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Ligia Mora-Applegate
Office of District and Business Support
Division of Waste Management
Florida Department of Environmental Protection
2600 Blair Stone Road
Tallahassee, FL 32399-2400

Re: Review of ProUCL 5.0

Dear Ms. Mora-Applegate:

At your request, we have reviewed the newly released ProUCL 5.0 software. As you know, the U.S. EPA has released ProUCL 5.0 with some new capabilities. As far as we know, this software tool performs as described and is useful for a variety of calculations of potential relevance to contaminated sites. The most common use of ProUCL is for calculating 95% UCL values from discrete data, and it continues to be an effective tool for this calculation. However, there is an issue with minimum sample size that we would like to bring to your attention. Previously, the software would prevent a user from trying to calculate a 95% UCL with too few data points – it would provide a warning and not generate 95% UCL numbers. With ProUCL 5.0, the software has been changed to enable calculation of a 95% UCL from ISM replicates, which can be as few as 3. To do this, ProUCL will now calculate a 95% UCL with as few as three data points and provide the following comment, "Note: Sample size is small (e.g., < 10). If data are collected using ISM approach, you should use guidance provided in ITRC Technical Regulatory Guide on ISM (ITRC, 2012) to compute statistics of interest. For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012). Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.0." Users with discrete data will need to understand that the data requirements to derive a 95% UCL have not been relaxed, and users with ISM data will in fact have to read and follow ITRC guidance in order to develop valid 95% UCL values from ProUCL. No other features besides the ISM calculator are blocked and the other statistical tests appear to perform in an acceptable manner.

Please let us know if you have any questions regarding this review.

Sincerely,

Leah D. Stuchal, Ph.D.

Stephen M. Roberts, Ph.D.

Reference:

ITRC (Interstate Technology & Regulatory Council) (2012) *Incremental Sampling Methodology. ISM-1.* Washington, D.C.: Interstate Technology & Regulatory Council, Incremental Sampling Methodology Team. http://www.itrcweb.org