

**U.S. Environmental Protection Agency
Total Coliform Rule / Distribution System
Advisory Committee Conference Call**

September 3, 2008

Draft Teleconference Summary

Meeting Objectives/Desired Outcomes:

- *Discuss and reach preliminary agreement on remaining issues;*
- *Consider public comment received; and*
- *Discuss next steps for ratification and signature of the agreement in principle.*

I. Welcome, Introduction, Meeting Objectives and Agenda

Crystal Rodgers-Jenkins, the Designated Federal Officer, opened the meeting and welcomed the members and meeting attendees to the twelfth meeting of the Total Coliform Rule / Distribution System Advisory Committee, which was held via teleconference and web conference.¹

Gail Bingham, the facilitator from RESOLVE, briefly reviewed the objectives of the meeting, the meeting agenda, and the meeting materials. She noted that the goal of the call is to reach agreement on the outstanding issues related to the Agreement in Principle (AIP) for the Revised Total Coliform Rule (RTCR). If agreement is reached by the representatives on the Committee, the AIP will be revised and a draft final version sent to members for ratification, with signature by Committee representatives at the September 18-19 plenary.

II. Discussion of the Draft Agreement in Principle

Ms. Bingham referred the Committee to the current version of the AIP in the meeting folder that reflects both the edits from the July 30-31 TCRDSAC plenary as well as edits suggested by Committee members after the meeting.² Over the course of the two-day meeting, the Advisory Committee discussed and agreed to several proposed substantive revisions to the AIP that address questions or concerns raised by members. All of these agreements are subject to review by the Committee and are shown in ***bold italics*** in this summary of the Committee's deliberations. The Committee also discussed several minor edits to the AIP, both those referenced in the current AIP and new edits raised during the meeting. These edits are not

¹ Please see Attachment A for the Total Coliform Rule / Distribution System Federal Advisory Committee roster. Please see attachment B for a copy of the meeting agenda. Please see Attachment C for a list of the meeting attendees.

² Please see Attachment D for the draft AIP that was included in the Committee's binder.

discussed in the summary, but are reflected, along with the major revisions, in the attached new draft of the AIP.³

The Committee also made statements during the meeting to reaffirm the intent of some provisions of the RTCR. These comments are captured in *italics* in the summary.

2.0 General Agreements

The Advisory Committee reviewed the following proposed language for item 8 in Section 2.0, General Agreements, and agreed to include it in the next version of the AIP:

8. *The TCRDSAC recognizes that federal rulemaking procedures may be lengthy and have broad national impact. The Advisory Committee recommends that the Agency undertake technical dialogue or consultation with stakeholders to address the outreach activities described in this Agreement in Principle. The TCRDSAC believes that such engagement will allow them to be better representatives for the proposed rule when it is published. The TCRDSAC recommends that EPA hold a stakeholder meeting no less than once per year to inform EPA's effort to propose a rule that "has the same substance and effect as the elements of the Agreement in Principle."*

3.4 Monitoring Frequencies (Baseline, Reduced and Criteria for Reduced Monitoring)

Seasonal Systems Provisions

The Advisory Committee reviewed and discussed several proposed edits related to seasonal systems in Sections 3.4.a.1 (Baseline Monitoring), 3.4.a.2 (Transition to RTCR), and 3.4.f (Seasonal Systems).

3.4.a.1 Baseline Monitoring

The Committee accepted the proposed edits to Section 3.4.a.1 that provide a definition of seasonal systems and clarify that baseline monitoring is monthly. They agreed to include the following language in the next version of the AIP:

The TCRDSAC recommends that the baseline monitoring frequency for ground water NCWS serving $\leq 1,000$ persons in the RTCR be quarterly monitoring for TC and E. coli, except that baseline monitoring for seasonal systems serving $\leq 1,000$ persons should be monthly. For the purposes of this AIP, a seasonal system is one which operates less than four calendar quarters per year.

3.4.a.2 Transition to RTCR for Non Community Ground Water Public Water Systems Service <1,000 Persons

The Committee discussed the proposed edits to Section 3.4.a.2 that add transition provisions for seasonal systems, including a requirement to monitor in a time period most likely to identify problems in the system. They agreed to additional edits to this section to further clarify when

³ Please see Attachment D for a copy of the revised AIP from the September 3 TCRDSAC conference call.

monitoring should occur and to allow for site specific variations. They also agreed to add “and recurring” to the reference to annual site visits in the last paragraph of this section.

Based on the discussion, the Committee agreed to include the following language for Section 3.4.a.2 in the next version of the AIP:

All ground water non-community water systems serving $\leq 1,000$ persons, including seasonal systems, will continue with their current TCR monitoring schedules as of the compliance effective date of the RTCR unless any of the conditions for increased monitoring in Section 3.4.a.4 are triggered on or after the compliance effective date.

After the compliance effective date of the RTCR, during each sanitary survey the primacy agency shall perform a special RTCR monitoring evaluation to review the status of the water system, including the distribution system, to determine whether the system is on an appropriate monitoring schedule. Primacy agencies will evaluate system factors such as the pertinent water quality and compliance history, the establishment and maintenance of barriers to contamination, and other appropriate protections to validate the water system’s existing monitoring schedule or require increased monitoring. For seasonal systems on quarterly or annual monitoring, this evaluation shall include review of the approved sample site plan which must designate the time period(s) for monitoring based on site specific considerations (e.g. during periods of highest demand or highest vulnerability to contamination). The system must collect compliance samples during these time periods.

Systems on annual monitoring, including seasonal systems, must within one year of the compliance effective date have an initial and recurring annual site visit by the primacy agency or an annual voluntary Level 2 assessment by a party approved by the primacy agency to remain on annual monitoring.

3.4.f Seasonal Systems

The Advisory Committee discussed the proposed edits to Section 3.4.f that clarify that seasonal systems must have an approved start up procedure on or after the RTCR compliance effective date, and add additional reduced monitoring criteria for seasonal systems. The Committee agreed to accept these proposed edits. For the sake of consistency, the Committee also agreed to match the language on the monitoring time period in this section to that in Section 3.4.a.2 above. They also agreed to delete the reference to Section 3.4.a.5 in the third bullet of reduced monitoring criteria.

Based on this discussion, the Committee agreed to add the following language to the next version of the AIP after the principles and assumptions in Section 3.4.f:

The TCRDSAC recommends that all seasonal systems, on and after the compliance effective date, must demonstrate completion of a primacy agency approved start up procedure. The TCRDSAC also recommends that the baseline monitoring frequency for non-community water systems which operate less than four calendar quarters per year be monthly. Seasonal systems may continue with their TCR monitoring frequency after the effective date of the RTCR as described in section 3.4.a.2.

To be eligible for reduced monitoring after the compliance effective date, seasonal systems must meet the following criteria:

- *The system must demonstrate completion of a Primacy Agency approved start up procedure;*
- *The system must have an approved sample site plan which designates the time period for monitoring based on site specific considerations (e.g. during periods of highest demand or highest vulnerability to contamination). The system must collect compliance samples during this time period; and*
- *To be eligible for reduced quarterly monitoring, the system must also meet the first two reduced monitoring criteria under 3.4a.5.*
- *To be eligible for reduced annual monitoring, the system must also meet all the reduced monitoring criteria under 3.4.a.3/a.6.*

Reduced Monitoring Provisions for non-community water systems (NCWS) Serving <1,000 Persons

The Advisory Committee then discussed a new proposal from a group of members for reduced monitoring requirements for NCWS, as outlined in proposed edits to Section 3.4.a.3, Reduced Monitoring Requirements, 3.4.a.5, Requirements for Returning to Baseline Quarterly Monitoring, and a new Section 3.4.a.6, Requirements for Returning to Reduced Annual Monitoring. The requirements for 3.4.a.4, Increased Monitoring Requirements, would remain unchanged (as would the reduced monitoring requirements for community water systems.

3.4.a.3 Reduced Monitoring Requirements

The members offering the new proposal for Section 3.4.a.3 suggested that the proposed changes would make the reduced monitoring requirements less complex, simpler to implement, and allow states and systems more flexibility in qualifying systems for reduced monitoring. They noted that, under the current version of the AIP, most small NCWS would not be able to meet any of the optional criteria, and, therefore, would never be able to qualify for reduced monitoring.

The following is an overview of the group's proposal for Section 3.4.a.3:

- The required sanitary survey criteria remains unchanged
- The required clean compliance history remains unchanged
- The required annual site visit criteria is strengthened as follows:
 - The annual site visit (or voluntary Level 1 assessment) is recurring
 - The annual site visit (or voluntary Level 1 assessment) must have taken place within the last 12-months
 - All sanitary defects must be corrected and not just on a schedule to be corrected.
- The three optional criteria would be revised as follows:
 - Remove the requirement that PWS choose one of these criteria in order to qualify for reduced monitoring.
 - Add language suggesting that primacy agencies encourage additional enhancements to barriers protecting distribution systems from contamination
 - Add language that primacy agencies may require one or more additional criteria, not limited to the list in the draft AIP.

- Expand the operator certification option to include regular visits by a circuit rider.
- Remove the bullet “other equivalent enhancements...”

The group also explained that the strengthened requirement that all sanitary defects be corrected is intended to balance the loss of the requirement that one of the optional criteria be met.

During the discussion of this proposal, one member expressed a concern that the proposed changes take away the system’s flexibility to schedule correction of sanitary defects as appropriate. This member also expressed the view that it is not necessary to include the language that states “may require” additional criteria, since states already have that ability. In response to the first concern, other members noted that, because NCWS are small and relatively simple systems, the sanitary defects will be fairly straightforward and easy to fix. Based on this discussion, members of the Committee agreed to retain the proposed annual site visit requirement to fix all sanitary defects, but remove the language “and may require one or more additional criteria to qualify for annual monitoring” from the fourth bullet on “additional enhancements.” The Committee also agreed to re-insert the last bullet in this section, “Other equivalent enhancements to water system barriers as approved by the primacy agency.”

One member of the Committee asked how the term “protected water source,” mentioned in this and other sections, would be defined. In response, a member referred the Committee to Primacy Provisions (Section 3.15), item 2, Reduced Monitoring Criteria, and noted that primacy agencies will determine how to describe protected water sources in their primacy applications.

Based on these discussions, the Advisory Committee agreed that the next version of the AIP will include the following language for Section 3.4.a.3, Reduced Monitoring Requirements for Non-Community Ground Water Public Water Systems Serving $\leq 1,000$ Persons:

The primacy agency will have the discretion to reduce the monitoring frequency for well operated ground water NCWS from the quarterly baseline monitoring to no less than annual monitoring, if the water system can demonstrate that it meets the criteria for reduced monitoring provided in this section.

To be eligible to qualify for and remain on annual monitoring after the compliance effective date, non-community groundwater systems serving $\leq 1,000$ persons must meet each of the following criteria:

- *The most recent sanitary survey shows the system is free of sanitary defects and has a protected water source and meets approved construction standards;*
- *The system must have a clean (TCR) compliance history (no MCL violations, Level 1 triggers, Level 2 triggers, treatment technique violations or monitoring violations) for a minimum of 12 months;*
- *An annual site visit (recurring) by the State within the last 12 months and correction of all identified sanitary defects. A voluntary Level 2 assessment by a party approved by the primacy agency may be substituted for the primacy agency annual site visit; and*

- *The primacy agency should encourage additional enhancements to the barriers protecting the distribution system from contamination. These measures could include but are not limited to the following:*
 - *Cross connection control, as approved by the primacy agency;*
 - *An operator certified by an appropriate primacy agency certification program, which may include regular visits by a circuit rider;*
 - *Continuous disinfection entering the distribution system and a residual in the distribution system in accordance with criteria specified by the primacy agency; and*
 - *Maintenance of at least a 4-log inactivation of viruses each day of the month based on daily monitoring as specified in the GWR (with allowance for a 4-hour exception).*
 - *Other equivalent enhancements to water system barriers as approved by the primacy agency.*

3.4.a.5 Requirements for Returning to Baseline Quarterly Monitoring; and

3.4.a.6 Requirements for Returning to Reduced Annual Monitoring

The Members of the Committee who proposed the changes to the reduced monitoring requirements for NCWS (Section 3.4.a.3) also proposed the following:

- Change Section 3.4.a.5, to include only “Requirements for Returning to Baseline Quarterly Monitoring” and delete the “optional” criteria
- Create a new Section 3.4.a.6, “Requirements for Returning to Annual Monitoring” with the following criteria:
 - Meet the required criteria in 3.4.a.5
 - Require a recurring annual site visit (or voluntary Level 1 assessment)
 - Require correction of all sanitary defects
 - Require adoption of one or more additional enhancements to barriers (as listed above in Section 3.4.a.3 above)

Members of the Committee agreed to all of these changes. They also agree to add to Section 3.4.a.6 (as they did in Section 3.4.a.3) the last bullet on “Other equivalent enhancements...” Based on this discussion, the Committee agreed that the next version of the AIP will include the following languages for Section 3.4.a.5 (Requirements for Returning to Baseline Quarterly Monitoring) and Section 3.4.a.6 (Requirements for Returning to Reduced Annual Monitoring):

3.4.a.5 Requirements for Returning to Baseline Quarterly Monitoring:

To be eligible to return to quarterly monitoring, non-community groundwater systems serving $\leq 1,000$ persons must meet each of the following criteria:

- **Within the last 12 months, the system shall have a completed sanitary survey or a site visit or a voluntary Level 2 assessment by a party approved by the primacy agency and the system must be free of sanitary defects, and have a protected water source; and**
- **The system must have a clean (TCR) compliance history (no MCL violations, Level 1 or 2 triggers, treatment technique violations or monitoring violations) for a minimum of 12 months.**

3.4.a.6 Requirements for Returning to Reduced Annual Monitoring:

To be eligible to return to reduced annual monitoring, the system must meet the criteria in 3.4.a.5 plus:

- **An annual site visit (recurring) by the primacy agency and correction of all identified sanitary defects. A voluntary Level 2 assessment may be substituted for the primacy agency annual site visit in any given year; and**
- **The system must adopt one or more additional enhancements to the water system barriers to contamination as approved by the primacy agency. These measures could include but are not limited to the following:**
 - **Cross connection control, as approved by the primacy agency;**
 - **An operator certified by an appropriate primacy agency certification program, which may include regular visits by a circuit rider;**
 - **Continuous disinfection entering the distribution system and a residual in the distribution system in accordance with criteria specified by the primacy agency; and**
 - **Maintenance of at least a 4-log inactivation of viruses each day of the month based on daily monitoring as specified in the GWR (with allowance for a 4-hour exception).**
 - **Other equivalent enhancements to water system barriers as approved by the primacy agency**

3.4.e Public Water Systems Service >1,000 Persons

The Advisory Committee discussed the paragraph in Section 3.4.e, Public Water Systems Serving > 1000 Persons. *The Committee agreed that it is their intent that all systems serving >1,000 persons, including systems serving 1,000 – 4,100 people, will not be required to do additional routine monitoring as outlined in Section 3.6.* The Committee therefore agreed that the language in Section 3.4.e would be clearer if the paragraph ended after the words “monitoring provisions,” deleting the words, “described in sections 3.4.5 and 3.6 respectively.” Thus the Committee agreed that the next version of the AIP will include the following language:

The TCRDSAC recommends that the monitoring requirements for PWS serving $\geq 1,000$ persons remain the same as under the current TCR, with the exception of the applicable revisions to the repeat and additional routine monitoring provisions.

3.7 Sample Siting Plans

The Committee agreed to clarify the intent of the last sentence of the last paragraph in Section 3.7 in the next version of the AIP by revising it to read:

Nothing shall preclude a PWS from taking more than the minimum number of required routine samples and including them in calculating compliance with RTCR, if the samples are taken in accordance with the approved sample siting plan.

3.8 Assessment

One member noted that the current example “checklists” are still missing important references (e.g., disinfection residual). The Committee confirmed, as described in the last paragraph of Section 3.8.a, that EPA will work with stakeholders to develop these tools further. The Committee reaffirmed that examples of the assessment form or checklist will be attached to the AIP for illustration purposes only and will appear in the Federal Register with the AIP. These attachments will not be included in the proposed rule.

The Committee reaffirmed their intent that systems will conduct Level 1 and Level 2 assessments, correct or schedule to correct all sanitary defects (if any are found), and submit the results of the assessment to the primacy agency. The Committee agreed that one term, whether “report,” “checklist,” or “form,” should be used in the AIP to reference both the content of the assessment and the results submitted to the primacy agency. Some members requested that whatever term is used reflect a simple rather than a long and detailed format.

3.8.b.1 Level 1 Assessment Triggers

The Advisory discussed the proposed edit to item 2 in Section 3.8.b.1, which replaced the last word in the sentence from “month” to “monitoring period.” Some members argued that if the provision refers to “monitoring period,” a system on annual monitoring with two TC positives samples early in its monitoring period would not trigger a Level 1 assessment until several months later at the end of the monitoring period. Based on this, the Committee agreed to change the sentence back to its original language, and that the next version of Section 3.8.b.1, item 2 in the AIP will read as follows:

For systems taking fewer than 40 samples per month, the PWS has two or more TC positive samples in the same month.

3.8.c.1 Level 2 Assessment Triggers

The Committee agreed to replace “24 hours” with “the required time period” in item 2 of Section 3.8.c.1. They agreed that the new version of the rule will read:

2. An E. coli monitoring violation (defined as failing within the required time period to collect repeat samples following an E. coli- positive sample), or

3.11 Violations and Public Notification Requirements

The Committee agreed to replace “fecal contamination” in the last sentence of the third bullet of the principles and assumptions with “treatment failures and sanitary defects,” because this sentence refers to total coliform, which is not an indicator of fecal contamination.

The Committee agreed that the new sentence will read as follows in the next version of the AIP:

In addition, total coliform will be used as an indicator as part of a treatment technique, as allowed under Section 1412(b)(7) of the SDWA (as amended) for more comprehensive protection against potential treatment failures and sanitary defects.

3.15 Primacy Provisions

The Advisory Committee reviewed the following proposed language for item 5 in Section 3.15 and agreed to include it in the next version of the AIP:

5. The TCRDSAC has recommended changes in the RTCR to be more protective of public health and encourages primacy agencies to adopt all of the final rule’s requirements. State rules must be at least as stringent as these requirements in order for the states to be granted primacy under Section 1413(a) of the Safe Drinking Water Act. (“For purposes of this subchapter, a State has primary enforcement responsibility for public water systems during any period for which the Administrator determines (pursuant to regulations prescribed under subsection

(b) of this section) that such State -- (1) has adopted drinking water regulations that are no less stringent than the national primary drinking water regulations promulgated by the Administrator under subsections (a) and (b) of section [1412] of this title...") However, nothing in the RTCR will preclude a primacy agency from exercising its authority under the Safe Drinking Water Act to adopt or enforce additional or more stringent state requirements, as provided under Section 1414(e) of the Act. ("Nothing in this title shall diminish any authority of a State or political subdivision to adopt or enforce any law or regulation respecting drinking water regulations or public water systems, but no such law or regulation shall relieve any person of any requirement otherwise applicable under this title.")

3.17 Other

3.17.b Performance Measures

In response to comments received from the public about the importance of providing performance measures for the RTCR the Committee agreed to add to the next version of the AIP the following sentence at the beginning of the first paragraph of Section 3.17.b:

The TCRDSAC recognizes the challenges inherent in measuring the rule effectiveness and believes the RTCR provides a fresh opportunity for consideration of metrics.

3.17.e SDWIS Modifications

The Committee agreed to recommend that EPA consider including data collected from the Level 1 and Level 2 assessments as the Agency develops upgrades to SDWIS Fed and SDWIS State. The Committee agreed to include the following language in Section 3.17.e of the next version of the AIP:

The TCRDSAC recommends that EPA evaluate the benefits and feasibility of collecting data from Level 1 and Level 2 assessments as part of the SDWIS Fed upgrade to inform RTCR rule effectiveness.

III. Final Agreement and Ratification Steps

In addition to all of the edits discussed above, the Advisory Committee agreed to accept all remaining proposed edits in the current version of the AIP for inclusion in the next version of the AIP.

At the request of the facilitator, all the TCRDSAC members who participated in the conference call indicated their preliminary support for the Agreement in Principle for the RTCR with all the changes discussed and/or agreed to during the call.

Within the next few days, the facilitators will provide members with a draft final version of the AIP that reflects in redline all of the edits made by the Committee during the conference call. Members will circulate the draft final AIP within their organizations for final review. Members of the TCRDSAC will sign the Agreement in Principle for the Revised Total Coliform Rule at the next meeting of the Committee meeting on September 18-19, 2008.

IV. Public Comment

The Committee received two written public comments: one from the Washington State Department of Health Office of Drinking Water⁴; another from the East Bay Municipal Utility District.⁵

NOTE: This document was prepared by the facilitators for consideration by the Total Coliform Rule Distribution System Advisory Committee and does not constitute a product of the Committee. The Total Coliform Rule Distribution System Advisory Committee is a federal advisory committee chartered by Congress, operating under the Federal Advisory Committee Act (FACA; 5 U.S.C., App.2). The Committee provides advice to the Administrator of the U.S. Environmental Protection Agency on revisions to the Total Coliform Rule (TCR), and on what information about distribution systems is needed to better understand the public health impact from the degradation of drinking water quality in distribution systems. The findings and recommendations of the Committee do not represent the views of the Agency, and this document does not represent information approved or disseminated by EPA.

⁴ A copy of the public comment from the Washington State Department of Health Office of Drinking Water is available from the Designated Federal Officer.

⁵ A copy of the public comment from the East Bay Municipal Utility District is available from the Designated Federal Officer.

Attachments

Attachment A – TCRDSAC roster*

Attachment B – Meeting agenda*

Attachment C – List of meeting attendees

Attachment D – Draft Agreement in Principle

* The meeting materials may be found online at

http://www.epa.gov/OGWDW/disinfection/tcr/regulation_revisions_tcrdsac.html.

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Total Coliform Rule / Distribution System
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September 3, 2008

Teleconference Attendees

John Albert, American Water Works Association Research Foundation
David Baird, National Rural Water Association*
Pam Barr, US EPA*
Jeremy Bauer, US EPA
Gail Bingham, RESOLVE
Erica Brown, Association of Metropolitan Water Agencies*
Lori Brown, Birmingham Water Works
Gary Burlingame, Philadelphia Water Department
Joan Brunkard, Centers for Disease Control and Prevention
Jimmy Chen, US EPA
Robert Clement, US EPA
Sean Conley, US EPA
Tom Crawford, Native American Water Association*
Cynthia Dougherty, US EPA*
Robert Dunlevy, US EPA
Patti Fauver, Environmental Council of States*
Donna Fries, Miami Dade Water & Sewer Department
Lee Garrigan, Environmental Council of States
Rich Giani, DC Water and Sewer Authority
Kathy Grant, RESOLVE
Bertha Goldenderg, Miami Dade Water & Sewer Department
Yu-Ting, Guilaran, US EPA
Curtis Haymore, The Cadmus Group
Christine Hoover, National Association of State Utility Consumer Advocates*
Mike Keegan, National Rural Water Association
Debbie Lee, RESOLVE
Mark LeChevallier, American Water Works Association*
France Lemieux, Health Canada
Frank Letkiewicz, The Cadmus Group
Audrey Levine, US EPA
Carrie Lewis, American Water Works Association*
Maria Lopez-Carbo, US EPA
Gary Lynch, National Association of Water Companies*
Bruce Macler, US EPA
Linda McCarty, Missouri Department of Natural Resources
Jean Melillo, Tucson Water
Angie Mettlen, WK Dixon
Beth Messer, Environmental Council of States*
Harvey Minnigh, Rural Community Assistance Partnership*

Amy Newbold, US EPA
John Neuberger, Council of State and Territorial Epidemiologists*
Eva Nieminski, Utah Department of Environmental Quality
Darrell Osterhoudt, Association of State Drinking Water Administrators*
Rich Overmyer, Michigan Department of Environmental Quality
Doug Owen, Malcolm Pirnie
Stig Regli, US EPA
J. Kevin Reilly, US EPA
Christine Reimer, National Ground Water State Association
Alan Roberson, American Water Works Association*
Mark Rodgers, US EPA
Crystal Rodgers-Jenkins, US EPA
Patsy Root, IDEXX Laboratories
Ken Rosenfeld, National League of Cities*
Ken Rotert, US EPA
Sharon Roy, Centers for Disease Control and Prevention
Rick Sakaji, East Bay Municipal District
Tom Schaeffer, Association of Metropolitan Water Agencies
Nicole Shao, US EPA
Heather Shoven, US EPA
Charlotte Smith, Charlotte Smith & Associates
Jerry Smith, Association of State Drinking Water Administrators*
Kira Smith, City of Houston
Tim Soward, IntelliTech Systems
David Spenard, National Association of State Utility Consumer Advocates*
Dan Stanton, Tucson Water
Carol Stuckey, Washington State Department of Health
Vanessa Speight, Malcolm Pirnie
Judy Timberlake, Army Environmental Command
Lynn Thorp, Clean Water Action*
Lesley Vazquez-Coriano, US EPA
Steve Via, American Water Works Association
Bob Vincent, National Environmental Health Association*
David Visintainer, Association of Metropolitan Water Agencies*
Patrick Vowell, Golden State Water Company
Paul Whittam, Erie County Water Authority
Paul Whittemore, National Rural Water Association*
Mae Wu, Natural Resources Defense Council*

*TCRDSAC members or alternates