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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

CINCINNATI, OHIO 45268

Office of Ground Water and Drinking Water

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Henry Leibovitz, Ph.D.
Chair, Environmental Laboratory Advisory Board
Rhode Island Center for Environmental Sciences
State Health Laboratories
50 Orms Street
Providence, RI 02904

Dr. Leibovitz,

I am writing to provide you and the ELAB Board with an update on activities and developments within our Drinking Water Laboratory Certification Officer (CO) training program. We appreciate the recommendations provided by ELAB and the NELAP Accreditation Council (AC) and want you to know that your engagement and constructive feedback are instrumental in helping our office explore ways to continuously improve our Drinking Water Laboratory Certification Officer training program.

After numerous internal discussions and brainstorming, a TSC/Regional CO Training Program Workgroup was formed earlier this year to specifically discuss these suggestions and identify practical options (recognizing our resource limitations). During biweekly teleconference meetings, we discussed the current training program along with various ways we could further improve the courses. The discussions were beneficial and all recognized the value of the training program with shared interest in continuing to collaborate and implement improvements.

There was widespread workgroup agreement that:

- An effective state and Regional laboratory certification program must have well-trained and knowledgeable COs.
- Attending and passing TSC's CO training course represents only one element in evaluating the qualifications of a CO.
- Having the technical education/knowledge and direct experience both at the lab bench and through shadowing other COs on lab audits represent additional qualifying factors of an effective CO.
- Engaging in continuing education via on-going developmental training to build and refine skills enables COs to stay current on technical and regulatory requirements.
- EPA should continue to conduct a rigorous CO training program, though additional focus on advance preparation for students is warranted.
- EPA should work more closely with states regarding nominating candidates for the course and reviewing their qualifications.

Our office recognizes the challenges states face with limited resources and the potential difficulty in attending the training courses, which are only offered once per year. We appreciate the interest in more frequent course offerings and are open to that possibility at some point in the future, but current resource limitations make this impractical. As you may know, our staff supporting the laboratory certification training program all work on other priority projects (e.g., Laboratory Certification Team national program implementation, UCMR regulatory development and implementation, analytical method development/review/validation, Expedited Method Approval, and quality assurance coordination.) Orchestrating all logistical, administrative, and technical aspects of the training courses multiple times within a year would profoundly impact these other priority programs.

The workgroup discussed the potential of offering additional courses at the EPA Regional laboratories. While several regions were willing to host the courses, all acknowledged similar resource limitations making it difficult to conduct the training without the direct assistance of TSC technical staff. Further discussion of regional assistance was explored, such as coordinating in-house technical analytical method training for state COs at the regional laboratory or allowing less experience state COs (or students nominated to attend our training) to shadow Regional COs on laboratory audits thereby gaining critical lab auditing experience. There may also be opportunities for states to collaborate, engaging in interstate CO shadowing on laboratory audits providing not only experience for novice COs but also sharing detailed technical knowledge and resolution of complex auditing issues between neighboring state lab certification programs. These ideas warrant further consideration and discussion, recognizing all Regions and states may not be able to participate.

Training by third-party organizations was also discussed as a possible option, but we concluded that it would need to be self-supporting (i.e., not funded or subsidized by EPA, so training fees would apply). Depending on how a third-party training option evolved, EPA would need to evaluate whether continued operation of our own course was warranted or represented inappropriate competition with a private-sector alternative. In such a case, we would also need to fully evaluate the ability of all states to pay third-party training fees. We encourage states interested in utilizing third-party trainers to discuss this with their Regional laboratory certification program manager.

The workgroup discussed the objectives of the CO training courses and found there may be significant misunderstanding and confusion among states regarding how much can be accomplished in a week-long training program. This is most apparent when nominated students lack relevant technical education and/or any on-the-job experience (e.g., previously shadowing experienced COs auditing drinking water laboratories), as described in the Laboratory Certification Manual. For the course to be effective, the workgroup agreed that it is important for nominees to meet appropriate prerequisites, recognizing that our courses do not cover the basic or fundamental principles of analytical chemistry or applied microbiology, and that students should already be familiar with much of the material addressed in the course. We encourage states to consider the following preparation actions for nominated students:

- Ensure students are effectively preparing for the course by reviewing all course preparation materials, sent to the students in advance.
Note: We revised preparation instructions for the course offered in July 2018, providing clearer direction to students to focus on reviewing specific analytical methods covered during the mock lab exercise and clarifying which course materials should be closely reviewed, versus other documentation that should only be considered reference material (i.e., not required reading prior to attending.)
- Coordinate laboratory audit shadowing activities where the student actively participates and engages in all lab audit activities, under the direction of an experienced CO. This should include assisting an experienced auditor with staff interviews, checklist completion, documentation review (e.g., comparing SOPs against approved analytical methods), data package review, audit “opening” and “close-out” meetings, report generation, etc.
- Provide supplemental technical experience at the bench (if the student has limited lab experience), either running more commonly used methods or witnessing how an experienced analyst conducts the analysis/assay. The principal state lab or other state-operated public health lab could provide the venue for this experience. States can also contact their EPA regional program manager about the potential to visit the regional lab to “witness” commonly audited analytical methods.
- Have the student attend the CO course partnered with an experienced CO from the state that may be due for refresher training. The experienced CO can assist the student with studying course material and possibly serve as a mentor and tutor, benefiting the student as well as the auditor by refreshing their knowledge. Some states already take this approach.

The workgroup recognized that situations can occur where the region or state are limited in their ability to hire experience staff and/or to prepare them in advance of our course, but in those cases, one should recognize that the student may struggle and may not pass the course. Students should use the time leading up to the annual training to effectively prepare and look for opportunities to gain valuable technical experience shadowing other auditors and seeking supplemental training offered by TNI, ISO, or APHL, or other organizations.

TSC is looking closely at web-based training opportunities and recognizes the potential benefits of offering parts of our course remotely. This approach has been used effectively, for example, to train prospective COs to evaluate laboratories analyzing drinking water samples for *Cryptosporidium*, though this training focused on one parameter, analyzed by two similar methods that fall under one regulatory monitoring requirement (LT2). Laboratory certification requirements for chemical and microbiological parameters are complicated by the number of parameters and the large array of approved methods making this on-line training more complex and significantly (orders of magnitude) larger in scope. Nonetheless, over the past year, as an interim step, we have drafted web-based course content that covers regulatory background, typically presented over an entire day within the current courses. We are now evaluating how remotely presenting this material could reduce the time needed for those lectures and allow more focused instruction during the week (i.e., granting more time for open discussion, lab-auditing

skill development and preparation for the mock lab exercise). Future web-based development of training materials will depend on available funding.

Training on technical and regulatory requirements is a critical component of implementing the national drinking water program and ultimately the protection of public health, and while our office is proud of our training program, we are always interested in exploring new ways to improve. We value input from you and our other stakeholders as we work to meet this critical need.

I look forward to continuing these discussions next week at the NEMC in New Orleans. Feel free to directly contact me at any time to further explore ways to improve our training program.

Sincerely,

A handwritten signature in black ink, appearing to read "Daniel P. Hautman". The signature is fluid and cursive, with a large initial "D" and "H".

Daniel P Hautman
Deputy Director, Technical Support Center

CC: Thomas O'Farrell, ELAB Designated Federal Official
ELAB Board
NELAP AC
TSC Laboratory Certification Team