U.S. Environmental Protection Agency
National Drinking Water Advisory Council
Public Meeting

December 1, 2021
10:30 a.m. – 5:30 p.m. Eastern Time[1]
and
December 2, 2021
10:00 a.m. – 5:30 p.m. Eastern Time

Location: Online Only

Meeting Summary

Meeting Objectives

- Review recommendations made by the National Drinking Water Advisory Council (NDWAC or Council) Consumer Confidence Report Rule Revision (CCR³) working group and develop advice and recommendations from the NDWAC to the U.S. Environmental Protection Agency (EPA) on targeted issues related to revisions to the Consumer Confidence Report (CCR) rule.
- Receive information about the Microbial and Disinfection Byproducts (MDBP) rule revisions charge from EPA to the NDWAC and formation of a NDWAC MDBP working group.
- Receive information about new and updated health advisories.

Welcome and Opening Remarks

Elizabeth Corr, Designated Federal Officer for the NDWAC, opened the meeting. Lisa Daniels, the NDWAC's Chair, made welcoming remarks and asked the NDWAC's members and the Council's liaisons from the Centers for Disease Control (CDC) to introduce themselves.[2] She then briefly reviewed the agenda.

Jennifer McLain, Director of the Office of Ground Water and Drinking Water (OGWDW) in EPA's Office of Water, welcomed everyone to the meeting. She thanked Elizabeth Corr, Lisa Daniels, and Jana Littlewood for their coordination and efforts and noted that many regulations besides the CCR rule would be discussed in future meetings. She described EPA's efforts to implement the newly passed bipartisan infrastructure bill as a high priority for the agency, with substantial funding available to improve water infrastructure; and discussed EPA's priorities, especially focusing on environmental justice and disadvantaged communities, to develop solutions for funding and financing programs. She also noted EPA's stakeholder engagement efforts under the Justice40 initiative.

Radhika Fox, Assistant Administrator of EPA's Office of Water, thanked the CCR³ working group and NDWAC members for their service and hard work in providing suggestions for ways to improve the proposed rule

[1] First and second day adjournments were earlier than scheduled (approximately 4:45 p.m. and 4:30 p.m. eastern time).
[2] Attachment A lists the NDWAC's members and CDC liaisons, all of whom introduced themselves.

revision. She highlighted that the unprecedented challenges facing drinking water systems across the United States provide exciting opportunities for the new drinking water infrastructure funds. She noted that EPA is looking forward to seeing the recommendations that the NDWAC develops on important regulatory issues related to the CCR rule and other drinking water regulations in the future.

Dr. McLain returned to her discussion of other high priority areas, including per- and poly-fluoroalkyl substances (PFAS) and lead. She highlighted EPA's work related to PFAS and drinking water unregulated contaminant monitoring, National Primary Drinking Water Regulation development, and water quality analytical methods improvement. She also described EPA's stakeholder engagement efforts on lead in drinking water and noted that EPA is working on revisions to MDBP rules.

New and Updated Health Advisories

Betsy Behl, Director of the Health and Ecological Criteria Division of the Office of Science and Technology in EPA's Office of Water, delivered a presentation on EPA's new drinking water health advisories. She outlined EPA's health-based drinking water levels, explained what a health advisory is, and described what is in a health advisory document. She then discussed what health advisory documents require, including a summary of a toxicity assessment, and explained the importance of toxicity assessments. She also noted that EPA has a strategic roadmap for PFAS and will publish health advisories for additional PFAS soon. She then discussed EPA's draft documents for peer review to support the development of perfluorooctanoic acid (PFOA) and perfluorooctanesulfonic acid (PFOS) regulations, which include updated toxicity assessments. She outlined the timeline for those peer review public meetings and discussed how the NDWAC factors into the process, recalling 2018 input from the NDWAC on the health advisories program. Ms. Behl's presentation is in Attachment B.

Microbial and Disinfection Byproduct Rule Revisions

Ryan Albert, Chief of OGWDW's Standards and Risk Reduction Branch, discussed EPA's charge to the NDWAC related to potential revisions to MDBP rules, the process for formation of an MDBP Rule Revisions Working Group to assist the work of the Council, and the anticipated schedule for the working group. He provided background information on EPA's third Six-Year Review of National Primary Drinking Water Regulations, which resulted in the identification of candidates for review that fall under the Stage 1 and Stage 2 Disinfectants and Disinfection Byproduct Rules, the Surface Water Treatment Rule, the Interim Enhanced Surface Water Treatment Rule, and the Long-Term 1 Enhanced Surface Water Treatment Rule, and provided information on topics under consideration. He also outlined the public engagement process and EPA's timeline for next steps. Mr. Albert's presentation is in Attachment C.

A NDWAC member asked if EPA is anticipating that the working group would cover all of the rules and considerations or just a select few. Mr. Albert explained that the rules are complex and EPA does not expect the working group to review all aspects; rather, there will be priority topics. Another member asked if EPA would bring in guest speakers to the working group meetings. Mr. Albert responded that they could bring in guest speakers, as the working group may have questions that could require a more advanced level of technical knowledge.

EPA's Consumer Confidence Report Rule Revision Charge to the National Drinking Water Advisory Council

Anita Thompkins, Director of OGWDW's Drinking Water Protection Division, thanked the CCR³ working group's members Yolanda Barney, John Brady, Alexandra Campbell-Ferrari, Shellie Chard, Michael Hansen, Olga Naidenko, Benjamin Pauli, Jennifer Peters, Jeffrey Szabo, Sri Vedachalam, and Taka Wiley, as well as the working group's Chair Jana Littlewood, for their work. She explained EPA's charge to the NDWAC and what EPA is hoping to learn from the recommendations from the NDWAC on targeted issues related to the CCR rule revisions.

Consumer Confidence Report Rule Revision Session 1: Presentation of Working Group Recommendations

Jana Littlewood, Chair of the CCR³ working group and a member of the NDWAC, presented the working group's final recommendations to the NDWAC for the Council's review and discussion. She reviewed each of the four charges and referred members to the working group's report to the Council for detailed reasoning. The Council's discussion is summarized below in the order that the charges were discussed. Ms. Littlewood's presentation is in Attachment D.

Charge Two: ***Advancing Environmental Justice and Supporting Underserved Communities***

NDWAC members discussed the working group's non-consensus recommendation, related to EPA's second charge to the Council, pertaining to whether the CCR rule should encourage water systems to include more information in their CCRs about the overall health of their water system, including financial information. Members made the following points during the discussion.

- Financial information and rate setting do not need to be in the CCR.
- Smaller water systems might find this recommendation to be too burdensome. The rule should provide flexibility for small systems that do not have the resources to include this additional information.
- CCRs should inform residents of poverty-stricken communities when water system repairs will lead to rate increases; although, they should not include water system liabilities or similar financial information.
- CCRs may be an appropriate place for financial information given that customers do not typically have time to review this information in other venues.
- Board meetings and direct communication with water system staff may be more suitable arenas for discussing this information.

NDWAC members also discussed the consensus recommendations about improving access for non-billpaying customers. Members made the following points during the discussion.

- EPA does not have authority to enforce landlords to pass on CCRs. There may be other methods for water systems to find addresses for non-billpaying customers and to communicate the role that landlords should play in disseminating information.
- Resources may be available to water systems for finding addresses for non-billpaying customers who still should see information related to CCRs.

Charge Three: ***Improving Readability, Understandability, Clarity, and Accuracy of Information and Risk Communication of CCRs***

NDWAC members discussed the working group's recommendations related to EPA's third charge to the Council.

Members made the following points during the discussion.

- The additions recommended by the working group could result in a long and complex report, specifically the addition of a summary page. Incorporating all the information recommended by the working group could result in CCRs that look like primacy agency reports and would not ultimately result in a report that is easier for consumers to understand. The additional content could also create a burden, especially for medium and small systems, and the CCR may not be the appropriate place for that information.
- Including information about treatment processes could present security concerns. This recommendation should be a suggestion, if the water system felt comfortable sharing that information, but not a requirement. EPA could review the required language in the CCR to provide guidance on what information about treatment processes could be included.

Charge One: *Addressing Accessibility Challenges, Including Translating CCRs and Meeting Americans with Disabilities Act (ADA) Requirements*

NDWAC members discussed the working group's recommendations related to EPA's first charge to the Council. Members made the following points during the discussion.

- A two-step review process (first using online tools for translation and then having a verified translator review it for accuracy) to ensure translation accuracy would be costly and burdensome for water systems.
- While it is difficult to verify language translations, the need remains to get accurate information to as many people as possible.
- The rule can suggest ways for water systems to get accurate translations if they have the means, recognizing that the translation verification process would be difficult.
- Visually impaired consumers are underrepresented in rule language. It is difficult for systems to know the number of visually impaired customers in a given service area and determine when additional support (such as providing audio versions of the CCR) is needed. EPA could provide a toolkit that shows both how to make a CCR and how to use specific tools in a way that could accommodate specific accessibility requests.

Charge Four: *CCR Delivery Manner and Methods, Including Electronic Delivery*

NDWAC members discussed the working group's non-consensus recommendation, related to EPA's fourth charge to the Council, regarding the purpose of the CCR's biannual delivery requirement. Members made the following points during the discussion.

- It would be burdensome for small systems to provide two reports per year. If CCRs must be delivered biannually, the same report should be delivered twice.
- Requiring new data sets every six months could potentially misrepresent data for some drinking water regulations that calculate annual averages or require data from a longer period of time because sampling cycles could be interrupted. Compliance with many drinking water regulations cannot be determined unless a full year of data is reviewed, so sending two reports per year with different data could confuse customers.
- Updating CCRs on a biannual basis could also lead to needlessly alarming information being provided to customers, such as when samples are higher during certain times of the year but averaged out for compliance.

NDWAC members also discussed options for providing creative ways to share the CCR through direct links or

social media. Members made the following points during the discussion.

- Some small water systems use social media platforms such as Facebook as the primary method of sharing information with their customers and this should be an option for primary means of delivery.
- Social media do not constitute direct methods of delivery, although recommendations should still encourage water systems to use social media to disseminate the CCR.
- There are alternate ways of disseminating the CCR effectively, such as through schools or childcare facilities.

Public Comment to the National Drinking Water Advisory Council

Ms. Corr noted that EPA received no requests and that the meeting would move on to Council deliberations.

Consumer Confidence Report Rule Revision Session 2: Council's Deliberations and Recommendations

Ms. Daniels explained that the NDWAC would review the recommendations for each charge, discussing the consensus recommendations first and then circling back to the non-consensus recommendations after the NDWAC had agreed on the language for each of the consensus recommendations for the charge.

After an initial review of the first non-consensus item, the NDWAC had an in-depth discussion about the process and nuances regarding non-consensus recommendations. Several NDWAC members noted confusion about the term "non-consensus recommendation." They believed that EPA could misinterpret the non-consensus items because "non-consensus recommendation" could suggest more agreement in the group than there actually was and calling these items "recommendations" may misrepresent the overall sentiment of the group. Council members also discussed whether non-consensus recommendations should be included at all for consideration if a majority of the NDWAC opposed the recommendation. The meeting adjourned for the day without resolution of these issues.

The discussion continued at the opening of the second meeting day, with Dr. McLain clarifying that EPA is looking for consensus recommendations, but that for issues that cannot gain a consensus there should be pros and cons listed for EPA's review. She affirmed that the NDWAC had final discretion on whether to adopt, modify, or reject a particular suggestion. The NDWAC considered the best way to frame the issues for EPA to understand that the Council does not recommend suggestions for which the Council did not reach consensus. After a full discussion, Jeffrey Tiberi motioned to use the term "non-consensus additional guidance" for the non-consensus items and Scott Borman seconded the motion. The NDWAC approved the motion and settled on calling all non-consensus issues "non-consensus additional guidance."

The NDWAC then went on to deliberations.[3] The Council first addressed all consensus items related to all of the charges and then addressed non-consensus additional guidance.

Deliberations on Consensus Recommendations

Deliberations on Consensus Recommendations for Charge Two: *Advancing Environmental Justice and Supporting Underserved Communities*

[3] NDWAC member Macaroy Underwood was not present on December 2 and did not participate in the deliberations. All other NDWAC members were present except where specifically noted otherwise.

Ms. Daniels motioned to approve the working group's consensus recommendations for Charge Two. All NDWAC members present agreed to adopt all three consensus recommendations in their entirety with no changes.

Deliberations on Consensus Recommendations for Charge Three: *Readability, Understandability, Clarity, and Accuracy of Information and Risk Communication of CCRs*

Ms. Daniels opened the discussion for the working group's consensus recommendations 1 through 3 for Charge Three. Mr. Tiberi motioned to approve these recommendations. The NDWAC voted on whether to adopt the working group's first three consensus recommendations in their entirety with no changes. The motion lacked consensus with Scott Boman voting against and did not pass. NDWAC members discussed the recommendations. Members raised the following points.

- The summary page in recommendation 1 may not be helpful for the reader because it would contain information that could already be found in the report. Members clarified that the summary page is intended as a way to gather important details, which could be especially useful for longer reports, and that it is a suggestion rather than a requirement.
- Under recommendation 1c, statements about where and how samples are taken should not be included in CCRs because of security concerns. Members clarified that the intent of recommendation 1c was to increase transparency about testing to help the public understand SDWA requirements for how samples get taken. In principle, the public should understand how samples are taken, but only if the water system feels that it is safe to provide that information and specific information about test locations is not included.
    - NDWAC members amended the language in recommendation 1 to include general terms that give flexibility for showing why and where samples were taken.

Ms. Daniels motioned to approve the modified recommendations. All NDWAC members present agreed to adopt the working group's consensus recommendations 1 through 3 for Charge Three in their entirety with the modifications to 1c.

Ms. Daniels opened the discussion for recommendations 4 through 6. Prior to voting on the recommendations Members raised the following points.

- Recommendation 5c should not be interpreted to mean that utilities must undertake additional testing. Members who participated on the working group explained that the intent of the recommendation was to give the public a general understanding of the testing parameters but CCRs would only include contaminants that are detected.

Ms. Daniels motioned to approve the recommendations. All NDWAC members present agreed to adopt the working group's consensus recommendations 4 through 6 for Charge Three in their entirety with no changes.

Ms. Daniels opened the discussion for the recommendations 7 through 10. There was no discussion. Ms. Daniels motioned to approve the recommendations. All NDWAC members present agreed to adopt the working group's consensus recommendations 7 through 10 for Charge Three in their entirety with no changes.

Deliberations on Consensus Recommendations for Charge One: *Addressing Accessibility Challenges, including Translating CCRs and Meeting Americans with Disabilities Act (ADA) Requirements*

Ms. Daniels opened the discussion for recommendations 1 through 3. There was no discussion. Ms. Daniels

motioned to approve recommendations. All NDWAC members present agreed to adopt the working group's consensus recommendations 1 through 3 for Charge One in their entirety with no changes.

Ms. Daniels opened the discussion for recommendations 4 through 7. Prior to voting on these recommendations, members raised the following points.

- Translation services in recommendation 4 were only being required of large systems, but many small systems also have populations of non-English speakers that may need translations.
    - The NDWAC amended the language in recommendation 4 to specify that EPA should provide guidance to small water systems regarding minimum thresholds for translations.
- Recommendation 4 should specify that EPA should develop translations of all required and example language for all systems, not just small systems.
    - The NDWAC amended the language in recommendation 4 to account for translation services being available for water systems of all sizes.
- Primacy agencies may not have the ability to verify the accuracy of translated documents beyond the water quality data. Members clarified that the aim of the recommendation is to ensure that primacy agencies could verify contaminant data, but not language translations.
- Not all water systems have access to the same resources. If a water system cannot afford high-quality translation services, it should have access to alternatives. EPA could solve this issue by providing extra guidance for small systems to assist them in finding translation services.
- Translation tools from EPA could help the translation process for water systems and improve the quality of those translations.

Ms. Daniels motioned to approve the recommendations. All NDWAC members present agreed to adopt the working group's consensus recommendations 4 through 7 for Charge One with the modifications to recommendation 4.

Deliberations on Consensus Recommendations for Charge Four: *CCR Delivery Manner and Methods, Including Electronic Delivery*

Ms. Daniels opened the discussion for the working group's consensus recommendations 1 through 3 for Charge Four. There was no discussion. Ms. Daniels motioned to approve these recommendations. All NDWAC members present[4] agreed to adopt the recommendations in their entirety with no changes.

Ms. Daniels opened the discussion for recommendations 4 through 6. Prior to voting on these recommendations, members raised the following points:

- Text message may not be a reliable mode of communication since phone numbers change.
- Facebook is widely used among small systems as a form of communication with their consumers, particularly rural water systems serving Native Americans.
- While the use of social media could be encouraged, it is difficult for water systems to measure whether people have received the CCR through social media. Currently, EPA does not recognize social media as a

[4] In addition to Macaroy Underwood, NDWAC members Yolanda Barney and Ann Marie Chischilly were not present for this vote.

valid form of delivery. If EPA retains this position, the best that the NDWAC can do is encourage EPA to recognize social media as a potentially viable channel to reach out to customers and evaluate how social media can be used to disseminate valuable information.

- The NDWAC altered language in recommendation 4 to include a suggestion that EPA examine the possible use of social media or other applications to help the agency develop guidance on what qualifies as "direct delivery" of a CCR. They also highlighted that the rule should clarify that advertising the availability of CCRs through social media should be encouraged and potentially considered a form of "direct delivery."

Ms. Daniels motioned to approve the recommendations. All NDWAC members present agreed to adopt the working group's consensus recommendations 4 through 6 for Charge Four in their entirety with the modifications to recommendation 4.

Ms. Daniels opened the discussion for recommendations 7 through 9. Prior to voting on the recommendations, members raised the following points.

- In recommendation 7, EPA should encourage landlords to provide CCRs to tenants. NDWAC members acknowledged that there is no legal authority for EPA to monitor or regulate landlords' dissemination of information.
    - The NDWAC amended the language of recommendation 7 to say that EPA should gather best practices from states that have successfully encouraged landlords to communicate the availability of CCRs to tenants and summarize those best practices in official guidance documents.

Ms. Daniels motioned to approve the recommendations. All NDWAC members present agreed to adopt the working group's consensus recommendations 7 through 9 for Charge Four in their entirety with the modifications to recommendation 7.

Deliberations on Non-Consensus Additional Guidance

After the discussion and confirmation of the Council's consensus recommendations for all four charges, the NDWAC moved on to consideration of the non-consensus additional guidance.

Deliberations on Non-Consensus Additional Guidance for Charge Two*: Advancing Environmental Justice and Supporting Underserved Communities*

The NDWAC voted on whether to adopt the non-consensus additional guidance relating to the inclusion of information about a system's overall health, including financial health, in the CCR. The motion lacked unanimity and did not pass. One member abstained hoping that the issue would become a consensus item. Others felt that the CCR should be focused on water quality and not include other information about the water system. Other members of the NDWAC discussed dropping the item entirely. Saeid Kasraei motioned to eliminate the non-consensus additional guidance from the recommendations, and Mr. Tiberi seconded the motion. The motion lacked unanimity and did not pass.

NDWAC members discussed the non-consensus additional guidance. Members raised the following points.

- The term "overall health" is a vague descriptor.
    - Language was added to the list of arguments against the guidance that financial information be

included in the CCR to reflect this point.

- Primacy agencies would have a difficult time confirming that financial information in a CCR is accurate. Primacy agencies should not be required to certify information other than water quality data.
    - Language was added to the list of arguments against the guidance that financial information be included in the CCR to reflect this point.
- Information proposed in the recommendation is not currently a legal requirement and primacy agencies are not required to certify financial information.
    - Language was added to the list of arguments against the guidance that financial information be included in the CCR to reflect this point.
- Additional information about the overall health of a water system should be included in the CCR, especially in terms of financial information, which is critical information for providing safe drinking water. Water systems should provide financial information in CCRs because this information is not easily accessible and including this information will increase transparency.
    - Language was added to the list of arguments in favor of the guidance that financial information be included in the CCR to reflect this point.

Members of the NDWAC who were against the non-consensus additional guidance stated that they approved of the newly added language. Ms. Daniels motioned to vote and all NDWAC members present voted to include the non-consensus additional guidance with the added language in the deliverable for EPA.

Deliberations on Non-Consensus Additional Guidance for Charge Three: *Readability, Understandability, Clarity, and Accuracy of Information and Risk Communication of CCRs*

Prior to voting on the non-consensus additional guidance, members made the following points about removing the requirement to convert data into CCR units.

- Units reported in the CCR should be consistent with primacy agency reports to avoid confusion among readers.
    - Language was added to the list of arguments in favor of removing the requirement to convert data into CCR units to reflect this point.
- The purpose of the CCR is not to be consistent, but to find better ways to communicate what the units mean to the public. The audience for the CCR is the general public rather than the primacy agency, and the CCR units that are currently required are most appropriate for that audience.
    - Language was added to the list of arguments against removing the requirement to convert data into CCR units to reflect this point.

Members made the following points about clarifying Maximum Contaminant Levels (MCLs).

- The CCR would contain too much information if it includes information about MCL rulemaking. CCRs should instead contain a link to EPA's rulemaking process.
- Including information about how MCLs are developed would build public trust by providing consumers with details of how authorities set drinking water standards.
    - This issue remained non-consensus, but the NDWAC agreed that the information should be available

for EPA to consider. The NDWAC added language against the guidance to say that water systems could include a link in their CCRs to either EPA or primacy agency websites that describe the standards-setting process in detail, rather than including those details in the CCR.

- MCLs should not be framed as a "compromise" between acceptable health risk and what is financially feasible as that would indicate that the MCL rulemaking process accepts a potentially less-than-satisfactory health risk protection depending on the financial capacity of the water provider.
    - The NDWAC altered language in the non-consensus additional guidance to frame MCLs as a "balance" between acceptable health risk and what is financially and technically feasible.

Ms. Daniels motioned to vote for including this non-consensus additional guidance, as modified, in the deliverable for EPA. All NDWAC members present[5] voted to approve including the non-consensus additional guidance in the deliverable.

Deliberations on Non-Consensus Additional Guidance for Charge Four: *CCR Delivery Manner and Methods, Including Electronic Delivery*

Prior to voting on the non-consensus additional guidance, members made the following points during the discussion:

- Updated contaminant information can be available upon request but would be too burdensome for small systems to provide every six months to consumers.
    - The NDWAC added language, in favor of guidance related to both CCRs for a given year containing identical information, to state that CCRs can include a statement that consumers can request, at any time, the most current testing results from their water system.
- A biannual CCR with new data would reflect data from the past year and deadlines would change to a six-month period. Because agencies require time to process this data, CCRs would operate on a one-period lag. Six-month data sets would potentially distort sampling data or compliance data within CCR reporting.
    - The NDWAC added language, against guidance that CCRs should be issued once every six months and should reflect the most current data, to state that the approach of adding new data every six months may allow for more recent monitoring data to be included in the CCR, but it would likely not include a compliance determination or identification of a violation.
    - The NDWAC also added language against this guidance to convey that providing new data every six months may contribute to affordability problems.

Ms. Daniels motioned to vote for including this non-consensus additional guidance, with the modifications, in the deliverable for EPA. All NDWAC members present[6] voted to approve including the non-consensus additional guidance as modified in the deliverable.

Council's Final Recommendations to the Administrator

Ms. Daniels introduced the topic of the NDWAC's letter to the EPA Administrator. She explained that the NDWAC would use past letters as templates and would decide how the non-consensus additional guidance

[5] In addition to Macaroy Underwood, NDWAC member Saeid Kasraei was not present for this vote.
[6] In addition to Macaroy Underwood, NDWAC member Saeid Kasraei was not present for this vote.

would be presented to EPA. Options were presented as: Include the non-consensus additional guidance in the letter with the consensus recommendations; include the non-consensus guidance in an attachment to the letter; or have two attachments, one with the full working group report and another with the non-consensus additional guidance. Ms. Littlewood motioned to send the letter with the recommendations to EPA, with the non-consensus additional guidance in an attachment. All NDWAC members present[7] approved the motion.

Closing Remarks

Ms. Corr thanked the NDWAC members and provided information about the process for submitting the recommendations to EPA. Ms. Daniels and Ms. Littlewood added concluding thoughts, and Dr. McLain made closing remarks, thanking everyone for their hard work. Ms. Corr gave instructions for next steps in the process of developing the letter to EPA and adjourned the meeting.

[7]In addition to Macaroy Underwood, NDWAC member Saeid Kasraei was not present for this vote.

ATTACHMENT A

National Drinking Water Advisory Council

Members, National Drinking Water Advisory Council
Lisa D. Daniels, NDWAC Chair: Director, Bureau of Safe Drinking Water, Pennsylvania Department of Environmental Protection
Yolanda Barney: Environmental Program Manager, Navajo Public Water System Supervision Program, Navajo Nation Environmental Protection Agency
D. Scott Borman: General Manager, Benton/Washington Regional Public Water Authority
John L. Brady: Deputy Director, Operations and Engineering, Central Coast Water Authority
Alexandra Campbell-Ferrari: Co-Founder and Executive Director, The Center for Water Security and Cooperation
Shellie R. Chard: Director, Water Quality Division, Oklahoma Department of Environmental Quality
Ann Marie Chischilly: Executive Director, Institute for Tribal Environmental Professionals, Northern Arizona University
Saeid Kasraei: Administrator, Maryland Water Supply Program, Maryland Department of the Environment
Jana Littlewood: Board of Directors, Alaska Representative, National Rural Water Association
Jennifer L. Peters: National Water Programs Director, Clean Water Action/Clean Water Fund
James M. Proctor, II: Senior Vice President and General Counsel, McWane, Inc.
Nancy A. Quirk: General Manager, Green Bay Water Utility
Jeffrey W. Szabo: Chief Executive Officer, Suffolk County Water Authority
Jeffrey D. Tiberi: Montana Association of Conservation Districts Member
Macaroy Underwood: Principal Consultant, Raftelis Financial Consultants, Inc.
Liaisons, Centers for Disease Control and Prevention
Arthur S. Chang, PhD: Chief Medical Officer, Division of Environmental Health Science and Practice, National Center for Environmental Health, Centers for Disease Control and Prevention
Vincent Hill, PhD: Chief, Waterborne Disease Prevention Branch, Division of Foodborne, Waterborne and Environmental Diseases, National Center for Emerging and Zoonotic Infectious Diseases, Centers for Disease Control and Prevention

ATTACHMENT B

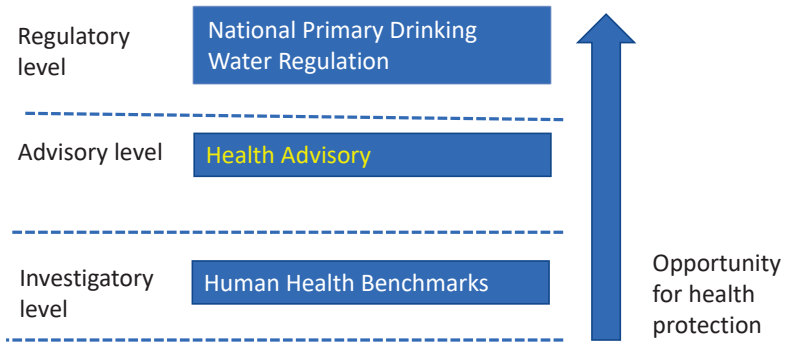
PRESENTATION

New and Updated Drinking Water Health Advisories

Briefing Overview

- Overview of HAs
- Describe two recent PFAS actions released by EPA related to HAs
- Address NDWAC recommendations

EPA's Health-Based Drinking Water Levels

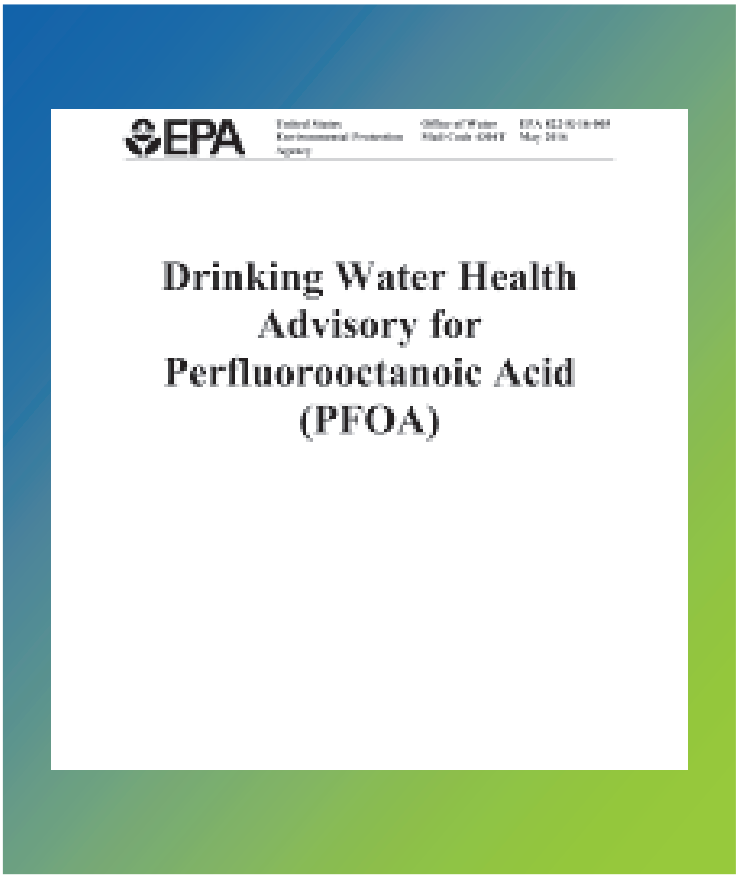


What is a Health Advisory?

A drinking water concentration that:

- offers a margin of protection for all Americans
- defines a level at, or below which, exposure is not anticipated to lead to adverse health effects
- Considers effects over specific durations of exposure (*e.g.* 1-day and lifetime)

- Health Advisories for over 200 contaminants have been published.
- The HA Table was last updated in 2018.



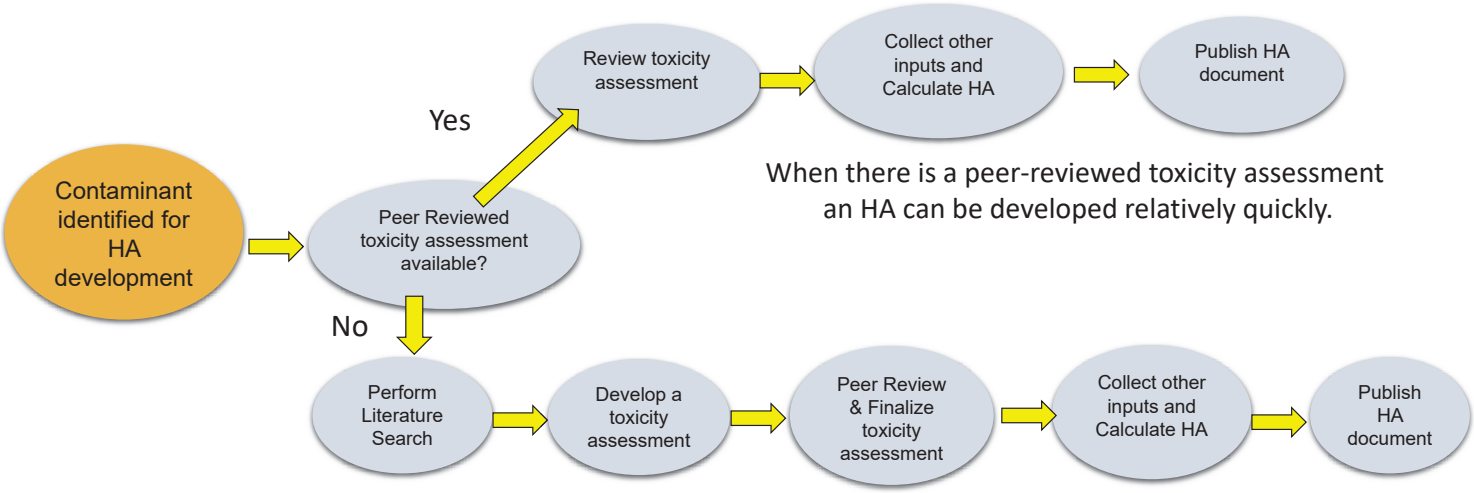
What is in a Health Advisory document?

1. Background on the contaminant
2. Summary of a toxicity assessment and critical effect
3. Calculation of HA using toxicity values, exposure factors, and a Relative Source Contribution (RSC)
4. Analytical methods to detect for the contaminant in drinking water
5. Treatment technologies to remove the contaminant from drinking water

What is a Toxicity Assessment?

- Summary of the potential health effects associated with exposure to a particular chemical
- Identifies the dose levels at which the health effects may occur in order to calculate **toxicity values**
- Toxicity values for oral exposure to a chemical are called **reference doses (RfDs)**
  - An estimate of a daily exposure to the human population, including sensitive subpopulations, that is likely to be without an appreciable risk of adverse effects during a lifetime
  - Uncertainty in the data is taken into account by including uncertainty factors in the RfD to protect public health
  - An RfD is a key input needed to develop a HA and is the most time-consuming step.

Health Advisory Development Process



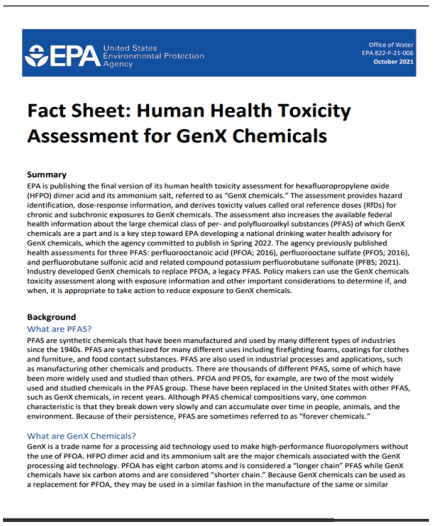
When there is a peer-reviewed toxicity assessment an HA can be developed relatively quickly.

OW can develop a toxicity assessment for pollutants that do not have one.

Recent announcements about new HAs.

Driver: Availability of EPA toxicity assessments for different PFAS.

EPA released final Human Health Toxicity Assessments for "GenX Chemicals" (10/25/21) and PFBS (4/8/21)



EPA United States Environmental Protection Agency

Office of Water
EPA 822-F-21-006
October 2021

Fact Sheet: Human Health Toxicity Assessment for GenX Chemicals

Summary

EPA is publishing the final version of its human health toxicity assessment for hexafluoropropylene oxide (HFPO) dimer acid and its ammonium salt, referred to as "GenX chemicals." The assessment provides hazard identification, dose-response information, and derives toxicity values called oral reference doses (RfDs) for chronic and subchronic exposures to GenX chemicals. The assessment also increases the available federal health information about the large chemical class of per- and polyfluoroalkyl substances (PFAS) of which GenX chemicals are a part and is a key step toward EPA developing a national drinking water health advisory for GenX chemicals, which the agency committed to publish in Spring 2022. The agency previously published health assessments for three PFAS: perfluorooctanoic acid (PFOA; 2016), perfluorooctane sulfate (PFOS; 2016), and perfluorobutane sulfonic acid and related compound potassium perfluorobutane sulfonate (PFBS; 2021). Industry developed GenX chemicals to replace PFOA, a legacy PFAS. Policy makers can use the GenX chemicals toxicity assessment along with exposure information and other important considerations to determine if, and when, it is appropriate to take action to reduce exposure to GenX chemicals.

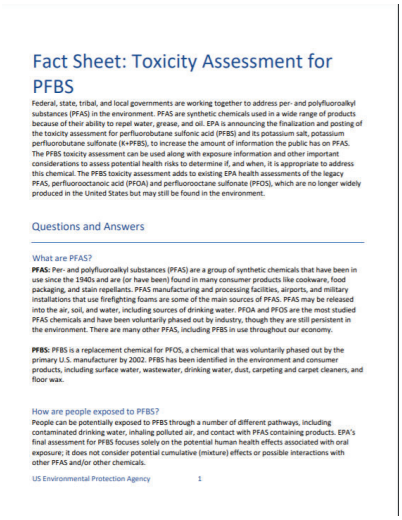
Background

What are PFAS?

PFAS are synthetic chemicals that have been manufactured and used by many different types of industries since the 1940s. PFAS are synthesized for many different uses including firefighting foams, coatings for clothes and furniture, and food contact substances. PFAS are also used in industrial processes and applications, such as manufacturing other chemicals and products. There are thousands of different PFAS, some of which have been more widely used and studied than others. PFOA and PFOS, for example, are two of the most widely used and studied chemicals in the PFAS group. These have been replaced in the United States with other PFAS, such as GenX chemicals, in recent years. Although PFAS chemical compositions vary, one common characteristic is that they break down very slowly and can accumulate over time in people, animals, and the environment. Because of their persistence, PFAS are sometimes referred to as "forever chemicals."

What are GenX Chemicals?

GenX is a trade name for a processing aid technology used to make high-performance fluoropolymers without the use of PFOA. HFPO dimer acid and its ammonium salt are the major chemicals associated with the GenX processing aid technology. PFOA has eight carbon atoms and is considered a "longer chain" PFAS while GenX chemicals have six carbon atoms and are considered "shorter chain." Because GenX chemicals can be used as a replacement for PFOA, they may be used in a similar fashion in the manufacture of the same or similar



Fact Sheet: Toxicity Assessment for PFBS

Federal, state, tribal, and local governments are working together to address per- and polyfluoroalkyl substances (PFAS) in the environment. PFAS are synthetic chemicals used in a wide range of products because of their ability to repel water, grease, and oil. EPA is announcing the finalization and posting of the toxicity assessment for perfluorobutane sulfonic acid (PFBS) and its potassium salt, potassium perfluorobutane sulfonate (K+PFBS), to increase the amount of information the public has on PFAS. The PFBS toxicity assessment can be used along with exposure information and other important considerations to assess potential health risks to determine if, and when, it is appropriate to address this chemical. The PFBS toxicity assessment adds to existing EPA health assessments of the legacy PFAS, perfluorooctanoic acid (PFOA) and perfluorooctane sulfonate (PFOS), which are no longer widely produced in the United States but may still be found in the environment.

Questions and Answers

What are PFAS?

PFAS: Per- and polyfluoroalkyl substances (PFAS) are a group of synthetic chemicals that have been in use since the 1940s and are (or have been) found in many consumer products like cookware, food packaging, and stain repellants. PFAS manufacturing and processing facilities, airports, and military installations that use firefighting foams are some of the main sources of PFAS. PFAS may be released into the air, soil, and water, including sources of drinking water. PFOA and PFOS are the most studied PFAS chemicals and have been voluntarily phased out by industry, though they are still persistent in the environment. There are many other PFAS, including PFBS in use throughout our economy.

PFBS: PFBS is a replacement chemical for PFOS, a chemical that was voluntarily phased out by the primary U.S. manufacturer by 2002. PFBS has been identified in the environment and consumer products, including surface water, wastewater, drinking water, dust, carpeting and carpet cleaners, and floor wax.

How are people exposed to PFBS?

People can be potentially exposed to PFBS through a number of different pathways, including contaminated drinking water, inhaling polluted air, and contact with PFAS containing products. EPA's final assessment for PFBS focuses solely on the potential human health effects associated with oral exposure; it does not consider potential cumulative (mixture) effects or possible interactions with other PFAS and/or other chemicals.

US Environmental Protection Agency 1

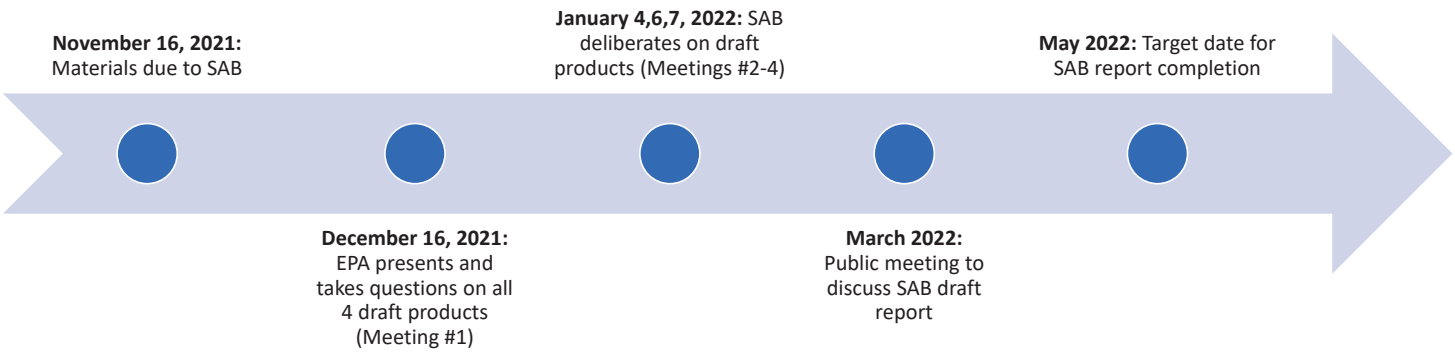
Development of new HAs for PFAS

- PFAS Strategic Roadmap (October 18, 2021)
  - Publish Health Advisories for Perfluorobutane sulfonic acid (PFBS) and GenX chemicals (HPFO) **(estimated for Spring FY22)**
    - Based on final EPA toxicity assessments.
    - The Agency will develop accompanying fact sheets in different languages.
  - EPA will develop health advisories as the Agency completes toxicity assessments for additional PFAS.

Development of new HAs for PFAS

- Updated HAs for PFOA and PFOS
  - EPA released draft documents for peer review by the Science Advisory Board in December 2021 and January 2022
  - These documents include updated toxicity assessments for PFOA and PFOS
  - The draft toxicity values are significantly lower than those published by EPA in 2016, based on new data and tools.
  - EPA will move as quickly as possible to issue updated health advisories for PFOA and PFOS that reflect this new science taking into consideration input from the SAB.

Timing of SAB PFAS Peer Panel Public Meetings



NDWAC input on new PFAS HAs.

Driver: Availability of EPA toxicity assessment for different PFAS.

National Drinking Water Advisory Council (NDWAC) Recommendations on Health Advisories

In 2018 EPA received input from NDWAC on the HA program

- A Key NDWAC recommendation was "EPA should consider the meaningful input of stakeholders and be more public when developing HAs . . . EPA should keep stakeholders apprised of which HAs they are working on and why, and regularly communicate their status in the development process"
  - Outreach to Stakeholders pre-release of toxicity assessments for GenX chemicals and PFOA/S:
    - OW reached out to states who had developed or were in the process of developing guidance for GenX chemicals to provide a summary overview.
    - OW reached out to stakeholders prior to the release of documents on PFOA and PFOS for SAB review.
    - OW provided communications materials in advance of the release of the GenX toxicity assessment to help consumers understand what a toxicity assessment is and to help states respond to anticipated stakeholder questions.

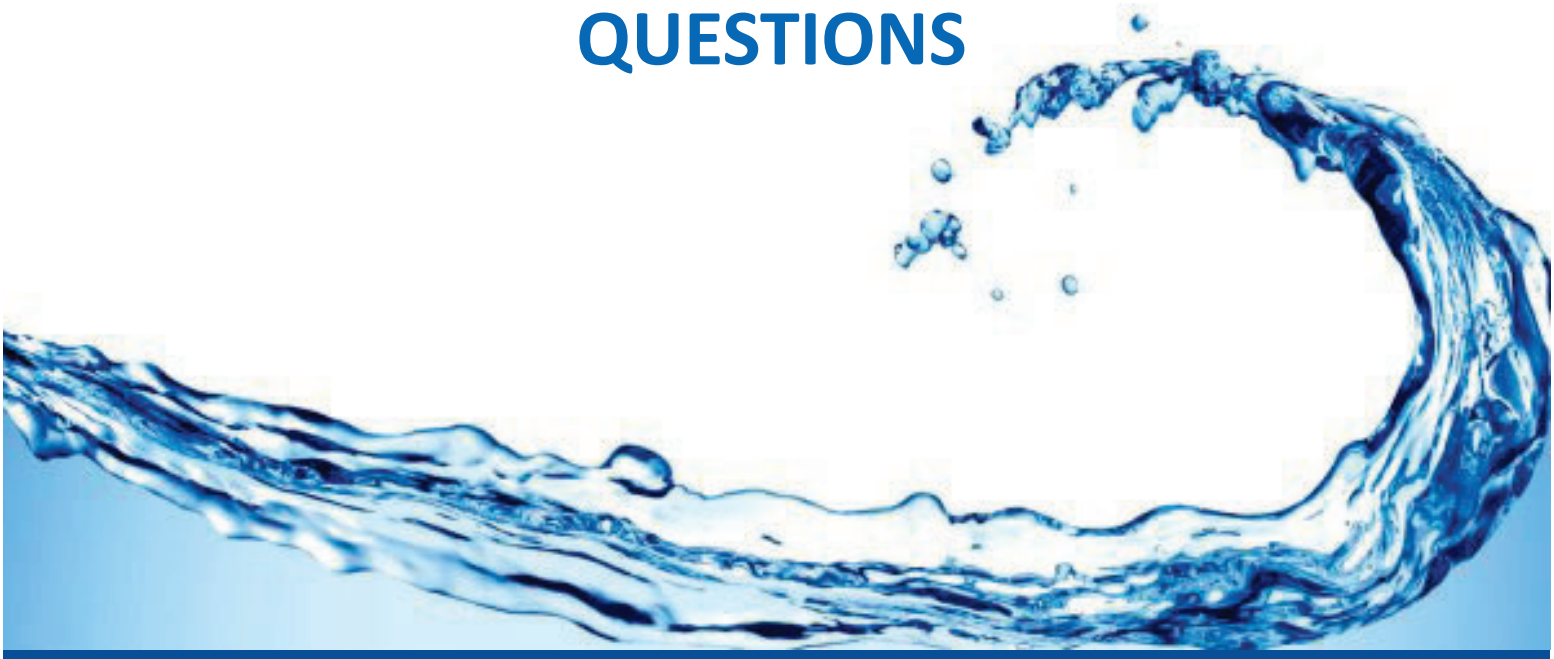
National Drinking Water Advisory Council (NDWAC) Recommendations on Health Advisories

- Another key recommendation was that "[EPA's HA prioritization process] *could be improved with meaningful input from stakeholders" and "there should be regular opportunity for input from stakeholders when EPA is considering developing an HA. An annual invitation for input from stakeholders was suggested"*
  - EPA is developing four HAs in FY22 (two new and two updated) and will develop HAs for other PFAS as toxicity assessments are finalized by EPA. This is a significant resource commitment.
  - EPA will update the HA website to indicate new HAs we are working on in FY22.
  - We will solicit input on new HA development we can consider for future years at the Spring NDWAC meeting.

Regarding revision of HAs, NDWAC recommended "*a review when new information becomes available and a periodic review, perhaps every 5-7 years of all HAs to see if revision is warranted"*

  - We are planning to update the HA table and will talk to you about that effort at the Spring NDWAC meeting.

QUESTIONS



ATTACHMENT C

PRESENTATION:

Consideration of Potential MDBP Rule Revisions: Request for Working Group Formation to Inform NDWAC Advice and Recommendations

Consideration of Potential MDBP Rule Revisions

Request for Working Group Formation to Inform NDWAC Advice and Recommendations

Office of Ground Water and Drinking Water
December 1, 2021

EPA
OFFICE OF GROUND WATER AND DRINKING WATER

Presentation Overview

EPA
OFFICE OF GROUND WATER AND DRINKING WATER

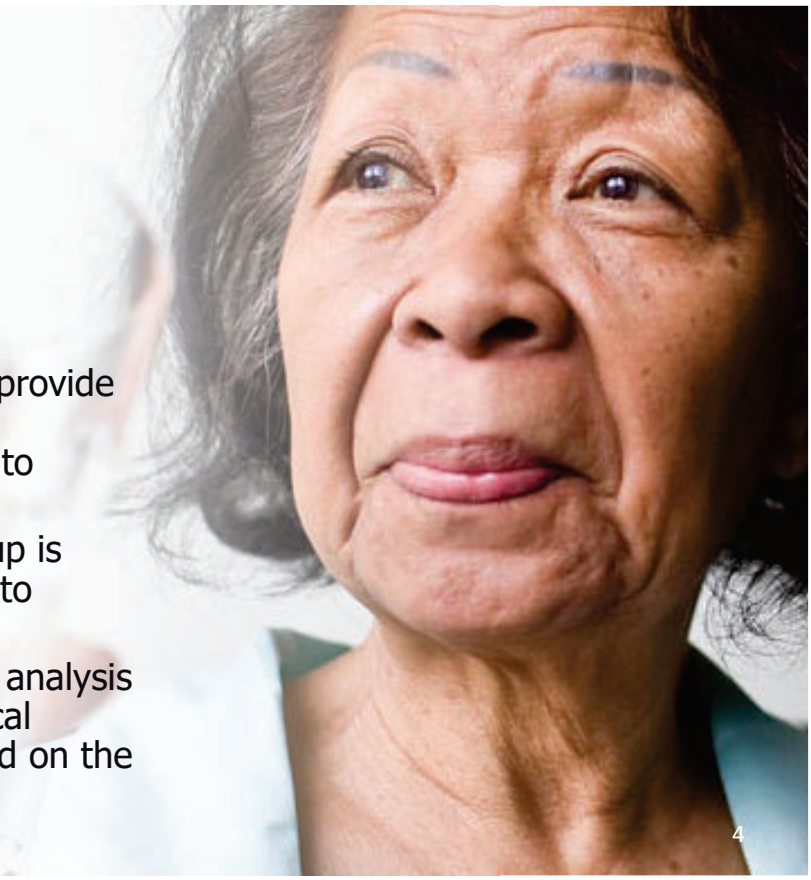
- Purpose
- Charge to NDWAC
- Process for working group formation
- Anticipated working group schedule
- Background
- Topics under consideration
- Public engagements and input
- Timeline and next steps

Purpose

- EPA is seeking consensus recommendations from the NDWAC that would improve public health protection provided by the regulations, better assure the regulations equitably protect consumers' health, particularly disadvantaged communities, and be implementable.
- To support the work of the NDWAC, EPA is asking the council to form a working group (the Microbial and Disinfection Byproducts [MDBP] Rule Revisions Working Group).

National Drinking Water Advisory Council Charge

- EPA is providing a new charge to the NDWAC requesting that the council provide the agency with consensus advice and recommendations on key issues related to potential revisions to MDBP rules.
- The MDBP Rule Revisions Working Group is charged with considering issues related to potential rule revisions.
- EPA plans to provide targeted technical analysis support to help ensure equitable technical expertise for all perspectives represented on the working group.



Process for Working Group Formation

- EPA seeks perspectives from state officials and tribal officials, drinking water system operators from systems of all sizes, and environmental and public interest representatives
  - May include NDWAC and non-NDWAC members
- Request membership nominations from the NDWAC
  - No more than seven NDWAC members on Working Group
- Federal Register Notice (FRN) published on November 12, 2021, to solicit nominations of other qualified individuals
  - Nominations should be submitted no later than December 13, 2021

Process for Working Group Formation (cont.)

- Criteria to be used in evaluating nominees includes:
  - Demonstrated experience with drinking water issues at the national, state, or local levels, particularly with knowledge of the MDBP rules;
  - Excellent interpersonal, oral, and written communication and consensus building skills;
  - Willingness to commit time to the working group and demonstrated ability to work constructively on committees; and
  - Background that would help members contribute to the diversity of expertise, experience, and perspectives on the working group, e.g., geographic, economic, social, cultural, educational backgrounds, professional affiliations, and other considerations.

Anticipated Working Group Schedule

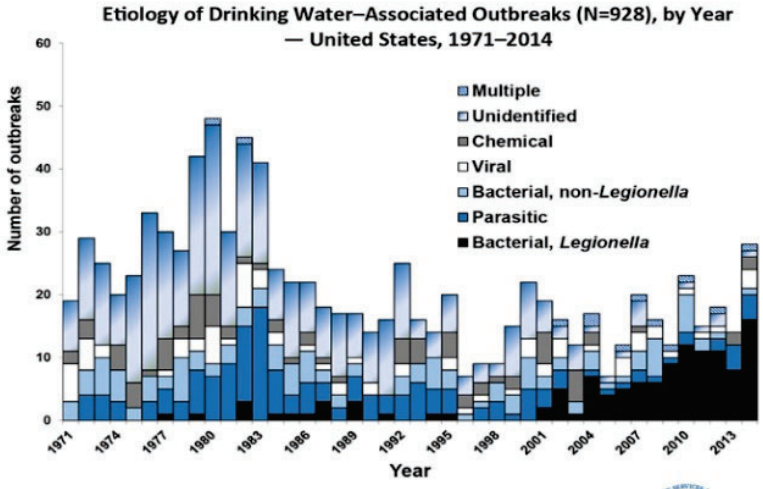
- MDBP Rule Revisions Working Group meetings are anticipated to be held from Spring 2022 through Summer 2023.
- All meetings will be open to the public to observe and there will be opportunity to provide comments.
- Meetings will be held on a monthly/bimonthly basis and focus on specific MDBP topic areas.
- A total of 8-15 meetings are expected to be held.

Background: Six-Year Review 3

- In January 2017, EPA announced the review results for the Agency's third Six-Year Review (Six-Year Review 3) of NDPWRs.
- Based on the Agency's review of newly available data, information, and technologies, EPA identified the following eight NPDWRs as candidates for revision.
- Chlorite, *Cryptosporidium*, Haloacetic acids, heterotrophic bacteria, *Giardia lamblia*, *Legionella*, Total Trihalomethanes, and viruses.
- These eight NPDWRs are included in the following MDBP rules:
  - Stage 1 and Stage 2 Disinfectants and Disinfection Byproduct Rules (DBPRs)
  - Surface Water Treatment Rule (SWTR)
  - Interim Enhanced Surface Water Treatment Rule (IESWTR)
  - Long-Term 1 Enhanced Surface Water Treatment Rule (LT1)

Background: Microbial Contaminants

- Purpose of SWTRs: Reduce disease incidence associated with viruses and pathogens, particularly *Cryptosporidium* and *Giardia*, in drinking water.
- There has been a decrease in waterborne gastrointestinal illness in the U.S., but diseases related to opportunistic pathogens that may reside in biofilms (including *Legionella*) have increased.
- *Legionella* is the most common cause of reported drinking water-associated outbreaks in the U.S.



Background: Microbial Contaminants (cont.)

- While most documented cases of Legionnaires Disease are related to growth within building water systems, the water quality entering buildings can impact opportunistic pathogen growth within buildings.
  - Contributing factors from municipal supplies can include inadequate residuals, nutrient availability, high water age, infrastructure condition, and sediment accumulation.
- Opportunistic pathogens may enter the distribution system and later grow in low flow areas of the distribution system and building water systems.
- Disinfection can address some of these microbial risks but may increase risks from disinfection byproducts (DBPs).
- Some risks remain related to fecal pathogens which may warrant additional attention.

Background: DBPs

- Purpose of DBPRs: Reduce drinking water exposure to DBPs which can form in water when disinfectants used to control microbial pathogens react with natural organic matter found in source water. If consumed in excess of EPA's standard over many years, DBPs may increase health risks.
- Different DBPs in treated water may potentially pose different health risks (including cancer, developmental, etc.).
- Reducing a group of DBPs by changing disinfectant types can lead to an increase in the formation of other DBPs.
- Considerations for minimizing the overall MDBP risks in treated water should include:
  - Balancing risks:
    - Microbial contaminant vs. DBP risks
    - Regulated DBPs vs. unregulated DBPs
  - Maximizing reduction of formation potential of DBP mixtures

Background: DBPs (cont.)

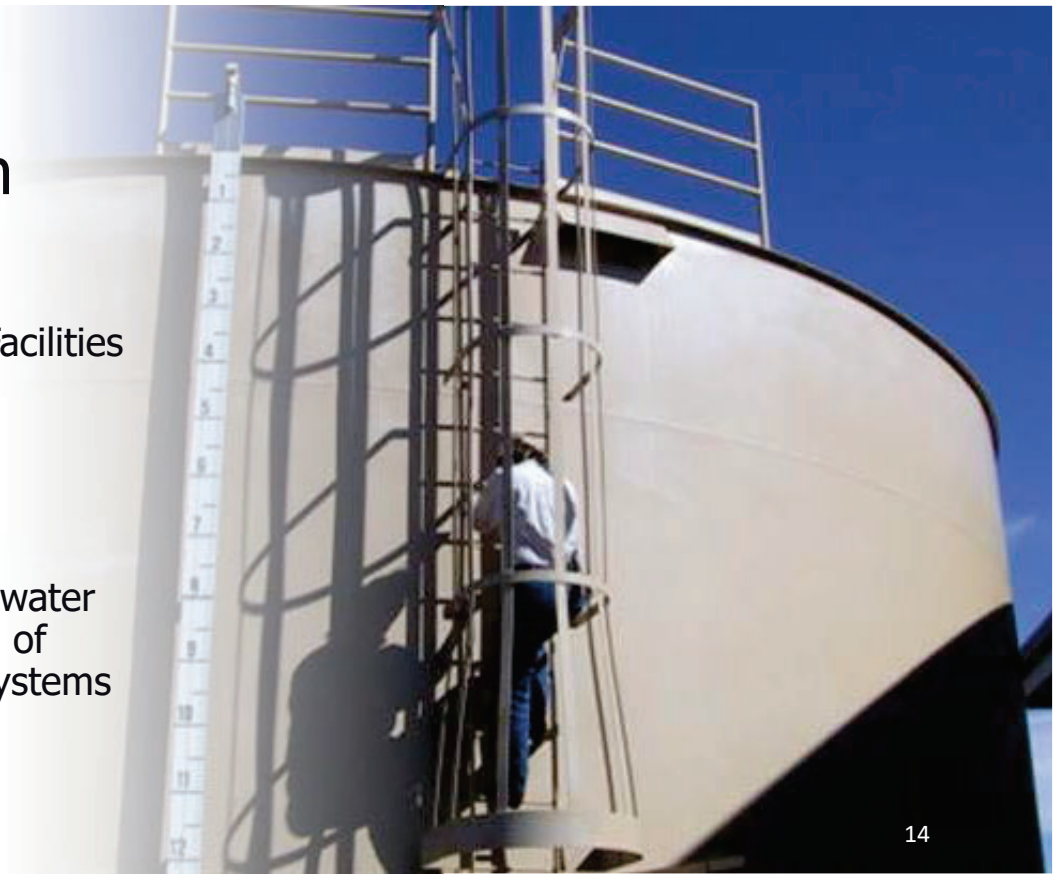
- Factors relevant to potential revisions of DBP rules:
  - Despite significant reductions in exposure over the past several decades, a substantial portion of bladder cancer cases in the U.S. may still be attributed to exposure to DBPs found in PWSs.
  - Changes in DBP precursor types and levels (e.g., organic matter, bromide) may be contributing to increased risks from DBPs.
  - The occurrence of brominated haloacetic acids may be leading to increased risks from DBPs.
  - Consecutive systems have a continuing challenge with meeting DBPR maximum contaminant level requirements.
- Controlling overall DBP formation while providing adequate protection from pathogens is a complex task.

Topics Under Consideration

- Opportunistic Pathogens
- Disinfectant Residuals
- Regulated and Unregulated DBPs
- Consecutive and Small Systems
- Distribution System Water Quality Management

Topics Under Consideration (cont.)

- Finished Water Storage Facilities
- Source Water Approach
- DBP Precursor Removal
- Sanitary Surveys
- Water Safety Plans
- Mischaracterized ground water under the direct influence of surface water (GWUDI) systems



Public Engagements and Input

- EPA held an initial virtual public meeting in October 2020, followed by six virtual meetings from May to November 2021 to solicit broad input and information on MDBPs in drinking water.
- Each meeting in 2021 focused on specific topics identified through current public feedback and new information.
- EPA is considering the information discussed at all public meetings, NDWAC consultation, and other stakeholder engagements, along with any public comments, in its determination on how to proceed with any rule revisions.
- Public can continue to provide written input via public docket.
  - Docket ID Number: EPA-HQ-OW-2020-0486 at www.regulations.gov
- EPA will provide the NDWAC and working group with the information gathered through the public docket, recent virtual public meetings, and results of analyses conducted to inform deliberations.

Timeline and Next Steps

- EPA has agreed to the following deadlines:
  - Rule proposal or a formal decision not to propose amended rules: by July 31, 2024*. EPA may delay proposal until July 31, 2025, as needed.
  - Final Agency Action: Final rule or withdraw proposal by September 30, 2027*. EPA may delay proposal until September 30, 2028, as needed.

* Source: Waterkeepers Alliance, Inc. et al v. U.S. et al, EPA Settlement Agreement, filed June 1, 2020 (19 Civ. 899 (LJL)).

ATTACHMENT D

PRESENTATION

NDWAC CCR3 Working Group
Recommendations to the NDWAC

NDWAC CCR^3 Working Group Recommendations to the NDWAC

December 1, 2021

Jana Littlewood, Working Group Chair

Session 1.1

EJ and Supporting Underserved Communities (Charge 2)

Charge 2

- EPA seeks advice and recommendations on advancing environmental justice and supporting underserved communities

The Working Group reached consensus on the following recommendations

Charge 2: Recommendation 1

1. The CCR³ WG recommends that the rule recognize the important role of the Primacy Agency in assisting underserved communities. The rule should encourage Primacy Agencies to be engaged in the CCR process for systems serving underserved communities (e.g., systems that are geographically isolated, have economic hardships, or have a lack of access to safe water supply). Examples of ways Primacy Agencies can engage with underserved communities include:
   A. Help ensure accuracy and completeness of compliance information reported in the CCR.
   B. Provide technical assistance to systems in developing their CCRs and understanding the concepts and information in the CCRs.

Continued on next slide

Consensus Recommendation

Charge 2: Recommendation 1 *Cont'd*

C. Serve as an alternative resource to water systems and be available to answer questions from customers, including providing informational resources that help customers to read their CCR.
D. Develop guidance documents, support materials, or workshops.
E. Ensure that underserved communities know who their decision-makers are and have contact information for those decision-makers.

Changes to the CCR Rule to address these concerns should:

A. Be flexible.
B. Recommend that Primacy Agencies coordinate responses to the public with the water system.
C. Be accompanied by funding if EPA imposes specific mandates on Primacy Agencies.

Consensus Recommendation

Charge 2: Recommendation 2

2. The rule should improve access to CCRs by renters and non-bill-paying customers. For example, water systems can deliver postcards to every household within that water system (e.g., service addresses and billing addresses) alerting them to the fact that the CCR is available. Postcards should provide easy access to the full report such as by providing a link or QR code that would take customers directly to an online version of the CCR. This could be especially important for low-income customers who do not receive water bills and communications the water system provides through bills.

Consensus Recommendation

Charge 2: Recommendation 3

3. Many underserved communities with limited staffing and financial resources use the CCR iWriter or other templates to generate their CCRs. The rule should encourage Primacy Agencies to make templates available to water systems that would like to use a template. This will reduce the burden of CCR development on water systems that have limited resources.
   A. Templates, including the CCR iWriter, could be improved by providing suggested content if a water system meets certain conditions (e.g., geographically isolated, experiencing drought, experiencing source water problems, etc.).
   B. To supplement templates, EPA should create a guide or toolkit with questions and topics/themes for water systems to consider in developing the CCR. This guide would help water systems think through what and how information should be included. In addition, the guide or toolkit can help water systems assess whether their CCR has been effective at relaying information to their underserved communities.

Consensus Recommendation

The Working Group did not reach consensus on the following recommendations

Charge 2: Non-Consensus Recommendation 1

1. The CCR Rule should encourage water systems to include more information about the overall health of their water system in their CCRs. For example, describing upcoming projects, explaining rate changes, and factors driving the system's financial health.
   A. Arguments in favor of the recommendation:
      i. Gives context to customers for why particular decisions are made.
      ii. Informs customers about their system's water quality challenges and what they can do at the household level.
      iii. Helps customers advocate for themselves.

Continued on next slide

Charge 2: Non-Consensus Recommendation 1 *Cont'd*

B. Arguments against the recommendation:

   i. Information unrelated to water quality (primarily financial health) does not belong in CCRs.

   ii. The additional information may not speak to the water system's compliance status or targeted compliance levels.

   iii. Funding and financial health differ between public and private systems – private water systems may not want their system's finances in their CCRs.

Did Not Reach Consensus

Council Questions and Comments on Charge 2

Please use the raise hand feature (click the "face/hand" icon, then click the "hand" icon, or Alt+Y) and wait for the facilitator to call on you. If joining by phone, raise your hand by dialing *5.

Session 1.2

CCR Understandability (Charge 3)

Charge 3

- EPA seeks advice and recommendations on improving readability, understandability, clarity, and accuracy of information and risk communication of CCRs

The Working Group reached consensus on the following recommendations

Charge 3: Recommendation 1

1. CCRs could include a summary page to convey important information and key messages upfront in the document in a simple, clear, and concise manner. The summary should use plain language and simple statements. The remaining CCR would walk through the necessary detailed scientific information to elaborate on the high-level messages in the summary. The summary could include information such as:
   A. A value statement that explains why the water system is sending the CCR.
   B. A general description of quality of water and whether the water system is meeting Safe Drinking Water Act Standards.

Continued on next slide

Consensus Recommendation

Charge 3: Recommendation 1 *Cont'd*

C. A statement that clarifies where samples were taken to assess water quality; clarifies how water quality changes through the distribution system and in homes; describes how the water system monitors for those water quality problems and actions to protect water quality. The statement should clarify that most samples are not taken in homes and encourage water systems to direct homeowners to resources that can help them address water quality issues related to internal plumbing.

D. Identification of violations, exemptions, and exceedances; description of causes of those violations, exemptions, and exceedances; measures taken by the water system to address those violations, exemptions, and exceedances; what action the water system will take to prevent these violations, exemptions, and exceedances in the future.

E. Discussion of any unique circumstances that affect the water system (drought causing higher concentrations of arsenic in wells, for example). The summary should include enough context to explain causes for the water conditions.

Continued on next slide

Consensus Recommendation

Charge 3: Recommendation 1 *Cont'd*

F. Contact information of important resources. For example, contact information can include a member(s) of the Primacy Agency, experts that could provide information on treatment facilities, and technical staff who could conduct home visits. The CCRs could describe additional information that is available, who has expertise in those areas, and who to contact for more information. Some related suggestions included:

   i. Contact information of the Primacy Agency (e.g., name, phone number, email address).

   ii. Contact information for experts at the water system for more information or opportunities which may include treatment facility and laboratory tours, home visits, or similar opportunities offered by the water system.

   iii. Information about other resources available on different topics. These may include documents that provide information about risk management plans, drought response plans, and other similar planning documents.

G. An introductory paragraph or column that provides a table of contents or a discussion on "how to read this document." The purpose of these elements is to help the customer read and understand the information in the CCR.

Consensus Recommendation

Charge 3: Recommendation 2

2. CCRs contain a great deal of highly technical information. CCRs could be improved by developing clear and simple messages, streamlining the document to guide readers through a "story," and avoiding overloading readers with too much information. If readers are interested in learning more, CCRs could link to additional technical information that can be found in other resources. For example, CDC's Agency for Toxic Substances and Disease Registry's (ATSDR) ToxFAQs and additional information provided by the Primacy Agency.

Consensus Recommendation

Charge 3: Recommendation 3

3. CCRs could communicate numbers and standards in a way that is more meaningful to the public. CCRs mainly use three units of measurement (parts per million, parts per billion, and parts per trillion) for several regulated contaminants. These units of measurement may not be meaningful to consumers. The working group recommends strategies to help consumers understand these and other units of measurement and their related risk:
   - A. Real-world examples or analogies of CCR units to help the public understand their scale.
   - B. If using examples or analogies to illustrate units, the same analogy should be used to communicate the comparison of the contaminant level and the public health goal and/or standard. Otherwise, it can be misleading or generally uninformative from the perspective of risk.
   - C. In addition to describing units, the CCR should also clarify the risks associated with contaminant concentrations, making real world comparisons when possible and appropriate. For example, comparing risk levels to risks associated with everyday activities for example, a one in a million risk is equivalent to tossing a coin 20 times and having it land on heads every time.
   - D. CCRs should clarify the meaning of terms and definitions that are related to units of measurement. For example, clarify the meaning of an MCL, how it differs from the MCLG, and why.

Consensus Recommendation

Charge 3: Recommendation 4

4. Readability, understandability, and clarity can be generally improved by encouraging systems to use the following best practices:
   A. Evaluate CCRs using the CDC's Clear Communication Index. CCRs should be set at a reading level and CCI score recommended by EPA. EPA's recommendations should be based on CDC guidance on the CCI.
   B. Use common language that is easy to understand. The rule could reference resources such as the Plain Writing Act. Trainings, examples, and guidelines are available here: Home | plainlanguage.gov.
   C. Use the SALT framework (Strategy, Action, Learning, supported by Tools) as a guide for improving risk communication.

Continued on next slide

Consensus Recommendation

Charge 3: Recommendation 4 *Cont'd*

   D. Order contaminants in the table in a way that brings the most important issues to the reader's attention (e.g., listing exceedances and violations at the top of the table, remaining contaminants in alphabetical order). Symbols can also be used to convey important information as long as they are easy to interpret and clearly defined.
   E. Define terms that are not user friendly (e.g., cross-connection, green sand filter) in ways that are understandable in day-to-day language.

Consensus Recommendation

Charge 3: Recommendation 5

5. CCRs could improve risk communication about the quality of water by:
   - A. Including a guide on acute versus chronic issues and the respective risks of each.
   - B. Providing information on how the concentrations of drinking water contaminants have changed over time (have they been getting worse or better?). This can help customers understand the general health of the water system.
   - C. Including a statement about contaminants that are tested but not detected and providing access to that list upon request.

Continued on next slide

Consensus Recommendation

Charge 3: Recommendation 5 *Cont'd*

- D. Describing risk related to unregulated contaminants (e.g., PFAS) and if available, provide information about where to find more information about related EPA health advisories.
- E. Clarifying what the CCR tells a customer (system-wide water quality) and what it does not (quality of water coming out of tap). It should be clear about what the limitations are for in-house water quality and what could affect water coming out of the tap.
- F. Communicating risks that could affect access to a safe drinking water supply in the future and potential protection measures. This may be especially important for geographically isolated communities, water systems with high economic burdens, and/or those that do not have alternative water supplies.

Consensus Recommendation

Charge 3: Recommendation 6

6. Large water systems could help readers identify information most relevant to them by breaking out information by zone or service area.

Consensus Recommendation

Charge 3: Recommendation 7

7. If a CCR has included an inaccuracy (a data error or other type of error), the CCR should be corrected and reissued as quickly as possible, consistent with SDWA requirements. The revised CCR should include information about why it was reissued and what has been corrected.

Consensus Recommendation

Charge 3: Recommendation 8

8. The working group recommends that EPA:
   A. Revise, simplify, and clarify health effects language for contaminant detections at 40 CFR 141.154 and in Appendix A to Subpart O of Part 141, with specific attention to Cryptosporidium, Lead, Arsenic, Nitrate and TTHM. EPA should use available tools such as CDCs CCI to inform the revisions.
   B. Revise, simplify, and clarify required language at 40 CFR 141.153(h)(7). EPA should use available tools such as CDCs CCI to inform the revisions.
   C. Revise, simplify, and clarify definitions at 141.153(c). EPA should use available tools such as CDCs CCI to inform the revisions.
   D. Update all outdated references, such as those at 40 CFR 141.153(d)(4)(v) and 141.154(e).

Consensus Recommendation

Charge 3: Recommendation 9

9. The accuracy of at least the contaminant data in CCRs could be verified by the Primacy Agencies to improve customer confidence. This could be handled by auditing all CCRs or through auditing a random sample of CCRs.

Consensus Recommendation

Charge 3: Recommendation 10

10. The AWIA amendment to the SDWA requires that CCRs directly address corrosion control efforts. In response to this new requirement, the working group recommends that water systems report the following in their CCRs.
    A. For systems that are not required to have corrosion control treatment, the CCR should indicate why no treatment is needed (e.g., the system is monitoring corrosion and knows that corrosion control is not needed). When the system is monitoring corrosion, the CCR should describe those monitoring activities in a clear and concise manner.

Continued on next slide

Consensus Recommendation

Charge 3: Recommendation 10 *Cont'd*

B. CCRs should include a concise interpretation of the lead and copper results including:
    i. The total number of service connections in the system and a statement that sample sites are selected based on highest risk and that not all service connections are sampled.
    ii. A description of the corrosion control treatment (CCT) utilized at every system for which corrosion control is required.
    iii. A statement of what the defined Optimum Water Quality Parameters are for the selected CCT in the CCR.
    iv. A description of relevant water quality parameters.
    v. A description of when the lead was detected, what actions the water system took, how long it took to address, and what the system is doing to prevent this from happening again.

EPA should develop example language for each of the situations above. This will support small water systems that may have difficulty developing their own language.

Consensus Recommendation

The Working Group did not reach consensus on the following recommendations

Charge 3: Non-Consensus Recommendation 1

1. CCRs could communicate numbers and standards in a way that is more meaningful to the public.
   - A. Consider removing the requirement to convert data into CCR units.
     - i. Arguments in favor of the recommendation: Converting data into units for the purpose of the CCR can lead to confusion when people read other information (like lab results) and see other units used. This could lead readers to question whether the information in the CCR is accurate.
     - ii. Arguments against the recommendation: Some contaminants cause higher health risks at lower concentrations compared to other contaminants. CCR units help communicate those differences. It is very easy to confuse orders of magnitude when there are several zeroes right of the decimal.

Continued on next slide

Did Not Reach Consensus

Charge 3: Non-Consensus Recommendation 1 *Cont'd*

B. CCRs could clarify that legal standards (MCLs) are a compromise between what is an acceptable health risk and what is financially and technically feasible.

   i. Arguments in favor of the recommendation: This clarity will help people understand the context of those terms and what they mean for public health.

   ii. Arguments against the recommendation: The purpose of the CCR is to inform consumers about compliance status. It is not the purpose of the CCR to explain the process of setting MCLs, which can be very complex. Expanding on some of these issues could overly complicate the CCR.

Did Not Reach Consensus

Council Questions and Comments on Charge 3

Please use the raise hand feature (click the "face/hand" icon, then click the "hand" icon, or Alt+Y) and wait for the facilitator to call on you. If joining by phone, raise your hand by dialing *5.

Break

Session 1.3

CCR Accessibility (Charge 1)

Charge 1

- EPA seeks advice and recommendations on ways to address accessibility challenges, including:
  - Translating CCRs
  - Meeting Americans with Disabilities Act (ADA) requirements

The Working Group reached consensus on the following recommendations

Charge 1: Recommendation 1

1. CCRs could be improved by following basic accessibility guidelines. Rather than a change to the rule, this recommendation is for EPA to address accessibility through implementation guidance and support. Implementation support could include a suite of tools or resources such as:
   A. Materials that explain the basic features of an "accessible" document.
   B. Guidelines or standards for improving accessibility and making them readily available to water systems. EPA should identify and develop, when appropriate, the most appropriate guidelines. Examples of guidelines and tools include:
      i. The World Wide Web Consortium's (W3C) Web Accessibility Initiative (WAI) Web Content Accessibility Guidelines (WCAG 2.0).
      ii. Recommendations of available online translation tools and guidelines for developing text that can be easily translated by online translation tools.
      iii. Standards established under Section 508 of The Rehabilitation Act of 1973.
      iv. Usability.gov
      v. Plain Writing Act of 2010. Resources available at: https://www.plainlanguage.gov/guidelines/

Continued on next slide

Consensus Recommendation

Charge 1: Recommendation 1 *Cont'd*

C. Basic thresholds of accessibility, such as searchable text in electronic documents, tags, color distinction, alternate text, captions, bookmarks in electronic documents, navigable Table of Contents, etc.

D. EPA audits of a small but representative set of CCRs (of small and large systems) every year to understand adherence to these standards and refine its guidance to water systems and Primacy Agencies based on the audit findings.

Consensus Recommendation

Charge 1: Recommendation 2

2. The specific needs of communities served by water systems vary greatly from water system to water system. Therefore, any guidelines or changes to the rule that address accessibility must allow water systems flexibility to communicate with their customers in a way that is most appropriate and effective.

Consensus Recommendation

Charge 1: Recommendation 3

3. The CCR³ WG recommends that for water systems serving 100,000 or more people, the rule should define “large portion of non-English speaking residents” as a minimum threshold (to be established by EPA) of the population served by the water system speaking the same non-English language. The rule should also give Primacy Agencies the authority to establish a lower threshold or identify other situations in which a translated copy of the CCR is needed or appropriate. Any group speaking a non-English language that meets the threshold should have a high-quality translated copy of the report available to them. The reasons for this approach include:
   A. Providing consistency across the country through the adoption of a national threshold.
   B. Limiting any additional translation requirements to large water systems would avoid potential burdens to small water systems.
   C. Allowing Primacy Agencies to set a lower threshold would allow for flexibility to meet the specific needs of communities in cases when the threshold should be lower.

Consensus Recommendation

Charge 1: Recommendation 4

4. EPA should provide implementation support in the form of translation services for small water systems that may lack the financial resources to pay for translation of their CCR. High quality translation services can be very expensive and a financial burden to small water systems, and this type of support from EPA would help small systems better serve their non-English-speaking populations. At a minimum, EPA should develop translations, as needed, of all required and example language provided in the rule and of any EPA templates.

Consensus Recommendation

Charge 1: Recommendation 5

5. Whenever possible, water systems should enlist a certified translator to develop translated copies of the CCR or evaluate a CCR translated using an online translation tool, when a translated copy is needed. When that is not possible, water systems should develop online versions of CCRs in a format that can be translated using online translation tools. Water systems should use online guides to develop CCRs in a way that improves accuracy of translation tools that may be used on CCRs. Water systems could provide directions to customers on how to use online translation tools. These directions can be provided on the water system's website along with a phone number of a water system contact who could provide assistance with this process.

Consensus Recommendation

Charge 1: Recommendation 6

6. The CCR³ WG developed additional recommendations to improve access to CCRs by non-English speakers. For example:
   A. Require that information about accessing CCRs in another language is placed in a uniform, easily accessible location, such as the front page. This information could be improved by including the name or title of the person to contact at the water system for translation assistance.
   B. Consider/Develop guidance with examples of tools or data sets that could help inform the water system about the composition of water customers in terms of the language they speak (such as Census data on proficiency levels)

Consensus Recommendation

Charge 1: Recommendation 7

7. CCR³ WG members recognized that water systems may have customers with unique needs with respect to accessibility. For example, some customers may need large font copies of the CCR. For these types of needs not addressed by general accessibility guidelines, the CCR³ WG recommends the following revision to the rule (in **bold** text):
   A. 141 CFR 155(e): Each community water system must make its reports available to the public upon request, **make a reasonable attempt to provide the CCR in a format that addresses accessibility issues in the community, and provide an accessible format to anyone who requests accessibility accommodations**.

EPA should provide guidance to systems about accessible formats and tools that would help systems meet the requirement of “reasonable attempt.”

Consensus Recommendation

Council Questions and Comments on Charge 1

Please use the raise hand feature (click the “face/hand” icon, then click the “hand” icon, or Alt+Y) and wait for the facilitator to call on you. If joining by phone, raise your hand by dialing *5.

Session 1.4

CCR Delivery (Charge 4)

Charge 4

- EPA seeks advice and recommendations on CCR delivery manner and methods, including electronic delivery

The Working Group reached consensus on the following recommendations

Charge 4: Recommendation 1

1. CCR³ WG members recommend that if a water system posts its CCR online, the CCR should be posted online for a minimum of 3 years with the intent to comply with the records retention requirements at 40 CFR 141.155(h) to provide customers with more context and history of their system and its changes. This would eliminate the burden of trying to manually search for past information since these CCRs would be in a centralized location. The most current CCR should be prominently displayed to avoid any confusion as to which is the current CCR.

Consensus Recommendation

Charge 4: Recommendation 2

2. The CCR³ WG recommends that EPA reduce the burden on small systems by posting their CCRs online on their behalf (or links to their CCRs). The CCR³ WG also recommends that the rule encourage Primacy Agencies to post their water systems' CCRs on the Primacy Agencies' websites or, at a minimum, post information on the Primacy Agency's website to encourage customers to contact their water systems to review their CCRs.

Consensus Recommendation

Charge 4: Recommendation 3

3. EPA should improve/update its "Find Your Local CCR" webpage. On an annual basis, EPA should update links to the CCRs or to the webpages that host the CCRs. EPA should add additional search terms to help both bill paying and non-bill paying customers find their CCRs.

Consensus Recommendation

Charge 4: Recommendation 4

4. Electronic delivery options outlined in EPA's 2013 memorandum, "Safe Drinking Water Act- Consumer Confidence Report Rule Delivery Options", could be expanded and include the following options:
   A. Deliver CCRs via text message link with the option to opt-out of text deliveries. Working group members noted that younger generations look at their phones quite often and would be more likely to read CCRs if they were delivered via text message.
   B. Electronic CCRs should be developed in formats compatible with smartphones and other types of personal devices (e.g., tablets). In addition, the "direct URL to CCR" requirement in EPA's 2013 memorandum should be clarified to accommodate different online navigation features that could be used to develop an online CCR.

Continued on next slide

Consensus Recommendation

Charge 4: Recommendation 4 *Cont'd*

C. Electronic delivery should occur through a trusted means of communication that is acceptable to the customer and water system to minimize cyber security issues (such as phishing or spreading misinformation).

D. The rule should clarify that advertising the availability of the CCRs (such as through social media) should be encouraged but should not be considered a form of "delivery."

Consensus Recommendation

Charge 4: Recommendation 5

5. The rule requires water systems to directly deliver a copy of the CCR to each bill-paying customer. It also requires the system to make a "good faith effort" to reach non-bill-paying customers. The CCR³ WG recommends:

Continued on next slide

Consensus Recommendation

Charge 4: Recommendation 5 *Cont'd*

A. The existing language in the rule at 40 CFR 144.155(b) could be expanded to include examples of more modern outreach efforts (such as social media options). The CCR³ WG recommends that modifications (**in bold**) made to the text below.

   i. 40 CFR 141.155(b): "*The system must make a good faith effort to reach consumers who do not get water bills, using means recommended by the primacy agency. EPA expects that an adequate good faith effort will be tailored to the consumers who are served by the system but are not bill-paying customers, such as renters or workers. A good faith effort to reach consumers would include a mix of methods appropriate to the particular system such as: Posting the reports on the Internet; mailing to postal patrons in metropolitan* ***areas including mailing postcards or CCRs directly to the service address (in addition to the billing address, as required under the direct delivery requirement); posting a QR code in public places that links directly to the CCR****; advertising the availability of the report in the news media* ***and through direct texts to residents****; publication in a local newspaper; posting in public places such as cafeterias or lunch rooms of public buildings; delivery of multiple copies for distribution by single-biller customers such as apartment buildings or large private employers;* ***providing a direct link to CCRs on water bills****; delivery to community organizations;* ***and holding public forums****."*

Consensus Recommendation

Charge 4: Recommendation 6

6. Water systems could improve their CCRs by gathering input from customers. They could achieve this by providing customers with contact information (such as a phone number) to directly contact their system with feedback regarding the format, readability, accessibility, etc. of the CCR they received. The water system can incorporate input at its discretion. Some examples for soliciting feedback from customers include:

   A. At the bottom of the CCR, the system could include a link or QR code to a survey (which asks the customers questions to understand whether they think the CCR is clear, and accessible) or a quiz/game (which would ask questions about the content of the CCR to give the system a sense as to how much the customer actually understood from the CCR, and therefore how clear and accessible it is).

Consensus Recommendation

Charge 4: Recommendation 7

7. The CCR Rule should be revised to include “standard distribution language” similar to what is included in the Public Notification Rule to encourage broader distribution of the notice, specifically encouraging landlords to provide CCRs to renters (40 CFR 141.205(a)(10) and (d)(3)). EPA could consider this recommendation when developing implementation support (e.g., guidance for landlords, and condominium HOAs).

Consensus Recommendation

Charge 4: Recommendation 8

8. The CCR Rule should encourage water systems to deliver CCRs to local community organizations and to consumers who regularly use the water but do not live within the water system’s service area (e.g., people who work or go to school in a service area that is different from where they live). Water systems could provide a way for local community organizations and consumers to "opt in" to be added to the mailing list to receive CCRs on a regular basis.

Consensus Recommendation

Charge 4: Recommendation 9

9. For biannual CCRs, each CCR should contain the following information to avoid confusion about the information provided in each report:
   A. Include brief language that clarifies that the CCR is a federal requirement and that they must be delivered biannually for systems serving 10,000 or more people.
   B. Specify the time period covered by the specific CCR.
   C. If two identical CCRs are delivered each year, the second report should clearly state that the information contained in the CCR is identical to the information in the first CCR.

Consensus Recommendation

The Working Group did not reach consensus on the following recommendations

Charge 4: Non-Consensus Recommendation 1

1. CCR³ WG members disagreed on the purpose of the biannual CCR delivery. Specifically, the group disagreed on whether the second CCRs should contain the same content as the first or have different content. The group developed two potential recommendations:

Continued on next slide

Did Not Reach Consensus

Charge 4: Non-Consensus Recommendation 1 *First Option*

A. Both CCRs for a given year should contain identical information with the goal of increasing readership of the CCR.
   i. Arguments in favor of the recommendation:
      1. Sending the same CCR twice would reach more customers, particularly new residents of a service area.
      2. Other mechanisms may be used to provide current water quality data to customers more effectively (e.g., public notification, community outreach).
      3. Other resources are available to provide up-to-the-minute data on water quality if customers are interested (e.g., Drinking Water Watch).
   ii. Arguments against the recommendation:
      1. Sending the same report twice would not provide customers with the most up to date information about the quality of their water.
      2. Sending the same report twice may be viewed as a waste of resources.

Continued on next slide

Did Not Reach Consensus

Charge 4: Non-Consensus Recommendation 1 *Second Option*

B. CCRs should be issued once every six months and should reflect the most current water sampling data collected by the water system.

   i. Arguments in favor of the recommendation:

      1. This approach would provide customers with the most up to date information about the quality of their water, which they believe is consistent with the intent of the changes in AWIA.

   ii. Arguments against the recommendation:

      1. Delivering two CCRs with different content each year could confuse readers.
      2. It would be a large burden for water systems and Primacy Agencies to develop a CCR "update" every six months.
      3. This approach may be inconsistent with the intent of the AWIA amendments to improve clarity of the CCRs and would not improve access to CCRs relative to the first opinion.

Did Not Reach Consensus

Council Questions and Comments on Charge 4

Please use the raise hand feature (click the “face/hand” icon, then click the “hand” icon, or Alt+Y) and wait for the facilitator to call on you. If joining by phone, raise your hand by dialing *5.

NDWAC Meeting Participants
December 1-2, 2021

National Drinking Water Advisory Council Members

Lisa D. Daniels, NDWAC Chair
Yolanda Barney
Elin Warn Betanzo
Alexandra Campbell-Ferrari
Shellie R. Chard
D. Scott Borman
Steven B. Elmore
Eagle Jones
Jana Littlewood
Jennifer Peters
James M. Proctor, II
Nancy Quirk
Alex Rodriguez
Jeffrey W. Szabo
Macaroy Underwood

NDWAC Centers for Disease Control Liaisons

Arthur Chang
Vincent Hill

U.S. Environmental Protection Agency Meeting Participants

Elizabeth Corr, Designated Federal Officer, National Drinking Water Advisory Council, Office of Ground Water and Drinking Water
Radhika Fox, Assistant Administrator, Office of Water
Jennifer McLain, Director, Office of Ground Water and Drinking Water
Betsy Behl, Director, Health and Ecological Criteria Division, Office of Science and Technology
Ryan Albert, Chief, Standards and Risk Reduction Branch, Standards and Risk Management Division, Office of Ground Water and Drinking Water
Anita Thompkins, Director, Drinking Water Protection Division, Office of Ground Water and Drinking Water