

US EPA ARCHIVE DOCUMENT

**ENVIRONMENTAL LABORATORY ADVISORY BOARD (ELAB)****Face-to-Face Meeting/Teleconference: 866-299-3188/9195415544#****Hyatt Regency Albuquerque, Albuquerque, NM****January 22, 2018; 1:00 – 3:00 p.m. MST****MEETING SUMMARY**

The U.S. Environmental Protection Agency's (EPA) Environmental Laboratory Advisory Board (ELAB or Board) face-to-face meeting was held on January 22, 2018, as a session at the 2018 Forum on Environmental Accreditation in Albuquerque, New Mexico. The agenda for this meeting is provided as Attachment A, a list of meeting participants is provided as Attachment B, and action items are included as Attachment C. The official certification of the minutes by the Chair or Vice-Chair is included as Attachment D.

**OPENING REMARKS, ROLL CALL, MISSION STATEMENT AND OVERVIEW OF BOARD GOALS**

Dr. Henry Leibovitz, Chair of ELAB, welcomed the members and guests to the meeting. He took roll of the members present and attending by teleconference. Ms. Lara Phelps, Designated Federal Official (DFO) for the Board, participated via teleconference.

Dr. Leibovitz explained that the Board operates under the Federal Advisory Committee Act. ELAB's mission is to provide consensus advice, information and recommendations on issues related to enhancing EPA's measurement programs and facilitating the operation and expansion of a national environmental accreditation program. ELAB provides this advice, information and/or recommendations to the EPA Administrator, EPA Science Advisor and/or Forum on Environmental Measurements (FEM).

**APPROVAL OF DECEMBER MINUTES**

Dr. Leibovitz asked whether any members had comments about the Board's December 2017 minutes; none were offered. Ms. Deb Waller moved to accept the minutes; Ms. Patty Carvajal seconded the motion. The Board unanimously approved the December minutes. Dr. Leibovitz explained that all past Board minutes are published on ELAB's website.

**UPDATES FROM THE DFO**

Ms. Phelps reported that she has accepted a new position in the Agency as the Deputy Division Director of the Air and Energy Management Division within the National Risk Management Research Laboratory (NRMRL). She is working with Mr. Thomas O'Farrell, ELAB's new DFO, to ensure that the transition is as smooth as possible. Work to publish all of ELAB's past products and any relevant EPA responses on the Board's website will continue.

This is a membership drive year for the Board; a *Federal Register* notice will be published in the near future to announce the call for members. Those Board members who have not served their maximum allowed terms and are interested in serving again will need to inform EPA in writing of their continued interest. ELAB members also are encouraged to make suggestions regarding those who may be interested in serving on the Board.

EPA has updated its meeting system; the new call-in number and passcode will take effect for the Board's February meeting. Although it is not standard protocol, to help ensure that interested parties can find the information, the new call-in credentials will be published to ELAB's website. Ms. Phelps' phone number and email address remain the same.

Dr. Leibovitz thanked Ms. Phelps for her 14 years of service to ELAB and read the letter of appreciation for her service that the Board drafted to send to the Principal Deputy Assistant Administrator for Science for the Office of Research and Development at EPA. Dr. Dallas Wait moved to accept the letter and send it to EPA; Mr. Brad Meadows seconded the motion, which was approved unanimously. Ms. Phelps noted that it has been an honor and a pleasure to work with ELAB through the years.

### **ACTIVITIES SINCE AUGUST 2017**

Since ELAB's last face-to-face meeting in August, the Board and its Task Groups have completed the following:

- Met with EPA staff and The NELAC Institute (TNI) Whole Effluent Toxicity (WET) Testing Expert Committee members to discuss TNI recommendations (August 2017).
- Followed up with the participant who introduced the issue of microwave extraction of polychlorinated biphenyls at the August face-to-face meeting, explaining that this is covered in Method 8082A (September 2017).
- Provided recommendations to the Agency on how to increase access to the Drinking Water Certification Officer's Training Course (October 2017).
- The Cyanide Methodology Task Group met with Mr. Dan Hautman and other Office of Water (OW) staff to discuss EPA's response to ELAB's cyanide methodology recommendations and developed a response to the Agency (November 2017).
- Established two new Task Groups on (1) user-generated library acceptance criteria and (2) addressing emerging contaminants (November 2017).
- Received and is considering EPA's response to the April 2017 letter on selected ion monitoring (SIM; December 2017).

### **CURRENT TASK GROUP UPDATES**

The Board possesses broad expertise and works on a variety of topics identified by ELAB members, the Agency or the environmental laboratory community. The Board addresses these topics through temporary Task Groups. The Task Group leaders or their representatives provided a report of current topics/activities.

The following Task Groups are on hiatus or awaiting input: Drinking Water Certification Officer's Course (awaiting feedback from an October 2017 letter), In-Line and On-Line Monitoring (asked to provide future input on revised Method 334), and Interagency Data Quality

Task Force/Data Quality Objective Process (awaiting the scheduling of a future task force meeting).

### ***WET Testing***

Dr. Leibovitz explained that the Board had been approached in early 2016 by the TNI WET Expert Committee, which had asked ELAB to critique a white paper concerning the quality assurance aspects of WET proficiency testing (PT) and possibly provide a letter of support for TNI's recommendation. ELAB generally agreed with the theme of the white paper, as expressed in its May 2017 letter to EPA. Staff from EPA's OW and Office of Enforcement and Compliance Assurance are exploring options regarding PT parameter consistency and reporting requirements; the Agency would like to continue to engage with TNI and/or ELAB on this issue. The TNI WET Expert Committee is holding a session at the forum the following morning.

### ***Cyanide Methodology***

In the absence of Dr. Mike Delaney, Ms. Waller explained that EPA's response to ELAB's letter on this topic was received in July 2017 and shared at the Board's August 2017 face-to-face meeting. The Board appreciates the discussions its members have had with Mr. Hautman. EPA's letter was referred back to the Task Group, which met and drafted a response to the Agency. That letter was discussed by the full Board and approved for submission to EPA in early January 2018, after Dr. Michael Shapiro's (EPA) successor has been announced.

ELAB noted EPA's agreement that some approved drinking water cyanide methods and required preservation can lead to false positives for some samples in which cyanide forms in the sample or during testing. This is a significant problem because detected results must be reported in the public water supply's (PWS) Consumer Confidence Report (CCR). ELAB appreciates that EPA should not overstep state regulations that may be more stringent than the corresponding federal regulations; however, the Board believes that this issue should be addressed by EPA sooner than the next Six-Year Review of Drinking Water Standards. Although ELAB appreciates EPA's desire to avoid regulation by guidance, the Agency already has issued CCR guidance documents to states and PWSs, and these could be updated to address the issue.

To be proactive, EPA could prepare a "Frequently Asked Questions" (FAQ) webpage or update *Cyanide Clarification of Free and Total Cyanide Analysis for Safe Drinking Water Act (SDWA) Compliance*. This guidance also should inform laboratory certification officers, PWSs and their laboratories of the flexibility afforded by section 4.5 in Method 335.4: "*Other compatible procedures for the removal or suppression of interferences may be employed provided they do not adversely affect the overall performance of the method.*" EPA guidance and the FAQ webpage also should note the flexibility allowed in the Standard Methods and other approved methods.

ELAB also requests that EPA confirm that the "at or above" language in 40 CFR 141.151(d) ("*For the purpose of this subpart, detected means: at or above the levels prescribed by §141.23(a)(4) for inorganic contaminants*") means that unless a state has adopted a stricter required minimum reporting limit, states and EPA should accept laboratory results with reporting limits at or above the "detection limits" stated in 40 CFR 141.23. Laboratory certification

officers, PWSs and their laboratories would benefit significantly from this information, as it would preclude the need to report results less than EPA's stated practical quantitation limit for cyanide of 100 micrograms per liter. This is the approved practice in California.

The Board appreciates the opportunity to continue this discussion with EPA, and ELAB asks the Agency to let the Board know if additional information or clarification is needed.

### ***SIM***

In Dr. Delaney's absence, Dr. Leibovitz summarized that the Board's goal for this effort had been to help to define minimum criteria for SIM methods. Initially, the Board requested a dialogue with EPA through the FEM that would allow the Board to provide input on potential issues that had been identified and to support the objective of producing data of known and documented quality. The FEM provided a favorable response, and a Task Group was established to address the issue. The Task Group met several times with external SIM experts to focus on the Board's approved motion to develop reasonable criteria for the control of SIM and work with EPA to collaboratively develop criteria for SIM analysis that can be incorporated into commonly used methods or standards. ELAB approved the minimum criteria developed by the Task Group and sent them to EPA in April 2017. The Agency recently responded with detailed comments and suggestions for the minimum criteria.

EPA's letter contained 8 pages of comments and clarifications plus a reprint of EPA research on SIM gas chromatography (GC)/mass spectrometry (MS) for air toxics analysis (Pleil et al. 1990. *Journal of the Air & Waste Management Association* 41(3):287–293.) EPA discussed the minimum criteria at a FEM meeting and solicited comments from subject-matter experts. Staff from EPA's Office of Air and Radiation, Office of Land and Emergency Management, Office of Resource and Conservation Recovery, OW's Office of Science and Technology, National Exposure Research Laboratory, NRMRL, and Region 7 provided input. Generally, EPA was "very supportive of having some minimum criteria for SIM methods" but noted that its programs have differing needs. The Agency asked ELAB to "provide a revision to the minimum criteria."

In its feedback, EPA provided a number of editorial suggestions, as well as 7 pages of technical suggestions about background/definitions, personnel, method flexibility, type of MS, MS tuning criteria, number of scans per peak and scan descriptors, SIM acquisition parameters, sensitivity, retention time windows, identification and identification verification criteria, automated peak detection, and other criteria that have not been mentioned.

The Board agreed that the letter and minimum criteria should be sent back to the Task Group to address EPA's comments.

Mr. Jerry Parr (TNI) commented that the initial demonstration of capability (IDC) under the personnel suggestion is a trivial point because IDC is something that is done before samples are run, but there are no samples yet. Mr. David Speis (Retired) agreed, adding that this was an unusual set of criteria from the Agency. He suggested that the Task Group meet with EPA staff to discuss and prioritize the criteria because if the Board attempts to address all of them, it will be an arduous task that will not be overly helpful to the environmental laboratory community. Mr. Parr agreed.

Dr. Richard Burrows (TestAmerica Laboratories, Inc.) noted that a thesis on SIM analysis is not needed; rather, three to four bullets or one short paragraph should be developed that provides guidance for methods that do not mention SIM. Dr. Leibovitz explained that this was the Board's original intent. EPA's comments were specific, and Dr. Leibovitz agreed that key criteria are important. Data validators do not have clear guidance to determine the quality of the data generated by SIM; laboratories need clear criteria they must meet when asked to perform SIM so that the quality of the data is known. Dr. Burrows agreed, reiterating that the goal is not to bypass current methods but to provide guidance for methods that do not have any SIM guidance whatsoever. Dr. Leibovitz noted that the Task Group would examine the criteria, determine which criteria meet all program needs, and focus on those. Dr. Burrows was unsure why program specificity is an issue. Dr. Leibovitz could not speak for the programs, but he noted that they have different data uses that may prompt different requirements.

### *User-Generated Library Acceptance Criteria*

Dr. Brian Buckley explained that the Task Group still is in the exploratory phase and had met via teleconference to discuss whether users could develop their own libraries for quality evaluation of data and whether quality analysis could be separated from quantitative analysis, recognizing that the breadth of the National Institute of Standards and Technology (NIST) library can never be duplicated. The Task Group members thought that the effort is possible if EPA is willing to suspend current tuning criteria, ELAB can present a compelling case for evaluation criteria to ensure quality without sacrificing the existing methodology, and a standard approach to determining the criteria and demonstrating why the chosen criteria were selected can be established (i.e., if EPA specifies how laboratories set their criteria vs. the Agency specifying the criteria).

Quantitative analysis is amenable to the development of user-generated libraries, although qualitative analysis is not because of the breadth of the NIST library. Each laboratory has the potential to create a rigorous set of criteria that EPA would examine and approve. Perhaps NIST criteria can be used to determine how to make user-generated libraries compatible in terms of cross-validation or cross-comparison of compounds.

The Task Group discussed whether to focus on any type of MS or focus on GC only and determined that, to keep the task manageable, the initial focus would be on GC. Other applications—and their different ionization sources—can be considered after the efficacy of the GC criteria have been proven.

In determining whether this effort is worthwhile, the Task Group noted that the community will benefit from being able to use the full capacity of laboratory instrumentation and from not being required to meet tuning criteria that do not allow instruments to be run optimally. The focus of the effort should be on general day-to-day analyses that do not involve unknown identification. It is appropriate for ELAB to explore this issue because any comments would be focused on current, recognized MS methods and demonstrating the limits created by the current tuning requirements rather than on developing new methods.

The Task Group will determine whether EPA is willing to suspend the current tuning criteria and would be amenable to this effort. Dr. Buckley asked the participants for their input.



Mr. Parr commented that he had personally generated approximately 500 spectra in the NIST library using the DFTPP tuning criteria. Cholesterol was used for the quality control (QC) check (i.e., very soft loss of water to show the source is clean). In his experience, the cholesterol check is a good criterion for ensuring that the spectrometer is working correctly, which is necessary. Dr. Buckley thought that cholesterol would be an ideal QC requirement for certain classes of compounds and agreed that evaluation criteria must be included to demonstrate instrument performance.

### ***Addressing Emerging Contaminants***

On behalf of Ms. Sharon Mertens, who leads this Task Group, Dr. Leibovitz explained that this Task Group recently was established to explore potential interim actions that EPA can take to address emerging contaminants and compounds of concern that do not have specific analytical methodology for regulation prior to the rule-making process. This issue is important because not only are new contaminants emerging, but also because new technologies allow the identification of the presence of contaminants in amounts that could not be detected previously. He cited the recent example of per- and polyfluoroalkyl substances, commonly known as PFAS.

### **OPEN DISCUSSION/NEW ITEMS**

ELAB also is working on the following issues and may establish Task Groups as necessary:

- Encouraging the drinking water program to adopt the most recent approved methods similar to the wastewater program and NELAP laboratory requirements.
- Clean Water Act Analytical Methods: Method 624.1, Section 9.7—Acrolein, which was introduced to the Board by Mr. Scott Siders (Illinois EPA) and Dr. Burrows, who had concerns regarding the preservation requirement in the field.
- Revisions to Appendix B—Method Detection Limit (MDL) Procedure as Applied to Drinking Water, which was brought to ELAB's attention through a request from TNI via a memorandum.

In regard to the MDL issue, Mr. Parr explained that although the two technical issues described in the TNI memorandum are concerns, the greatest concern is the use of the word “should,” which could cause all 10 EPA regions and 50 states to have different interpretations. One consistent approach is needed.

Mr. Michael Flournoy and Dr. Leibovitz explained that EPA has asked the American Council of Independent Laboratories (ACIL) to help coordinate and perform a method validation study for the proposed new draft of EPA Method 3050C (an update to Method 3050B for the Acid Digestion of Sediments, Sludges and Soils). The objective is to validate the proposed revisions to 3050C via simultaneous direct comparison to the performance of 3050B for a number of analytes. A minimum of 10 volunteer laboratories that routinely use Method 3050B will be prequalified to participate in the study through the review of their certifications of accreditation. Laboratories interested in participating may contact Dr. Agustin Pierri (Weck Laboratories, Inc.) at [agustin.pierri@wecklabs.com](mailto:agustin.pierri@wecklabs.com) no later than March 1, 2018.

Mr. Bob Wyeth (Independent Consultant) noted that numerous issues exist with methods and wondered whether user-generated libraries and SIM criteria were the most important issues for ELAB to consider. He requested that the environmental laboratory community bring forward more practical topics that can be addressed relatively quickly and help to improve commercial laboratory data quality. Most commercial laboratories do not use SIM or user-generated libraries, which tend to be used in more research-oriented efforts.

Dr. Burrows noted that EPA has improved Methods 608.3, 624.1 and 625.1, but additional issues exist and improvements still are needed. He requested that the Board consider establishing a Task Group to develop a proposal that EPA further revise and improve these methods during the next Method Update Rule (MUR).

Mr. Parr explained that an effort had been underway since the release of the previous MUR. EPA's response to questions about why the Agency had not made certain requested QC criteria changes to methods was that EPA did not have the interlaboratory performance data to support the changes. To address this, TNI contacted the Association of Public Health Laboratories (APHL), Water Environment Federation (WEF) and ACIL. TNI, APHL, WEF and ACIL have finalized a letter proposing that the Agency work with the four associations, which will provide EPA with any data that it requests at no charge so that the Agency can update QC criteria. In working on Dr. Burrows' request, ELAB can note that industry is offering the data that EPA needs to improve these methods.

Dr. Leibovitz explained that EPA is looking for matrices to conduct a validation study for an improved method for polychlorinated biphenyl congeners in wastewater. He also explained that Dr. Shapiro has retired from the Agency and no longer acts as the FEM Coordinator. Many of the Board's letters have been addressed to Dr. Shapiro, and ELAB is waiting to determine who will take his place to ensure that future letters are guided to the appropriate recipients.

As this is most likely Ms. Kristen LeBaron's (The Scientific Consulting Group, Inc.) last face-to-face meeting with ELAB, Dr. Leibovitz recognized her for her service to the Board over the years. The Board members and Ms. Phelps added their appreciation.

#### **REVIEW ACTION ITEMS/CLOSING REMARKS/ADJOURNMENT**

Ms. LeBaron reviewed the action items identified during the meeting, which can be found in Attachment C.

Citing no additional comments or issues, Dr. Leibovitz asked for a motion to adjourn. Mr. Jeff Loewe made the motion, which Mr. Meadows seconded. The Board unanimously approved the motion, and the meeting was adjourned at 2:33 p.m.



Attachment A

**ENVIRONMENTAL LABORATORY ADVISORY BOARD (ELAB)**  
**Face-to-Face Meeting/Teleconference: 866-299-3188/9195415544#**  
**Hyatt Regency Albuquerque, Albuquerque, NM**  
**January 22, 2018; 1:00 – 3:00 p.m. MST**

**AGENDA**

1:00 – 3:00 p.m.    Opening Remarks, Roll Call, Mission Statement and Overview of Board Goals

Discussion/Approval of December 2017 Minutes

Updates From the Designated Federal Official

Activities Since August 2017

Current Task Group Updates

Open Discussion/New Items

Review Action Items/Closing Remarks/Adjournment

**PARTICIPANTS LIST****Board Members**

<b>Attendance (Y/N)</b>	<b>Name</b>	<b>Affiliation</b>
Y	Dr. Henry Leibovitz (Chair)	Rhode Island State Health Laboratories Representing: Association of Public Health Laboratories
N	Dr. Michael (Mike) Delaney (Vice-Chair)	Massachusetts Water Resources Authority (MWRA) Representing: MWRA
Y (via teleconference)	Ms. Lara Phelps (Outgoing DFO)	U.S. Environmental Protection Agency Representing: EPA
Y (via teleconference)	Mr. Thomas O'Farrell (Incoming DFO)	U.S. Environmental Protection Agency Representing: EPA
Y (via teleconference)	Dr. Kim Anderson	Oregon State University Representing: Academia—Oregon State University
Y (via teleconference)	Dr. Brian Buckley	Rutgers Environmental and Occupational Health Sciences Institute Representing: Academia and Laboratory—Rutgers
Y	Ms. Patricia (Patty) Carvajal	San Antonio River Authority Representing: Watershed/Restoration
Y (via teleconference)	Mr. Michael Flournoy	Eurofins Environment Testing USA Representing: American Council of Independent Laboratories
N	Dr. Keri Hornbuckle	The University of Iowa Representing: Academia—The University of Iowa
Y (via teleconference)	Dr. Deyuan (Kitty) Kong	Chevron Energy Technology Company Representing: Chevron
Y (via teleconference)	Mr. Jeff Loewe	NiSource, Inc. Representing: Industry—NiSource, Inc.
Y	Mr. Brad Meadows	Babcock Laboratories, Inc. Representing: Commercial Laboratory— Babcock Laboratories, Inc.
Y (via teleconference)	Ms. Sharon Mertens	Milwaukee Metropolitan Sewerage District Representing: The NELAC Institute
Y (via teleconference)	Dr. Mahesh Pujari	City of Los Angeles Representing: National Association of Clean Water Agencies
Y (via teleconference)	Mr. Elan Rieser	Con Edison Representing: Utility Water Act Group
Y (via teleconference)	Dr. A. Dallas Wait (Chair)	Gradient Representing: Consumer Products Industry
Y	Ms. Debra (Deb) Waller	New Jersey Department of Environmental Protection (NJDEP) Representing: State Government—NJDEP

## PARTICIPANTS LIST (CONT)

### Contractors and Guests

<b>Attendance (Y/N)</b>	<b>Name</b>	<b>Affiliation</b>
Y	Ms. Kristen LeBaron (Contractor)	The Scientific Consulting Group, Inc. (SCG)
Y (via Adobe Connect)	Mr. Travis Bartholomew (Guest)	Texas Commission on Environmental Quality
Y (via Adobe Connect)	Ms. Mary Boden (Guest)	Nebraska Public Health Laboratory
Y	Dr. Richard Burrows (Guest)	TestAmerica Laboratories, Inc.
Y (via Adobe Connect)	Ms. Nasreen DeRubeis (Guest)	Unknown
Y	Ms. Judy Morgan (Guest)	Pace Analytical Services
Y	Mr. Jerry Parr (Guest)	The NELAC Institute
Y	Mr. David (Dave) Speis (Guest)	Retired
Y (via Adobe Connect)	Ms. Jennifer Thoreson (Guest)	Minnesota Pollution Control Agency
Y	Mr. Bob Wyeth (Guest)	Independent Consultant

### **ACTION ITEMS**

1. Ms. LeBaron will finalize the December meeting minutes and send them to Ms. Phelps via email.
2. Ms. LeBaron will finalize the letter of appreciation for Ms. Phelps' service so that it can be sent to EPA.
3. The Board will consider Dr. Burrows' suggestion regarding the 600-series methods.

Attachment D

I hereby certify that this is the final version of minutes for the Environmental Laboratory Advisory Board Meeting held on January 22, 2018.



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Signature, Chair

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Dr. Henry Leibovitz

Print Name, Chair