



# Newsletter

November 6, 2007

## **What Method Should be Used?**

POTWs are required to use a method that is sensitive enough to determine compliance with an approved MAHL. In a related activity, POTWs should evaluate whether or not they are meeting existing approved MAHLs based upon influent sampling. For a discussion of this go to [www.CWACS.com](http://www.CWACS.com) (Downloads area) and click on the 11-2-07 Tip article.

Disclaimers: This is a complicated topic that requires site-specific decisions. If your influent is always  $>0.0002$  mg/l, then Method 245.1 may be used. If your current POTW flow is above the flow used in your local limits evaluation, you should undertake a revision to your local limits. If your mercury limit is driven by biosolids, a separate review should be made when the influent  $Hg > MAHL$  Hg.

The example below focuses on mercury. A few of concepts must be stated:

- ✓ Approved MAHL in lbs/day
- ✓ POTW flow used in local limits calculations
- ✓ Highest Monthly Average Flow for Reporting Year

## **What method must the POTW use to monitor influent mercury?**

Approved Mercury MAHL: 0.0051 lbs/day

POTW Flow from local limits development: 3.8 MGD

Highest monthly average POTW flow during reporting year: 3.4 MGD

If the MAHL is based upon an NPDES limit:

Adjust MAHL for flow:  $3.4/3.8 \times 0.0051$  lbs/day = 0.0045 lbs/day\*

*Note: The MAHL should be adjusted to account for current flow because the POTW would be predicted to violate NPDES permit limits for concentration-based mercury limits if it discharged the MAHL lbs/day amount at a lower POTW flow. The critical consideration is that removal efficiency for mercury is predicted to remain relatively constant (typically ranges 90%-97%) at an individual POTW with varying annual flows*

- \* You can check the relationship between loading and current flows by back calculating the predicted POTW effluent mg/L based upon the MAHL (rearrange the formula to solve for mg/L). Then use your removal efficiency from your local limits package to calculate the predicted POTW effluent concentration. POTWs with low flows will be less likely to be affected by adjusting for flow. If you used a

*default removal efficiency in your local limits development, it is time to use a more sensitive method and develop a better method.*

Can Method 245.1 (MDL: 0.0002 mg/l or 0.2 µg/l) be used for influent sampling?

Mercury MDL (mg/L) x Highest Monthly Avg. POTW Flow (MGD) x 8.34 = lbs/day

0.0002 mg/L x 3.4 mgd x 8.34 = 0.00567 lbs per day

*Note: This is the poundage of mercury that could be quantified using Method 245.1*

Your MAHL (adjusted) is: 0.0045 lbs/day.

0.0045 lbs/day < 0.00567 lbs/day.

Therefore, Method 245.1 is not a sensitive enough method for determining compliance with the approved MAHL. The POTW should be using methods 245.7 or 1631E for POTW influent monitoring.

*Note on laboratory data:* I am always amazed that I keep running across commercial laboratory data using Method 245.1 that is reported incorrectly. Instead of data reported as 0.0002 mg/L, I find reports that show 0.000200 mg/L. I had one analyst tell me that is what the readout said so he believed it was correct and the method was equivalent to 1631E! If you get data like this for mercury, contact the laboratory and demand a written explanation. Then change labs!

This is a good place to go to for categorical standards (revised EPA page):

<http://www.epa.gov/waterscience/guide/industry.html>

If you click on the **industrial category** name rather than the number, you can see the EPA contact for that standard. Always call or email the contacts with specific technical questions. I prefer email to have a written record. It would be polite to cc your state or EPA contact (the Effluent Guidelines contact will notify the EPA regional coordinator anyway). A disappointing aspect of the page is that they have not put the development documents out there for most of the pre-1995 industrial categories. These documents do exist in pdf format.

**Coming in future Newsletters/Tips: When should a POTW adopt instantaneous local limits? What are the advantages and disadvantages? Are daily maximums the easiest? How do you implement instantaneous limits in a permit?**

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