



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF
WATER

MEMORANDUM

SUBJECT: Request for Science Advisory Board Consultation on the Drinking Water Contaminant Candidate List 3 – Draft

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

TO: Sue Shallal, Ph.D.
Designated Federal Officer
EPA Science Advisory Board Staff Office (1400F)

This is a request for consultation with the Science Advisory Board's Drinking Water Committee on the *Federal Register* notice announcing EPA's third drinking water Contaminant Candidate List (CCL 3). The purpose of this action is to:

- present EPA's draft list of contaminants listed on the third CCL (CCL 3);
- describe the process and basis for selecting the contaminants for the CCL 3; and
- request public comments on the draft CCL 3.

The Safe Drinking Water Act (SDWA) requires EPA to publish a list of currently unregulated contaminants that are known or anticipated to occur in public water systems and which may require regulation. The act also requires "consultation with the scientific community, including the Science Advisory Board," prior to publishing the CCL. EPA must publish a CCL every five years. EPA last published a CCL (CCL 2) on February 24, 2005. The draft CCL3 was published on February 21, 2008.

Attached is a charge to the SAB's Drinking Water Committee that identifies issues and questions we want the Board to address during the consultation on the draft CCL 3. The charge also provides more background information about the draft CCL 3, the internal and external reviews, and steps used to select contaminants on the draft list. If you need additional information or have questions pertaining to any aspect of this notice, please call me or have your staff contact Eric Burneson 202-564-5250 or Tom Carpenter 202-564-4885.

Attachments

**Drinking Water Contaminant Candidate List 3
Draft Charge to the EPA Science Advisory Board
March 10, 2008**

Overview

On February 21, 2008, EPA announced its third drinking water Contaminant Candidate List (CCL 3). The purpose of this action was to:

- present EPA’s draft list of contaminants listed on the third CCL (CCL 3);
- describe the process and basis for selecting the contaminants for the CCL 3; and
- request public comments on the draft CCL 3.

EPA’s Office of Water seeks advice from the Science Advisory Board Drinking Water Committee (DWC) regarding the draft CCL 3. Specific charge questions are presented below in addition to background information regarding the development of the CCL3.

Background

The 1996 SDWA Amendments require EPA to publish a list of currently unregulated contaminants which are known or anticipated to occur in public water systems and may require regulation in drinking water. This list is known as the Contaminant Candidate List (or CCL) and SDWA requires EPA to publish the list every five years. Two such lists have already been developed and were published in 1998 and 2005. The Act also requires “consultation with the scientific community, including the Science Advisory Board,” prior to publishing the CCL. SDWA also requires that EPA make determinations on whether to regulate at least five contaminants from the list with a national primary drinking water regulation (also on a five year cycle).

In 1998, the Agency sought advice from the National Academy of Sciences’ National Research Council (NRC) on how to improve the CCL process. The NRC published its recommendations on the CCL process in 2001. The NRC proposed a broader, more reproducible process to identify the CCL than the process used by EPA in the first CCL. The NRC recommended that EPA develop and use a multi-step process for creating CCL 3 and future CCLs, whereby a broadly defined “universe” of potential drinking water contaminants is identified, assessed, and reduced to a preliminary CCL using simple screening criteria. All of the contaminants on the PCCL would then be assessed in more detail using a classification tool to evaluate the likelihood that specific contaminants could occur in drinking water at levels and at frequencies that pose a public health concern.

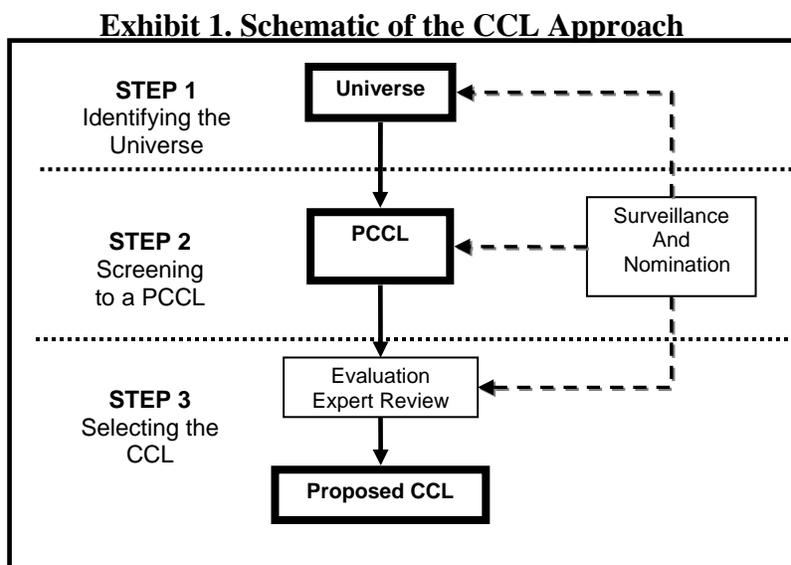
In 2002, the Agency sought input from the National Drinking Water Advisory Council (NDWAC) on how to implement the NRC’s recommendations to improve the CCL process. NDWAC is comprised of members from the general public, State and local agencies, and private groups concerned with safe drinking water. It advises the Administrator on key aspects of the Agency’s drinking water program. NDWAC agreed that EPA should proceed with the NRC’s recommendations and provided some additional

considerations, including the overarching principles the Agency should follow. The NDWAC issued its recommendations in “The National Drinking Water Advisory Council Report on the CCL Classification Process to the U.S. Environmental Protection Agency.”

In October of 2006 EPA requested the public to nominate chemical and microbial contaminants that should be considered for CCL 3 in the Federal Register. The Agency compiled the information from the nominations process to identify the contaminants nominated, the rationale for the nomination, and to compare the supporting data to information already gathered by EPA. The nominations process identified 150 chemical and 24 microbial contaminants from 11 organizations and individuals. Only 29 of the 174 nominated contaminants were not already identified in the CCL process. Each of the 174 nominated contaminants was then evaluated in the CCL process.

Chemicals

EPA implemented a multi-step process (as shown in Exhibit 1) to develop the draft third CCL (CCL 3). The multi-step process includes the following primary phases:



Step 1: Identifying the Universe. Building a broad CCL Universe of potential drinking water contaminants for consideration EPA identified and evaluated 39 data sources with information on contaminant health effects and occurrence. The resulting “CCL Universe of Chemicals” consisted of approximately 6,000 chemicals from these data sources.

Step 2: Screening the Universe of Chemicals to a PCCL. EPA developed conservative criteria to screen chemicals with health effects and occurrence data elements at levels of concern in order to narrow the Chemical Universe to a Preliminary CCL (PCCL) of 532 chemicals. EPA used conservative criteria to narrow the universe and identify contaminants with greater potential to occur in drinking water and greater potential for public health concern for further evaluation. EPA selected from several data elements to

represent a chemical's potential to occur in drinking water and its potential to cause health effects on humans.

Step 3: Classifying the PCCL to Develop a Proposed CCL. EPA further analyzed and prepared the PCCL chemicals for the classification approach and the development of the proposed CCL. EPA developed an approach for classifying potential drinking water contaminants that uses decision support tools to aid in the development of the CCL. EPA chose four attributes; Potency, Severity, Prevalence, and Magnitude, as its key factors in evaluating chemicals. EPA developed attribute scoring protocols to normalize the available data for the various types of available data. This relative assessment of contaminants used different data measures and defined scoring mechanisms for potential drinking water contaminants. The scores were then used as input for classification models calibrated using regulated contaminants. This approach ensured that attributes were used and applied consistently among potential contaminants. Using the structured classification approach (e.g., a classification model) as a tool, along with expert judgment, EPA evaluated the results from the classification models to select contaminants for the draft CCL.

Microbial Pathogens

EPA's approach in establishing the draft CCL3 builds on the NRC and NDWAC recommendation to generate, assess, and reduce a universe of microbial pathogens to formulate a subset of microorganisms that would constitute the CCL. The universe for CCL3 includes a survey of human pathogens published by Taylor *et al.* and pathogens nominated to EPA from the public Nominations process. Screening criteria are used to indicate the potential for waterborne transmission and identify microorganisms to move to the PCCL. A classification approach and tools along with expert judgment were used to evaluate the likelihood that specific microbial pathogens could occur in drinking water at levels and at frequencies that pose a public health risk. For example, all of the contaminants on the PCCL are assessed using attributes (e.g., waterborne disease outbreaks, occurrence, health effects) to characterize the potential for the microbial pathogen to occur in PWS, cause waterborne disease outbreaks and adverse health effects. The outcome of the detailed approach resulted in the microorganisms on the draft CCL 3.

Past Reviews

EPA convened several external expert panels at integral stages during the development of the Draft CCL 3. Five separate panels reviewed the draft chemical CCL 3 list, the microbial CCL 3 list, and the processes used to develop them. EPA sought to convene panels that included members that had a variety of disciplines and expertise. Panel members were encouraged to provide comments based upon their expertise and background and provide comments as individuals, not as representatives of their respective organizational affiliations. The results from these panels are discussed in the *Federal Register* Notice and documented in the EPA Water Docket.

Charge to Reviewers

Review Draft CCL 3 and the specific chemicals and microbial pathogens on the list with a focus on the following questions:

1. Please comment on whether the Federal Register Notice and support documents are clear, transparent, and adequate to provide an understanding of the overall processes and selection of contaminants for the draft CCL 3?
2. Please comment on whether the draft CCL 3 list represents those contaminants that have the highest potential to occur in public water systems and cause adverse human health effects?
3. Please provide any data that may suggest that contaminants which are currently on the draft CCL3 list should not be listed?
4. Please provide any data that may suggest that contaminants which are currently not on the draft CCL3 list should be listed?