

**Summary Minutes of the
U.S. Environmental Protection Agency
Science Advisory Board
Environmental Justice Technical Guidance (EJTG) Review Panel
January 30-31, 2014**

EJTG Review Panel Members:

Dr. H. Keith Moo-Young (Chair)
Dr. Troy Abel
Dr. Gary Adamkiewicz
Dr. Sue Briggum
Dr. Linda Bui
Dr. Elena Craft
Dr. Michael DiBartolomeis
Dr. Neeraja Erraguntla
Dr. Richard David Schulerbrandt Gragg
Dr. Michael Greenberg
Dr. James K. Hammitt
Dr. Barbara L. Harper
Dr. Cecilia Martinez
Dr. Eileen McGurty
Dr. James Sadd
Dr. Douglas Noonan
Dr. Thomas L. Theis
Dr. Randall Walsh

Purpose: The purpose of the Environmental Justice Technical Guidance (EJTG) Review Panel meeting is to allow panel members to deliberate on the charge questions about EPA's Draft Technical Guidance for Assessing Environmental Justice in Regulatory Analysis.

Designated Federal Officer: Dr. Suhair Shallal

Other Attendees: see Appendix A

Meeting Materials and Meeting Webpage:

The materials listed below may be found on the meeting webpage at:

<http://yosemite.epa.gov/sab/sabproduct.nsf/MeetingCal/434B90FBA057BB3285257C13004C002C?OpenDocument>

- Agenda
- Federal Register Notice
- Agency-provided Background Material
 - Summary of Public Comments.
 - Summary list of public comments submitted to Docket # EPA-HQ-OA-2013-0320.
- Agency Briefing Material

- EPA presentation entitled, Draft Technical Guidance for Assessing Environmental Justice in Regulatory Analysis: Preview of Research Gaps and Overview of Public Comments.
- Presentation by Registered Public Speaker
 - Comments submitted by James Broughel of the Mercatus Center at George Mason University.
 - Comments submitted by Michael W. Steinberg on behalf of the Business Network for Environmental Justice.
- Public comment submitted to the SAB Staff Office
 - Comments with attachments submitted by Mr. Paul Mellon of Novetas Solutions, LLC.
 - Submission of EPA response to OIG evaluation dated August 22, 2011 by Paul Mellon of Novetas Solutions, LLC.
 - Submission on Beryllium by Paul Mellon of Novetas Solutions, LLC.

Meeting Summary:

The discussion followed the general plan as presented in the meeting agenda.

Thursday January 30, 2014

Opening Remarks

Dr. Shallal convened the meeting and announced that all panel members were present except Dr. Gragg and Dr. Greenberg. They would be participating via teleconference. Drs. Erraguntla and Craft were delayed due to inclement weather and would join the panel later. Dr. Shallal explained that the SAB EJTG Panel will operate under the authority of the Federal Committee Advisory Act (FACA). The SAB consists entirely of special government employees appointed by EPA to their positions. As government employees, all the members are subject to all applicable ethics laws and implementing regulations. She stated that for this SAB advisory activity, no conflict of interest or loss of impartiality issues were identified.

She then reminded the audience and those participating via teleconference that all meeting materials were available on the SAB website. Since Mr. Christopher Zarba the Director of the SAB Staff Office was unable to attend the morning session, Dr. Angela Nugent, his Special Assistant, spoke on his behalf. After Dr. Nugent concluded her welcoming remarks to the panel and audience members, Dr. Shallal turned the meeting over to Dr. Keith Moo-Young, Chair of the EJTG Review Panel.

Dr. Moo-Young reviewed the agenda and asked panel members to introduce themselves by briefly explaining their affiliations and areas of expertise. After all members introduced themselves, Dr. Moo-Young asked panel members if they had any comments about the charge questions. All panel members indicated they understood the charge to the panel. Dr. Moo-Young then invited the EPA representatives to begin their presentation.

Dr. Kelly Maguire of the EPA Office of Policy, Mr. Carlton Eley of the EPA Office of Environmental Justice and Ms. Gelena Constantine of the EPA Office of Research and Development described the development of the technical guidance, their efforts to identify research gaps and the comments that were submitted by the public about the document (presentation posted on the SAB website). In brief, they began the presentation by explaining

the purpose of the technical guidance and the process that led to its development. Dr. Maguire explained that the guidance was developed for analysts, risk assessors and economists. She also stated the guidance was developed to enhance consistency among the EPA's programs in their consideration of EJ concerns. The EJTG was written to provide guidance, but also to remain flexible so that analysts from very diverse EPA programs can still find it useful. Ms. Constantine then talked about the process the agency followed to identify data and research gaps. She outlined the various ways they gathered this information, including through the use of brainstorming session with the analysts from the EPA programs, through the analysis of comments submitted by the public, and they will also use the recommendations provided by the experts of this panel of the SAB. Finally, Mr. Eley summarized the public comments that were received by the agency regarding the EJTG document. He explained the process used to get public comments for the panel. He noted that they ranged from comments about the definition of EJ terms, comments on the scope of the EJTG, and more technical comments about the use of meta-analysis and the use of the appropriate geographic scale for EJ analyses.

Panel members had some clarifying questions. They asked how the EPA determined which were long-term vs. short-term data gaps. EPA representatives explained that long-term data gaps were those that required extensive research and short-term gaps were those where data was more easily obtained. Panel members then asked how local data could be used to develop a national rule. EPA representatives responded that this was the challenge of writing the EJTG, in which guidance was intended to promote consistency and yet had to allow for flexibility. Panel members also expressed their concern that data/research gaps would delay the incorporation of EJ considerations into rule-making activities.

Dr. Moo-Young thanked the EPA presenters and asked members of the public that had registered to provide comments to the panel to begin their presentations. Three individuals had registered to present oral comments at the meeting (see Appendix B). Mr. James Broughel, of the Mercatus Center at George Mason University, was the first speaker (presentation posted on the SAB website). He stated that the way EPA currently measures benefits is biased and can overestimate the benefits of EPA rules to vulnerable populations. He suggested that in EPA's environmental justice analysis of distributional effects, in addition to a mean estimate of the populations' willingness to pay (WTP), the EPA should use a WTP estimate for the individual subpopulations being impacted by a particular regulation. He proposed that the EPA should consider more closely the impacts of its regulations on employment, which also has important distributional consequences, such as, effects on lifetime earnings, health and may contribute to income inequality. Panel members asked if Mr. Broughel is suggesting that populations with lower incomes should have a value for statistical life (VSL) that is lower than the VSL for those with higher income. They questioned the appropriateness of using such a methodology.

Mr. Michael Steinberg, on behalf of The National Association of Manufacturers' Business Network for Environmental Justice, was the second speaker (presentation posted on the SAB website). Mr. Steinberg contended that there are regulatory frameworks currently in place to protect the public and additional analyses are not necessary. He suggested that the current default assumptions were adequately protective. Some panel members stated that safety factors are already part of the quantitative risk assessment methodology. Other members reminded the panel that those safety factors had a different purpose and did not adequately protect those who are members of a susceptible populations and also disproportionately affected.

Mr. Paul Mellon, of Novetas Solutions, LLC, was the third registered speaker but he was not present when his name was called. Dr. Moo-Young thanked the speakers. After a short break, Mr. Mellon's name was called again to present his comments; however, he was not present.

Dr. Moo-Young then continued with the agenda and explained the process he would follow during the deliberations for the rest of the meeting time. He stated that in preparation for the meeting a team of panel members along with a lead discussant had been assigned to respond to each of the charge questions. In addition, he emphasized that all panel members may also comment on any of the charge questions. He then explained that he would ask lead discussants to begin the deliberations, followed by team members and then other panel members would have an opportunity to add their comments.

Question #1

Please provide your overall impressions of the clarity and technical accuracy of the EJTG for analyzing and presenting quantitative or qualitative information on potential environmental justice concerns in the development of EPA regulations.

As the lead discussant for Charge Question 1, Dr. Moo-Young presented his comments and asked team members to summarize their responses. Comments included:

- the guidance needed more clarifying information
- the use of a flow diagram and better definitions would be helpful
- uncertainties and research gaps should be acknowledged
- a false dichotomy is presented in the guidance between quantitative and qualitative data; both types of data are useful
- the balance between providing guidance to ensure consistency while allowing flexibility leads to a lack of clarity
- a companion document for lay persons is needed
- current risk assessment paradigm may not be appropriate for EJ analyses
- cumulative impacts are not addressed
- more outreach to local communities is needed early in the process
- feasibility of the analysis should be considered
- a list of best practices needs to be developed- analysts would be required to explain why they deviated
- clarify terms such as indigenous and subsistence
- the quality of the data used in an analysis is important and its limitations should be transparently discussed

Questions #2 and #3

Are these directions appropriate? Do they strike the right balance between developing information that is useful to the decision making process and the cost (time, resources, data constraints) of doing quantitative EJ assessments?

Please provide advice on methods and best practices for conducting rigorous, high-quality EJ analyses, both quantitative and qualitative, that may be conducted in support of a national rule (including data needs or other issues associated with such assessments).

Section 1.1 presents 5 key questions analysts should address when analyzing the environmental justice considerations during the development of a regulation. Are these questions clear and appropriate for considering EJ during the development of a regulation?

Dr. Greenberg was the lead discussant for Charge Questions 2 and 3. He noted that the guidance is unclear in terms of what information is needed to conduct an EJ analysis. Other panel members commented:

- Case studies in an appendix can offer examples for analysts to follow
- The questions 1 and 2 in Section 1.1 prompt the analyst to decide if there is an EJ concern and questions 3 to 5 are difficult to understand.
- Risk assessment methodologies may not be appropriate. Consideration of more than one chemical and one source is needed.
- Further refinement of the guidance may be needed after implementation to incorporate “lessons learned”.

Questions #4 and #5

Are the six analytic recommendations listed in Section 1.2 appropriate and comprehensive? Are they consistent with the state of the literature while providing flexibility to EPA program offices in the analytic consideration of EJ in the development of a regulation?

Are there any analytic recommendations that should be added? Any that should be removed?

Dr. Sadd was the lead discussant for Charge Questions 4 and 5. He stated that a detailed analytical approach should be followed using a list of best practices that are topic specific (e.g., proximity analysis). Other comments include

- A matrix should be developed describing the strengths and weaknesses of different approaches.
- Data used should be publically available.
- The distribution of impacts should be quantified.
- When a sensitivity analysis is conducted, the purpose of the analysis should be stated.
- Transparency about the approach used and the data sources will make analyses more credible.

Question #6

Is the description of differences in impacts and disproportionate impacts clear and do reviewers agree with this distinction? Are the types of data listed to aid the decision maker helpful? Are there other categories of data or information that should be added to this list?

Dr. DiBartolomeis was the lead discussant for Charge Question 6. He explained that the tools are not available for analysts to assess disproportionate impacts. Others noted:

- They agree with the distinction between disproportionate and differential impacts.
- Analysts should consider both chemical and non-chemical stressors.
- The section describing the differences in impacts and disproportionate impacts should be removed from the document. The distinction is not necessary since disproportionate is not defined.
- The concepts in this section should be introduced earlier in the guidance document.

- The comparison group should be identified (i.e., least affected population, general population).

Panel members had questions about the role of the analyst in determining disproportionate risks. EPA representatives explained that analysts provide various options to decision makers. They do not make a determination of disproportionality. Panel members were also reminded that the term disproportionate refers to a mandated threshold that must be met for action to be taken. EPA representatives described the rule-making process to panel members. They explained that there are different reasons for developing rules, including being mandated by Congress, for the purpose of revising a standard or they may be discretionary. Rules have many components and separate chapters to discuss the possible impacts on employment, children, EJ communities, etc. The guidance is intended to provide some information on how to consider EJ issues in a rule making.

Question #7

Does the discussion of contributors and drivers adequately reflect the state of the literature? Is it clear and technically accurate? Are there any additional factors that should be included in the discussion?

Dr. Abel was the lead discussant for Charge Questions 7. Panel members noted that contributors such as the housing market, economic and market forces push EJ communities to areas of low environmental quality. The literature review does not appear to be helpful for analysts; it may be better to include key scoping questions. Other comments include:

- The Social Justice discussion in Section 3, page 1 of the guidance document should be moved forward.
- The discussion is accurate but not complete. Contributors such as health disparity are not mentioned.
- The role of individual behavior should be included.
- Early public involvement is necessary to understand the concerns of the local population.

Dr. Moo-Young asked if members had any further comments; there were none. Dr. Shallal reminded participants that the meeting would continue at 9:00 a.m. the next morning and then recessed the meeting at approximately 5:00 p.m.

Friday January 31, 2014

Dr. Shallal re-convened the meeting at 9:00 a.m. and reminded the panel members and the audience that today's meeting was a continuation of the meeting of the EPA SAB Environmental Justice Technical Guidance review panel. Dr. Moo-Young called on the lead discussant for Charge Question #8, Dr. Craft, to present her response.

Question #8

Is section 4 clear and technically accurate? Are the scoping questions outlined in Section 4.3.2.1 appropriate? Do the scoping questions adequately identify opportunities for incorporating

environmental justice into a human health risk assessment? Should certain scoping questions be prioritized at various stages of the risk assessment (e.g. exposure, dose-response)?

Panel members noted that in conducting a human health risk assessment knowing the population you are assessing is important. Earlier public engagement is very important. Using the current risk assessment paradigm may not be appropriate.

Other comments include:

- The mechanism of action (MOA) of the chemical(s) should be included and a biologically significant adverse effect should be defined.
- Cumulative risk should be based on more than MOA only.
- Rely on local municipalities for data; for example, there are significant differences between impacts for those in rural vs. urban environments and for east coast vs. west coast populations.
- Provide a clear rationale for the approach that is used and be transparent regarding the assumptions and uncertainties associated with the assessment.

Question #9 and #10

Does Section 5 provide a clear overview of the methods that could be used for considering environmental justice? Are there other methods that should be added to the discussion?

Section 5.4 discusses analytical considerations that may have a significant impact on results.

Are these considerations appropriate for assessing EJ in the context of a regulation? Are there considerations that should be added/removed from the discussion?

Dr. Noonan was the lead discussant for Charge Questions 9 and 10. He commented that the assumptions and uncertainties associated with the models that are used in the assessment must be fully discussed. Other comments include:

- Using a finer resolution when doing proximity analyses may not be desirable and may lead to less accurate assessments.
- Qualitative assessments should not be disregarded.
- The selection of the appropriate baseline community is important and the rationale for that selection should be presented in the analysis.
- Non-health impacts should also be included (e.g., income, employment).

Question #11

Is there sufficient guidance on when and how to conduct an analysis of the distribution of costs? Is the guidance associated with distribution of costs appropriate?

Dr. Walsh was the lead discussant for Charge Questions 11. Panel members expressed concerns about the terms used in the guidance which suggest that conducting a cost/benefit analysis is optional. The rationale for why an analysis is not done should be clearly described by the analyst. A panel member noted that the executive order does not require a cost calculation. Rules may also overburden EJ communities resulting in indirect effects, such as, lower wages or loss of jobs.

Question #12

What are the key methodological or data gaps specific to considering EJ in regulatory analysis? Which factors should be prioritized in the near-term to improve how EPA considers potential EJ concerns in regulatory analyses?

Dr. Theis was the lead discussant for Charge Questions 12. He noted that methods and data that are lacking include individual level data. Panel members commented that more information on cultural practices is needed. Identification of “cold spots”, in addition to hot spots, would be helpful. Panel members cautioned that analyses should not be delayed while gathering new data. The guidance should be re-evaluated and updated periodically (e.g., every 5 years). A baseline map of where EJ issues are located is needed. A companion document to explain issues to lay persons is also needed.

After the discussion of Charge Question 12 was complete, Dr. Moo-Young asked each of the panel members to summarize their final impressions.

FINAL IMPRESSIONS

Dr. Craft – This guidance will be an important resource for other agencies.

Dr. Adamkiewicz – Data gaps should be discussed transparently in the analysis.

Dr. Gragg – Getting public input early in the process is important.

Dr. Abel – The guidance will improve the process for including EJ concerns in rule-making.

Dr. Briggum- Transparency about all aspects of the rule-making process is important.

Dr. Theis- The larger research program for addressing the research and data gaps needs to be defined.

Dr. Erraguntla – Using exposure information and characterizing the uncertainty is a necessary part of each analysis.

Di Bartolomeis – Analysts should also have input as to what information should be included in the guidance.

Dr. McGurty – A better balance between flexibility and prescriptive guidance.

Dr. Hammitt – The guidance should be more prescriptive and less ambiguous.

Dr. Bui – The guidance will be helpful for understanding EJ issues.

Dr. Walsh – The conceptual discussion of the goals of the analysis should be placed at the beginning of the document.

Dr. Martinez – Unable to speak but gestured with a thumbs up.

Dr. Sadd – The EJTG will have an impact on future EJ research.

Dr. Noonan – Define EJ goals and provide best practices for doing the analysis then require a rationale for deviating from these practices.

Dr. Harper – The EJTG represents a good step forward. Emphasize exposure pathways in the analyses.

After all panel members were given an opportunity to give their final impressions, Dr. Moo-Young thanked the EPA representatives for their presentations and for responding to the panel's questions. He then informed the panel members about the next steps in the report writing process. He asked Dr. Shallal to review the steps for the panel members. She inform them that each team will work together to craft their response. The lead discussant will integrate the response and send it to Dr. Moo-Young and to her. She will work with the Chair to develop a draft report. A teleconference will be held to discuss the draft report after it is developed. She also reminded panel members to include her on any correspondence between group members. Dr. Moo-Young thanked panel members for participating in the discussions.

Dr. Shallal thanked all the participants and adjourned the meeting at approximately 3:00 p.m.

Respectfully Submitted,

/s/
Suhair Shallal, Ph.D.
Designated Federal Officer

Certified as Accurate:

/s/
H. Keith Moo-Young, Ph.D.
Chair, SAB Environmental Justice Technical Guidance Review Panel

NOTE AND DISCLAIMER: The minutes of this public meeting reflect diverse ideas and suggestions offered by panel members during the course of deliberations within the meeting. Such ideas, suggestions, and deliberations do not necessarily reflect definitive consensus advice from the panel members. The reader is cautioned to not rely on the minutes to represent final, approved, consensus advice and recommendations offered to the Agency. Such advice and recommendations may be found in the final advisories, commentaries, letters, or reports prepared and transmitted to the EPA Administrator following the public meetings.

Appendix A List of Attendees

| January 30, 2014 | | |
|-------------------------|------------------|-------------------------|
| First Name | Last Name | Affiliation |
| Angela | Nugent | US EPA/SAB Staff Office |
| Kelly | Maguire | EPA |
| Becky | Cutherbertson | EPA, OSWER |
| Ann | Wolverton | EPA |
| Patricia | Casano | GE |
| James | Com | EPA |
| Charles | Lee | EPA |
| Nica | Loue | EPA |
| Gelena | Constantine | EPA, ORD |
| Carlton | Eley | EPA |
| Paul | Mellon | Novetas |
| Dave | Reynolds | Inside EPA Newsletter |
| Rita | Shooney | EPA |
| Michael | Steinberg | BNEJ |
| Chip | Yest | NAM |
| James | Broughel | Mercatus Center GMU |
| Yolanda | Sanchez | EPA, OSWER, OSRTI |
| Cynthia | M. | EPA |
| Christopher | Zarba | US EPA/SAB Staff Office |

| January 31, 2014 | | |
|-------------------------|------------------|--------------------------|
| First Name | Last Name | Affiliation |
| Christopher | Zarba | US EPA/SAB Staff Office |
| Kelly | Maguire | EPA |
| Becky | Cutherbertson | EPA, OSWER |
| Ann | Wolverton | EPA |
| Patricia | Casano | GE |
| Marva | King | EPA |
| Charles | Lee | EPA |
| Martha | Shimkin | EPA |
| Gelena | Constantine | EPA, ORD |
| Carlton | Eley | EPA |
| Yolanda | Sanchez | EPA, OSWER, OSRTI |
| Rita | Shooney | EPA (via teleconference) |
| Annie | Jarabek | EPA (via teleconference) |

Appendix B

List of Registered Public Speakers for January 30-31, 2014 meeting

1. Mr. James Broughel of the Mercatus Center at George Mason University
2. Mr. Michael Steinberg on behalf of The National Association of Manufacturers' Business Network for Environmental Justice
3. Mr. Paul Mellon of Novetas Solutions, LLC