Testing Subcommittee Meeting
January 14, 2009
DEP 401 E. State Street
Trenton, NJ

Subcommittee Members Present: Barker Hamill

Subcommittee Members Present via phone: Steve Jenniss and Jean Matteo

Support Members Present: Linda Bonnette, Sandra Krietzman, DEP-BSDW; Lee Lippincott: DEP-DSRT, Bernie Wilk- DEP-OQA

Meeting started at 1:10 pm.

L. Bonnette distributed information on 1,2,3-Trichloropropane and DCPA/degradates to all present. This information was emailed to S. Jenniss and J. Matteo.

Agenda Item 1: Testing Subcommittee PQL Document

Reviewed the "Introduction" of the PQL document with members. S. Jenniss recommended that the tables list the contaminants in the order in which they were referred to us from the Health Effects Subcommittee. J. Matteo offered to modify all tables likewise throughout the document. The Testing Subcommittee completed the review of 31 contaminants in January 2009.

J. Matteo asked if the referral memos (from one subcommittee to another) should be included as appendices of the PQL document. B. Hamill and S. Jenniss did not think it was necessary since K. Hansen is keeping these referrals on file.

Agenda Item 2: Discussion on PQLs for Methyl Ethyl Ketone (MEK) and 1,1,1-Trichloroethane (111-TCA)

L. Bonnette asked if the subcommittee agreed with the PQL recommendations for 111-TCA (0.9ug/L) and MEK (2 ug/L) since their derivation was based on the same process as the other volatile organic compounds recently reviewed. There were no objections to the recommended PQLs. The HBMCLs for both of these compounds were significantly higher than the proposed PQLs.

Agenda Item 3: Formaldehyde PQL

A common problem with the analysis of formaldehyde is that it is ubiquitous-- a situation which is addressed in both analytical methods, EPA 556 and SM 6252B. Formaldehyde is

detected more often than not in the laboratory blank and therefore, in order to in order to proceed with the analysis of a batch of samples, the concentration of formaldehyde in the blank is required to be less than half the reporting limit of formaldehyde. Three laboratories contacted by the NJDEP Division of Water Supply use 5 ug/L as their reporting limit for formaldehyde. Since the problem with formaldehyde analysis is not sensitivity, but rather contamination, a decision was made to base the PQL on the established reporting limit of 5 ug/L. The recommended HBMCL for formaldehyde is 100 ug/L.

B. Hamill stated that the Department is considering the following monitoring requirements for formaldehyde: All community water systems would take one sample between years 2011and 2013. Systems using mixed oxidants or ozonation would monitor each quarter for a year. If after monitoring a year, the concentration is less than 70% of 100 ug/L or 70 ug/L, then the system would get a reduced monitoring schedule of annual monitoring. Under the federal Safe Drinking Water Regulations, a water system having a compliance drinking water sample with a VOC detection must institute quarterly sampling. If after four quarters of results the average for that VOC is under the MCL and lower than 70% of the MCL, the water system can then return to annual monitoring. The value of 70% X MCL is referred to as R&C or reliably and consistently below the VOC MCL.

J. Matteo stated that the monitoring frequency for formaldehyde should be proposed in the regulations by the NJDEP, not recommended by the Testing Subcommittee in their Recommendation for a PQL for formaldehyde.

Agenda Item 4: PQL for 1,2,3-Trichloropropane (123TCP):

123 TCP data from the SOC Waiver Program and SDWIS were reviewed. The samples collected for the SOC Waiver Program were analyzed by the ECLS Laboratory using EPA 504.1. The lowest MDLs for 123TCP were 0.005 ug/L. Therefore by multiplying this MDL by 5 and rounding to two significant figures, the PQL for 123TCP would be 0.03ug/L. The proposed HBMCL is expected to be in the range of 0.002 to 0.005 ug/L. The Health Effects Subcommittee study of this compound is not complete as of yet.

L. Bonnette had called seven laboratories with EPA 504.1 NJ certification to obtain their 123TCP MDLs and reporting limits. The MDLs ranged from 0.004 to 0.022 ug/L. MWH Laboratories in California analyzes 123TCP with two California Department of Public Health (CDPH) developed methods rather than EPA 504.1. CDPH has a required “notification level” of 0.005ug/L for 123TCP which necessitates a more sensitive method than EPA 504.1. These CDPH methods are not approved EPA methods but do not need to be approved by the EPA since California uses them for their own “notification” purposes. 123TCP is not regulated by the EPA, therefore there are no specific EPA approved methods for analyzing 123TCP.

The ECLS Laboratory can achieve an MDL of 0.005 ug/L for 123TCP using EPA 504.1. By using the procedure of multiplying the median MDL by a factor of five to obtain a PQL,

a PQL for 123TCP would be 0.05 ug/L. This PQL was unacceptable since the median value of the reporting limits obtained with the phone survey was 0.025 ug/L. A possible reason for the high median MDL for 123TCP can be due to 123TCP not being regulated however, the other two compounds in the method, ethylene dibromide (EDB) and 1,2-dibromochloroprane (DBCP), are regulated and require a low MDL. Most likely during an MDL study, emphasis was placed on the two regulated compounds rather than 123TCP. For this reason, the Subcommittee decided to deviate from the procedure of using 5 multiplied by the median MDL to obtain a PQL. The Subcommittee recommended that, as with the monitoring structure for regulated VOC's where the "trigger" for increased monitoring is based on the MDL and not the reporting limit or PQL, a similar structure can be used with 123TCP. By virtue of the MDL definition, any concentration above the MDL (0.005 ug/L) would indicate with 99% confidence that 123TCP was present in the sample. The Subcommittee recommended an MDL of no lower than 0.005 ug/L. Monitoring using the MDL as a trigger for increased monitoring would be protective in the absence of more sensitive methods.

The MDL of 0.005 ug/L multiplied by 5 would result in a PQL of 0.025 ug/L. This would be rounded to 2 significant figures which would be 0.03 ug/L. If approved, the PQL would be the limiting factor in setting an MCL for 123TCP. As technology and methodology improves, this PQL will be re-evaluated in anticipation of obtaining a value that can meet or approach the low HBMCL expected to be set somewhere in the range of 0.002 to 0.005 ug/L.

B. Wilk mentioned a draft EPA method, EPA 524.3 which would be able to detect 123TCP at 0.05 ug/L in full scan mode and at least an order of magnitude less using SIM (Selected Ion Monitoring) mode. Although still draft, when finalized, this method will be another method, if not a better option, for analyzing 123TCP at concentrations closer to the expected HBMCL range of 0.002 to 0.005 ug/L.

Agenda Item 5: PQL for Dacthal and degradates

Since 1999, the NJDEP included dacthal (DCPA) and its degradates in the NJ SOC Waiver Program study performed during every three year compliance period. The method used for this purpose was EPA 515.3 which included the parent compound (dacthal or DCPA) and its degradates. The NJDEP's HBMCL was based on the parent and the degradates. This method was the only method that included both parent and degradates. The EPA, in the first UCMR (Unregulated Contaminant Monitoring Rule), allowed the use of methods 515.1, 515.2, 515.3 and 515.4 for the analysis of DCPA degradates. The EPA was obtaining data for the degradates and not the parent compound. The reporting limit for all of these methods was 1 ug/L. The EPA decided to allow the use of 515.3 (which included the parent compound), but if the concentration of dacthal and degradates was over 1 ug/L (a detection) then the water system would have to resample using other methods to quantify the degradates.

The DWQI Health Effects Subcommittee has proposed a HBMCL based on a study mainly on dacthal which is also protective of the degradates. Since the future regulation of DCPA and degradates by NJ will require a method that quantitates both parent and degradates, the Testing Subcommittee recommends the method to be EPA 515.3 that will provide a concentration value for both dacthal and its degradates. .

Since the Testing Subcommittee reviewed the information from the UCMR1 and in view of the fact that the rigors of evaluation had already been undertaken by the EPA to arrive at this minimum reporting level, the Testing Subcommittee recommends a PQL of 1 μg/L for DCPA and degradates. This PQL was based on the UCMR reporting limit of 1 μg/L for DCPA degradates. Since the HBMCL for dacthal (DCPA) and degradates is 28 μg/L, the proposed PQL will not be a limiting factor in establishing an MCL.

Conclusion of Meeting:

At the conclusion of the meeting, future work for the Testing Subcommittee was discussed. This included a brief discussion of 2,4,6-trichlorophenol, tertiary butyl alcohol (TBA) and chromium. It was determined that Water Supply Operations staff would investigate drinking water 2,4,6-trichlorophenol data prior to the next Testing Subcommittee meeting. L. Bonnette said that there is no drinking water TBA data even though it is sometimes included in an EPA 524.2 analysis by laboratories. It is not a true target compound in that method. The toxicology of chromium (VI) is still being reviewed by the Department. The chromium VI review may be completed by the time of the next Subcommittee meeting.

Meeting Minutes prepared by:
Linda Bonnette February 18, 2009
Revised October 22, 2009