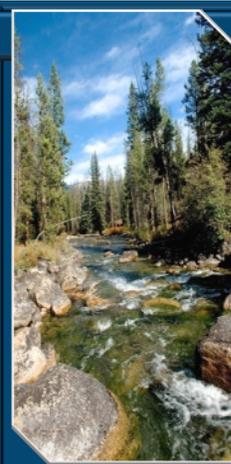


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Drinking Water Technologies

- Screening and Monitoring
- Treatment
- Infrastructure



12

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Drinking Water Technologies

- Develop protocols to evaluate and validate new drinking water technologies (Environmental Technology Verification Programs)
- Conduct field demonstration projects to address a broad suite of contaminants affordably and sustainably.
- Engage private industry and stakeholders in advancing development and adoption of new technologies



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Technology Evaluation

- Build on the strengths of EPA's history in Environmental Technology Verification (ETV) programs to promote testing, validation, and acceptance of new technologies
- Develop protocols that apply to a broad spectrum of contaminants in partnership with OW, Regions, States, and other stakeholders
- Work directly with OW to ensure that results are relevant and useful for supporting Agency decisions
- Disseminate results to primacy agencies and utilities for easier acceptance



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Multi-Contaminant Demonstration Program

- Enlist Regions and States to identify appropriate systems for demonstration program
- Criteria for site selection
 - Health concerns including epidemiological evidence
 - Evidence or suspicion of multiple contaminants (e.g., CECs, volatiles, pesticides, fluoride, radionuclides, microbes, DBPs, etc.)
 - Partnership on technology selection and operations
- Goals
 - Field test technologies under actual operating conditions at treatment facilities
 - Obtain data on performance, costs, O&M
 - Conduct detailed testing of water quality
 - Evaluate health effects
 - Evaluate residuals, environmental footprint



Components of Multi-Contaminant Demonstration Program

- Conduct baseline water quality and health effects studies (1X or concentrated)
- Identify candidate technologies
- Develop testing plan in partnership with utility and permitting agencies
- Install full-scale technologies or approach
- Conduct extensive testing
 - Water quality
 - Health effects studies (in vitro testing)
 - Operations and maintenance, residuals
 - Distribution system impacts (simultaneous compliance)
 - Economics
- Evaluate water efficiency and energy
- Lifecycle analysis; sustainability metrics



Experience from Arsenic Demonstration Program

- Valuable to select technology with input from State and local community – obtained State acceptance of technology
- EPA purchased the unit and paid for at least one year of monitoring
- Community paid for infrastructure and handled sampling for at least one year
- Evaluation of performance, operation, and cost
- Characterization of the residuals and disposal options



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Lessons Learned from Arsenic Demonstration Program

- Focused on commercially-ready technologies or engineering approaches
- \$23 million funded to date
- Eight years and running
- A total of 50 sites across the nation
- Improved drinking water quality for over 60,000 consumers



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Engage Private Industry, Stakeholders, and the Academic Community

Advance development and adoption of new technologies

- Develop, test, verify, and help spur commercialization of innovative technologies to solve pressing drinking water problems
- Build on EPA's expertise, infrastructure, and strategic partnerships.
- Help spur economic growth through the creation of new businesses and jobs
- Train next generation of water professionals



Technology-related health effects research

- Key component of technology research is to ensure that the use of the technology does not introduce unforeseen health risks to consumers
- Build on experience from DBP research:
 - Include reproductive and developmental toxicity
 - Thorough chemical analysis of environmentally realistic complex mixtures
 - Link traditional in vivo tests with in vitro assays and advances in toxicity pathway evaluation



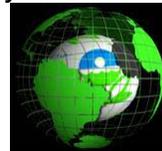
Health Effects research

- In vitro assays provide opportunities to evaluate multiple health end-points and toxicity pathways:
 - Bladder and/or GI toxicity
 - Cancer or mutagenesis
 - Immunotoxicity, contact dermatitis, respiratory hypersensitivity responses
 - Developmental neurotoxicity
 - Estrogenic activity
- Integrating health effects testing with demonstration program is critical



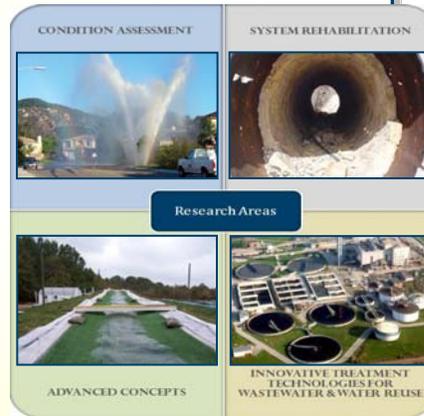
Treatability Database

- **Goal**
 - Develop a core repository of referenced information on the control of contaminants in drinking water
 - Build an interactive database on EPA website www.epa.gov/tdb
 - Outreach to water community, academia, industry for future directions (e.g. Wiki Approach)
- **Contaminants**
 - Updated over time
 - Expanding to hundreds of contaminants
- **Impact**
 - Ultimately the largest single compilation of referenced drinking water treatment data in the world



Link to Water Infrastructure Research Program

- Determine the innovative technologies that can cost-effectively improve performance and extend the life of existing infrastructure.
- Conduct national assessments to identify the effects of major influencing factors on future system threats and demands.
- Develop new designs and approaches that will maintain the long-term performance of water infrastructure.
- Determine the factors that affect infrastructure deterioration to predict and prevent system failure.



Research Support for Drinking Water Strategy

- Builds on existing expertise and programs to provide needed data in a timely manner
- Merges engineering, analytics, health effects, and sustainability research in partnership with OW (something that EPA-ORD is uniquely suited to do)
- Sustainable outcome-oriented solutions
 - Protect public health
 - Promote affordable technologies and approaches that eliminate multiple contaminants, particularly for small systems
 - Engage the states, water industry, and consumers into the risk management / sustainability discussion



Additional Information

ORD's Research Programs and Laboratories
<http://www.epa.gov/ORD>

Contact info:

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Drinking Water Strategy: Shared Access to Monitoring Data

Ann Codrington, Acting Director
Drinking Water Protection Division



Purpose for Collecting/Posting Monitoring Data

- Transparency
- Improve consumer confidence
- Target public health impacts
- Explain the program



Goal of Monitoring Data (from Drinking Water Strategy)

- Facilitate information and data exchange capability between States and EPA
- Strengthen the review of potential drinking water public health concerns
- Share powerful data analysis tools with states to target actions
- Implement a range of interactive communication tools



Not a New Concept

- Consumer Confidence Reports issued since 1999
- Currently around 20 states put some data online
- 45 states provided data for 6-Year Review Request
- NYTimes, AP, EWG have all posted SDWIS data
- SDWIS-State includes Drinking Water Watch



Guiding Principles for Effort

- Collect and display compliance monitoring data for all primacy agencies
- Keep state burden as low as possible
 - Electronic data
 - Start with Community Water Systems and schools
 - Develop extraction tool for SDWIS and non-SDWIS
- Develop in phases
- Test and pilot before posting
- Consult constantly with states at ECOS/ASTHO, ASDWA, and staff levels



3 Part Process

- October, 2010 – Enhance current violations pivot tables on EPA’s website to include system name and enforcement responses
- Fall, 2011 – Post subset of monitoring data, searchable by water system
- Fall, 2013 – Post full data set through regular state reporting process, with increased search capabilities



Activities That Inform This Effort

- EPA-state logic model discussions
- Data Quality Workgroup
- EPA/State discussions on CCR
- Standing EPA/State data workgroups



Data display: Oregon

A screenshot of a web browser displaying the "Data Query Page" for the Oregon Department of Human Services (DHS) Drinking Water Program. The page includes a navigation menu with links for "Introduction", "Data Search Options", "WS Name Look Up", "WS ID Look Up", and "DWP Home". Below the menu, there are sections for "Information by county" with links to "Inventory", "Surface Water Systems", "Water System Surveys", and "System Scores", as well as "Alerts", "Violations", "Open Enforcements", and "Cross Connection ASRs". A section titled "Inventory List" offers a link for "Tools for Laboratories". The main content area contains a welcome message and instructions on how to use the data query tool, including contact information for the DWP Compliance Officer and Data Management Coordinator. The browser's address bar shows the URL "http://170.124.63.Windows.html".

Data Display: Oregon

ND = Not Detected at the Minimum Reporting Level
Spreadsheet

Latest Chemical Results - PWS ID: 54237 --- EUGENE YACHT CLUB

Sample ID	Sample Date	Receive Date	Chemical	Source ID	Results	Current MCL	UOM
256214	11/04/2009	11/09/2009	NITRATE	EP-A	2.500000	10.000000	MGL
256224	11/04/2009	11/09/2009	NITRATE	EP-B	1.900000	10.000000	MGL
263704	11/03/2008	11/10/2008	NITRATE	EP-B	2.400000	10.000000	MGL
274809	11/16/2007	12/27/2007	NITRATE	EP-A	2.000000	10.000000	MGL
274809	11/16/2007	11/23/2007	NITRATE	EP-B	2.200000	10.000000	MGL
265154	11/27/2006	12/04/2006	NITRATE	EP-A	2.500000	10.000000	MGL
265155	11/27/2006	12/04/2006	NITRATE	EP-B	1.700000	10.000000	MGL
252768	07/19/2005	07/25/2005	NITRATE	EP-A	2.000000	10.000000	MGL
252769	07/19/2005	07/25/2005	NITRATE	EP-B	1.900000	10.000000	MGL
244561	11/22/2004	11/26/2004	NITRATE	EP-A	2.300000	10.000000	MGL
232342	07/01/2003	07/07/2003	NITRATE	EP-A	2.000000	10.000000	MGL
232341	07/01/2003	07/07/2003	NITRATE	EP-B	1.900000	10.000000	MGL
224394	12/18/2002	12/23/2002	NITRATE	EP-A	2.300000	10.000000	MGL

Archived Results

Sample Date	Receive Date	Chemical	Source ID	Results	MCL
12/31/2001	01/04/2002	Nitrate	AA	2.200000	10.000000
07/06/2000	07/17/2000	Nitrate	AA	2.300000	10.000000

Data Display: Indiana

Drinking Water Branch - Windows Internet Explorer

Drinking Water Watch

Public Water Supply Systems Search Parameters

Water System No.

Water System Name

Principal County Served

Water System Type

Primary Source Water Type

Point of Contact Type

Sample Search Parameters

Sample Class

Sample Collection Date Range
(The Sample Search always produces results for the last 2 years, unless you provide a specific date range.)

From: To:

Search For Water Systems Search For Samples Review Consumer Confidence Data Clear

[Click Here for the County Map of Indiana](#)

Questions for NDWAC

- What information will consumers want to see to explain data?
- How should we display data?
- What stakeholders should we consult with?



Priority of Addressing Nutrient Pollution: Common Ground for Both CWA and SDWA Programs

Denise Keehner
Ephraim King
NDWAC, July 22, 2010

Outline

- **Denise Keehner, Director, Office of Wetlands, Oceans and Watersheds**
 - **Overview of the Problem**
 - **N & P Impacts and Sources**
- **Ephraim King, Director, Office of Science and Technology**
 - **Progress, Activities and External Pressure**
 - **The Role of Water Quality Standards**
 - **Nutrient Innovation Task Group Recommendations**
 - **How You Can Help**



Nutrient Pollution

- Too much Nitrogen and/or Phosphorus in water
 - Significant factor in algal blooms—including HABs
 - When in drinking water, nitrate/nitrites pose immediate human health risks
 - Interaction between excess organic matter (associated with algal blooms) and disinfection chemicals creates DBPs and their associated public health risks
 - Dead zones/hypoxic zones cause impacts on aquatic ecosystems and...

3

Adverse impacts of algal blooms on recreational use of waters....

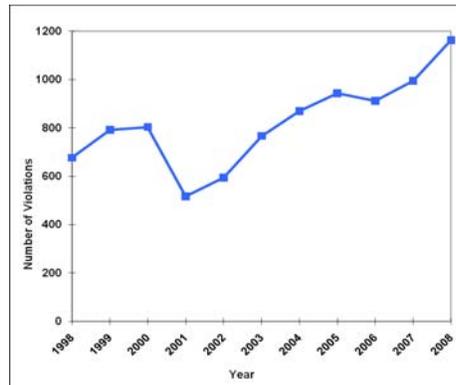
“come on in, the water’s
.....fine?”



4

N&P Public Health Impacts

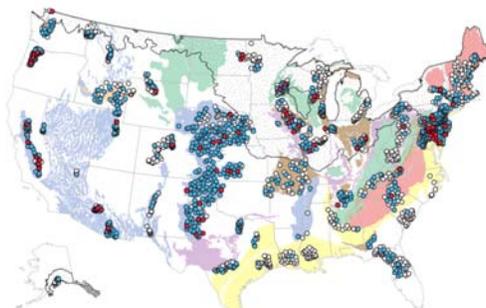
- Contaminated drinking water supplies
- Rate of nitrate violations in community water systems has doubled over past 7 years



Community Water System (CWS)
Drinking Water Nitrate Violations

5

National Drinking Water Impacts Public Health Risks – Drinking Water



EXPLANATION
Nitrate, in milligrams per liter as N
● >10 ● >1 and ≤10 ○ ≤1

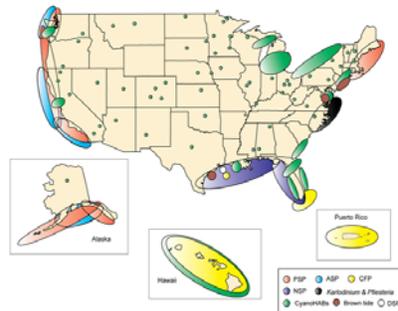
(MCL of 10 mg/l exceeded as N in 4.4 percent of the wells)

- Disinfectant by-products; significant & costly
- Increased treatment costs
 - Large Systems
 - Small Systems
 - Private Wells
- Harmful algal blooms

6

Extent of N & P Impacts

- Rivers and streams
 - Over 47% of streams have medium to high levels of phosphorus and over 53% have medium to high levels of nitrogen
- Lakes and reservoirs
 - 2.5 million acres impaired
- Coastal and estuarine
 - 300 hypoxic zones in U.S. waters and not just on the coasts



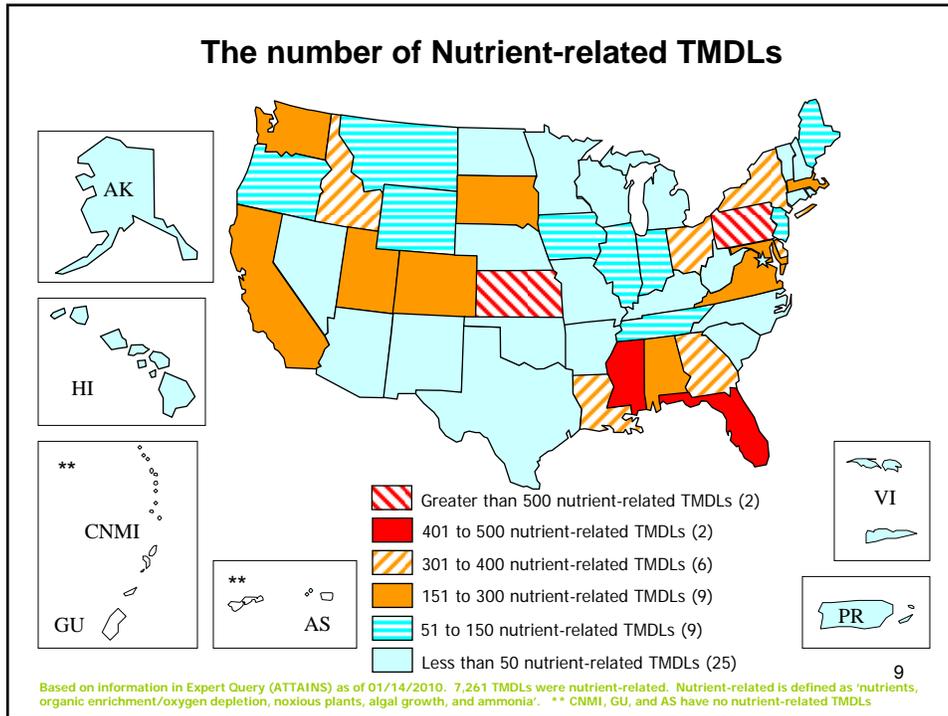
(Occurrences of algal blooms throughout the US)

7

National Scope of Nutrient Problem

- 14,000 Nutrient-related Impairment Listings in 49 States
 - And This is an Underestimate . . .
- 78% of Assessed Continental U.S. Coastal Waters exhibit eutrophication

8



Sources of Nutrient Pollution

- **Urban Stormwater**
 - 80% of U.S. Population on 10% of Land
 - 50% of Urban Areas Will be Redeveloped by 2030
 - 30% of Additional Needed Housing Stock Not Yet Built
 - Expected to Grow Dramatically With Increased Urbanization
- **Municipal Wastewater Treatment**
 - Among Most Heavily Regulated Sectors
 - Treat over 18 million tons of human solids annually
 - About 4% with numeric limits for N and 10% for P
- **Air Deposition of Nitrogen**
 - Approx 20% of Nitrogen Loadings in Chesapeake and Gulf

Sources of Nutrient Pollution

- Livestock Production Activities
 - 1 billion tons of manure annually
 - Substantial portion not currently covered by CAFO rule
- Agricultural Row Crops
 - Inefficient fertilizer utilization – about 30% of applied N is lost?
 - Stormwater runoff and irrigation return flows exempt under CWA with highly variable controls at State levels

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Due to Population Growth we can expect things to get worse

- Nutrient pollution is accelerating as population increases.
- Increase in Nutrient Pollution Over Past 50 Years Reflects Doubling of U.S. Population
- Additional 135 Million People by 2050

Year	U.S. Population
1950	152 million
2008	304 million
2050	439 million

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Clearly, CWA and SDWA Programs Share an Interest in.....

- Protecting healthy waters from becoming impaired as a result of P/N pollution because algal blooms associated with excess P/N are bad for people and for aquatic life.
- Cleaning up waters that are currently impaired due to P/N because these waters won't support drinking water uses (w/o treatment), aquatic life uses or recreational uses.
- Finding opportunities for the polluters to stop polluting rather than pushing pollution "downstream" and having downstream water treatment facilities bear the burden of treatment.

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What are we doing, what have others been doing and what more should all of us be doing together, since we certainly have common ground?

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Existing Data and Analysis

- **EPA Science Advisory Board**
 - Reactive Nitrogen in the United States (USEPA 2009)
 - Hypoxia in the Northern Gulf of Mexico (USEPA 2007)
- **USEPA**
 - National Coastal Condition Report III ((USEPA 2008)
 - Wadeable Streams Assessment (USEPA 2006)
- **National Research Council**
 - Mississippi River Water Quality . . . Challenges and Opportunities (NRC 2008)
 - Urban Stormwater Management (NRC 2008)
- **National Oceanic and Atmospheric Administration**
 - Effects of Nutrient Enrichment in the Nation's Estuaries (Bricker et al 2007)
- **Numerous Published Articles, State Reports, and University Studies**

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Efforts to Date

- Investment in Research and Science
- Commitment to Development of Guidance, Technical Asst. and Information Transfer
- Number of State and Local BMP Pilots and Technology Demonstration Projects
- Continued State Innovation, Testing, and Exploration of Incentive, Cost-share, Limit of Technology, Trading, and Collaborative Approaches
- State Oversight and Regulatory Models

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Nutrient Innovations Task Group Findings

- Knowledge, Collaboration, and Incentives Will Fail Absent Joint Accountability
- Current Tools Underused and Poorly Coordinated
- Additional Tools Rarely Used
- Current Regs Disproportionately Address Certain Sources in Watershed to the Exclusion of Others
- Specific Aspects of State Nonpoint Source Programs Highly Successful, But Broader Application Undercut by Absence of a Common Multi-State Framework of Mandatory Point and Nonpoint Source Accountability Within and Across Watersheds

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Wisconsin DNR



Nutrient Reports & Stakeholder Demands

- **IG Numeric Nutrient Standards Report**
 - EPA's 1998 to 2008 strategy and plan "has been ineffective".
 - In the 11 years since 1998 "half the states still have no numeric criteria",
 - EPA has "not held States accountable",
 - No assurance that "states will develop standards that provide adequate protection of downstream waters",
 - "Until recently, EPA has not used its CWA authority to promulgate WQS for States".
- **State-EPA Nutrient Innovations Task Group Report**
 - Knowledge, collaboration, and incentives will fail absent joint accountability
 - Current CWA tools underutilized or rarely utilized
 - Need profound change in how we share accountability between sources, within watersheds, and across State lines
- **Growing Stakeholder Pressure for EPA Action**
 - LA- stakeholder demands for listing subset of LA coastal waters for DO
 - WI – litigation demanding EPA establishment of N & P numeric WQSs
 - Miss. Basin – petition for EPA to develop N & P WQS for 10 stem States

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Impaired Reservoirs – Examples



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Progress in 2009/2010

- **Chesapeake Bay**
 - Final Chesapeake Bay Strategy Spring 2010
 - Draft TMDL – September 2010
 - Final TMDL December 2010
- **Florida**
 - Determination – January 2009
 - Final flowing water standards – October 2010
 - Final coastal waters and estuarine standards - August 2012
- **Water Quality Standards Program**
 - State-EPA Nutrients Innovation Task Group Report – August 2009
 - IG State Numeric Standards Report – August 2009
 - Draft-final revised Ammonia Criteria – December 2010
- **Rulemakings**
 - CAFO regulatory revisions initiated
 - Post-Construction proposal begun with ICRs and listening sessions
- **Guidance**
 - Final POTW Nutrient Treatment Effectiveness Manual – Winter 2009
 - Chesapeake Bay 502 Non Point Source BMPs
- **Wisconsin**
 - Phosphorus Standards submitted to Legislature for review by October 2010

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NITG Call to Action

- All Major Sources of Nutrients Must be Held Accountable for Their Contributions to the Problem.
- Combating the Challenge of Nutrient Pollution Will Require a Profound Change in How We Share Accountability Between Sources, Within Watersheds, and Across State Lines
- National Leadership is Vital to Supporting and Requiring a More Consistent and Full Utilization of Existing Tools From State to State and Source to Source

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Priorities & Next Steps

What

- Continue to support development of numeric nutrient standards to support protection of drinking water sources, other high quality waters, and drive restoration of impaired waters
- Work with States to define and implement an enhanced *Accountability Framework* for both point and non-point sources
- Gather and synthesize *drinking water data related to human health and economic impacts*

How

- Use best available, peer reviewed science to determine necessary nutrient loads and targets
- Develop transparent process to engage States and other stakeholders
- Create incentives for action and disincentives for inaction under the CWA and implementing regulations
- Continue partnerships and collaboration between Water Quality (CWA) and Drinking Water (SDWA) programs at State and federal level

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How can NDWAC help?

- Partner with state and local agencies to develop *Accountability Frameworks* to address the problems
- Identify information that more clearly Links *Economic Costs* with the drinking water impacts
- Lead a *National Dialogue* on the impacts of nutrient pollution on drinking water

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Expanding the Conversation on Environmentalism and Working for Environmental Justice: An Agency Priority

Heather Case, Deputy Director
Office of Environmental Justice
U.S. Environmental Protection Agency



Outline

- Administrator Jackson's Commitment to Environmental Justice
- Office of Environmental Justice Vision, Mission and Strategies
- Expanding Conversation on Environmentalism
- Working for Environmental Justice
- Administrator Priorities' EJ Highlights
- Potential Areas of Mutual Interest
- What You Can Do

2



Administrator's Commitment to Environmental Justice

“Environmental justice is not an issue we can afford to relegate to the margins; we need to factor it into every decision.”

Lisa P. Jackson



Appointed Lisa Garcia
Senior Advisor to Administrator for
Environmental Justice (October 2009)

3



Administrator's Priorities

- Taking Action on Climate Change
- Improving Air Quality
- Cleaning up our Communities
- Assuring the Safety of Chemicals
- Protecting America's Waters
- **Expanding the Conversation on Environmentalism and Working for Environmental Justice**
- Building Strong State and Tribal Partnerships

4



Office of Environmental Justice VISION and MISSION

Vision

All people, regardless of race, color, national origin or income, are protected from environmental hazards, and participate meaningfully in achieving a healthy environment in which to live, work, and play.

Mission

Facilitate Agency efforts to protect environment and public health in minority, low-income, tribal and other vulnerable communities by integrating environmental justice in all programs, policies, and activities.



5



Statutory Authorities and Policy Directive

- Statutory Authorities:**
The Office of General Counsel has analyzed “a significant number of statutory and regulatory authorities under the Resource Conservation and Recovery Act, the Clean Water Act, the Safe Drinking Water Act, the Marine Protection, Research, and Sanctuaries Act, and the Clean Air Act that [it] believes are available to address environmental justice issues during permitting.”
- Executive Order 12898:**
“To the greatest extent practicable and permitted by law, ... each Federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations”

Gary Guzy, “EPA Statutory and Regulatory Authorities Under Which Environmental Justice Issues May Be Addressed in Permitting” (December 1, 2000)

Executive Order 12898 (February 11, 1994)
Federal Actions to Address Environmental Justice in
Minority Populations and Low-Income Populations

6



Key Program Strategies

- **Engage** impacted communities in EPA decision-making; Enlist our partners to meet community needs
- **Empower** vulnerable communities to build healthy, sustainable and green neighborhoods
- **Apply** regulatory tools to protect vulnerable communities
- **Build** internal mechanisms to integrate to ensure integration and accountability

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Expanding the Conversation on Environmentalism

- **Faces of the Grassroots: Environmental Justice Video Contest**
<http://www.epa.gov/compliance/ej/events/video-contest.html>
http://www.youtube.com/watch?v=tDBI2_f_CSk
- **EPA Congressional Black Caucus Environmental Justice Tour**
- **EJ Achievement Awards**
- **OSWER Community Engagement Initiative**
- **Associate Assistant Administrator for Diversity, Outreach and Collaboration**

8



Build Healthy, Sustainable, Green Communities

- **Grants**: EJ Small Grants, State, Communities for a Renewed Environment
- **Pilots**: EJ Showcase Communities, Green Development
- **Partnerships**: EPA/HUD/DOT Partnership for Sustainable Communities
- **Training**: Tribal Environmental Laws and Appropriate Dispute Resolution

9



Apply Regulatory Tools

- **Incorporate EJ in Rules: Guidance Development**
- **Strengthening Science Foundation for Disproportionate Impacts**
- **Opportunities to Use Environmental Law**
- **Transparency: Regulatory Gateway**

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Administrator's Priorities: EJ Highlights

- **Taking Charge on Climate:**
 - Energy Star/Weatherization
 - Green Infrastructure
- **Improving Air Quality:**
 - School Air Toxics Monitoring
 - Refinery Startup, Shutdown, and Malfunction (Flaring) Rules
- **Assuring Chemical Safety:**
 - Pesticide Drift Guidance
 - Toxic Substance Control Act Reform

11



Administrator Priorities: EJ Highlights

- **Cleaning Up Communities**
 - Brownfields (Job Training, Public Health, Urban Agriculture)
 - Green Remediation
- **Protecting Water:**
 - Urban Waters Initiative
 - Mountaintop Mining

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Working For Environmental Justice: Potential Areas of Mutual Interest

- Access to Sustainable Infrastructure/Capacity Development
- Monitoring for Unregulated Contaminants
- Carbon Capture & Sequestration
- Lead in Schools – Drinking Water
- Toxic Chemical Exposure
- Pesticide Exposure & Cumulative Impacts

13



What You Can Do:

- **Transparency**
 - Host meetings and convene groups that include members of community based organizations
- **Sound Science**
 - Conduct research that incorporates input from environmental justice experts
- **Rule of Law**
 - develop policy that incorporates input from environmental justice experts

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Small Systems Approach & Schools Initiative

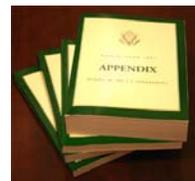
Ronald Bergman, Chief
Drinking Water Protection Branch

NDWAC Meeting
July 22, 2010



FY 2010 Budget Language

"...work with State and local governments to address Federal drinking water policy in order to provide equitable consideration of small system customers."



2009 NDWAC Consultation

- Allow systems more time to comply, when necessary, but do not allow tiered standard based on ability to pay.
- Employ a variety of strategies.
- Ensure long-term sustainable solutions.

EPA's Small System Approach: *Principles Consistent with NDWAC*

- Access is not based on ability to pay
- Hand-up, not hand-out
- Use variety of strategies
- Long-term sustainability
- Target systems most in need





EPA's Small System Approach Elements

- Strengthen and target financial support for small system compliance and capacity.
- Strengthen Capacity Development tools to increase the number of sustainable systems.
- Promote restructuring where applicable.



Financial Assistance: Commitments and Status

- Encourage states to better utilize the DWSRF disadvantaged communities program.
- Encourage states to prioritize loans to support sustainable systems.
- Streamline process for DWSRF assistance to small systems.
- Establish MOA with USDA that emphasizes priority for systems challenged by particular rules.



Strengthen Capacity Development Tools: Commitments and Status

- Actively oversee and improve the effectiveness of state programs.
 - EPA-State workgroup to re-energize the Capacity Development program.
- Target assistance to systems challenged by new rules using SRF set-asides.
 - Release this Fall a report on set-aside usage and best practices.
- Educating the public and local decision-makers on value of safe water.
 - WaterSense.
- Promoting recruitment, training, and certification of operators.
 - Water sector workforce initiative underway in partnership with AWWA and WEF; multiple products.



Restructuring of Non-Sustainable Systems: Commitments and Status

- Work with states to ensure new systems are sustainable.
- Ensure PWSS formula is not a barrier to consolidation.
- Promote use of set-asides and other tools for voluntary restructuring.
- Target national technical assistance grants to support long-term system sustainability.



Upcoming Activities to Support Approach

- Develop findings, recommendations, and action plan based on work of EPA-State Capacity Development workgroup.
- National Capacity Development and Operator Certification Workshop in September.
- New Memorandum of Agreement with USDA-RD.
- Develop water sector workforce partnerships with USDA, Dept. of VA, Dept. of Education, and Dept. of Energy.
- Roll out new energy audit tool for small drinking water and wastewater systems.
- Continue to conduct best practices and technical trainings for states and water systems.
- Release contract operator resources; management training.



Safe Drinking Water in Schools and Child Care Facilities Initiative

What is the Safe Drinking Water in Schools and Child Care Facilities Initiative?

- EPA's initiative to -
 - Improve the compliance and housekeeping practices of schools and child care facilities that are public water systems;
 - Encourage voluntary lead testing at schools and child care facilities served by public water systems; remediate as necessary.
- Ensure children have a safe alternative to sugar-sweetened beverages.

Universe of Schools & Child Care Facilities



98,916¹ public schools receive water from a public water supplier



7,677 schools/child care centers that are regulated as a public water supplier



~325,289² licensed child care facilities

¹ National Center of Education Statistics 2007-2008.

² National Child Care Information and Technical Assistance Center 2007 (this number includes in-home child care facilities).



2-Part Action Plan

- For schools that **ARE** public water systems (PWSs)
 - Work with OECA to track and regularly report non-compliance at school and child care PWSs to ensure that violations are quickly addressed.
 - Gain understanding of states' approaches to schools and identify best practices.
 - Create school-focused technical assistance materials.
 - Work with EPA grantees to focus technical assistance efforts on regulated schools and child care facilities.



2-Part Action Plan

- For schools that **ARE SERVED BY** a public water system (PWSs)
 - Promote voluntary testing and community outreach through *Adopt a School District*.
 - Develop specific best practices for schools and child care facilities; update our website with new materials.
 - Develop on-line tutorials to implement the 3Ts.
 - Work with state staff and water systems to help schools to identify next steps if remediation is necessary.
 - Evaluate the results of various testing efforts to develop a national campaign.



Promoting Voluntary Testing Nationwide

- Based upon the outcome of lead testing efforts, EPA would consider a voluntary national lead testing campaign.
- Activities could include:
 - Partnering with educational associations to promote the implementation of the 3Ts strategy;
 - Partnering with drinking water utility organizations and state and federal agencies;
 - Developing additional tools and outreach materials.



Climate Ready Water Utilities Working Group
Update for the NDWAC
July 22, 2010

Working Group Charge

The charge for the Climate Ready Water Utilities Working Group is to evaluate the concept of “Climate Ready Water Utilities” and provide recommendations to the NDWAC on the development of an effective program for drinking water and wastewater utilities, including recommendations to:

1. Define and develop a baseline understanding of how to use available information to develop adaptation and mitigation strategies, including ways to integrate this information into existing complementary programs such as Effective Utility Management and Climate Ready Estuaries Program;
2. Identify climate change-related tools, training, and products that address short-term and long-term needs of water and wastewater utility managers, decision makers, and engineers, including ways to integrate these tools and training into existing programs; and
3. Incorporate mechanisms to provide recognition or incentives that facilitate broad adoption of climate change adaptation and mitigation strategies by the water sector into existing OW recognition and awards programs or new recognition programs.

Key Findings

1. The water sector faces important and potentially substantial climate change adaptation challenges but also opportunities.
2. The water sector and individual utilities will benefit from proactive engagement with climate challenges.
3. A utility’s response to climate change will vary based on local geographic and hydrological conditions, as well as utility capabilities and, resources, and community priorities – as a result, a “one size fits all” climate readiness approach for water utilities will not be effective.
4. The water sector is in the early stages of understanding and responding to climate challenges; “climate readiness” must therefore reflect an adaptive learning and management framework.
5. A key element of climate readiness is an expanded concept of “water system infrastructure.”
6. To succeed, individual utilities need a robust enabling environment.
7. A substantial portion of the water sector does not have the technical, managerial, or financial capacity to be climate ready.
8. Existing and projected climate change impacts create additional challenges to the current water resource institutional and regulatory framework.
9. Greenhouse gas (GHG) mitigation will play an important role in the water sector’s climate-related strategy.
10. Further water sector-specific research is needed.
11. Water utility officials are struggling with the volume of climate change information and the lack of coordination by federal agencies.

Adaptive Response Framework

- Reflects that climate science is evolving and the uncertainty regarding the timing, nature, direction, and magnitude of localized climate change impacts is high.
- To address the increased uncertainty, the framework emphasizes a shift from narrowly optimized conventional infrastructure to a diversified portfolio including "no-regrets" operational changes and deploying hedging strategies such as developing water sources with different climate change vulnerabilities.
- Illustrates that the water sector will have a continuum of engagement tailored to local conditions, needs, and capacity that moves from basic engagement to focused engagement.
- At a minimum, climate readiness seeks to ensure:
 - All utilities maintain sufficient awareness of climate science developments and implications for local utility operations to allow them to understand if and when specific, climate-related managerial, operational, and planning adjustments are needed.
 - All utilities understand, and incorporate into their on-going planning and operations, opportunities for "no-regrets," "multiple-benefits," no and low cost operational changes and investments ("effective utility management" choices) that can act as a hedge against climate impacts irrespective of the immediacy or certainty of impacts.
 - All utilities avoid making large, long-term investments that do not consider and reflect the potential need to adapt to or minimize climate impacts.
 - All utilities maintain basic awareness of their greenhouse gas emissions profile and take advantage of opportunities (such as energy efficiency improvements) to reduce emissions.

Assess and Plan

1. Understand Climate Impacts and Uncertainties
2. Understand Utility Climate Adaptation and Mitigation Opportunities
3. Understand Federal/State Policies and Programs
4. Understand Climate Related Community Conditions
5. Understand Interdependent Actor and Sector Conditions

Implement and Evaluate

1. Create Internal Understanding, Support, and Capacity
2. Establish Shared Risk and Responsibility Partnerships
3. Generate Community Understanding and Support
4. Establish Organizational and Operational Flexibility
5. Energy and GHG Management

Recommendations

1. EPA, in coordination with other federal partners, should develop a focused program to articulate and support the adoption of climate ready behaviors by utilities.
2. EPA should view "climate ready" consistent with the framework articulated in this report.
3. Establish a continuing climate change education and training program for water utility staff.
4. Build on, strengthen, and apply advanced decision support models and tools.

5. Increase knowledge and understanding among critical interdependent sectors and public agency actors.
6. Promote improvements in, and better integration of, watershed planning and management in response to climate uncertainty and impacts.
7. Enable states and national organizations to integrate and disseminate climate change impact, challenge, and response information to water sector utilities.
8. Integrate climate change impacts and response options awareness into existing utility technical assistance initiatives.
9. EPA, in partnership with water sector associations and other federal agencies should develop an easy-to-understand overview of climate science.
10. Develop an adaptive regulatory capacity that addresses the potential for changes and alteration in our underlying ecological conditions and systems.
11. Develop a research strategy that identifies critical needs, roles, and contributions from federal agencies, research organizations, and climate science research community.
12. EPA must advocate for better federal family climate change coordination.
13. EPA should take the following early action steps.
 - More fully articulate adaptive framework elements and make clear linkages to existing resources within OW and Regions
 - Develop a strategy for integrating climate readiness into existing utility management functions such as emergency response, capacity, and capital planning.
 - Seek to better understand adaptation resource requirements (not just capital) and ensure such needs are factored into future water sector funding discussions.
 - Examine and seek to better coordinate and focus resources (including funding) across the federal family available for water sector adaptation planning and implementation to help alleviate funding and other constraints.
 - Highlight for other Federal agencies the influence that federally funded projects (such as those associated with federal highway funds, Army COE infrastructure investments, and FEMA public assistance and mitigation funds) can have on the climate readiness of water sector utilities. In this context, make it a priority to support these agencies in identifying opportunities for project design that will support water sector climate resilience and stress the importance of avoiding investments that fail to account for climate change considerations.

Other Report Sections

The final report will also contain an Executive Summary and sections on Tools, Training, and Products; Incentives; and Program Integration. These sections are currently being developed.

Regulatory Tools and Rule Development Update

NDWAC Meeting
Washington, DC
July 2010

Pamela Barr, Director
Standards and Risk Management Division
Office of Ground Water and Drinking Water



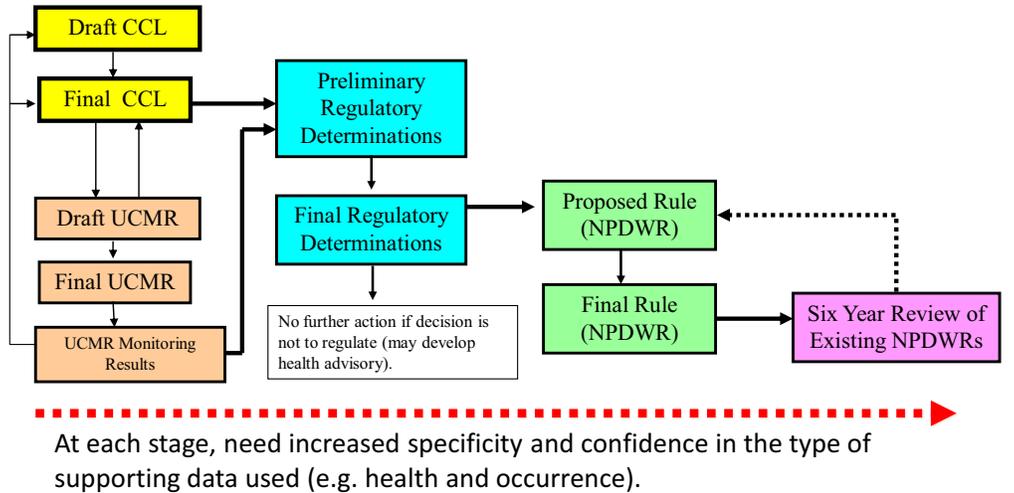
Overview

- The SDWA Regulatory Process
- Unregulated Contaminants
- Existing Standards
- Regulatory & Implementation Assistance Tools
- Research

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Generalized Flow of Regulatory Processes



3

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Unregulated Contaminants

- Contaminant Candidate Lists
- Regulatory Determinations
- Unregulated Contaminant Monitoring
- Perchlorate
- Endocrine Disruptor Screening Program

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Contaminant Candidate List 3

- 1996 SDWA Amendments require EPA to publish a list of unregulated contaminants (the CCL) which may require regulation and are known or anticipated to occur in public water supplies every 5 years
- Published in *Federal Register* in October 2009
- Evaluated >7,000 potential contaminants
- Identified 104 chemicals and 12 microbes
- Will evaluate contaminants in groups, as well as individually, to make Regulatory Determinations for chemicals with the greatest public health concern

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CCL 3: Types of Contaminants

- **11 Disinfection byproducts**
 - i.e., NDMA, aldehydes, halogenated compounds
- **Perfluorinated contaminants (PFOA & PFOS)**
- **9 Hormones and an antibiotic**
 - Considered occurrence in water and health reference level.
- **43 Pesticides and/or degradates**
 - Detected occurrence, modeled concentrations and application considered
- **12 Pathogens**
 - Identified 12 waterborne pathogens that have known or anticipated occurrence in PWS
- **3 Cyanotoxins**

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CCL Regulatory Determinations

SDWA requires EPA to publish a Maximum Contaminant Level Goal (MCLG) and promulgate an NPDWR for a contaminant if the Administrator determines that -

- *The contaminant may have an adverse effect on the health of persons;*
- *The contaminant is known to occur or there is substantial likelihood that the contaminant will occur in public water systems with a frequency and at levels of public health concern; and*
- *In the sole judgment of the Administrator, regulation of such contaminant presents a meaningful opportunity for health risk reduction for persons served by public water systems*



SDWA Section 1412(b)(1)

*The general approach used to evaluate the regulatory determination criteria are listed in Appendix B.

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Regulatory Determinations: Status

- **Regulatory Determinations for CCL 1**
 - March 1998 - Published CCL 1 and listed 60 contaminants
 - July 2003 - Published final determination “not to regulate” 9 of the 60 contaminants
- **Regulatory Determinations for CCL 2**
 - February 2005 – carried forward 51 remaining CCL 1 contaminants onto CCL 2
 - July 2008 – Published final determination “not to regulate” 11 of the 51 contaminants (the 11 are listed in Appendix C)
- **Final Regulatory Determinations for CCL 3 due July 2013**
 - Currently gathering available health and occurrence information

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Regulatory Determination for Perchlorate

- October 10, 2008 – published FR notice seeking comment on its preliminary determination “not to regulate” perchlorate
 - Received comments from over 32,000 individuals/organizations
- August 19, 2009 - published a FR Supplemental Request for Comment on alternative analyses for the perchlorate regulatory determination
 - These alternative analyses may result in a determination to regulate perchlorate
 - Comment period extended until October 8, 2009
 - Received comments from over 6,600 individuals/organizations
- Deliberations ongoing and Regulatory Determination will be made in 2010

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Unregulated Contaminant Monitoring: UCMR 2

- Final Rule published January 4, 2007
- Monitoring Jan. 2008 – Dec. 2010
- 25 contaminants, including:
 - Brominated flame retardants
 - Nitrosamines
 - Explosives
 - Insecticides, pesticides, degradates

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UCMR 2: Results-to-date

- UCMR monitoring results have been posted on the Web (NCOD); updates occur at least semi-annually
- 13 of 25 contaminants have not been detected
- Detections above method reporting limits:
 - 5 of 6 nitrosamines (predominantly NDMA)
 - 6 of 11 insecticides/pesticides/degradates
 - 1 of 3 explosives
- Monitoring to be completed in December 2010

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Preparing for UCMR 3

- Expect to propose UCMR 3 in early 2011
- Monitoring is planned for 2013 – 2015
- Anticipate monitoring for 30 contaminants
- Considering classifications that may include hormones, perfluorinated compounds (e.g., PFOS/PFOA), VOCs and metals

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Endocrine Disruptor Screening Program

- Food Quality Protection Act of 1996 required developing validated methods and screening contaminants for endocrine disrupting activity
- EPA has issued test orders for 67 pesticides and is developing a list of at least 100 other chemicals
- A new House of Representatives' bill focuses on testing of drinking water contaminants

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Drinking Water Strategy

- Focus on 4 principles:
 1. Address contaminants as groups
 2. Foster development of new DW technologies
 3. Use authority in multiple statutes to protect DW
 4. Partner w/States to share more monitoring data
- Regulatory focus on addressing contaminants as groups
 - Engage stakeholders & public to develop technical and procedural approaches
 - Address groups of similar contaminants to develop DW regulations

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Existing Standards

- Six-year Review
- Revised Total Coliform Rule
- Lead and Copper Rule

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Six Year Review: background

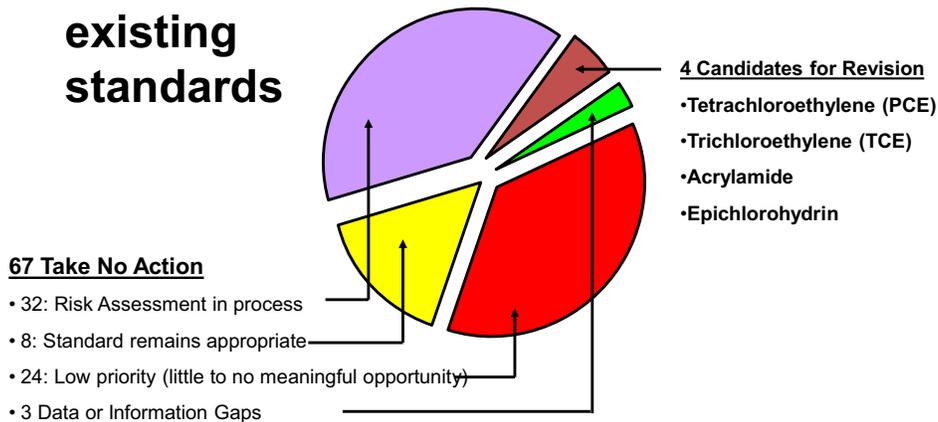
- Required to review and, if appropriate, revise existing NPDWRs every six years. Any revision shall maintain or provide for greater protection of public health
- Completed 1st Six Year Review in 2003
 - Reviewed 69 NPDWRs
 - Made decision to **revise Total Coliform Rule (TCR)**
- Completed 2nd Six Year Review in 2010

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Six Year Review 2

Reviewed 71 existing standards



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Total Coliform Rule (TCR) Revisions

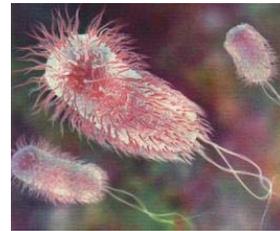
- In Six Year Review 1, EPA completed a review of existing drinking water regulations and published its intent to revise TCR (2003)
- EPA convened (2007) a Federal Advisory Committee to provide recommendations on how:
 1. the TCR should be revised and
 2. what research and information collection should be conducted to better inform distribution system risk
- The FAC was comprised of representatives from 15 stakeholder groups

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Total Coliform Rule Revisions

- The proposed revised TCR was published July 14, 2010
 - A more proactive approach to public health protection
 - Monitoring results shift from informing public notification to informing investigation and corrective action
- The proposal was based on the Agreement in Principle signed by Advisory Committee in September 2008
- Completion of the final rule is expected in 2012



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Lead and Copper Rule (LCR) Revisions

- In 2004-2006, several meetings were held to identify issues that reduce the effectiveness of the LCR
- EPA grouped those issues into short-term and long-term issues
- Short-term issues were addressed in revisions published in October 2007. The revisions do the following:
 - Clarify monitoring requirements
 - Strengthen long-term treatment change evaluation
 - Assure customer notification of results
 - Clarify lead service line “test out” provisions
 - Improve public education requirements (NDWAC recommendations)

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LCR: Long-term Revisions

- Addressing “Long-term” issues that remained after 2007 LCR “Short-term” revisions
- Stakeholder meeting Fall 2010
- Proposed Rule anticipated in Spring 2012
- Issues under consideration include:
 - Partial lead service line replacement
 - Sample site selection
 - Tap sampling issues such as pre-stagnation flushing and maximum stagnation time.
 - Consecutive systems
 - Particulate lead

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Optimization Program: Implementation Assistance

- Active Area-Wide Optimization Programs (AWOPs) in 21 states
- ASDWA provides critical support for the development of AWOPs
- Developing new technical tools and implementation approaches
- Many states have integrated AWOP thinking into their other DW programs
- EPA and States are including optimization of Distribution Systems and Ground Water Systems into AWOP. Optimization approaches are being developed

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Expedited Method Approval: Regulatory Tool

- Allows approval of “alternate” drinking water analytical methods via streamlined publication in *Federal Register*
- Applies when a comparison of an alternative method to approved method(s) shows equally effective performance
- Reduces method approval time from several years to approximately 6-12 months
- The first group of methods using the new process was published in a June 2008 *FR* notice

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DW Distribution System Research & Information Collection Partnership

Formation recommended by TCR Federal Advisory Committee:

- Purpose was to identify research needs that would be key to informing drinking water community risk management decisions regarding distribution systems
- The EPA and Water Research Foundation Partnership was formed in January 2009
- The Partnership developed an “agenda” of research and information collection needs that included the following:
 - Biofilms
 - Nitrification
 - Intrusion
 - Storage
 - Contaminant Accumulation
 - Main Repair
 - Cross Connection Control

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Thank You

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Appendices

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Appendix A - CCL 3 104 Chemicals and 12 Microbes

1,1,1,2-Tetrachloroethane	alpha-Hexachlorocyclohexane	Estrone
1,1-Dichloroethane	Aniline	Ethinyl Estradiol (17-alpha)
1,2,3-Trichloropropane	Bensulide	Ethinyl Estradiol)
1,3-Butadiene	Benzyl chloride	Ethoprop
1,3-Dinitrobenzene	Butylated hydroxyanisole	Ethylene glycol
1,4-Dioxane	Captan	Ethylene oxide
17 alpha-Estradiol	Chlorate	Ethylene thiourea
1-Butanol	Chloromethane (Methyl chloride)	Fenamiphos
2-Methoxyethanol	Clethodim	Formaldehyde
2-Propen-1-ol	Cobalt	Germanium
3-Hydroxycarbofuran	Cumene hydroperoxide	Halon 1011
4,4'-Methylenedianiline	Cyanotoxins (3)	(bromochloromethane)
Acephate	Dicrotophos	HCFC-22
Acetaldehyde	Dimethipin	Hexane
Acetamide	Dimethoate	Hydrazine
Acetochlor	Disulfoton	Mestranol
Acetochlor ethanesulfonic acid (ESA)	Diuron	Methamidophos
Acetochlor oxanilic acid (OA)	Equilenin	Methyl bromide
Acrolein	Equilin	(Bromomethane)
Alachlor ethanesulfonic acid (ESA)	Erythromycin	Methyl tert-butyl ether
Alachlor oxanilic acid (OA)	Estradiol (17-beta estradiol)	Metolachlor
	Estriol	Metolachlor ethanesulfonic acid (ESA)

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Appendix A - CCL 3 (cont.) 104 Chemicals and 12 Microbes

Metolachlor oxanilic acid (OA)	Perfluorooctanoic acid (PFOA)	Adenovirus
Molinate	Permethrin	Caliciviruses
Molybdenum	Profenofos	<i>Campylobacter jejuni</i>
Nitrobenzene	Quinoline	Enterovirus
Nitroglycerin	RDX	<i>Escherichia coli (0157)</i>
N-Methyl-2-pyrrolidone	sec-Butylbenzene	<i>Helicobacter pylori</i>
N-Nitrosodiethylamine (NDEA)	Strontium	Hepatitis A virus
N-nitrosodimethylamine (NDMA)	Tebuconazole	<i>Legionella pneumophila</i>
N-Nitroso-di-n-propylamine (NDPA)	Tebufenozide	<i>Mycobacterium avium</i>
N-Nitrosodiphenylamine	Tellurium	<i>Naegleria fowleri</i>
N-nitrosopyrrolidine (NPYR)	Terbufos	<i>Salmonella enterica</i>
Norethindrone (19-Norethisterone)	Terbufos sulfone	<i>Shigella sonnei</i>
n-Propylbenzene	Thiodicarb	
o-Toluidine	Thiophanate-methyl	
Oxirane, methyl-	Toluene diisocyanate	
Oxydemeton-methyl	Tribufos	
Oxyfluorfen	Triethylamine	
Perchlorate	Triphenyltin hydroxide (TPTH)	
Perfluorooctane sulfonic acid (PFOS)	Urethane	
	Vanadium	
	Vinclozolin	
	Ziram	

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Appendix B. General Approach for Evaluating the Regulatory Determination Statutory Criteria

#	Statutory Criteria	Information To Consider During Evaluation
1	Is the contaminant likely to cause an adverse effect on the health of humans?	<ul style="list-style-type: none"> • Most recent Agency risk assessment (IRIS,OPP,OW), the potential health effects, and the Reference Dose (RfD) and/or cancer slope factor. • Use health information to derive a health reference level (HRL) in order to evaluate occurrence (for non-carcinogens 20% RSC default used as screening).
2	Is the contaminant known or likely to occur in public water systems (PWSs) at a frequency and level of concern?	<ul style="list-style-type: none"> • Evaluate drinking water occurrence data at the HRL. • Primary source for drinking water occurrence data is the Unregulated Contaminant Monitoring Regulation (UCMR). Also use previous Unregulated Monitoring Contaminant Surveys. • If available, review supplemental information (e.g. USGS, State data).
3	In the sole judgment of the Administrator, does regulation of the contaminant present a meaningful opportunity for health risk reduction for persons served by PWSs?	<p>Consider variety of factors which include:</p> <ul style="list-style-type: none"> • Population exposure (typically based on drinking water occurrence information); for non-carcinogens, consider relative exposure from drinking water and other sources • Sensitive populations • National distribution of occurrence • Supplemental sources of exposure information could also be considered

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Appendix D Key Elements of Six-Year Review Protocol

Review Element	Purpose of Review Element
Health Effects	<ul style="list-style-type: none"> • Identify potential changes that could impact the Maximum Contaminant Level Goal (MCLG).
Analytical Methods	<ul style="list-style-type: none"> • Identify potential changes in “analytical feasibility” - analytes where the Maximum Contaminant Level (MCL) is set at feasible level of measurement or where a non-zero MCLG may decrease.
Treatment Technology	<ul style="list-style-type: none"> • Identify treatment feasibility for contaminants with potentially lower MCLG/MCL. • Identify whether potential changes for Treatment Technique (TT) contaminants.
Occurrence	<ul style="list-style-type: none"> • Identify extent of occurrence/exposure at current MCL and other potential MCLs.
Other Regulatory Revisions	<ul style="list-style-type: none"> • Identify non-MCLG/MCL or non-TT types of changes that are contaminant-specific and not being addressed through alternative mechanisms. Typically implementation-related issues.

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Appendix E - Six Year Review 2 - 71 NPDWRs

Acrylamide	1,1-Dichloroethylene	Methoxychlor
Alachlor	cis-1,2-Dichloroethylene	Monochlorobenzene
Antimony	trans-1,2-Dichloroethylene	Nitrate (as N)
Arsenic	Dichloromethane	Nitrite (as N)
Asbestos	1,2-Dichloropropane	Oxamyl (Vydate)
Atrazine	Di(2-ethylhexyl)adipate (DEHA)	Pentachlorophenol
Barium	Di(2-ethylhexyl) phthalate (DEHP)	Picloram
Benzene	Dinoseb	Polychlorinated biphenyls (PCBs)
Benzo[a]pyrene	Diquat	Selenium
Beryllium	Endothall	Simazine
Cadmium	Endrin	Styrene
Carbofuran	Epichlorohydrin	2,3,7,8-TCDD (Dioxin)
Carbon tetrachloride	Ethylbenzene	Tetrachloroethylene
Chlordane	Ethylene dibromide (EDB)	Thallium
Chromium (total)	Fluoride	Toluene
Cyanide	Glyphosate	Toxaphene
2,4-D	Heptachlor	2,4,5-TP (Silvex)
Dalapon	Heptachlor epoxide	1,2,4-Trichlorobenzene
1,2-Dibromo-3-chloropropane (DBCP)	Hexachlorobenzene	1,1,1-Trichloroethane
1,2-Dichlorobenzene	Hexachlorocyclopentadiene	1,1,2-Trichloroethane
1,4-Dichlorobenzene	Lindane	Trichloroethylene
1,2-Dichloroethane	Mercury (inorganic)	Vinyl chloride
Gross alpha	Beta particles and photon emitters	Xylenes (total)
Radium 226 and 228 Combined		Uranium

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Appendix F UCMR 3 – Contaminants Under Consideration

- Pharmaceuticals (EPA Method 539)
 - 17- α -Ethinylestradiol -- 17- β -Estradiol
 - Equilin -- Estriol
 - Estrone -- Testosterone
 - 4-Androstene-3,17-dione
- Volatile Organic Compounds (EPA Method 524.3)
 - 1,1-Dichloroethane --1,2,3-Trichloropropane
 - 1,3-Butadiene --Bromochloromethane
 - Chlorodifluoromethane --Chloromethane
 - Methyl bromide --n-Propylbenzene
 - Sec-Butylbenzene

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Appendix F (cont)

UCMR 3 – Contaminants Under Consideration

- Metals (EPA Method 200.8)
 - Cobalt
 - Strontium
 - Molybdenum
 - Vanadium

- EPA Method 522
 - 1,4-Dioxane

- EPA Method 300.1
 - Chlorate
 - Gaseous chlorine
 - Potassium hypochlorite
 - Sodium hypochlorite

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Appendix F (cont)

UCMR 3 – Contaminants Under Consideration

- Perfluorinated Chemicals (EPA Method 537)
 - Perfluorooctane sulfonate (PFOS)
 - Perfluorooctanoic acid (PFOA)
 - Perfluoroheptanoic acid (PFHpA)
 - Perfluorononanoic acid (PFNA)
 - Perfluorobutane sulfonic acid (PFBS)
 - Perfluorohexane sulfonic acid (PFHxS)

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Appendix F (cont)

UCMR 3 – Contaminants Under Consideration

- Microbials
 - Enterovirus
 - qPCR and cell culture
 - Norovirus
 - qPCR
 - Indicators
 - Total coliform
 - *E. coli*
 - Enterococci
 - Coliphage
 - Aerobic spores

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Appendix G

Expedited Methods - Actions

- **June 8, 2008**
 - · One EPA method
 - · One vendor method
 - · 97 voluntary consensus body methods
- **August 3, 2009**
 - · One EPA method
 - · Five vendor methods
- **November 10, 2009**
 - · Four EPA methods
 - · Three vendor methods
 - · 18 voluntary consensus body methods
- **June 8, 2010**
 - · One EPA method
 - · Three vendor methods
- · Eight voluntary consensus body methods

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Appendix H

Expedited Methods Approvals - Actions

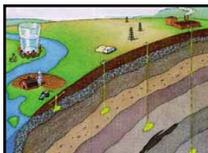
<u>Methods Approved</u>	<u>6 Jun 08</u>	<u>3 Aug 09</u>	<u>10 Nov 09</u>	<u>8 Jun 10</u>
EPA	1	1	4	1
Vendor	1	5	3	3
Voluntary Consensus Body	97		18	8

Office of Ground Water and Drinking Water

*Update on
Geologic Sequestration of Carbon Dioxide
Rulemaking and Hydraulic Fracturing Activities*



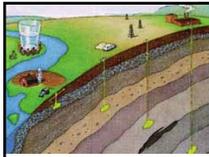
Suzanne Kelly
Office of Ground Water and Drinking Water
National Drinking Water Advisory Council
Summer Meeting
July 23, 2009



Overview

- Geologic Sequestration Rulemaking
 - Background, Goals, and Approach
 - Current Status, Schedule and Next Steps
 - Questions
- Hydraulic Fracturing
 - Background and recent activities
 - Stakeholder involvement
 - Schedule and Next steps
 - Questions

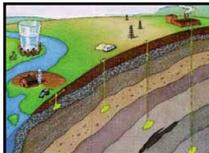




Underground Injection Control (UIC) Program Background

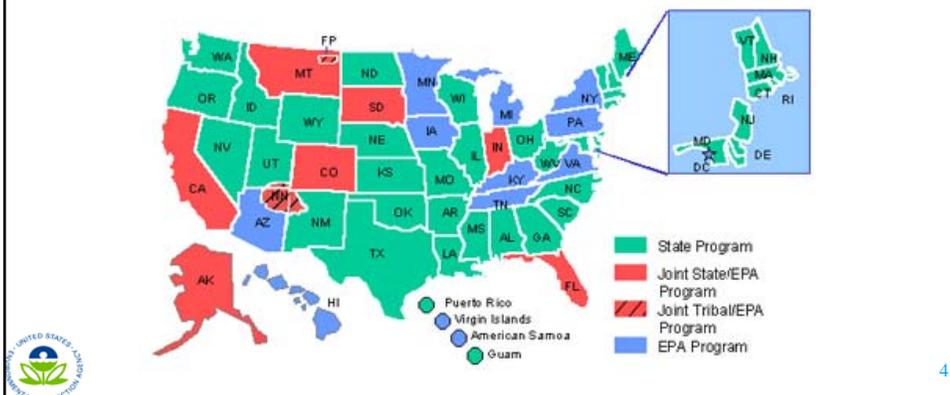
- Safe Drinking Water Act requires EPA to develop regulations that protect underground sources of drinking water (USDW) from endangerment
- USDW defined:
 - Any aquifer or portion of an aquifer that contains water that is less than **10,000** PPM total dissolved solids or contains a volume of water such that it is a present, or viable future source for a Public Water Supply System
- UIC Program regulates underground injection of *all fluids* – liquid, gas, or slurry
 - Includes injection of CO₂ to enhance oil and gas
 - Existing program provides a regulatory framework (baseline) for injecting CO₂ for the purpose of GS

3

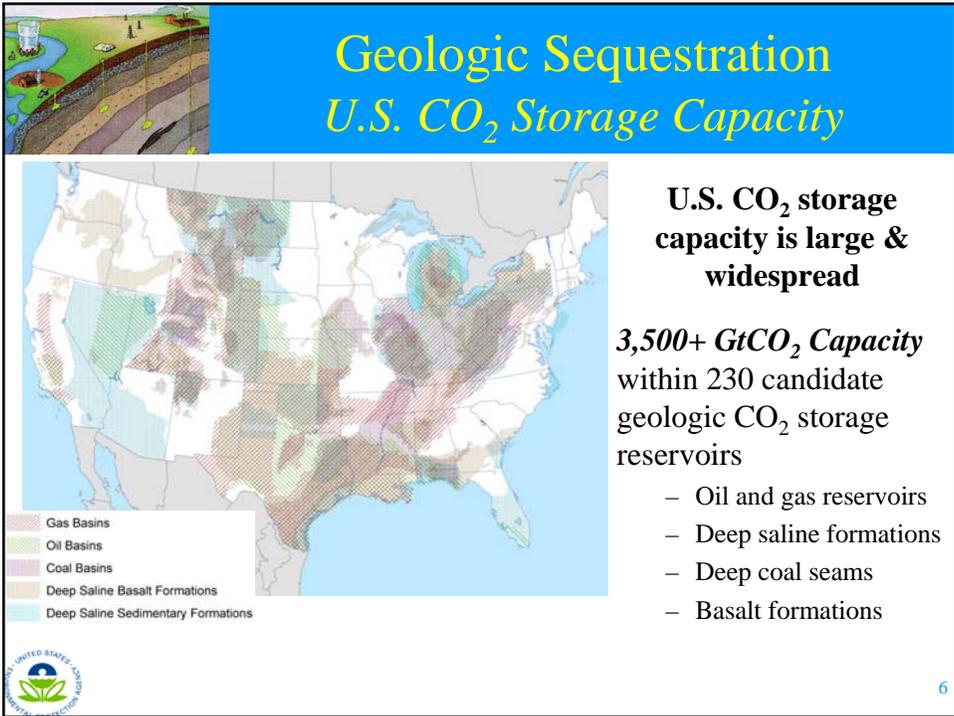
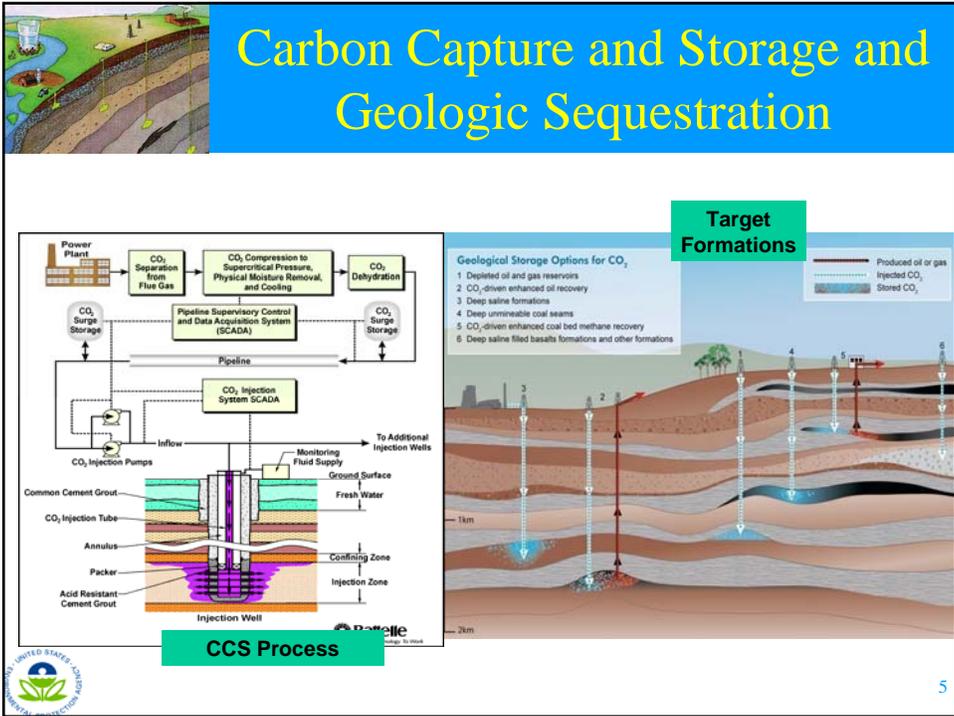


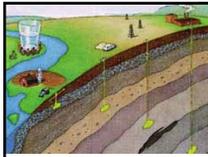
UIC Program Background *Primacy*

- 33 States have primary enforcement authority (primacy) for the UIC program; EPA and States share program implementation in 7 States; EPA and 2 tribes share program implementation; EPA directly implements the entire UIC Program in 10 states



4



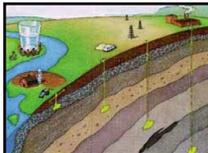


EPA's GS Rulemaking *Goals*

- Facilitate a clear and transparent process
- Ensure safeguards to protect USDWs are in place during technology deployment
- Capitalize on existing state and EPA experience
- Use “adaptive approach”
- Encourage stakeholder input on all aspects of GS projects



7



EPA's GS Rulemaking *Approach*

Special Considerations for GS

- Large Volumes
- Buoyancy
- Viscosity (Mobility)
- Corrosivity



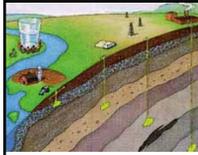
UIC Program Elements

- Site Characterization
- Well Construction
- Well Operation
- Site Monitoring
- Area Of Review
- Post-Injection Site Care
- Public Participation
- Financial Responsibility
- Site Closure

Develop new well class
for GS – Class VI

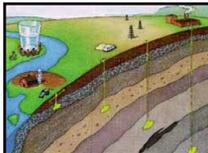


8



EPA's Proposed GS Rule: *Stakeholder Involvement*

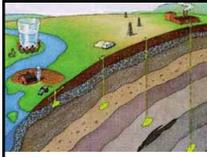
- **Federal Advisory Committees**
 - National Drinking Water Advisory Council
 - Clean Air Act Advisory Committee
 - Environmental Financial Advisory Board
- **States, Tribal Nations**
 - Ground Water Protection Council
 - Interstate Oil & Gas Compact Commission
- **Water Utilities**
- **Academia**
- **Federal Agencies**
 - Health and Human Services
 - Department of Energy
 - Internal Revenue Service
 - Department of Interior
- **Non-Governmental Organizations**
 - Association of State Drinking Water Associations
 - American Water Works Associations
- **Industry**
- **Public**



EPA's GS Rulemaking *Schedule*

Activity	Timeframe
Technical Workshops & Data Collection	2005 – 2008
Stakeholder Meetings	2007 - 2008
Proposed Rule	Published: July 15, 2008 Public Comment Period Closed Dec. 24, 2008
Notice of Data Availability	Published: August 31, 2009 Public Comment Period Closed Oct. 15, 2009
Response to Comments and Final Agency Review	In Process
Final UIC Rule for GS of CO ₂	Late 2010/Early 2011
Implementation	Post-rule publication



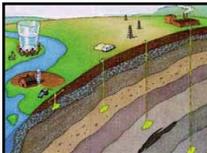


EPA's GS Rulemaking Supporting GS Research

- Lawrence Berkeley National Laboratory (LBNL) Interagency Agreement
 - EPA is funding work by LBNL to integrate experimental and modeling efforts with the objective of evaluating the potential consequences of CO₂ leaks from GS operations into ground water resources
- EPA Office of Research and Development (ORD)
 - Continues to research site characterization, monitoring, and modeling topics related to GS through EPA's National Labs
- EPA Science to Achieve Results (STAR) Grants
 - ORD awarded 6 Science To Achieve Results (STAR) grants to major universities and institutions. The awards to projects focused on the *Integrated Design, Modeling and Monitoring of GS of Anthropogenic CO₂ to Safeguard Sources of Drinking Water*



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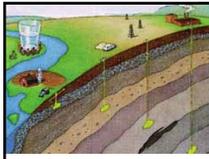
Questions?

More information

- EPA Geologic Sequestration of Carbon Dioxide Website –
http://www.epa.gov/safewater/uic/wells_sequestration.html
- Code of Federal Regulations: Underground Injection Control Regulations 40 CFR 144-148 –
http://ecfr.gpoaccess.gov/cgi/t/text/text-idx?sid=d6ee71a544eca89c533c825135913f13&c=ecfr&tpl=/ecfrbrowse/Title40/40cfrv22_02.tpl



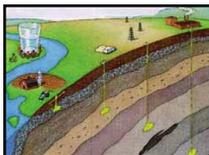
12



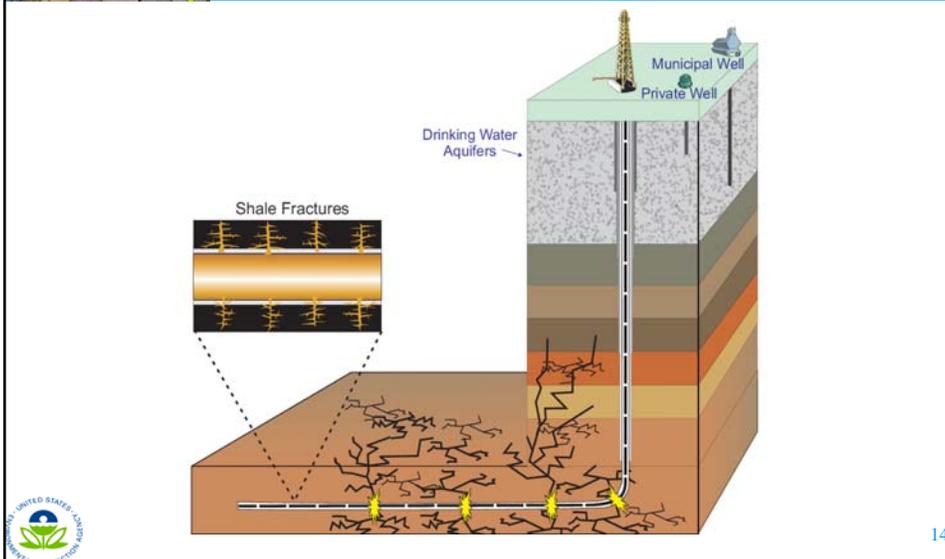
Underground Injection Control (UIC) Program Background

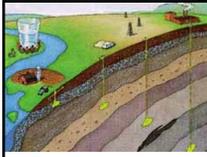
- Safe Drinking Water Act requires EPA to develop regulations that protect underground sources of drinking water (USDW) from endangerment
- Congress provided for exclusions (SDWA § 1421(d)) including the most recent language added via the Energy Policy Act of 2005
- Activities not regulated under SDWA include:
 - Natural gas storage
 - Oil and gas *production* activities
 - Surface discharges
 - Hydraulic Fracturing (other than diesel fuels)
- SDWA contains provisions under §1431 to address imminent and substantial endangerment

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Hydraulic Fracturing Overview



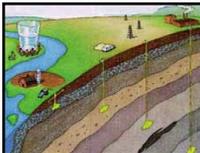


Why is EPA Studying Hydraulic Fracturing?

- Natural Gas is a key energy resource
 - Exploration and extraction of unconventional natural gas is expanding into new geographic and geologic settings
- Public has raised concerns about hydraulic fracturing and drinking water
- EPA wants to ensure that public health and the environment are protected



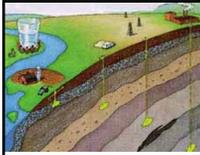
15



What do we hope to learn from this study?

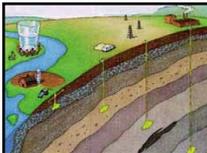
- What hydraulic fracturing scenarios might cause impacts on drinking water resources?
- What approaches are effective for protecting drinking water?





What are the major elements of this study?

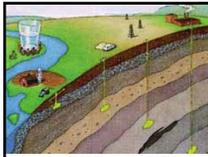
- Data and Information
- Chemical Fate and Transport
- Case Studies



What are the next steps in developing the study plan?

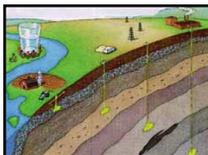
- Stakeholder input (Summer 2010)
 - Sector Webinars
 - Public Meetings
- Technical workshops (Fall 2010)
- Study design, peer review and public comments (Fall 2010)
- Initiate study (Early 2011)
- Results (Late 2012)





Public Meetings

Date	Location	Time
July 8, 2010	Fort Worth, TX 76102	6:00 – 10:00 pm
July 13, 2010	Denver, CO 80237	6:00 – 10:00 pm *
July 22, 2010	Canonsburg, PA 15317	6:00 – 11:00 pm *
August 12, 2010	Binghamton, NY 13902	8:00 am – 12:00 pm * 1:00 – 5:00 pm * 6:00 – 10:00 pm *



Questions

More information

- EPA Underground Injection Control Website:
http://www.epa.gov/safewater/uic/wells_hydrofrac.html
- Comments
 - Email to: hydraulic.fracturing@epa.gov
 - Written : Jill Dean, 1200 Pennsylvania Ave. NW, Mail code 4606M, Washington, DC 20460
- Questions
 - Study Design and Development (Office of Research and Development)
 - Dr. Robert Puls, puls.robert@epa.gov
 - Jeanne Briskin briskin.jeanne@epa.gov
 - Stakeholder Information
 - Jill Dean, Office of Water, dean.jill@epa.gov
 - Amy Dewey, Office of Public Affairs, dewey.amy@epa.gov



The Drinking Water State Revolving Fund
National Drinking Water Advisory Council

July 23, 2010

American Recovery & Reinvestment Act of 2009

ARRA Funding

- \$2 billion for DWSRF allotted based proportional share of national need
- Tribes received 1.5% of funding
- EPA authorized 1% (taking \$51 million) for management and oversight

ARRA General Goals applicable to State SRFs

- Give preference to shovel-ready projects
- Maximize job creation and economic benefit



ARRA added new requirements

- **Additional Subsidy**
 - $\geq 50\%$ in the form of principal forgiveness, negative interest rates, or grants
- **Green Project Reserve (GPR)**
 - $\geq 20\%$ of their Cap Grant
- **Buy American**
- **Davis-Bacon Wage Rates**
- **Use it or Lose it**
 - All funds under contract or construction by February 17, 2010



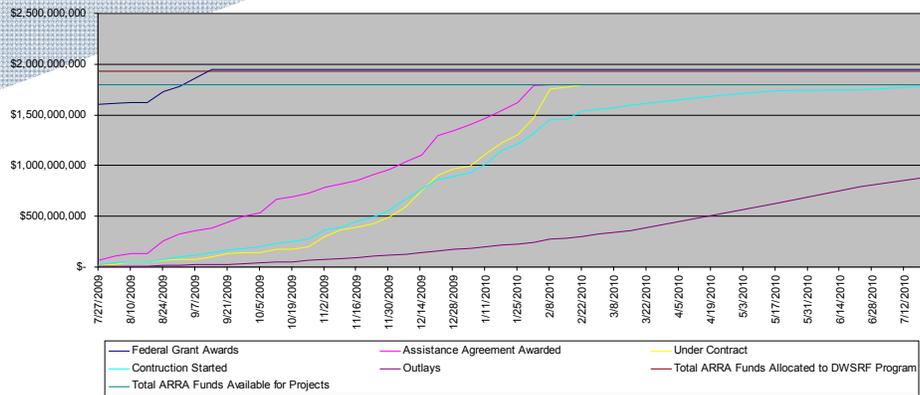
ARRA: Challenging, but a success!

- **All funds were under contract or construction by February 17, 2010**
- **Combined with the Base program funds, a total of 1,347 DWSRF projects were funded through ARRA**
 - $\sim \$1.8\text{B}$ in ARRA funds
 - $\sim \$1.2\text{B}$ in Base funds
 - $\sim \$3.0\text{B}$ Total
- **29% GPR**
- **70% Subsidy**



DWSRF progress towards ARRA goals

DWSRF Progress Report - Detailed View



Systems used to track program performance



•DWNIMS

- Our historical data system
- Collect data at the State level, in terms of total state dollars and loans

•Project and Benefits Reporting (PBR) System

- Used to gather project-level data
- Will work with DWNIMS
- Will allow crosswalk with SDWIS
- Will allow more real-time reporting as opposed to annual
- Used for ARRA and will be used for 2010 data collection cycle



Green Reserve Projects

•Project Types and Distribution

- Water Efficiency 66.7%

e.g., water meters, leak detection equipment, water line replacement, water audit, water efficient fixtures

- Energy Efficiency 26.5%

e.g., energy audit, water pump system improvements or replacements, variable frequency drives, SCADA, on-site clean power, replacement or rehabilitation of pipe

- Environmentally Innovative 6.6%

e.g., new and/or innovative approaches to managing water resources in a more sustainable way, including projects that achieve pollution prevention or pollutant removal

- Green Infrastructure + Other 0.2%

e.g., porous pavement, bioretention, trees, green roofs, and other practices



Progress and Outlays

- 1,347 total projects

- 1,331 started

- 1,255 received ARRA subsidy

- 514 all or partly “green”

- 114 with ARRA portion completed to date

Note: 486 systems receiving ARRA funds had health-based violations in the past 5 years

- Outlays

- \$881 million = 45.7% (as of 7/21)

- 26 States above 50%

- 11 States above 70%



Oversight

•Regional

- All States reviewed 2 times/year
- Checking 4 program files & 4 transactions
- Minimum of 1 site inspection/State/year (best practice 2 site inspections)

•EPA Headquarters

- Site inspection checklist developed
- All Regions reviewed each year
- In-person or teleconference with each state each year
- Contractor support to States & Regions on request
- Additional webcasts on Davis-Bacon and Buy American provisions
- Reporting to Assistant Administrator bi-monthly



FY 2010 Appropriation: an evolving Base program

•2010 SRF Appropriation Requirements:

•Provide at least 30% subsidy

- Language encouraging accounting for affordability, with new data collection requirements

•Provide 20% Green Project Reserve

•Apply Davis-Bacon

•2010 Procedures issued April 21, 2010

**Appendix III: NDWAC Letters Submitted to the EPA
Administrator**



EPA NATIONAL DRINKING WATER ADVISORY COUNCIL

September 8, 2010

NDWAC Members

Gregg Grunenfelder,
Chair
Olympia, WA

Jeff Cooley
Vacaville, CA

Dennis Diemer
Oakland, CA

Elston Johnson
Austin, TX

Maria Kennedy
Rancho Cucamonga, CA

Timothy Kite
Decatur, IL

Olga Morales
Dona Ana, NM

Douglas Owen
White Plains, NY

David Saddler
Sells, AZ

Lisa Sparrow
Northbrook, IL

Carl Stephani
Unionville, CT

Hope Taylor
Durham, NC

Bob Vincent
Tallahassee, FL

Jennie Ward-Robinson
College Station, TX

June Weintraub
San Francisco, CA

Ms. Lisa P. Jackson
Administrator
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, N.W.
Washington D. C. 20460

Dear Administrator Jackson:

On behalf of the National Drinking Water Advisory Council (NDWAC), I would like to recognize your leadership in proposing that the Environmental Protection Agency (EPA) develop a new National Drinking Water Strategy (Strategy). We applaud the Agency's efforts to consider meaningful reform, your continued efforts to ensure safe and reliable drinking water for all Americans, and your personal commitment to expand the conversation on innovative approaches to protect public health and work for environmental justice. We support the national conversation that EPA is undertaking to help formulate the Strategy, and appreciate the opportunity to be involved early and throughout the process.

During our July meeting in Washington, we discussed the Agency's efforts on the Strategy, and devoted a day and a half to discussing the four principles that will guide greater protection of drinking water:

- Address contaminants as groups rather than one at a time so health protection can be achieved cost-effectively
- Foster development of new drinking water technologies to address health risks posed by a broad array of contaminants
- Use the authority of multiple statutes to help protect drinking water, and
- Partner with states to share more complete data from monitoring at public water systems (PWS).

As EPA further develops the Strategy, the Council believes that EPA must focus on cost effective health risk reduction. Since the passage of the Safe Drinking Water Act (SDWA), the drinking water community has made many significant advances in preventing waterborne diseases. As we move forward, we need to recognize and protect our past successes while at the same time addressing new and emerging issues.

In a December 11, 2009, letter to you, we expressed ongoing concerns about the current and future state of drinking water research and its ability to keep pace with ongoing challenges faced by utilities, states and the public. We take this opportunity to reiterate these concerns as they relate directly to the Agency's ability to protect public health through the National Drinking Water Strategy. First, the Council continues to believe that industry should be held accountable and share the responsibility of supporting research into the health effects of contaminants introduced into commerce. Further, we remain concerned that Agency funding for health effects research is insufficient. We first raised this concern to then Administrator Stephen Johnson in June 2008, and reiterated it to you in December 2009. If the Strategy is to be effective, the Agency must invest the necessary resources in health effects research to support its ability to identify health risks posed by a broader array of contaminants. This would support regulatory determinations on groups as well as individual contaminants.

The Council supports the Agency's interest in fostering development of new drinking water technologies to address health risks posed by a broad array of contaminants. The Council cautions, however, that EPA should only undertake regulatory efforts where there is a meaningful opportunity to protect human health. The Council believes that the Agency needs to determine that new technologies to control contaminants or combinations of contaminants will further reduce human health risk. The Council recommends that as the Agency moves forward with regulatory efforts, the Agency should understand and publicize the benefits of co-removal of additional contaminants (including those about which we have limited health effects data) through the use of existing technologies.

In our initial discussions, the Council has identified factors that it believes the Agency should consider to guide the development of this new approach to protect drinking water and public health.

Addressing Groups

As the Agency moves forward, there needs to be careful and thoughtful evaluation of the framework developed to consider groups rather than individual contaminants. The Council believes that the Agency should consider the Contaminant Candidate List as a starting point for logical groupings.

Those evaluations should transparently identify factors to consider groups, as well as issues and data needs surrounding identified groups, and allow for adjustment and adaptations based on lessons learned. The Council believes that there are multiple options that the Agency should consider, such as regulating groups through surrogates or indicators. The Agency should develop clear definitions of factors and elements in each of the options they consider.

The Council understands and agrees that the framework can be developed without amending SDWA and believes the Agency needs to follow the process required for revising existing, or developing new, drinking water regulations. Above all, the Agency should regulate where there is a meaningful opportunity to protect human health, while understanding and publicizing the benefits of co-removal of other contaminants.

Developing Drinking Water Technologies

New treatment and analytical technologies must be a component of the Strategy. The Council believes that fostering development of new drinking water technologies to address health risks posed by a broad array of contaminants is an important goal. In addition, technologies must be affordable, sustainable, reliable, and set up to maintain operational ease and efficiency. However, even as it considers new technologies, the Agency should also consider where existing technologies could be put to additional uses. It is important to continue to evaluate the extent to which existing technologies currently in place at many facilities throughout the country can remove individual or groups of contaminants of emerging concern.

Leveraging All Authorities

The Council strongly supports EPA's continued efforts to protect drinking water through the strength of the full range of statutes and authorities available to it. During our meeting, staff from the Office of Chemical Safety and Pollution Prevention presented the efforts to coordinate with Office of Water (OW). The Council is pleased that the Agency is reaching across statutes to leverage the Federal Insecticide, Fungicide, and Rodenticide Act and the Toxic Substance Control Act. Unfortunately, we learned that FIFRA has no authority to require remediation for banned pesticides, even though public water systems must remove them from drinking water sources while they are used for years during their phase-out, and are still detectable for decades as they naturally degrade in potable source waters.

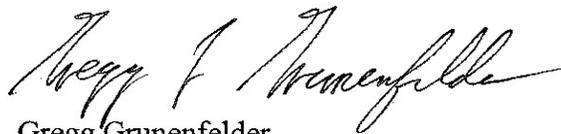
The Council also heard from OW staff about the State-EPA Nutrients Innovations Task Group Report and Nutrient Strategy efforts under the Clean Water Act. We urge EPA to use both the Clean Water Act and the Safe Drinking Water Act together to protect drinking water and public health. The Council sent a letter, under separate cover, providing the Council's advice on these efforts.

Sharing All Data from Public Water Systems

Future directions for the Drinking Water Program must be based on sound science and good data. The council encourages investment in the Safe Drinking Water Information System to provide those data. The Council encourages EPA to update this system into a data sharing platform that will facilitate effective and efficient data sharing between EPA, states, utilities, and the public.

Finally, as the Agency undertakes efforts to develop and implement the Strategy, the Council believes that it will be critical to continue support for a holistic, multiple barrier approach to protect and attain clean and safe water. The Council also believes that educating the public about these efforts will promote an understanding that each of us needs to provide a level of public stewardship to maintain public health and a healthy environment. The Council looks forward to revisiting this topic at our Fall meeting and further considering the input received by the Agency on the future direction of the Drinking Water program.

Sincerely,



Gregg Grunenfelder

Chair

National Drinking Water Advisory Council

Enclosure

cc:

Peter Silva, Assistant Administrator for Water

Cynthia C. Dougherty, Director, Office of Ground Water and Drinking Water

Wendy Cleland Hamnett, Director, Office of Pollution Prevention and Toxics

Steven Bradbury, Director, Office of Pesticide Programs



EPA NATIONAL DRINKING WATER ADVISORY COUNCIL

NDWAC Members

September 8, 2010

Gregg Grunenfelder,
Chair
Olympia, WA

Ms. Lisa P. Jackson
Administrator
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, N.W.
Washington D. C. 20460

Jeff Cooley
Vacaville, CA

Dennis Diemer
Oakland, CA

Dear Administrator Jackson:

Elston Johnson
Austin, TX

On behalf of the National Drinking Water Advisory Council (NDWAC), I would like to express the Council's appreciation for your leadership in using all of the statutory authorities available to the Agency to protect the nation's drinking water.

Maria Kennedy
Rancho Cucamonga, CA

Timothy Kite
Decatur, IL

During our July meeting in Washington, we discussed the Agency's efforts to protect drinking water from excess levels of nutrients. We were pleased to hear how the Agency worked with state representatives and organizations, including the Association of State Drinking Water Administrators, the Association of State and Interstate Water Pollution Control Administrators, and the Ohio River Valley Water Sanitation Commission, to form the State-EPA Nutrient Innovations Task Group. The Task Group's August 2009 report "An Urgent Call to Action" underscores the importance of national leadership to support and require a consistent and holistic approach to protecting drinking water.

Olga Morales
Dona Ana, NM

Douglas Owen
White Plains, NY

David Saddler
Sells, AZ

Lisa Sparrow
Northbrook, IL

Carl Stephani
Unionville, CT

Hope Taylor
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Bob Vincent
Tallahassee, FL

Jennie Ward-Robinson
College Station, TX

The presentation on nutrients provided by EPA water program Office Directors Denise Keehner and Ephraim King initiated a robust discussion on the impacts of excessive nutrient levels in our nation's waters and drinking water sources. Nutrient pollution is a problem for drinking water systems across the country and Council members identified problems they face in their own communities where nutrients are impacting ground and surface waters. The problems range from excessive levels of nitrate that can lead to methemoglobinemia (blue-baby syndrome) to taste and odor issues associated with eutrophication of surface waters. Increased levels of nutrients

June Weintraub
San Francisco, CA

can spur harmful algal blooms that release associated cyanotoxins. Higher levels of total reactive nitrogen and organic carbon can increase the formation of disinfection by-products during drinking water treatment. For drinking water utilities, all of these problems pose a concern for public health and addressing any of them can present a considerable challenge due to additional costs for both infrastructure and technology upgrades.

The Council believes that implementing a holistic, multiple barrier approach to protect and attain clean and safe water needs to be a critical component of your ongoing work to protect the nation's drinking water using all available authorities. We support a more complete use of existing tools as well as development of an accountability framework that encompasses all sources of nutrients – including point and non-point sources - which is built on the principles of transparency and stewardship. It is often less expensive to prevent the contamination of drinking water supplies than to treat contaminated waters to potable levels. It is also more equitable that those who cause contamination bear the costs rather than those who rely on the source water for their drinking water. This is seen most starkly in disadvantaged communities where the costs to construct, maintain, operate, and repair drinking water systems may represent a significant portion of household resources than in affluent communities.

As EPA moves to address challenges posed by nutrients, the Council urges the Agency to recognize and consider some additional issues that should be included in any solution. We believe these suggestions will help EPA develop cost effective, optimized solutions and avoid what have historically been costly “end-of-pipe” solutions.

First, an educational component is vital to the success of any strategy for addressing nutrient threats to our drinking water. The public needs to understand the costs and consequences of nutrient pollution; the necessity for personal, corporate, and community stewardship; and the costs and benefits of nutrient control strategies. They need a trusted, independent source of information. We encourage EPA to act as that trusted source and develop materials for broad dissemination through the Web to engage communities more broadly in fostering stewardship of water resources.

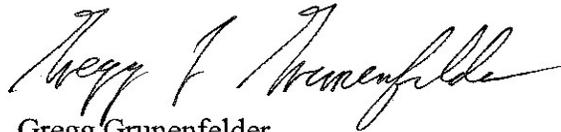
Second, in developing a holistic approach to reduce nutrient pollution, it is important to consider the perspectives that regulators, land use planners, public health, and water professionals bring to the table. Communication among these professionals is needed to develop effective programs that balance regulatory and voluntary approaches to reduce nutrient pollution. Active communication will foster common principles, provide information on best management practice effectiveness, and facilitate adoption of appropriate standards or practices. The Agency, however, should not rely entirely on controls at the local level. Source water issues often cross jurisdictional boundaries and conflicts of interest are common. A broader federal influence can help to overcome parochial decisions that result in environmental injustice. The Agency, working with State and local partners, can provide a more consistent definition of source water protection. EPA can also play a role in educating the federal family on the intersection of their activities with local decisions that affect source water quality. The Council

recommends that EPA engage decision makers at the federal, state and local levels across disciplines to better define source water protection and to improve understanding of the relative costs and benefits of prevention versus treatment approaches.

Finally, the Council encourages the Agency to develop holistic solutions that consider watershed-based approaches and evaluate all contributions of nutrient pollution (e.g., non-point sources, atmospheric deposition, livestock production, wastewater, and stormwater). Solutions need to account for all contributors including those where EPA may not have a clear regulatory role. For example, the Council discussed the large pollutant contribution from non-point sources and the difficulty in achieving necessary reductions in nutrient input to receiving waters based solely on point-source regulations. In addition, the Council specifically discussed the threat posed by on-site wastewater treatment or septic systems, which are not regulated at the federal level. On-site systems are a chronic problem in many parts of the country, but are difficult to control at the local level, particularly in communities where sole responsibility for maintaining systems lies with individual homeowners. This is a concern in small, rural, or disadvantaged communities where the costs of replacing failing systems could represent a significant portion of household resources and may be further complicated by additional socio-economic factors such as illiteracy and language barriers. Addressing the risks posed by these types of systems may be challenging due to the lack of a clear EPA role; however, watershed-based solutions that fail to consider the communities and all sources of pollution will reduce their chance of success.

Thank you for considering our advice on protecting drinking water sources from nutrient pollution. The NDWAC members look forward to continuing to fulfill our role of providing EPA with valuable advice and feedback. If you have any questions, please contact Thomas Carpenter, Designated Federal Officer for the NDWAC at (202) 564-4885.

Sincerely,



Gregg Grunenfelder

Chair

National Drinking Water Advisory Council

Enclosure

cc:

Peter Silva, Assistant Administrator for Water

Cynthia C. Dougherty, Director, Office of Ground Water and Drinking Water

Denise Keehner, Director, Office of Wetlands, Oceans, and Watersheds

Ephraim King, Director, Office of Science and Technology

