SPECIAL ISSUE:
CALIFORNIA’s WATER LABORATORIES

ONE WAY OR ANOTHER, UTILITY LABS WILL LIKELY SOON CHANGE
Forever

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EVOLVING LAB REGULATIONS | THE ROAD TOGETHER | LAB DIRECTORY
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Wait and See

All laboratories in California that produce permit required work must be certified by the Environmental Lab Accreditation Program (ELAP), a division of the Division of Drinking Water (DDW).

In 2014, ELAP moved with DDW from the Department of Health Services due to poor program management, e.g. missing and inconsistent assessments, no review of proficiency testing (PT) results and poor communication from ELAP staff. Christine Sotelo took over as ELAP Chief and an Expert Review Panel (ERP) was formed to analyze issues and suggest ways to fix them.

Although many of the issues centered on the operations of ELAP, one suggestion was to update their laboratory certification standard. The ERP had three suggestions that would work, but strongly recommended The NELAC Institute (TNI) laboratory certification standards.

New and not yet approved by TNI committees, ELAP decided to move forward with updating their standard to the TNI 2016 standard, while working on the internal department issues.

A new Environmental Laboratory Technical Advisory Committee (ELTAC) was formed to help ELAP work through the process. As a representative of CWEA, I was appointed to ELTAC in March 2015, hoping to make a real change in how ELAP interacts with certified laboratories.

ELTAC consisted of members from private and public labs, water and wastewater labs, specialty contract labs, as well as public health labs. I can assure you – other than general recommendations ELAP needed to improve management – there wasn’t a single unanimous vote on the new proposed regulations.

In this edition, you’ll read articles by some of the most well-known members of the California lab community.

We have an article by Christine Sotelo, ELAP’s Chief.

We get the perspective of William Ray, former ELAP staff member who helped write the current ELAP regulations. He also worked as one of the State Water Board’s Quality Assurance Officers before retiring and becoming a consultant and assessor.

We also have Stephen Clark, Vice President of one of the premier aquatic toxicity laboratories in California and ELTAC’s chair.

You’ll also get the perspective of Dr. David Kimbrough, Water Quality Manager for Pasadena Water and Power, who has been an ELTAC member and is an opponent of the proposed regulations.

Finally, you’ll see an article featuring interviews with lab directors with different stances on the new regulations. Some are moving forward full speed to adopt them, others admitting they will drop certification due to the excessive costs. As a CWEA representative I’m still holding out hope for the California Quality Management System (QMS) option that was presented at the last ELTAC meeting.

The CA QMS takes the best parts of TNI Standards and removes the excessive documentation of duplicative policies most public labs already have. At this time, we’ll just wait and see.

Let Your Voice be Heard...

State Water Board Schedules ELAP Hearing

The State Water Board proposes to amend the Code of Regulations, Title 22, Division 2, Chapter 19, to update requirements and standards for accreditation of environmental testing laboratories.

An Administrative Procedure Act hearing will be held Wednesday, Dec 18, at 9:30 am at the CalEPA Headquarters in Sacramento. The Board has scheduled a vote on proposed ELAP regulations for March 17, 2020.
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One Way or Another, Your Local Utility Lab Will Likely Soon Change Forever

By CWEA Staff Writers

Water and wastewater labs are developing their strategies for how to cope with impending new regulations coming their way soon. Under the auspices of the State Water Resources Control Board, the Environmental Lab Accreditation Program (ELAP) is close to adopting new regulations that will have a significant impact on over 600 currently certified labs. Many labs agree the proposed requirements – based on The NELAC Institute (TNI) 2016 Standard – will be expensive and time-consuming.
Whether or not a given lab chooses to adopt the new regulations seems to depend on a combination of available resources (including time, staff, and expertise) and also the availability of nearby commercial labs to farm out tests to if they choose to drop their certification. Either way, costs are going up.

The City Of Escondido lab has decided it will adopt the regulations. The lab is headed by Laboratory Superintendent Nicki Branch, and is supported by her staff of 13, including recently-promoted Quality Assurance Manager Kenneth Brown. The lab has already had an NV5 (a lab auditing consulting firm)/ELAP audit, during which its policies, procedures, and documentation were compared to the TNI standard. After addressing the audit findings, it was deemed fully compliant. Branch understandably feels good about the achievement.

"We've been ELAP certified ever since the program started," says Branch, "and we actually have embraced having the TNI standard. We take pride in having been one of the first to do so. We believe the TNI elements (in the ELAP program) are necessary."

But the adoption wasn't cheap, and the promotion of Brown from a Laboratory Technician II to a newly-created position of Laboratory Quality Assurance (QA) Officer on the Escondido staff has made the adoption much easier.

"We're lucky to have him," Branch says, noting that the QA Officer's salary, as well as consulting fees incurred to perform a gap analysis of lab operations, represent the additional expense. Expenses, the need for more staff, and limited time are what concern smaller labs.

The one-person lab at Oro Loma Sanitary District in San Lorenzo, run by Plant Chemist Sara Burke, stands in contrast to ahead-of-the-pack Escondido. Instead, Oro Loma has chosen not to adopt the proposed regulations, but will hold on to their certification as long as they can, perhaps for another three years.
When they do lose it, they’ll have to send regulatory samples out to a nearby contract lab. Burke says that will allow her to concentrate on the sampling and testing that are relevant to the operation of the Oro Loma treatment plant, as well as data management and communication of results.

In contrast to Oro Loma, a small lab that must adopt the regulations is the remote two-person Mammoth Community Water District lab at Mammoth Lakes in the eastern Sierra. The Mammoth lab analyzes both water and wastewater samples. Helping to ease the transition, the lab received a phone call from the ELAP office in Sacramento, asking if it would like to participate in the ELAP mentorship program.

The program helped them “get up to speed,” in the words of Blair Hafner, Lab Manager.

“We are a very isolated (location),” she says. “There are no other options for labs to send short hold-time samples to. It’s important for us, and our (several) customers, to keep our certification.”

Hafner says her utility saw the new requirements coming and started preparing years ago, developing a quality assurance manual, plus hiring one staff person and purchasing a new LIMS system—both adding to the expense of keeping the lab certified. That’s precisely what’s on the mind of Amber Baylor, former Lab Director and now Director of Environmental Compliance at South Orange County Wastewater Authority (SOCWA) in Dana Point.

Her lab will adopt the new standard if it has to, but Baylor thinks the money required to do that would be better spent elsewhere. Plus, she says, the new rules will do nothing to improve the quality of the data her lab produces.

To comply, she says, her organization will have to add a quality assurance person—at an overall cost of $100,000.

“If 500 labs in California have to do that,” she says, “that could amount to over $50 million,” which is well over the Standardized Regulatory Impact Analysis (SRIA) of $35 million conducted by the state. The SRIA is a mandated analysis used to estimate the financial impact of proposed new regulations.
Evolving Lab Regulations

SOCWA is one of the larger labs in the area, employing six people and performing tests on wastewater, drinking water, and ocean water.

“We’ve always been certified,” says Baylor, adding that her agency already has protocols in place for HR, training, document control, and more. She contends it doesn’t need to require those policies in the new lab standard; they already exist.

She feels the proposed regulations are not amenable to labs like hers, but rather were developed for labs performing RCRA and CERCLA work across state lines.

“It’s just not the type of system we need. It’s like specifying a Cadillac when all you need is a bicycle.”

Oro Loma’s Burke shares those thoughts.

“These new administrative requirements will take a lot of desk time,” she says, while taking away from lab time. “Much of the value I provide comes from my prompt and accurate analysis of our treatment process. That helps our staff make process decisions so we can produce the best quality effluent. In the end, that’s what’s important.”

Oro Loma already uses contract labs for tests regarding metals, mercury, and cyanide. The utility plans on using these labs more in the future for the regulatory testing, for which it may lose its certification. The estimated annual cost is likely over $20,000.

Burke’s main concern with this proposed arrangement is the length of time it will take to get results from the contract labs.

“The turnaround time might be slower than we’d like,” she says. If necessary, she can always run those tests and share

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results with her co-workers. "I just can't report the results to the state. We need a certified lab for that."

Burke remains hopeful that the recommendation from ELAP's advisory committee, ELTAC (the Environmental Laboratory Technical Advisory Committee) to adopt the California Quality Management System (CA QMS) instead of the TNI based regs, may be heard, if not by ELAP staff then by the State Water Resources Control Board itself. The CA QMS reduces paperwork and administrative tasks from the ELAP requirements.

"That might help small labs," she says.

As far as the Mammoth lab and their feelings on lab improvement, Hatner says, "We have a better lab manual and our quality control is better but I am not sure about keeping up with the documentation.

"The possibility of ELAP adopting the TNI-based regulations has already improved our lab by the fact that we now have more communication from ELAP through the mentoring program." Mammoth has a lot of pressure to stay certified, as it runs samples for other small wastewater treatment plants, small water systems, and campgrounds. It has spent a lot of money on the project, but Hatner still doesn't know how it will pan out.

The new standard may raise the level of professionalism among California labs, notes Escondido's Branch.

"I think it's a good thing to have higher standards for labs," she says, adding that she and her staff would be happy to help other labs prepare for their ELAP/TNI audit. "We encountered some resistance from staff, and we had to add document control practices we didn't have before, plus a lot more detail on the lab sheets."

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On the other hand, she says the ELAP/NVS Audit was able to identify areas where lab operation could be improved, and notes that TNI provides a useful template for standard operating procedures.

"In the beginning, there was a bit of heartache," she says. "But it's been a pretty positive experience."

There has been a lot of anticipation regarding how the new regs will affect different California water and wastewater labs, the costs they will incur, how their utilities will run, and in the end, the quality of the drinking water and receiving waters. It's a vital moment for the certified labs in California.
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How to Get a Job in a Water Laboratory

DENISE LI

Denise Li, a biologist formerly with the City of LA Sanitation, sat with Andy Lipkis, founder of Tree People in Los Angeles, to discuss how this first-generation American started her career in biology and about her heroic efforts to keep our water clean.

HOW DID YOU GET INTO THIS FIELD?
I went to UC Berkeley for a BA in Biology. I took a course with Dr. Stephanie Carlson on fish ecology. Our main project for the semester was to go out to Strawberry Creek, a creek that runs through campus, and do electro fish sampling. So, basically, run a current through the creek that shocks the fish (stuns them). We were able to quantify the effects or restoring the creek to its more natural state, versus the historic channelization that’s been going on. And we also looked at the effects of the storm event. We sampled before a storm event and after, and then we quantify the change in species assemblage. I thought it was really neat. It was a way to measure anthropogenic effects through the channelization and restoration efforts, and it was also a way to look at how storms affect species assemblage. That got me interested in ecology. The next semester, I took a course with Dr. Donald Weston, who is a premier researcher in pesticides in the Sacramento San Joaquin River Delta Region on environmental toxicology. We were able to look at anthropogenic effects, apply it to the Clean Water Act and possibly use research to influence policy. After graduating, I spent a year in his lab as a research assistant.

HOW SHOULD SOMEONE PREPARE FOR A CAREER LIKE THIS?
You have to be passionate about what you do. I don’t have to go into work every day, but I choose to because I want to do science. I want to do science in such a way that I have an impact on my community and potential to impact policy. When I was working with Don Weston, I was able to sit on a 303(d) listing for an impaired waterway and he gave testimony which to me was amazing. His research directly impacted policy. My greatest fear is that my work won’t impact anything ever – it will just sit somewhere rotting in a journal. That moment solidified my desire to work in the public sector.

WHAT KIND OF ADVICE WOULD YOU GIVE SOMEONE CONSIDERING A JOB LIKE YOURS?
The best advice I can give is: do more than just your academic courses in school. If you like a professor’s work, ask if you can work in their lab. If you like someone’s work in policy, ask if you can intern in their office. Think outside of your academic courses and prepare for real-world scenarios.

WHAT IS A TYPICAL DAY LIKE FOR YOU?
We wait for a sample to arrive from one of the outlying plants or from Hyperion, and then we process a sample. We measure its basic physical characteristics, like pH, chlorine concentration, and temperature. For some tests, we do serial dilution, where we start at the highest concentration. Lab tests are run every day to ensure the treatment plants are operating properly. We run bioassay, which is the measurement of the concentration or potency of a substance by its effect on living cells or tissues.
WHERE DO YOU SPEND THE BULK OF YOUR DAY?
Most of the time, I’m in the lab and every quarter I get to go out to LA Harbor and do receiving water samplings for our Terminal Island Treatment Plant.

WHAT MOTIVATES YOU TO COME TO WORK EVERY DAY?
My peers. They are a great group. We love our work, the perks of working close to the beach, and with the public sector. It feels great to work in an environment where my fellow analysts are so supportive and we’re also contributing to society.

I’m lucky I’m in a position where I get to recruit interns to work on projects. For example, I did a research project under the guidance of Southern California Coastal Water Research Project (SCCWRP) where we examined the effects of 17beta-estradiol on top smelt minnows. 17beta-estradiol is a known chemical of emerging concern that has been shown to cause imposex in male fish. The students I worked with on this project went on to present their work at the Southern California Academy of Sciences Annual Meeting which was a very proud moment for me.

WHAT WOULD YOU SAY TO CONVINCE PEOPLE THAT THIS IS A GREAT CAREER PATH?
I would say if you care about the environment – not just for your own use, but for the use of future generations – then this is a great career path. You are protecting the environment. It might not seem relevant at first, but as we’ve seen with climate change, the decisions of generations way before will have an impact for generations very far into the future.

I’m very proud to be a female and a scientist. I’m a first-generation American and I’m a woman of color. Don’t be discouraged, work really hard. It might not seem like it’s paying off, but don’t despair, it’s a hard road but definitely worth taking.

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This interview originally appeared in the CA Water Jobs video campaign in 2017. Go to youtube.com and search CA Water Jobs.

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KURTIS WESTBROOK

Kurtis Westbrook has worked for the City of Vacaville for seven years, moving up fresh out of college to a Lab Analyst II in a short amount of time. He won the local Redwood Empire Section Lab Analyst Award, and out of the 10 nominees at the state level, brought home the CWEA 2019 Lab Analyst of the Year Award. Kurtis’s character and work ethic are described as a great team player, a wonderful trainer of new staff, and an active member of the community with his outside projects and groups he belongs to.

HOW DID YOU GET INTO THIS PROFESSION?
I sort of stumbled upon the water/wastewater profession. I went to California State University Chico and received a BS in Biology with a Minor in Chemistry. After graduating, I began filling out all sorts of applications for various job sites when the City of Vacaville just happened to post their job on Craigslist. Prior to the interview with the City of Vacaville, I was offered a job in San Bruno with the county, monitoring invasive insects, but they needed me to start right away. With an opportunity to interview with the city of Vacaville (in my hometown), I turned down the offer. It was a huge risk seeing as the interview process was quite competitive, but I was lucky and got the job.

WHAT WAS YOUR CAREER PATH LIKE?
When I started with the City of Vacaville, I was a limited term employee assisting on a big study they were conducting at the time. The original term was for only one year. Once I accepted, my hopes were that a permanent position would come available — or, at the very least, I would gain some experience in the field. Towards the end of the term, one of their Lab Analysts retired, therefore posting the position, which I ended up getting. I was a Lab Analyst I when I passed my CWEA Lab Analyst Grade 1 certification. I later went on to pass the Grade 2 certification, which flexed me up to the Lab Analyst II position. During those six years, I learned so much, and I really enjoyed working for the City of Vacaville. Most recently, one of the Senior Lab Analysts retired and I had the opportunity to work in an ‘out of rate’ capacity until they were able to post the position. Once the position was posted, I applied and was offered the job. Now I am one of two Senior Lab Analysts in our lab.

WHAT IS YOUR PROUDEST ACCOMPLISHMENT IN YOUR CAREER?
I would say my proudest accomplishments in my career are receiving the Laboratory Analyst of the Year Award for my local section, and then topping that off with Laboratory Analyst of the Year Award for the whole CWEA.

BEST PART OF THE JOB?
The best part of the job is being able to apply my mechanical abilities on a regular basis around the lab in order to keep the operation running. I also enjoy being able to get out in the community and conduct field sampling.

WHAT’S THE SECRET TO MOVING UP IN OUR PROFESSION?
I wouldn’t say there are any secrets to moving up in this profession, but my advice is to try and learn something new every day. There is so much to learn about this profession beyond the day-to-day tasks that need to get done. If you can gain knowledge beyond the average day to day and learn more about the whole picture, you are more likely to stay interested and engaged — which is a recipe for success in anything.

WOULD YOU RECOMMEND THIS PROFESSION TO OTHERS?
Working in a water/wastewater lab is not for everyone, but it is a very satisfying career. Many things are routine, but what makes our lab unique is that each analyst rotates often between daily tasks, sampling, and analysis. It’s a good way to make sure you are not doing the same exact thing every day, which many lab analysts and chemists in other industries are stuck doing. We ensure the drinking water is safe and wastewater going out is clean and not harmful to the environment. This is what makes the profession appealing.

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The Road Together

By Christine Sotelo, Chief, Environmental Laboratory Accreditation Program (ELAP)

The California Environmental Laboratory Accreditation Program (ELAP) is on a path of improvement, and we are honored to be working collaboratively with CWEA and its members on this journey.

Five years ago, the State Water Resources Control Board inherited ELAP. At that time, the program was widely viewed as the worst environmental laboratory accreditation program in the nation. ELAP was failing its stakeholders and failing to effectively evaluate laboratory competency.

Laboratories who interacted with ELAP all had similar poor experiences: decisions on accreditation status were left to the whim of the assessors, on-site assessments were inconsistent in nature and frequency, complaints lodged with the program were never addressed, and it was nearly impossible to get ELAP to return a call or email. On top of this, the relationship between ELAP and its Environmental Laboratory Technical Advisory Committee (ELTAC) was broken because ELAP did not listen or respond when it made suggestions.

ELAP was also failing to meet its regulatory obligations to inspect, accredit, monitor, and enforce requirements for its laboratories. Assessments were backlogged for years, monitoring labs through annual review of proficiency testing results was not taking place at all, and ELAP was years behind on updating its methods so that agencies could request that the data they relied upon was produced using the most technically relevant methods. The final straw came when the Water Boards' Office of Enforcement confirmed that ELAP had failed to investigate a laboratory fraud case—despite being provided sufficient evidence to warrant an investigation. ELAP's inability to remove a fraudulent laboratory from the population was a sobering realization about the ineffectiveness of the program and resulted in the transfer of the program to the Water Boards.

Since moving to the Water Boards, ELAP has undergone a monumental transformation. We standardized our processes by implementing an internal quality management system that creates accountability and predictability for staff and stakeholders. Decisions made by ELAP staff are no longer arbitrary and adhere to documented procedures based on state laws and regulations. Half of ELAP's staff has turned over during this time and new staff have been trained under this quality management system.

A major aspect of the transformation was a reorganization to become a complete, whole accreditation program. For example, we created a new Proficiency Testing Unit to monitor and evaluate results from proficiency testing studies from every laboratory, which is approximately 20,000 results per year. A robust enforcement unit was also established and currently works diligently to educate laboratories and take appropriate action until problems are resolved, including working with local law enforcement when there is criminal activity involved. Thanks to the units' efforts, the abovementioned fraud case has since been resolved and resulted in a criminal conviction.

Another key piece to this transformation has been building strong relationships with stakeholders, which included putting processes in place to support better and more productive interactions with laboratories and other agency programs. In the past, ELAP did not talk to the California regulatory agencies that use

The program has made great strides, but there remains one more major item to accomplish—the adoption of new regulations that include a quality management system requirement (QMS) for accreditation.

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the data produced from accredited laboratories. Now we meet regularly with executive and program staff to identify current and future accreditation needs of the programs. ELTAC was also revitalized with new by-laws that clearly define processes for communication between the program and the committee. With this guidance, ELTAC and ELAP have been successfully working together to move the program forward so that it meets the needs of the regulatory programs the data is produced for.

The program has made great strides, but there remains one more major item to accomplish – the adoption of new regulations that include a quality management system requirement (QMS) for accreditation. While ELAP, its regulatory agency partners, and the laboratories all agree that a QMS requirement is necessary, the laboratory community is divided over how rigorous it should be. Even though the proposal to the State Board may not include the QMS option supported by CWEA, ELAP is listening and appreciates the open dialogue that has been embraced during this process. Whatever the State Board decides, we look forward to working with the laboratory community on implementing the new standard, including providing tools and training to assist in the transition. ELAP also looks forward to continuing to work as partners in service of a shared mission to protect the environment and public health of California’s communities.

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ELTAC: So Much Accomplished in Four Years

By Stephen L. Clark, ELTAC Chairperson, Pacific EcoRisk

After the Environmental Laboratory Accreditation Program (ELAP) was moved from the California Department of Public Health to the State Water Board, the Environmental Laboratory Technical Advisory Committee (ELTAC) was re-formulated.

Updated bylaws required ELTAC to be comprised of ELAP’s Program Officer and approximately 15 members comprised of voting representatives appointed to speak on behalf of groups that have interests in matters before ELTAC, including CWEA and the Lab Committee. In addition, there were non-voting State Regulatory Agency Employees (SRAEs) appointed to represent a state agency or department.

The newly comprised ELTAC had 14 representatives and four SRAE members. The first ‘new’ ELTAC meeting occurred in March 2016 and the final meeting for this appointed group occurred in August 2018. Over this period of time, 16 ELTAC meetings were held, during which a wide variety of subjects and issues were addressed.

Maybe the most important issue addressed by ELTAC was to provide input on a laboratory accreditation standard/quality management system to be used by labs accredited by CA-ELAP, with options ranging from the creation of ELAP’s own State-specific standard, to modification and adoption of an existing standard, or adoption of an entire existing standard. Following much input and consideration, a majority vote of ELTAC supported a standard based on numerous modifications to the NELAC Institutes (TNI) 2016 standard.

ELAP also received input from their State Agency Partners (SAP) committee, who supported the use of the 2016 TNI standard but only with changes to the frequency of proficiency testing and the education requirement of laboratory technical directors.

CA-QMS

At a 2017 State Water Board meeting, ELTAC presented the input from ELTAC and the SAP and recommended that the 2016 TNI with the two modifications supported by the SAP be applied in California and moved forward with developing regulations based on that plan.

However, California lab accreditation was discussed during a 2018 State Water Board meeting, where a number of members of the laboratory community voiced support for a laboratory accreditation framework that did not include a number of the administrative requirements in 2016 TNI.

One board member indicated an interest in seeing such a standard presented to the State Water Board. Following that input, ELTAC approved the formation of a subcommittee to develop the framework for such a standard. After numerous subcommittee meetings and two ELTAC meetings, ELTAC voted 9-4-1 in support of the ‘California Quality

I hope you will all be engaged as the new ELTAC is formed, as the laboratory community must continue to be involved in this process.
An ELTAC workgroup has provided input to ELAP on addressing problems encountered by the laboratory community with the fields of testing/fields of accreditation checklists.

Another workgroup has been engaged with ELAP staff to improve the proficiency testing framework. And yet another workgroup provided input to ELAP on options for new fee structures.

I was honored to be appointed to serve on ELTAC for nearly four years, and honored to serve with a tremendously dedicated group of representatives and SRAEs members. I hope you will all be engaged as the new ELTAC is formed, as the laboratory community must continue to be involved in this process.

I also encourage CWEA to continue with their workshops and educational efforts on TNI 2016 Standard. They have been instrumental in educating laboratories about applying this system to laboratory management and operation.

For 30 years, Stephen Clark has been directing and participating in research and testing in the areas of aquatic ecotoxicology and environmental chemistry. He is Vice President for Pacific EcoRisk based in Fairfield.

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Which Way for Laboratory Accreditation in California?

By David Eugene Kimbrough, PhD, Water Quality Manager, Pasadena Water & Power

A hundred years ago, there had been a major revolution in public health: fatalities from waterborne diseases such as typhoid and cholera were plummeting, chlorinated water was being delivered via pressurized pipes to houses with indoor plumbing at very low prices, and people could drink, cook, and wash with safe water inexpensively. Life expectancy increased. However, it was quickly determined that it was difficult to adequately chlorinate water if the density of bacteria was not known. The State of California decided it needed to encourage as many laboratories to form as possible to ensure even the most remote and underserved communities had access to laboratory services. In 1923, the Bureau of Sanitary Engineering (under the direction of W. F. Langelier, the state’s chief chemist and bacteriologist) prepared a short laboratory guidance manual for creating and operating A Small Bacteriological Laboratory.

Why the emphasis on small laboratories? Many communities that practiced the new science of chlorination could not afford to operate a larger laboratory, and it was essential to get samples to a laboratory as quickly as possible to get the most accurate results.

Dr. Langelier wrote, "With this in mind, we have installed in a number of small cities in California, small laboratories which we believe fulfill the requirements. In these laboratories, simple bacterial counts of the raw and treated water are made in the cases daily..."

Having a large network of smaller laboratories able to serve the broadest possible geographical area to analyze water quickly was seen as a crucial tool to
protect public health. The last century has proven him correct.

Proposed changes threaten to roll back that protection. The Environmental Laboratory Accreditation Program (ELAP) is proposing a new set of regulations which would incorporate by reference The NELAC Institute (TNI) 2016 Standard. This standard would add 180 pages of new regulations – resulting in hundreds, if not thousands, of new requirements. If you were to look at any one requirement, it would consist of additional bookkeeping, adding nothing of analytical value, and largely harmless in and of itself. However, the cumulative impact of hundreds of additional recordkeeping tasks has proven crippling where it has been applied. In both Florida and New York in the year 2000, all laboratories were required to become TNI compliant. Most laboratories were able to do this, but afterwards, many dropped their accreditation. The vast burden of paperwork proved excessive and laboratories chose to stop being accredited altogether or scale back significantly their scope of accreditation. While laboratories of all sizes and types were impacted, it was felt most strongly by smaller laboratories in more underserved areas.

Those who support this effort argue that adding the TNI requirements on top of existing requirements will improve data quality. However, it is important to note that data quality is determined by the application of approved methods and TNI does not actually change those methods – they are spelled out in the Code of Federal Regulations. A laboratory using MMO-MUG to test for the presence of coliform bacteria will do nothing different at the bench using TNI requirements as opposed to without. Moreover, no one has shown that laboratories accredited by ELAP are producing results of sub-standard quality nor does anyone have any evidence that if such sub-standard data is being produced, that requiring additional paperwork would solve those problems.

Almost every laboratory will need to add about one full-time equivalent of staff time to maintain the flow of required paperwork under this system. For example, the Drinking Water and Radiation Laboratory, part of the Department of Public Health, is planning on becoming TNI compliant. To do that, they submitted a Budget Change Proposal to the Department of Finance to authorize additional funds to support a full-time equivalent.

The State Water Board is preparing to adopt these new regulations. If this comes to pass, it is likely that many laboratories in California – public and private, large and small – will have to either drop their accreditation, shorten their list of tests for which they are certified, or spend more money to hire more staff. This does not provide the same public health protections that California has enjoyed over the last 100 years. 

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How Old is Lab Certification?

BY WILLIAM RAY, WILLIAM RAY CONSULTING, LLC. BILL_RAY@WILLIAMRAYLLC.COM

As many of you know, I am an old guy when it comes to environmental laboratories. To put it in perspective, the 13th Edition of Standard Methods was in, the hip new thing was flame AA, and there were only six pesticides and two herbicides in the world. Both the Safe Drinking Water and Clean Water Acts were brand new. There were no hazardous wastes anywhere—although rivers caught fire. That was February 1973.

There was a laboratory certification program then managed by Department of Health Services’ Sanitation and Radiation Laboratory. In those days, the program offered certification for drinking water and wastewater, certificates were for three years, renewal was automatic, and it was free. There were two designated assessors, one at each end of the state—although sometimes others were brought in. In my first eight years, I had the privilege of participating on the side of the laboratory in five onsite assessments (same company, three different labs) and awaiting those proclamations from Berkeley.

It can be said that lab certification nationwide began with the advent of the Safe Drinking Water Act and Primacy. However, even in 1973, it was clear that certification began in California long before even my appearance. In doing some research, I have found regulations for laboratory certification from 1951. There existed in CCR Title 17 rules vaguely like what we have today.

Some interesting things: labs were split into Commercial and Non-Commercial; however, the only difference was that Non-Commercial labs could get approved for specific tests. Commercial labs were all chemistry, all microbiology, or both. PT samples were called Check Specimens. Just to give you a perspective, CCR Section 1178 covering facilities said, “Approval shall be granted only after housing, equipment, and supplies have found to be adequate.”

Those rules lasted until 1979, when new rules replaced them in Title 22, Section 64485(a)(2) covering facilities now said, “Physical facilities, equipment and related appurtenances are adequate for accuracy and precision of analyses within the categories of tests for which application has been made.”

Those rules lasted until 1989, with the advent of ELAP. ELAP brought together the existing drinking water and hazardous waste programs and reintroduced wastewater back into the mix. Not many remember that wastewater was part of the Health Services program. It was handled via a contract between Health Services and the State Board. In 1981, someone decided that they needed the money more and cancelled the contract. Health Services stopped visiting labs and issuing certificates for wastewater. This was my introduction to lab assessments, as I had just started working at Regional Board 7 in 1981. This choice wasn’t without issues and the State Board even investigated starting its own program when they got word of ELAP in 1988.

So how does this historical view compare with ELAP today? To begin, the world is a bigger place with respect to lists of analytes and things to test. Of course, people miss the ‘free’ part of certification, but it is no longer possible for government to survive on general taxes alone. There has been an increase in quality control procedures and more methods are incorporating those into their procedures.

With the imminent implementation of TNI standards, laboratories face a significant task to create and implement not only the policies and procedures required by the standard, but also the recordkeeping system that comes with the standard.

“With the imminent implementation of TNI standards, laboratories face a significant task to create and implement not only the policies and procedures required by the standard, but also, the recordkeeping system that comes with the standard.”
OUR HISTORY

The Analyst’s Notebook was a publication of the CWPCA Lab committee. The first editors were Bev Franzia of the City of San Mateo and Scott Quady of Las Virgenes Water District. It started in December 1984 and ran quarterly until 1998. There was a short-lived revival in 2007, but it has since disappeared. The focus was on current events and topics of interest to the lab community. It became one of the means of spreading the word about ELAP when it was created in 1989.

NOTE TO ANALYSTS MOTHER:

I have asked our editor to print this note in its handwritten form for several reasons. First, I hoped it would get your attention. If you have read this far, maybe it has worked, and I hope you will stick with me.

The main purpose in printing the note this way is to make a point. This publication is not a major technical journal and is open to articles from any level of the work. If you work in a small lab in a remote corner of the state, please do not think you have nothing to contribute. You do! On the other hand, those of you working in large regional labs have all the more to contribute. Steady input is needed to keep this notebook an excellent forum for the exchange of practical information.

In considering submission of an article, please remember that many lab people must act as “Jack of all trades.” Do you have training as a microbiologist? How about an article on microscope theory, use or maintenance? An article on a new technique for using transfer pipets or any other day to day operation would be very useful for those required to do them, but lacking the training.

Other possible topics:
- New equipment purchases: What & Why
- Computer applications
- Work schedules
- Basic analytical theory
- Sample questions for QC
- Data unsolved problem
- Human interest
- ETC, ETC.

Please extend a little effort to share your expertise and experience with us. It will be appreciated.

As a final note, I look forward to serving as LTC chair for the next two years. Please contact me if I can be of service.

Peter Schneeckloth
(650) 966-5547

RS - Acknowledges to Karen Harkness, winner of the second annual lab person of the year award.
ANALYST'S PUZZLE
by Bev Franz

How many of the words shown below can you find in the box to the right?
The words may be listed horizontally, vertically or diagonally, forward and backward.

Good Luck!

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Take stock of what you control and what you influence. Much of our time and energy is often spent on things that are beyond our control or influence, which equates to time wasted and energy spent towards little impact.

Change is everywhere and happens to all of us, and the amount of change we are experiencing in the workplace is accelerating. Workplace change can look like a business process or software change, a reorganization or resignation, or it can be related to the physical space you work in, from full office moves to furniture changes. Change can be stressful as you attempt to adapt and remain productive. For people leaders, the impacts of a poorly-managed change can feel more like a crisis.

Whether at work or in our personal sphere, change impacts most human beings in a similar way, but we all experience this process individually. The severity of the impact we feel is subjective and depends on how big or complex the change is, the loss we associate with it, and how many changes we are asked to navigate at once.

If change is coming at us all the time, how can we manage it better while remaining productive and meeting expectations?
GET (AND GIVE) THE FACTS
When change is happening in the workplace, the information is also changing. The most important step you can take is to ensure you have the facts. Do not make decisions based on circulating rumors and do not spread false information.

For leaders, planning communications and other activities ahead of the first announcement is key to providing the right support at the right time, which will allow a return to full productivity as soon as possible. Whether it is the introduction of a new treatment process, a new regulation to be followed, or a facility moving locations, sharing information ahead of time gives others a chance to process the change and the opportunity to ask questions and get clarification.

GET (PRO)ACTIVE
It has been said that 80% of success is just showing up. The importance of being present cannot be underestimated in the context of navigating change in the workplace. This means showing up for your colleagues and your leaders by doing what is asked of you and leading by example. This includes being open to training in new skills, preparing for meetings, and paying attention to current information and updates related to the change. In leadership roles, your presence is key to successful transitions because it gives your team a chance to ask questions and allows for those concerns and opinions to be heard and addressed. This also gives team members someone to look to for support.

Taking initiative through non-required efforts can also help. Keeping up to date with industry news on your own, such as drought contingency plan changes connected to the Colorado River System, can be a way for you to be proactive in learning about policy that could directly affect you both professionally and personally.

GET OUT OF YOUR OWN WAY
Take stock of what you control and what you influence. Much of our time and energy is often spent on things that are beyond our control or influence, which equates to time wasted and energy spent towards little impact.

Regardless of your position or role, focusing your efforts where you have control and/or influence will help you be more effective and feel more productive. For example, you might have recommendations or suggestions on an upcoming operation and maintenance changes to the facility you work at. You can also look into what you can control, such as bringing that conversation to the table at an industry organization like AZ Water where there may be technical experts who can provide different perspectives.

Taking small steps in a more proactive, positive way can make a huge difference. Change will happen, and you have much more control over the outcome than you may realize. By focusing on your own reactions and being intentional about how you respond, you can make even the most difficult changes easier – for you and for your team.

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- See a developing blockage in its earliest stages
- Get recommended action based on subtle changes in flow conditions
- Make decisions based on actual site conditions
- Move from schedule-driven cleaning to data-driven cleaning
- Reduce cleaning by up to 80%
- Gain 24/7 safeguards against SSOs

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Watch the blockage PREDICT video at www.adsenv.com/blockagepredict
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It's time to try ShinMaywa CNWX Pumps

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• 3- and 4-inch solids handling
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ShinMaywa (America), Ltd. offers the CNWX series of heavy-duty, non-clog submersible pumps for the waste water market. These pumps feature the revolutionary single vane non-clog scroll impeller design from ShinMaywa Industries. This design incorporates a helix-formed passage at the inlet, which is smoothly connected to the single vane non-clog passage. Its design reduces maintenance costs and electrical power consumption, and have solved long-lasting clogging problems in residential, commercial, industrial, and municipal applications. All models are explosion-proof (FM approved).

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South San Francisco, CA 94080
650-589-9900

Simonds Pump Company
15142 Goldenwest Circle
Westminster, CA 92683
714-751-7117

www.simondsmachinery.com
UPCOMING EVENTS 2019-2020

events.cwea.org

JANUARY 2020

P3S 2020 Conference
January 27-29, 2020
Long Beach, CA

FEBRUARY 2020

2020 Young Professionals Summit
February 25, 2020
Anaheim, CA

Utility Management Conference 2020
February 25-28, 2020
Anaheim, CA

MARCH 2020

CWEA Annual Conference
March 31-April 3, 2020
Reno, NV

JUNE 2020

WEF Collection Systems 2020
June 2-5, 2020
El Paso, TX

SWMOA Annual Symposium
June 22-24, 2020
Pico Rivera, CA

AUGUST 2020

WEF Transformative Issues Symposium on Communications
August 17, 2020
Cincinnati, OH

47th Pretreatment, Pollution Prevention and Stormwater Conference
Long Beach | Jan 27-29, 2020
Hot topics: Cannabis; Environmental Crimes; PFAS; FOG; CWS and more.
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