



STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

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July 16, 2012

To: Interested Parties

Re: Review of Phase I Bioavailability Study and Decision for Funding of Phase II

The Department of Ecology (Ecology) reviewed the bioavailable phosphorus (BAP) studies that were conducted by the University of Washington (UW) during 2009-2010 (Phase I) to determine the efficacy of the agency funding additional research by UW, as requested by the Spokane River Stewardship Partners. Ecology's overriding interest in funding Phase I or any future phase is supporting research that can justify modified permit limits for total phosphorus in a reasonably short timeframe (second or third permit cycle).

Review of the Previous Bioavailability Work

The Phase I work was published in a final report dated February 2011. The following review was conducted:

- Compliance of the study with the terms of the Quality Assurance Project Plan (QAPP)
- Comments and response to comments received from Ecology
- Comments and response to comments received from the Environmental Protection Agency (EPA)

Ecology also reviewed the orthophosphate study that was proposed by Inland Empire Paper Company.

Background

Data that is collected under a funding agreement with Ecology should meet the requisite data or method quality objectives. These objectives are described in a QAPP. The QAPP outlines the procedures that are to be followed throughout the project (specifically, the scope and schedule). Once approved, the QAPP is essentially, an "agreement" that the project will be conducted in accordance with those procedures. Data must meet the data and method quality objectives that are established in the QAPP to be used for regulatory decisions. Data must also be collected in accordance with the procedures specified in the QAPP.

Phase I Review Summary

The Final Report (February 2011) was reviewed for compliance with the agreed upon QAPP. About one-half of the reviewed items were noted as meeting the terms of the QAPP.

The comments and response to comments from Ecology were evaluated. About one-third of the responses were noted as adequately addressing the comment.

The comments and response to comments from the EPA were also evaluated. These comments were not adequately addressed. However, many of these comments were scientific questions that would be subsequently addressed in a proposed Phase II study.

The Inland Empire Paper study was evaluated with respect to a Department of Ecology request for orthophosphate data. No data has been received.

During the review, if an item was not in compliance with the QAPP or a comment was not adequately addressed, an agency expectation was identified. The individual expectations were summarized and fall into the following categories:

- Data quality should be adequately described or assessed
- Terminology used in the report should be clear and key information must be provided
- The study should follow the scope or schedule outlined in the QAPP
- Compliance with the QAPP is required. Procedures must be followed and/or developed to ensure compliance with the QAPP.
- Adequate explanation for deviation from the terms of the QAPP is required
- All data and studies that were planned should be provided

Ecology Conclusions and Decision for Funding Phase II

Ecology recognizes that the adequate characterization of BAP in wastewater effluent is a national concern. More national research is needed on this topic. Fortunately, this type of research is happening. Ecology is hopeful that the collective weight of future scientific study can be used to support modified permit limits not just in Spokane, but throughout the country. Ecology recognizes the value of the UW Phase I study from an academic perspective, but it is uncertain whether the Phase II study will provide data to support regulatory decisions.

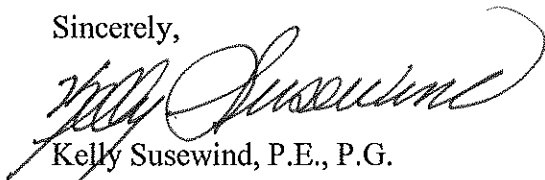
At this time, Ecology has decided not to fund the Phase II BAP proposal. Ecology will remain informed of the BAP research that is occurring at the national and local levels. Ecology will continue to monitor the developments in this area with the Spokane River DO Advisory Committee.

Recommendations for Phase II or Future Studies

With regard to answering the scientific questions raised by the local BAP study, any future studies should address how the data will be used for modeling and eventual permit modifications. Future studies, whether they are local or national in scope, should rigorously adhere to an agreed-upon QAPP, be clear on the number of samples needed to determine statistical significance, and generate data of appropriate data quality to be useful in permitting.

With respect to the characterization of orthophosphate in wastewater effluent, Ecology recognizes that further study is warranted on this topic. Following receipt of the data and studies that have been previously planned, Ecology will evaluate the ability to use this data for future modification of the permit limits.

Sincerely,

A handwritten signature in black ink, appearing to read "Kelly Susewind", is written over the printed name.

Kelly Susewind, P.E., P.G.
Water Quality Program Manager

cc: Sarah Hubbard Gray - SRSP