

**Comments from Members of the Chartered SAB on the SAB Draft Report:
Review of the EPA’s draft Fourth Contaminant Candidate List (CCL 4)(9-4-2015)**
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Comments from Lead Reviewers

Comments from Dr. Costel Denson

General Comments.

Four charge questions were presented to the SAB in its review of the subject document. The committee's report is written in a clear, concise, easily understood style and its recommendations are unambiguous.

The letter to the Administrator, while having great depth, is simple in its clarity. It lays out the problem (the charge), provides sound, actionable recommendations and suggests a thought process to consider for the next generation CCL.

The charge questions were nicely addressed in the Executive Summary, which properly contained straightforward recommendations that could be implemented with proportionate effort.

In connection with the recommendations, this reviewer found the presentation of the recommendations to be somewhat confusing. In the letter to the Administrator, four (or five) recommendations are provided, but in the body of the report ten or eleven recommendations are offered (Sections 3 and 4). Can a short statement be included to reconcile this difference, or otherwise provide a bit more clarity, or continuity?

1. Were the charge questions adequately addressed?

Yes.

2. Are there any technical errors or omissions in the report or issues that are not adequately dealt with in the draft report?

None noted by this reviewer.

3. Is the draft report clear and logical?

Yes

4. Are the conclusions drawn or recommendations provided supported by the body of the report?

Yes

Comments from Dr. Nancy K. Kim

General Comments

The SAB report is thoughtful and well-written. It provides EPA with good advice on how to improve the CCL process.

1. Were the charge questions to the committee adequately addressed?

Yes.

2. Are there any technical errors or omissions or issues that are not adequately dealt with in the draft report?

Not that I noticed.

3. Is the draft report clear and logical?

a. The review provides a recommendation to improve the clarity and transparency of the report in three places, the response to the charge questions (page 1, line 18), the

Executive Summary (page 1 line 26) and the Letter to the Administrator (3rd paragraph). My interpretation of the recommendation is that the data/information for the CCL 4 process is in the report, but the report does not provide an easy or clear way for the reader to follow the procedures and to arrive at an understanding of how EPA made decisions in carrying out the process. If, on the other hand, additional data/information needs to be added to the EPA report, the recommendation needs to be clarified. The committee may want to review the wording of the recommendation in the three places of the report to determine if any minor editing would be helpful. The committee may also want to consider adding a sentence or two about the impact of the lack of clarity and transparency on readers, e.g. people will have difficulty making thoughtful comments on the report if they can not follow the logic.

- b. Related to the previous comment, the letter to the Administrator states, “The SAB concludes that the overlying principles used to evaluate contaminants are well described, but the documentation lacks specific information needed to follow the decision making process for listing contaminants on the draft CCL.” Lacking specific information could be interpreted as the data/information that are needed are not in the EPA report or it could mean that the description of the process isn’t sufficient for the reader to understand the decision making process.
 - c. Section 3.1.2 includes a recommendation to, “Include a discussion of the effect of data variability and model sensitivity on the results of the contaminant classification process.” This requires EPA to do additional work and could lead to changes in the process. This recommendation was not included in the Executive Summary or the letter to the Administrator. Should it be?
 - d. The SAB recommends that the EPA report include a summary of the treatment of CCL contaminants during the regulatory determination process. Should this recommendation be included at the end of the third paragraph in the letter to the Administrator? It is in the executive summary.
 - e. The SAB report recommends that the methods used to develop the CCL be evaluated. That recommendation could be added to the letter to the Administrator by adding a phrase to page 2, line 26.
 - f. Page 10, line 30. Adding a sentence that explains why it is important to know that UCMR3 considers the quality of finished water, but not raw water would be helpful.
 - g. The SAB committee noted that many of the comments are similar to those made by the Board when it reviewed the draft CCL 3 (page 9, line 31). Should this be included in the letter to the Administrator?
4. Are the conclusions drawn or recommendations provided supported by the body of the draft report?

The SAB report mentions in several places (Letter to the Administrator, 4th paragraph; Executive Summary, page 1, line 39; review, page 10, line 19) it has concerns about EPA relying too

heavily on the public submitting candidate contaminants and supporting data and recommends that EPA develop a strategy to reach out to large utilities, relevant state agencies and other groups to obtain occurrence information in several places. The committee should add additional background information to support this recommendation. The committee's report describes EPA's process in getting information and EPA appears to search a number of data bases and literature sources and not rely mainly on the public. The wording of this recommendation varies somewhat in the three different places and the committee may want to review the different versions to see if any changes would be useful. Also, see comment 2 under minor comments.

Minor Comments

Report

1. Page 3, line 43. Should CCL be CCL 3?
2. Page 10, line 19. The paragraph starts out by stating, "As noted above, the SAB is concerned that the agency is relying too heavily on nominations as the source..." I interpreted this to mean that nominations are mentioned earlier in the body of the report. It is discussed in the Executive Summary and in the letter to the Administrator, but I did not find it mentioned earlier in the body of the report.
3. Page 11, line 40. The first sentence seems to have a typo.
4. Page 13, line 24. Remove "for".
5. Page 13, line 36. Add a blank line,

Comments from Dr. Gina Solomon

- 1) Were the charge questions to the committee adequately addressed?

Yes, the charge questions were adequately addressed, especially question 1. However, there are some subtle but important differences in both emphasis and content in the cover letter and in the executive summary, compared to the report itself. These should be reviewed and addressed before the document is finalized. See below for more on this.

Also, the committee does emphasize the first charge question, and ducks the later charge questions to some degree, especially in the case of questions 3 and 4. The committee is clear about why it does this, and I tend to agree with their reasoning. The charge questions, if fully addressed, would essentially require that the committee do EPA's work, which isn't appropriate. However, it would be reasonable for the committee to weigh in on obvious omissions from the list, as well as on chemicals and microbial agents that probably don't belong on the list (some of my thoughts on omissions below). I would encourage the committee to include more such recommendations in their report, even if they are unable to do a comprehensive review. After all, the combined expertise on the DWC would cover many of the relevant areas. This is a golden opportunity to prune the EPA list of any microbials and contaminants that really don't seem to belong there, and to suggest that EPA take another look at any chemicals that didn't make the list but perhaps should have. Missing such an opportunity would be a shame, especially given what the committee points out about the relatively few sources of nominations in this process. It's also a bit confusing to this reader to see that the committee first says it will confine itself to general comments rather than specifics for questions 3 and 4, but then the committee does call out some

specific pathogens and chemicals while remaining silent on others.

2) Are there any technical errors or omissions or issues that are not adequately dealt with in the draft report?

I didn't find any technical errors, but there are some potential omissions as mentioned above. In reading the public comments, it seems that there may be some chemicals that might have been erroneously included on the list, and it would be appropriate for the committee to offer its opinions on those specific issues one way or the other under charge question 3, rather than ignoring those stakeholder concerns and punting the issue to EPA.

3) Is the draft report clear and logical?

Yes, the report is clear and logical. There are only three minor issues that seem subtly inconsistent between the report itself, and the cover letter and executive summary, including the following:

--Lines 33-34 in cover letter and ES p. 1, lines 25-26 indicate a lack of specific information needed to follow the decision-making process for listing contaminants. The report itself is clearer and narrower in its wording on p. 3, lines 3-5, specifying that it's the *description of the process* that lacks sufficient detail, rather than a lack of scientific information underlying the process.

The wording isn't very different, but it was different enough that it confused this reader.

--Lines 47-48 of the cover letter and line 44 of p. 1 of the ES recommend that EPA perform "comprehensive searches of the peer reviewed literature", whereas the report itself is much more tempered with caveats, saying, "EPA should *consider* performing searches of the peer reviewed literature...." (p. 10, line 41), and then goes on to narrow and caveat that recommendation in two ways: (1) that contaminants should be selected for this review (ie. not all contaminants should be searched in this way) (p. 10, lines 44-45), and (2) if the time constraints make this recommendation not practical, then the recommendation should be considered for future CCLs (p. 11, lines 12-15). I would suggest softening the language in the letter and ES to better reflect the recommendation in the report itself.

In addition, the last recommendation in the cover letter (second page lines 24-26), is too abbreviated to be clear. An additional sentence should be added to the letter to flesh this out and make it clear.

4) Are the conclusions drawn or recommendations provided supported by the body of the report?

Yes, the conclusions and recommendations are supported. The only issues are those I mention under charge question 3 above.

Overall, the CCL process is frustrating for a number of reasons, including how difficult it is to follow chemicals through the decision process and to understand the basis for each decision. It's also difficult to understand how chemicals get into the process except for public nominations and the prior CCL list. So I heartily agree with these core committee recommendations. For example, I was unable to understand why small non-polar chemicals that are known to be prevalent in water, are difficult to remove, and have toxicity issues, such as triclosan and DEET, did not

make the list, and some of the chemicals that did make the list seem to be there because of potential hazard, but not because they are particularly likely to occur in drinking water. It's the committee's job to make sure the list passes the basic expert "gut check", and I'm not sure I see quite enough of that type of review in this report.

I also heartily support the committee's recommendation to have some type of priority designation within the list, since only 5% of chemicals from the list will ultimately be chosen for any regulatory decision. Putting so much work into coming up with a CCL, when the subsequent process of selecting from the list is such a 'black box', doesn't make much sense. I would suggest that the committee go further and recommend some chemicals and microbes from the draft CCL4 that should be considered "high priority". The DWC committee did that with the CCL3, and I think it was useful. For example, my recollection is that the DWC recommended that NDMA be given a high priority for action on the CCL3, and perhaps EPA could benefit from hearing this recommendation again, given that issues with this contaminant continue.

Finally, if the committee had broader concerns with how few drinking water contaminants are actually being regulated (as opposed to placed on various CCL lists), this might be an appropriate place to comment on that issue. The Agency's record on actually promulgating any MCLGs and MCLs in the past decade has been abysmal, and it is ultimately a poor use of the SAB's time to keep commenting on the CCLs if there is little or no action that follows such a listing. Perhaps if the committee raised that issue in its discussions, it might be an appropriate addition to the report.

One minor typo, on p. 9, line 18, where there is an extra comma after the word "monitoring".

Comments from Dr. Jeanne VanBriesen

This is a very well-written and clear report.

The SAB notes that comments provided in review of CCL4 were similar in some cases to comments provided in 2009 in review of CCL3. The SAB raises concerns regarding the response to previous review and any barriers that might exist in the process that did not allow adequate incorporation of prior comments (p.9, lines 31-p10 line 3). Significant effort went into the CCL3 and CCL4 reviews by the SAB. Responsiveness to these reviews is important (p. 15, lines 41-44). This issue should be highlighted in the ES and the cover letter to the administrator. The SAB should propose an interim review of the CCL processes and should not wait till CCL5 to provide feedback on the implementation of the recommendations of the present review.

The charge questions for this review are in one case unexpectedly narrow and in two other cases impossibly broad. The first charge question asks whether the support documents are clear and transparent in presenting the approach to list contaminants on CCL4. The SAB is not asked to comment on the method itself but rather on the clarity of its presentation. The SAB rightly included comments on the method, especially where the lack of clarity in the application of the method contributed to the lack of clarity of the presentation of the method. The SAB should comment on the methodology employed for the CCL4 in subsequent reviews as it does in this review.

Charge questions 3 and 4 are overly broad. In the current review, as well as in the review of CCL3, where the same two questions were asked, the SAB notes that a review of all available literature on all chemicals considered for CCL would be impossible given the time available. The SAB provided input instead on the methods and procedures involved in selecting contaminants, as well as provided input on the need for prioritization approaches. In subsequent reviews, these charge questions should be narrowed or a longer timeline should be used for SAB review of EPA CCL activities.

It is not clear where issues raised by the public comments were incorporated in the SAB review, if they were.

1. Were the charge questions adequately addressed?

Charge question 1. Clear and transparent approach. The SAB notes that the support documents lack information necessary to follow the decision making process for listing contaminants on the draft CCL. The SAB also notes that information necessary to understand the decision-making “at each step of the process was lacking” (emphasis mine). The SAB makes recommendations on improvements needed in the documents and approach (ES 1, lines 29-38; p.3, lines 20-29). Particularly important are the methodological issues raised by the SAB. The use of peer reviewed literature is not clearly explained, especially for the microbial pathogens. Inclusion and exclusion decisions use a scoring and breakpoint method that is not clear (p.8, lines 21-24). The SAB comments on the difficulty understanding the scoring methods (classification models and HRL/concentration ratio), including how scores were assigned and how the two methods were applied together to make decisions (p.6, lines 6-9). Further, the treatment of data variability was noted as particularly lacking clarity (p.6, lines 20-22).

The SAB was not asked to comment on the suitability of these scoring approaches, just on the clarity of their presentation. However, the SAB notes in several places that it was unable to determine the scientific rationale for the scoring methods used. This issue was not highlighted sufficiently in the ES. Point 2 (ES line 31) states “explicitly outlines the scoring schemes.” This should be changed to “explicitly justifies the scoring schemes” or “explicitly outlines the scoring schemes used in applying the selection criteria, and provides scientific rationale for the scoring methods selected.”

Further, the SAB states in several places that the role of the CCL within the regulatory determination process should be made more clear in the EPA documents/websites (p.3, line 13-14; p 9, lines 16-21). This is not highlighted in the executive summary; it should be.

Charge question 2. Identify additional information. The SAB notes that EPA should consider additional data sources, and should proactively request data from state agencies and other groups likely to have relevant data. The SAB also suggests specific data sources (UCMR 3 and NHANES), and provides a recommendation for future data collection procedures.

The SAB notes that the method used to consider contaminants (soliciting input from the public) is of concern, and provides a recommendation that EPA reach out proactively to more potential

sources for information. The SAB recommends that EPA consider a system ‘that integrates data collection and curation and uses a broader range of the best available data,’ (ES pg 2, line 37-38) while noting that such a system may take some time to implement and thus may not be practical for CCL4 (p.11 lines 12-15). This should be strengthened in the letter (p2 line 24) and the ES (p1, line 37-38). The SAB should ‘strongly recommend that EPA implement’ such a system in advance of the next round for CCL. The SAB should also suggest an interim review of the implemented system rather than waiting to review such system at the time of the next CCL.

Charge question 3. Contaminants that do not merit inclusion.

Charge question 4. Contaminants that are not on the list but should be listed.

These charge questions are not adequately addressed; however, they are overly broad. It would not be possible for the SAB to consider all literature between 2009 and 2013 to determine what additional contaminants should be considered in CCL4 or which of the current list do not merit inclusion. Further, in 2009, the SAB stated the same, so the current SAB review would have to include potential chemicals and pathogens going back even further. In the absence of adequate time for a comprehensive review, individual review panel and SAB members will be providing advice based solely on their own expertise, which will lead to uneven assessment of the list.

If the EPA wants the kind of comprehensive review of contaminants on the CCL that these two questions suggest, and which the SAB repeatedly indicates is not possible in the time allowed, EPA should expand the review process, incorporating SAB advice at multiple points in the five years between CCLs.

The SAB refers repeatedly to the availability of peer-reviewed literature to address issues of assessing specific contaminants (p.4, lines 28-29; p. 10, lines 41-44; p.13, lines 6-8). Further, the SAB DWC was provided with details of the peer review process during a briefing (p.4, lines 29-32). These details should be provided in the CCL4 documents so that the public can understand the use of peer-reviewed literature in the process. As noted by the SAB, literature review and data mining should be a “mandatory part of the data search process for the CCL” (p.4, lines 31-32).

While not directly requested, the SAB did provide advice on methods for prioritization, and a recommendation that a prioritization strategy be implemented (p.13, lines 9-10). In future reviews of the CCL, the charge questions associated with adding or subtracting from the list should be changed to more explicitly request input on prioritization methodology and processes in place to add or remove contaminants. The SAB notes that EPA should reconsider the exclusion criteria currently used as they are not transparent. The SAB also notes that the process for removal of contaminants from the prior CCL is not clear. These are particularly important points as several SAB members’ comments include specific instances when additional data is available and should be reviewed to consider addition or removal of contaminants from CCL4.

2. Are there any technical errors or omissions in the report or issues that are not adequately dealt with in the draft report?

Several individual SAB members explicitly questioned the size of the CCL4 and how the length of the list was consistent with regulatory review. While the list serves the dual purposes of

identifying priorities for potential future regulation and informing future research and monitoring needs, its length precludes adequately meeting these purposes.

Given the list length, the issue of prioritization is critical for the utility of the CCL4. The ES does not explicitly mention the importance of prioritization or the SAB concerns regarding the length of the list.

3. Is the draft report clear and logical?

The draft report is generally clear and logical.

Because charge question 1 is too narrow and questions 3 and 4 are too broad, issues of methodological concern and prioritization appear in both sections; however, the repetition is not an issue of concern.

Section 3.1.3 includes extensive discussion of the scoring schemes and selection criteria for pathogens, using a series of questions about the specific steps involved in the EPA process (3.1.3). Similar detailed analysis is not included in the section on the chemical scoring schemes (3.1.2). The SAB recommends the chemical screening provide details of the scoring schemes while the SAB recommends the microbial screening clarify the scientific rationale. This difference in recommendations suggests the SAB found the rationale acceptable for the chemical screening, and is concerned about its presentation and clarity, while the SAB found the rationale for the microbial screening insufficient. It is unclear if this distinction is intended by the SAB or is the result of the structure of the written summaries in support of these two recommendations.

4. Are the conclusions drawn or recommendations provided supported by the body of the draft report?

Yes, the conclusions are valid and the recommendations are supported by the body of the draft report.

Comments from other SAB Members

Comments from Dr. Joseph Arvai

1. Were the charge questions adequately addressed?

Yes.

I agree in particular with the statement that research and monitoring priorities (i.e., decisions under the UCMR) should focus on contaminants likely to have the broadest public health impact.

However, this statement opens the door to the need for analysis (and a decision support process) to be used by EPA for identifying inputs to decision making that would help to forecast health impacts, and how these might be expected to change (and hopefully improve) in response to

regulation/management of contaminants.

2. Are there any technical errors or omissions in the report or issues that are not adequately dealt with in the draft report?

Not to my knowledge.

3. Is the draft report clear and logical?

Yes.

4. Are the conclusions drawn or recommendations provided supported by the body of the draft report?

Yes.

Comments from Dr. Sylvie M. Brouder

Quality Review of Draft SAB Review of EPA's CCL4 (Sept. 24, 2015)

Q1) Charge questions adequately addressed?

Yes, there were 4 charge questions and the body of the review provides a detailed account of how the DWC approached each charge question and their key findings, complete with specific examples to illustrate key concerns.

Q2) Technical errors or omissions / issues not adequately addressed?

I found the main report to be logical and did not note any major omissions. I am not sure I find the term "overlying principles" the best description of what the DWC found to be "well described." In reading the report, it is the general protocol - at the highest level - that I think the DWC found to be understandable but that the general protocol was insufficiently detailed at every step to permit anybody to reproduce the results of the protocol's application. Seems like a clarification here might be helpful and directly to the point of the deficiencies.

Q3) Draft report clear and logical?

Yes, the report is logically constructed and the narrative is easy to follow.

Q4) Conclusions drawn / recommendations provided supported by body of draft report?

Given that the same problems were raised regarding the development of the CCL3, my preference would be for stronger language in the letter to Administrator McCarthy and in the Executive Summary. On page 8 (line 26), the report states "a more robust and better justified process is needed" in characterizing scoring schemes and selection criteria for pathogens. However, this statement seems to apply broadly to the DWC's analysis of the entire process. If true, I recommend stating this up front and also noting the fact that many similar suggestions were previously made but apparently not acted upon (bottom of page 9/top of page 10). Further, I would also encourage stronger language in the letter and executive summary on the issue of data sources, data management and curation. On page 10, there is a remark on "modernizing" data sources ... as an important undertaking." Given the findings presented by the DWC, I support

stating that modernizing data sources and data infrastructure is critical to an effective CCL development process and recommend that this modernization should be prioritized as it will greatly improve efficiency and transparency and will be in keeping with “open access” data directives.

Comments from Dr. Michael Dourson

For the CCL discussion:

1. Were the charge questions adequately addressed? The committee appears to have addressed the given charge questions very well.
2. Are there any technical errors or omissions in the report or issues that are not adequately dealt with in the draft report? Please see response to question 4.
3. Is the draft report clear and logical? Yes, the report was very easy to read and it made sense.
4. Are the conclusions drawn or recommendations provided supported by the body of the draft report? The committee recommendations seem appropriate given my knowledge of the CCL process. The committee also appropriately questioned the rationales for the specific outcome categories of EPA and associated scores. For example, on page 6 under “Health Effects” the committee asked: why is the outcome, “Does the illness require short term hospitalization (< week)?” given a score of 4 and the outcome, “Does the illness result in long-term or permanent dysfunction or disability (i.e., sequelae)?” given a score of 5? While this is a good question to our EPA colleagues, the committee should know that a categorical regression technique is available that does not depend on parsing the quantitative differences between the categories. This technique has been used by EPA in other situations with health data (see several references below).

Categorical regression references:

Dourson, ML; Teuschler, LK; Durkin, PR; Stiteler, WM. (1997) Categorical regression of toxicity data: a case study using aldicarb. *Reg. Toxicol. Pharmacol.* 25: 121-129.

Edler, L; Poirier, K; Dourson, M; Kleiner, J; Mileson, B; Nordmann, H; Renwick, A; Slob, W; Walton, K; Wurtzen, G. (2002) *Mathematical Modelling and Quantitative Methods*. Food and Chemical Toxicology. 40: 283-326.

Haber, L; Strickland, JA; Guth, DJ. (2001) Categorical Regression Analysis of Toxicity Data. *Comments on Toxicology*. 7(5-6):437-452.

Haber, LT; Dollarhide, JS; Maier, A; Dourson, ML. (2001) *Noncancer Risk Assessment: Principles and Practice in Environmental and Occupational Settings*. In: Patty’s Toxicology, Fifth edition. Bingham, E., Cohrssen, and C.H. Powell, ed. Wiley and Sons, Inc.

Hertzberg, RC and Dourson, ML. (1993) Using categorical regression instead of a NOAEL to characterize a toxicologist's judgment in noncancer risk assessment. In: *Toxicology of Chemical Mixtures: Case Studies, Mechanisms and Novel Approaches*, R.S.H. Yang, Ed. Academic Press, San Diego, CA.

Teuschler, LK; Dourson, ML; Stiteler, WM; McClure, P; Tully, H. (1999) Health risk above the reference dose for multiple chemicals. *Reg. Toxicol. And Pharmacol.*, 30: S19-S26.

Addendum:

I will only add one additional comment to my prior thoughts on the CCL4 work, due entirely to the public comments.

Are the conclusions drawn or recommendations provided supported by the body of the draft report?

Several public comments state reasons for not including certain chemicals on the CCL4 list. The reasons given for several of these suggestions seem very reasonable (e.g., TDI is not a chemical expected to exist in water). Was it the SAB subcommittee's charge to review individual listings? If not, then the public comments can gently be dismissed. If so, then the subpanel would need to review these, and perhaps other chemicals, for consideration. If the SAB ultimately decides on this latter course, I would be happy to provide toxicology and risk assessment expertise to the task as needed.

Comments from Dr. David Dzombak

1. Were the original charge questions adequately addressed?

Yes, the original charge questions are addressed adequately.

2. Are there any technical errors or omissions in the report or issues that are not adequately dealt with in the Panel's report?

I found no technical errors or omissions.

3. Is the Panel's draft report clear and logical?

The draft report is clear and logical, and well organized. It is easy to follow, and well aligned with the charge questions.

I have a few small suggestions for improved clarity in specific locations.

(a) Letter to the Administrator, page 1, paragraph 2: revise the text to make clear that there were four charge questions, and what each charge question (by number) addressed. There are summary statements about the charge questions, but these could easily be connected to the specific charge question numbers for improved clarity.

(b) Page 12, second bullet: The first statement is long, hard to follow, and the phrase "natural habitat is in the environment" should be modified.

(c) Page 15, Section 4, paragraph 1: The topic sentence discusses input provided by the National Research Council and the EPA NDWAC for CCL3. The rest of the paragraph focuses on improved transparency and efficiency for the CCL development process. There is a

disconnect with the topic sentence. A different topic sentence is needed. The relevance of the NRC and NDWAC input to CCL3 is unclear. This sentence can probably just be omitted. If it is retained, it should be moved somewhere else, and its relevance should be explained.

4. Are the conclusions drawn or recommendations provided supported by the body of the Panel's report?

The findings and recommendations presented in the draft SAB report are adequately supported in the body of the report. The committee responded well to the open-ended charge questions 3 and 4 which requested comments on specific contaminants excluded or included, focusing on process for selecting contaminants rather than addressing specific contaminants.

Comments from Dr. James R. Mihelcic

1) Were the charge questions to the committee adequately addressed?

The committee has adequately addressed the four charge questions. In addressing the charge questions the committee has provided the EPA with useful and implementable information to make the draft ccl 4 support documents more clear and transparent (Charge Question 1) while also providing information regarding whether any contaminants merit inclusion or should be listed (Charge Questions 3 and 4)

2) Are there any technical errors or omissions or issues that are not adequately dealt with in the draft report?

No technical errors or omissions or issues were identified.

3) Is the draft report clear and logical?

The draft report is clear and logical.

4) Are the conclusions drawn or recommendations provided supported by the body of the draft report?

The draft report provides clear and logical recommendations that are supported by the boy of the draft report.

Comments from Dr. Amanda D. Rodewald

1. Were the charge questions adequately addressed?

Yes

2. Are there any technical errors or omissions?

No

3. Is the draft report clear and logical?

Yes. I especially liked the succinct and bolded recommendations, which would seem to very

helpful.

4. Are the conclusions drawn or recommendations provided supported by the body of the report?

They seemed well supported.

Comments from Dr. Daniel O. Stram

1) Were the charge questions to the committee adequately addressed?

The charge questions were all addressed. There was some lack of specificity in the answers to charge questions 3 and 4 (few specific contaminants mentioned), with the response mainly about priority making. Would it be possible to provide additional examples?

2) Are there any technical errors or omissions or issues that are not adequately dealt with in the draft report?

None that I could tell

3) Is the draft report clear and logical?

I found it clear.

3) Are the conclusions drawn or recommendations provided supported by the body of the draft report?

Overall the conclusions seemed to be quite well supported.

Comments from Dr. Charles Werth

1. Were the charge questions adequately addressed?

Yes, the charge questions were adequately addressed.

2. Are there any technical errors or omissions in the report or issues that are not adequately dealt with in the draft report?

Main report: Page 2, lines 25, 26: Should this be "Contaminant Candidate List 4"?

Exec Summ: Page 1, line 39: Should "public" be inserted before "nominations"?

3. Is the draft report clear and logical?

Exec Summ: Page 1, line 37: It's not clear how the fifth recommendation from the SAB to the EPA is related to improving the clarity and transparency of listing contaminants on the CCL. Is treatment a criteria for contaminant listing?

4. Are the conclusions drawn or recommendations provided supported by the body of the draft report?

Exec Summ: Page 2, line 34: I agree that disinfection byproducts are important to include.

However, I'm not sure it's appropriate to suggest adding more to the list without any support indicating they are a priority. The report doesn't do this for any other chemical classes, and disinfection byproducts like other chemicals should be considered under the proposed set of recommended changes identified above.

Main Report, Page 12, line 22: Change "should be" to "might be". Following the report's advice above, general guidelines for selecting organisms are being proposed, not specific organisms. There are other factors that should be considered before these two organisms are included or not included.

Main Report: Page 13, line 46: instead of suggesting the EPA add these chemicals in the absence of a full evaluation, how about suggesting that the EPA evaluate these chemicals for inclusion on the CCL4.