Memo

Date: Friday, October 14, 2016

Project: NPDES Technical Support

To: Troy Smith, Idaho Department of Environmental Quality

From: Clint Dolsby, City of Meridian, Dave Clark and Michael Kasch, HDR

Subject: DEQ Requesting Comments for IPDES ELDG Development

Introduction

The Idaho Department of Environmental Quality (DEQ) is developing a program to address water pollution by regulating point sources that discharge pollutants to waters of the United States. In 2014, the Idaho Legislature revised Idaho Code to direct DEQ to seek Environmental Protection Agency's (EPA) authorization for a state-operated pollutant discharge elimination system permitting program. The current program is operated by EPA and called the National Pollutant Discharge Elimination System (NPDES) program. The state program will be called the Idaho Pollutant Discharge Elimination System (IPDES) program.

There are multiple steps toward state primacy and development of a program. Two of these steps are: prepare and develop IPDES rules for Idaho and prepare guidance documents. DEQ is in the process of developing IPDES Effluent Limit Development Guidance (ELDG) and is seeking comments. Specific items of interest include:

- 2016_0930 IPDES Effluent Limit Development Guidance – Draft Outline.pdf
- 2016_0930 Effluent Limit Development Guidance – Sections 1 and 2.pdf

DEQ presented these materials at a meeting held on October 7, 2016. Written comments were requested by October 14, 2016.

Comments

The City recommends the IPDES ELDG provide information to the permit writer on a wide range of permit elements and have guidance specific to Idaho. A broad range of comments have previously been provided. The following comments are based on the materials presented at the October 7, 2016.

Section 1 Introduction

1. Section 1.1.X – Missing Objective

An expanded discussion of the purpose and objective the ELDG would be helpful for all readers. Effluent limits can have significant impacts to communities, businesses, the economy, and the environment of the State of Idaho. Given these major implications, Idaho is asserting primacy to find the right and likely narrow point of balance between these objectives. However, there is no single guidance, no single method and in fact conflicting references. No circumstance is

identical and every permit is unique (EPA 1988). Interpreting environmental data is an art and a skill. Effective guidance provides logical pathways to do what makes sense and understand the issues, not a rigid framework that just defaults to blind limitations. The permit writer must recognize it is critically important to document the process. All interested parties need to understand from the beginning origination of monitoring data, data management, mathematical computations, interpretation of data all the way through to conclusions and effluent limitations. It is best to take the time and get things right in the permit writing stage. A lack of thorough documentation and explanation of the process will lead to contested permits. The guidance should lead to an outcome of what's best for water quality and the people of the State of Idaho.

References:

EPA 1988. General Permit Program Guidance. Office of Water, Office of Water Enforcement and Permits. Permits Division (EN-336). US Environmental Protection Agency. Washington, DC.

2. Section 1.1.XX – Missing Idaho Approach

Include in the guidance that this is an Idaho document and will address challenges and perspectives unique to Idaho. Most of Idaho's communities are small, with limited technical resources and limited funds. This is a complicated subject matter. Even the monitoring alone is challenging and expensive. Given this, when there are expenditures on data collection it must be done accurately to be useful. It is critical that a high level of skill is used in the data interpretation. Idaho will be smart and use common sense in developing permitting regulations that align from top to bottom. For the example, the guidance will help permit writers connect the issues and have monitoring, effluent limits, and compliance frequencies that make sense, not maximum day limits with annual monitoring.

The guidance is not a cookbook and cannot cover every situation, as every permit will be unique. The guidance should provide enough insights for the permit write to recognize unique circumstance and find pathways to logical solutions. There are known current dysfunctions with existing guidance and permits being written, and there are issues on the horizon. Providing guidance that avoids such pitfalls and traps with the historical guidance will be extremely valuable.

Section 2 Data Analysis and Considerations

3. Section 2.1 Background – Blank Correction

Paragraph three recognizes the issue of sample contamination and quality control yet there is not a section or subsection providing guidance on how to determine if contamination is present and how to screen and interpret the data when contamination is an issue. Blanks are designed to detect contamination that contributes to imprecision and bias (BC 1998). Examples parameters include bis(2-ethylhexyl) phthalate, mercury, and PCBs. Blank correction procedures can vary by project and parameter. Guidance on when and how to recognize and when to review laboratory flags and examine the data more closely should be provided.

References:

BC 1998. Guidelines for Interpreting Water Quality Data, Ministry of Environment, Lands and Parks, LandData BC, Geographic Data BC, for the Land Use Task Force Resources Inventory Committee, Province of British Columbia.

4. Section 2.1 Background – Approved Methods

Paragraph four provides confusing and incomplete guidance regarding whether sampling and analytical methods must conform to EPA approve methods, or should be based on EPA-

approved methods. Also, there is no guidance about sampling techniques not officially approved. Issues that may rise are (1) whether to use quality data for assessment that were collected using unofficial methods and (2) how to require monitoring and compliance of low limits when testing methods to those low limits are not approved. One example is Method 1668 for PCBs. This results in a method not yet promulgated by EPA, yet recommended for water quality assessment but not for compliance purposes (VA 2009). A similar issue is present with mercury. More examples will occur with toxics rulemaking and lower water quality standards for these toxics. One option discussed during the October 14th meeting was whether to provide notes on such evolving issues in each section or develop a new Section 6.0 to discuss such topics.

References:

VA 2009. Commonwealth of Virginia, Department of Environmental Quality, Water Division, TMDL Guidance Memo No. 09-2001. Guidance for monitoring of point sources for TMDL development using low-level PCB method 1668. Richmond, VA.

5. Section 2.1.X – Missing Data Management Discussion

The draft-ELDG provides some background information in Section 2.1 but then immediately introduces details in technical sections about assessing data. A section or subsection on compiling and maintaining data appears to be missing. Managing the data is an important step between collecting monitoring data and interpreting data. Information associated with the data must be maintained with that data. “Managing data properly does take time, but it will save you time in the end and help you maintain and present accurate information about water quality in your area” (EPA 2014). This supporting information will be particularly valuable if technical or legal questions about the data arise. Guidance should be provided to determine whether data are relevant and credible for NPDES decisions (Ecology 2006).

Similar to relevant and credible data, is an evaluation of whether the data are antiquated or stale and still appropriate for use in permitting. Some permits have been administratively extended and even the permit re-application data have become old enough that it does not reflect current conditions. Guidance on when data become too old, what data to not use and when to get newer data, will be helpful to accurately inform current conditions. Similarly guidance on when a TMDL and other references becomes outdated and need to be refreshed before by relied upon for permitting should be provided. It is important to have pathways to excluding inappropriate data and to having accurate contemporary information.

References:

Ecology 2006. Water Quality Program Policy. Chapter 2: Ensuring Credible Data for Water Quality Management. WQP Policy 1-11. Washington State Department of Ecology, Olympia, WA.

EPA 2014. Data Management, Supplement to the Clean Water Act Section 106 Tribal Guidance. US Environmental Protection Agency. Washington, DC.

6. Section 2.1.X – Missing Initial Data Assessment, Flow, and Seasonality

The draft-ELDG provides some background information in Section 2.1 but then immediately introduces details in technical sections about assessing data. A section or subsection on an initial assessment of whether the data should be divided into flow periods and/or other seasons because of the specific location and circumstances of the facility should be examined. Guidance on determining when to split data interpretation into specific periods should be provided. This may need to be check statistically, ProUCL includes tests for seasonality, and based on references and familiarity of the location, flow management, and/or other circumstances.

7. Section 2.2 – Statistical Software
More than one statistical software should be cited. Also, at least one referenced software should have the ability to perform Monte Carlo analyses.

8. Section 2.3 – MDL and ML of Quantitation
EPA has been inserting Appendix A with MDLs and MLs within NPDES permits that are currently effective. Permittees have submitted comments regarding issues with Appendix A. These issues include unachievable MLs. The guidance should address whether this practice of including Appendix A in permits will continue and how this list, whether as part of permits or maintained separately, will be revised to address these issues, re-evaluated for accuracy, and maintained and updated to current knowledge and standards. DEQ should not adopt Appendix A as it exists given these known issues. The guidance should address both how these issues will be dealt with in existing permits until they are renewed and how it will be dealt with in permits written by DEQ.

9. Section 2.3.1 – MDL and ML Definitions
The guidance should recognize that not all parameters have MDLs and MLs. Also the method with the lowest detection limit may not always be appropriate.

10. Section 2.3.2 – Calculations Using Values < MDL or < ML
Guidance on what values to use in calculations when no data exists, when the data are all non-detects, and combinations of data at different detect limits is missing and a critical factor in interpreting data (EPA 1996, EPA 2005). The group discussed alternatives such as using zero, half the detection limit, and the detection limit during the October 14th. Consideration should be given to guiding permit writers' to provide for additional monitoring to better inform the analysis as opposed compounding assumptions that result in reasonable potential for exceedance and the need for effluent limits. The group recognized the importance of the issue and the need for research and additional discussion on the topics. We support and will participate in such efforts.

References:
EPA 1996. EPA Region 10 Guidance for WQBELs below Analytical Detection/Quantitation Level. US Environmental Protection Agency Region 10.

EPA 2005. Guidance on Water Quality Based Effluent Limits Set Below Analytical Detection/Quantitation Limits. US Environmental Protection Agency Region 10. Memorandum to NPDES Permits Unit Consistency Book.

11. Section 2.7.3 Outliers
Outliers can be more than a statistical anomaly. It should be recognized that outliers can be the result of many factors. Permittees should not be penalized for data gathered in pursuit of treatment technology studies, optimization effort, and as a result of exploring better treatment performance. DEQ should promote the flexibility for facilities to test improving performance at full scale without the threat of creating compliance concerns. Treatment process testing can provide some unexpected results. Looking at the same data in different ways can be useful for improving operations versus compliance. Permittees and permit writers should have the opportunity for a discussion about the data and why operationally some data may be different than others.

Bott, C.B. and Parker, D.S. (2011) "Nutrient Management Volume II: Removal Technology Performance & Reliability" WERF Nutrient Removal Challenge project NUTR1R06k.