



# MEMORANDUM

EUGENE WATER & ELECTRIC BOARD



TO: Commissioners Carlson, Mital, Helgeson, Schlossberg and Brown  
FROM: Mel Damewood, Chief Water Engineering & Operations Officer;  
Karl Morgenstern, Water Quality & Source Protection Supervisor  
DATE: January 25, 2019  
SUBJECT: Changing EWEB Water Quality Laboratory Status to Commercial  
OBJECTIVE: Information Only

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## Issue

This correspondence provides additional information on the possibility of having EWEB's Water Quality (WQ) Lab change its Oregon Environmental Laboratory Accreditation Program (ORELAP) designation from public water system/noncommercial to a commercial lab that can handle cyanotoxin samples from third parties as a way to assist neighboring utilities and potentially generate revenue to offset lab costs.

## Background

Blue-green algae are found naturally in surface waters. Algal blooms occur in Oregon reservoirs on a somewhat regular basis under favorable conditions for growth, which include light intensity and total sunlight duration, nutrient availability (especially phosphorus), warmer water temperatures, higher pH, precipitation events, and slow moving water. Some species of blue-green algae can produce cyanotoxins. The conditions that produce cyanotoxins are not well understood, in fact, even when toxin-producing algae are present, they may not actually produce toxins. Oregon Health Authority (OHA) has established health advisory levels for toxins if they are detected in drinking water and issued new rules requiring water utilities susceptible to algal blooms in their source area to conduct regular toxin monitoring every two weeks from May 1 to October 31.

On May 30, 2018, EWEB detected cylindrospermopsin in the raw water at the intake at low levels. No detections of cyanotoxins were found in the treated drinking water and toxins ceased being detected in the raw water on June 16, 2018. With the detection of cyanotoxins in the McKenzie River, EWEB increased its analytical capabilities at its WQ lab to include an ability to test for cyanotoxins. By November 2018, Lab equipment was purchased, setup, and draft Standard Operating Procedures (SOPs) for the EPA-approved ELISA method were completed. Since this time the WQ lab has been running environmental samples through the lab to perfect the method and calibration sequences. The method SOPs should be finalized in February 2019, with third party Proficiency Test (PT) completed in spring of 2019. Once the PT is successful, the WQ lab can analyze EWEB's source, raw, and finished samples for toxins with nearly same day results at a fraction of the cost incurred by subcontracting to outside labs.

## Discussion

Staff were requested to assess the possibility of changing its ORELAP designation to commercial

status so it could then handle samples from other utilities that need to have regular toxin samples analyzed per OHA cyanotoxin monitoring rules. Eventually, both the technical and administrative mechanisms make this re-designation possible. However, it is a challenge in the near-term (1-3 years) to pursue this idea as the EWEB WQ lab will need time to: perfect its process, method SOPs, and QA procedures; achieve ORELAP accreditation (when developed for the ELISA method); maintain focus on handling EWEB sample analysis requests; and complete construction of the new laboratory building that will provide the space, layout, and facilities to efficiently handle increased lab requests for supporting source protection, use of biofilters, emergency wells, distribution system compliance, and Willamette River analysis.

Over the longer term, providing assistance to other utilities is possible assuming EWEB would be willing to make additional investments and take on additional liability. This would potentially include:

- Working through the ORELAP process to achieve commercial lab accreditation that tends to be more stringent and comprehensive with additional reporting and record keeping requirements;
- Once EWEB switched to commercial lab designation under ORELAP the WQ lab would be published as a commercial lab. The potential for increase in sample analysis workload could be significant since anyone could request analytical services for any of the methods the EWEB WQ lab performs (not just cyanotoxins). This would require EWEB to accept samples from the public or to deny request for services on a regular basis.
- Purchase automated ELISA equipment (Estimated at \$35,000+) that would allow processing multiple samples to handle larger sample analysis volumes;
- Accept liability for prioritizing other utilities analysis requests if they have cyanotoxin detects above OHA health thresholds per rules;
- Accept portion of compliance liability for other utilities as the OHA rules require the lab running cyanotoxin analysis to report results within short specified timeframe from completing analysis;
- Dedicating a portion of the lab and adjusting analyst resources to running toxin samples to ensure responsiveness to outside requests as the volume and frequency of analysis can be significant once toxins are detected in raw or finished water. This may require expansion of the proposed lab footprint in the new building currently under design.

### **Recommendation and Requested Board Action**

No action requested, information only. We may revisit this issue as standards are implemented and refined.