



Randy Leonard, Commissioner  
David G. Shaff, Administrator

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March 15, 2010

Ms. Marie Jennings  
Director of Region 10 Drinking Water Unit  
US Environmental Protection Agency  
1200 Sixth Avenue, Suite 900, OWW-136  
Seattle, WA 98101-3140

Dear Ms. Jennings,

The Portland Water Bureau has received and reviewed EPA's March 8, 2010 comments on Portland's Sampling Plan and Study in support of a variance to the treatment requirements of the Long Term 2 Enhanced Surface Water Treatment Rule (LT2). I appreciate the ongoing effort by EPA to provide input to the City to help it track and collect information relevant to the evaluation EPA will conduct should the City eventually submit an application for a treatment variance.

You have recommended that Portland address the eight items listed in your comments within an updated Sampling Plan and Study. In addition, you describe a continued monitoring program that EPA would require should the City obtain a variance at the end of this process. The remainder of this letter describes Portland's response and planned updates to the Sampling Plan and Study based on these comments.

**Comment 1:** Quantity of Water to Assay and Relevance of Additional Data Collection.

**Portland Response:** No changes will be made to the Sampling Plan and Study in response to this comment. Portland has already indicated in its sampling plan that it will assay 10,250 liters of water to determine the relative concentration of *Cryptosporidium* at its raw water intake. The City has no intention or plans to change the total water volume to be assayed in support of a treatment variance.

EPA indicates in this comment that variance criteria would not be met if the City detects any *Cryptosporidium* oocysts during this testing program, "regardless of" oocyst genotype. The City continues to believe that the type of *Cryptosporidium* it may find during testing is relevant to demonstrate whether the treatment requirements of the LT2 rule are necessary to protect public health for the Bull Run watershed. Only certain types of *Cryptosporidium* are known to cause illness in humans. As a result, the City will retain its plans to analyze any *Cryptosporidium* it detects in an effort to determine whether or not the detected oocysts can infect humans. The City will decide whether to apply for a variance at the conclusion of its sampling plan and study process, based on all relevant evidence regarding the nature of its raw water source.

EPA also indicates in its first comment that it will disregard model results predicting *Cryptosporidium* prevalence should the City detect any *Cryptosporidium* during its intake sampling. This comment is inconsistent with EPA's previous input from March 2008, when it rejected the City's prior treatment variance sampling proposal. At that time, the EPA recommended that the City seek to adapt the Australian Ecowise Pathogen Catchment Budget Model for use on the Bull Run watershed. In response, the City is pursuing that effort. Given the City's commitment to that work, the City seeks clarification from EPA on the question of modeling. In particular, if EPA has decided that the intake sampling results alone will determine the City's eligibility for a treatment variance, the City wishes to confirm that EPA will also disregard any model results that contradict intake sampling results of zero *Cryptosporidium* oocysts for all samples, should that be the result of the sampling effort. Since further discussion on this issue appears to be necessary, the City will continue its efforts to adapt the Pathogen Catchment Budget Model until there is clarity between both parties about how model results will be appropriately used in a variance application review process.

**Comment 2:** Scheduling Detail for Intake Sampling Program

**Portland Response:** The City will revise Section 5.1.4.2 of the Sampling Plan and Study as suggested by EPA in this comment.

**Comment 3:** Quality Control Acceptance Criteria

**Portland Response:** The City will revise Section 5.1.4.3 of the Sampling Plan and Study as suggested by EPA in this comment.

**Comment 4:** Recovery Rates in Laboratory Procedures and Data Quality

**Portland Response:** The City will revise Section 5.1.5 of the Sampling Plan and Study as suggested by EPA in this comment.

**Comment 5:** Accuracy in Laboratory Procedures and Data Quality

**Portland Response:** The City will revise Section 5.1.5 of the Sampling Plan and Study as suggested by EPA in this comment.

**Comment 6:** Documentation of Modifications to 1623 Procedures

**Portland Response:** The City will revise Section 5.1.5 of the Sampling Plan and Study as suggested by EPA in this comment and will add Laboratory standard operating procedures as an appendix. Method modifications will not be addressed in the Sampling Plan and Study, but will be presented and discussed separately with EPA.

**Comment 7:** Corrective Actions for Missed Samples or Delays

**Portland Response:** The City will revise Section 5.1.5 of the Sampling Plan and Study as suggested by EPA in this comment.

**Comment 8: Increased Frequency of Monitoring at potential "Hotspots"**

**Portland Response:** Portland's Sampling Plan and Study already includes so-called "hot spot" sampling for *Cryptosporidium* and *Giardia*. This comment addresses additional weekly and event-based monitoring at specific sites.

Based on recent conversations with EPA staff, it is Portland's understanding that EPA wants weekly monitoring at sites 1-4 in March and April 2010. Further, EPA may recommend weekly monitoring for additional months in 2010 at sites 1-4 based on pending hydrological and statistical analysis of available data. Portland will sample weekly at sites 1-4 through the end of April 2010 and take additional samples only if EPA notifies the City that the hydrological and statistical analysis determined that additional samples are necessary.

In regards to event-based monitoring, Portland will revise Section 5.2 to include an event-based sampling plan to meet the criteria listed in parts 1b), 2) and 3) of this comment. Portland will also include available ambient monitoring data at the end of the study.

Finally, at the conclusion of its comments, EPA outlines monitoring conditions it would expect to impose should a variance be approved. Portland acknowledges EPA's authority to impose conditions on any variance issued under the Safe Drinking Water Act and appreciates EPA's early indications of the types of conditions it is considering. However, since the City has neither collected its samples nor yet applied for a variance, Portland suggests that this topic would best be addressed in future conversations. We believe discussion on variance terms and conditions could ensure there is common understanding of the conditions' purpose, implications, and processes for implementation.

Thank you again for your input on Portland's plan. The Water Bureau anticipates having an updated version of the document with the changes described above available to you by the end of April 2010.

Sincerely,

A handwritten signature in black ink, appearing to read "David G. Shaff". The signature is fluid and cursive, with a large loop at the end.

David G. Shaff, Administrator  
Portland Water Bureau

cc: Michael Bussell  
Cynthia Dougherty  
Kari Salis  
Commissioner Randy Leonard