

Secretaries' Science Advisory Board

MEETING SUMMARY

Archdale Building, Ground Floor Hearing Room, Raleigh, NC

Monday, October 22, 2018

10:00 AM-4:30 PM

The Department of Environmental Quality (DEQ) and the Department of Health and Human Services (DHHS) Secretaries' Science Advisory Board (SAB) met on Monday, October 22, 2018 at the Ground Floor Hearing Room of the Archdale Building in Raleigh, NC. SAB members in attendance were: Jamie Bartram, PhD (Chair), Viney Aneja, PhD, Gina Kimble, PhD, Richard T. Di Giulio, PhD, Tom Augspurger, PhD, Detlef Knappe, PhD., Woodhall Stopford, MD, MSPH, Michael Stoskopf, DVM, PhD., Thomas Starr, PhD, Mr. Phillip Tarte, MPH, and Betsy Tilson, MD, MPH. John Vandenberg, PhD., and Elaina Kenyon, PhD, were present via telephone. Also in attendance were DEQ Assistant Secretary Sheila Holman, Sandy Mort, PhD, DHHS Zack Moore, MD, MPH, DEQ and DHHS support staff.

I. Call to Order (Chairman Jamie Bartram)

Chairman Bartram called the meeting to order at 10:10 am. He mentioned that the September meeting had been cancelled due to Hurricane Florence and asked that the assembly take a moment to remember those affected by the disaster.

II. Ethics Statement

Chairman Bartram read the ethics statement and reminded the members that if anyone had any conflict of interest to indicate so. Dr. Vandenberg recused himself from commenting on the GenX report, due to institutional conflict.

III. Approval of Meeting Minutes for August 20th

The meeting minutes were circulated to all members. Chairman Bartram asked if everyone had any additional comments on the minutes; there were none, so the August minutes were approved and adopted by consensus.

IV. GenX Report

The summary of public comments received during the extended comment period (due to the effects of Hurricanes Florence and Michael) was distributed to the members (see attachment). Dr. Starr mentioned that the language in the report regarding the 140 ppt was adopted from the

EPA language deliberately, to stay consistent with what EPA has already said regarding the GenX health goal. Chairman Bartram moved through the comments summary by category, asking the board members to comment on any substantive changes they felt needed to be made to the GenX report, reflecting on the public comments; there were no comments by board members on categories 1 and 2, 4 through 7. On category 3, the board members discussed that on page 15 of the report, regarding the groundwater standard, the practical quantitation limit (PQL) does not require scientific review, only consultation by the Board. Chairman Bartram asked Drs. Augspurgen, Knappe and Tilson to put together wording to reflect the change needed in the report.

Chairman Bartram mentioned that there were a large number of comments from Damian Shea, PhD (attached; PDFs of public comments), a consultant supported by Chemours/Dupont. Dr. Augspurgen mentioned concern regarding fish and wildlife, as referred in the environmental toxicology section of the report. There is data available regarding aquatic life, which has been reviewed by the Board. The Board did not act on uncertainty, and as human health is the driver for the report, rather than aquatic life, the Board felt no changes to the report were warranted in response to Dr. Shea's latest submission. As to the comments from the Southern Environmental Law Center (SELC), the Board has already discussed the limitations of the science, which was the focus of SELC's comments.



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GenX Report Public

Dr. Mort said that DEQ agrees the Board has adequately addressed the subjects related to the public comments and attention to the GenX report and specifically the DHHS' selection of the GenX point-of-departure (POD) and reference dose (RfD) calculation and is satisfied with the report. Dr. Zack Moore said that DHHS is satisfied as well.

Dr. Mort provided an update on EPA's upcoming release for public comment of their GenX and PFBS oral reference doses, noting that the EPA anticipates releasing those values soon.

Chairman Bartram asked that the minutes reflect the fact that the Board is sensitive to affected populations and has taken their comments into consideration with the report.

V. Methyl Bromide

Chairman Bartram asked for the presentation on methyl bromide. Mike Abraczinskas, Division Director of Air Quality (DEQ) began the presentation (see attached).



Abraczinskas_Mort_
methyl_bromide_SAI

Mr. Abraczinskas clarified the use of “synthetic minor applicants” to mean those who choose to accept a threshold below 10 tons per year; major applicants are at that level or above. He said that 22 states do have AALs for methyl bromide, and he would like to see NC join them. There was discussion regarding the location of the applicants (how concentrated, how close together, proximity to ports, etc.); control and monitoring techniques; alternatives to methyl bromide; definition of “ambient air” (at the fence line of the facility and beyond); and effects in the workplace as well as outside. Chairman Bartram said the Board would like to hear from the entities which regulate workplace health in regard to inhalation of methyl bromide. Mr. Abraczinskas said he would follow up with those entities, and pointed out there are very specific protocols to protect workers when working with methyl bromide.

Dr. Mort continued the presentation. The report regarding the toxicity of methyl bromide has been given to the Board. The proposed AAL is $0.005 \mu\text{g}/\text{m}^3$ based on the IRIS chronic reference concentration (RfC) value; DAQ is requesting the SSAB review and affirm the IRIS RfC as the appropriate basis for the Acceptable Ambient Level (AAL) to protect public health and sensitive populations, and the 24-hour chronic toxicant averaging time. There was discussion on the difference between the ATSDR inhalation value and the IRIS RfC; Dr. Mort stated she was more comfortable with the IRIS RfC because the ATSDR value is at this point a draft value, released for public comment, and has not yet been finalized. If it is finalized, Dr. Mort proposed discussion with EPA regarding their review of the ATSDR value and IRIS RfC, and she had no questions on the science behind the ATSDR and IRIS values. Mr. Abraczinskas

responded to a question regarding the other states' AALs and what the difference is between state and federal requirements and controls regarding toxic air pollutants; he also said he would be happy to supply to the Board the AALs used by the other 22 states. He also said there has been modeling done for ambient levels, but no monitoring; he is not aware of other states having monitoring data. Dr. Mort said that 24 hours has been typically used for the AAL averaging period for chronic toxicity concerns; Mr. Abraczinskas described how the data is managed and collected over a 24-hour period to create the AAL. There were several questions and discussions of this.

Chairman Bartram summarized the discussion and questions, saying that the question before the Board regarding methyl bromide is whether to endorse the proposed AAL and IRIS RfC, and the Board has three caveats: (1) occupational exposure, which needs to be explored further; (2) 24-hour AAL averaging is reasonable, only if there is no level of acute concern; (3) not endorsing every step in IRIS document, but the overall conclusion is correct, pending changes made by the ATSDR public comment process. Dr. Starr mentioned that ATSDR uses benchmark dose modeling to calculate its value; he has concerns regarding half-life and length of exposure, and wants the Board to examine this further. Dr. Mort clarified that the rodent toxicity assay that was the basis of the IRIS RfC used a 6 hours per day, 5 days per week exposure, which was adjusted to a 24-hr per day, 7-day per week exposure, and that air concentration was modified to reflect a "human equivalent concentration" (HEC). Dr. Vandenberg did reference the IRIS document with its calculation method. There was additional discussion by various members. Mr. Abraczinskas said that if the Board feels it needs more time to weigh in on a statement on methyl bromide, the presentation to the EMC in November 6 and 7 would result in a public comment period during late November, early December, and as long as the Board makes its statement before the public comment period ends, this would satisfy the Board's need for additional time to review the data and make a decision. He stated he would pursue contacting those agencies that oversee occupational exposure levels to request their input to the Board. Chairman Bartram asked the Board if they are comfortable accepting the report with the three caveats previously stated; following discussion and restatement of the conclusion, there was general agreement.

Chairman Bartram suggested the lunch break end at 1:30 PM so the outside presenter scheduled for 1:45 PM can begin promptly; the Board broke for lunch at 12:45 PM.

Chairman Bartram recalled the meeting at 1:30 PM, asking for the modifications to the GenX report proposed by Drs. Augspurger, Knappe and Tilson. Dr. Augspurger said they are the following:

1. **Make use of the PQL definition on DEQ's website, added to the end of bullets in section 11:** "A possible alternative to limit exposure to Gen X to the greatest extent possible would be to use the Practical Quantitative Limit (PQL), which is defined purely as the lowest concentration of a contaminant that can be reliably detected within specified limits of precision and accuracy during routine laboratory operating conditions. This report would not preclude the policy decision to adopt a PQL as the regulatory standard, however the charge of this Advisory Board was to recommend a science and risk based level that would be health protective for Gen X."
2. **This next section would replace the third to last bullet in section 11 and be moved up to become the first bullet:** "The DEQ and DHHS encourage and support efforts to more fully understand the impacts of Gen X and long term additive exposures to mixtures of PFAS, including their persistence, environmental fate, and effects on human health and ecological receptors."

Chairman Bartram reviewed the public comments on the GenX report, stating that one set recommended that SSAB look at PFAS as a class, rather than one compound at a time. He also reviewed the consensus agreed upon by the Board regarding methyl bromide, that the Board would like to examine occupational exposure and the AAL, requesting that other state agencies weigh in, such as OSHA and Department of Labor.

Because the outside presenter had not yet arrived, Chairman Bartram then suggested the order of the agenda be flipped, with the Board to discuss the next steps in the hexavalent chromium subject, to be followed by the TCE presentation.

VI. Hexavalent Chromium (Cr6)

Chairman Bartram reviewed the charge to the Board regarding Cr6, saying the proposed approaches of (1) speciation – total chromium; and (2) derivation are to be considered. He then asked the Board to reflect on the next steps to be taken. Dr. Mort said the literature review provided by the EPA to DEQ produced approximately 1,000 references grouped by EPA as in

vivo and in vitro references. Dr. Mort identified that DEQ has begun to access these references through the EPA HERO databased and will provide them to the Board as they are gathered, but for some, DEQ will only be able to access the abstract. DEQ will provide the references to the Board as they are gathered. At the Chair's request, Dr. Mort reviewed the charge to the SAB regarding hexavalent chromium. Dr. Augspurger said that human health issues are at the core of the Cr6 charge; Dr. Knappe said that California has spent a lot of time on developing a drinking water standard for Cr6.

There was a 15-minute break at 2:00 PM to allow the outside presenter to set up his presentation.

VII. TCE (Trichloroethylene)

Chairman Bartram recalled the meeting to order at 2:15 PM and introduced Kevin Koporec, EPA Region 4.

Mr. Koporec gave the presentation "TCE Vapor Intrusion Concerns" (see attached).



TCE VI
discussion_USEPA-R

There was considerable discussion by board members, asking questions regarding screening values, asking clarifying questions, and generally centering on human health concerns. Chairman Bartram thanked Mr. Koporec for his presentation, and then stated that the Board seemed comfortable with the recommendations as stated in the TCE report. He then asked if the Board was ready to move the report to public comment; it was agreed by general consensus.

The Board then considered future dates for meetings. The next meeting is set for December 3, 2018, and then bi-monthly, the first Monday of every month, in 2019, beginning on February 4, 2019.

Chairman Bartram stated he is retiring from teaching, and emigrating out of the United States, so he is hereby stepping down as Chair. He expressed his thanks to the state and to his fellow board members. DEQ Assistant Secretary Holman noted it is with sadness we say goodbye to Chairman Bartram, we thank him for his service, and presented him with a crystal

award, marking his service to DEQ and DHHS as inaugural Chairman of the N.C. Secretaries' Science Advisory Board. She further stated an announcement of a new chairman will be made as soon as possible.

There was a 5-minute break before moving to Public Forum.

VIII. Public Forum

Chairman Bartram thanked everyone for attending, and asked if anyone had anything they wanted to say. John Wagner asked to speak.

Mr. Wagner stated he is concerned about all the unknowns in the methyl bromide discussion; that modeling is important, but it is dependent on data, and there seems to be no basis in data. He asked that actual levels be included, existing sites and new ones, and gather data from the existing sites to use in modeling.

He further stated he felt the danger of an odorless and tasteless gas was not emphasized enough, that it is extremely toxic with many effects. He asked if there was something, as with odorants used in natural gas, that could be added to alert people to the dangers of methyl bromide emissions. He asked if the metabolic and genetic effects are included in the calculation of injurious levels. He then mentioned that "worst case scenario" is defined by a model, rather than actual worst case scenarios (explosion, spill, etc.). He asked that the Board consider the safer alternatives to methyl bromide, and to consider peak exposures, and acute exposures as well.

Chairman Bartram thanked Mr. Wagner for his comments, and said again that the Board is intending to revisit methyl bromide at its next meeting, especially with regard to sensitive subpopulations, and to clarify issues raised at this meeting.

Next Meetings

Future meeting dates:

- (i) December 3, 2018
- (ii) February 4, 2019
- (iii) April 1, 2019
- (iv) June 3, 2019

- (v) August 5, 2019
- (vi) October 7, 2019
- (vii) December 2, 2019

All meetings to be held in the Ground Floor Hearing Room of the Archdale Building, beginning at 10:00 AM.

There being no further public comment, Chairman Bartram thanked the board members, DEQ and DHHS support staff and members of the public for their attendance and adjourned the meeting at 3:12 PM.

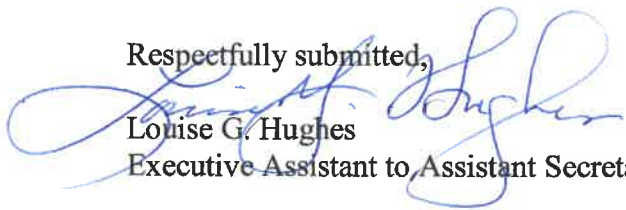
Respectfully submitted,

Louise G. Hughes

Executive Assistant to Sheila Holman, DEQ Assistant Secretary for the Environment

There being no further questions or comments from the public, Chairman Bartram thanked everyone again for their attendance and ended the Public forum at 3:12 PM, adjourning the meeting.

Respectfully submitted,



Louise G. Hughes

Executive Assistant to Assistant Secretary Sheila Holman, DEQ