



## WATER RESOURCES DIVISION POLICY AND PROCEDURES

<b>NUMBER:</b>	<b>WRD-004</b>
<b>SUBJECT:</b>	<b>CALCULATION OF LEVEL CURRENTLY ACHIEVABLE (LCA) FOR MERCURY IN PROPOSED NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMITS</b>
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**NOTE:** This procedure supersedes the former Water Bureau Procedure WB-016.

### **ISSUE:**

This policy establishes the process that the Water Resources Division (WRD) will use to develop discharge-specific LCAs for mercury to be included in NPDES permits when a variance will be authorized through issuance of the permit.

### **AUTHORITY:**

Rule 1103, Variances, of the Part 4 Rules, Water Quality Standards, promulgated under Part 31, Water Resources Protection, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended.

### **DEFINITIONS:**

Level Currently Achievable (LCA) – the effluent limitation (for mercury) that a permittee is able to meet at the time the variance is granted.

### **POLICY:**

#### **Discharge-Specific LCA Calculation Approach**

1. Calculate the average projected effluent quality (PEQ) as follows:
  - a. Ten or more representative data points: Use the method described in R 323.1211(3)(a). The value of n as defined in R 323.1211(3)(a) is determined by the mercury monitoring frequency and is not limited to 1 or 30. Permittees are most often required to monitor for mercury quarterly (4 samples per year) or monthly (12 samples per year). These samples are used to calculate a 12-month rolling average (TMRAV) for computing an LCA. To calculate the 95<sup>th</sup> percentile of a distribution of averages of 4 mercury concentrations in the TMRAV, use n = 4. For a distribution of averages of 12 mercury concentrations, use n = 12.
  - b. Fewer than 10 representative data: Use the method described in R 323.1211(3)(b)

In both cases, round the PEQ up to the next whole number. If the average PEQ is 10 nanograms per liter (ng/l) or less, then the PEQ is the LCA. If the average PEQ is greater than 10 ng/l, then proceed to Step 2.

Based on experience to date, available data indicates that the vast majority of mercury discharges will fall into this category for LCA calculation.

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2. If the PEQ value calculated in Step 1 is greater than 10 ng/l, then review the number of data points available for the facility.
  - a. If data representative of a 12-month period are available to calculate at least 1 TMRAV, compute the LCA using the following approach:
    - i. If there are 10 or more TMRAVs, then calculate the PEQ using the TMRAV data points following the reasonable potential approach described in R 323.1211(3)(a). Compare the maximum PEQ to the highest TMRAV. (The maximum PEQ is used because the calculation process uses averages; e.g., TMRAVs.) This approach may result in a PEQ lower than the highest TMRAV; therefore, the LCA is the higher of the 2 values. Round the LCA up to the next whole number.
    - ii. If there are less than 10 TMRAVs, then calculate the LCA using the individual data points following the reasonable potential calculation process described in R 323.1211(3)(b). Compare the average PEQ to each TMRAV. (The average PEQ is used because the calculation process uses individual, rather than TMRAV, data points.) The LCA is the higher of the PEQ or highest TMRAV, rounded up to the next whole number.
  - b. If data representative of a 12-month period is not available to calculate at least one TMRAV, then compute the LCA using the following approach:
    - i. If each value is less than 10 ng/l, then set the LCA at 10 ng/l. This value will function as a “cap” because the vast majority of facilities in Michigan are able to meet this level. The 10 ng/l cap will prevent unnecessarily high LCAs that may result from the R 323.1211(3)(b) reasonable potential approach for data sets with less than 10 individual data points.
    - ii. If any value is equal to or greater than 10 ng/l, then the Michigan Department of Environmental Quality (MDEQ) and/or the permittee will develop the LCA using site-specific considerations, including evaluation of the raw data, facility treatment type, any mercury issues in the receiving water (e.g., fish consumption advisory), and facility and receiving water flows. Available information and experience to date indicate that this situation will be very rare. The LCA developed under this step will need to be submitted to the United States Environmental Protection Agency (USEPA) for approval prior to NPDES permit issuance.

Other Considerations

The MDEQ and NPDES permittees are not bound by this procedure, as there may be situations where other LCAs are appropriate. However, it is the MDEQ’s intent to follow this procedure in most instances. LCAs derived according to Steps 1., 2.a., and 2.b.i. have the approval of the USEPA without submitting each LCA for approval.

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Specific situations may arise (for example, upon request by the permittee) when the MDEQ would include an LCA in a permit that is lower than what would result from this process. In addition, permittees may develop and propose an LCA that is different from what would result from this process, which the MDEQ would evaluate on a case-by-case basis. If the MDEQ determines the LCA to be appropriate, we would submit the proposed LCA to the USEPA for approval on a case-by-case basis.

Each LCA included in a permit will be subject to notice and comment during the public comment period on that permit.

**METHOD OF DISTRIBUTION:** E-mail, WRD Shared Drive

**PROCEDURE:**

**Responsibility**

**Action**

Permits Section Staff

Calculate discharge-specific LCA as outlined under "Policy;" steps 1., 2.a., and 2.b.i., and in consideration of applicable provisions of Rule 1103; submit proposed LCA to the permit writer.

Permit Writer

Follow standard process for NPDES permit issuance/denial/amendment.

**OR**

Permittee or WRD staff

Propose alternative method for calculating discharge-specific LCA as outlined under "Policy" Step 2.b.ii. or Other Considerations.

Permits Section Staff

Select alternative method and calculate discharge-specific LCA according to alternative method and in consideration of applicable provisions of Rule 1103; draft memo to the permit writer including the proposed LCA and an explanation of and justification for the alternative calculation method.

Permit Writer

Submit proposed LCA and an explanation of and justification for the alternative calculation method to the WRD treatment technology expert(s) for consideration.

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**PROCEDURE: (continued)**

**Responsibility**

**Action**

WRD Treatment Technology Expert(s)

Provides feedback to the permit writer on treatment issues related to the proposed LCA.

Permits Section Staff

Revise proposed LCA as appropriate; submit proposed LCA and an explanation of and justification for the alternative calculation method, including any treatment technology issues to the permit writer.

Permits Section Chief

When agrees with LCA, seeks USEPA review and approval of LCA.

Permit Writer

Follows standard process for NPDES permit issuance/denial/amendment; permit issuance signifies approval of LCA.

APPROVED: \_\_\_\_\_



William Creal, Chief  
Water Resources Division

DATE: 5-4-2011