**Section 310.311 Demonstration of Consistent Removal**

The Agency must authorize a POTW to grant a removal credit that does not exceed the POTW's consistent removal rate. To demonstrate consistent removal, the POTW must, for each pollutant with respect to which removal credit authorization is sought, collect influent and effluent data, and calculate consistent removal in accordance with the following requirements. As a condition of retaining removal credits authorization, the POTW's consistent removal must continue to be equal or greater than the removal credit.

a) Representative Data. Seasonal. The data must be representative of yearly and seasonal conditions to which the POTW is subjected for each pollutant for which a discharge limit revision is proposed.

b) Representative Data. Quality and quantity. The data must be representative of the quality and quantity of normal effluent and influent flow if such data can be obtained. If such data are unobtainable, alternate data or information may be presented for approval to demonstrate consistent removal.

c) Sampling Procedures

1) Composite. The influent and effluent operational data must be obtained through 24-hour flow-proportional composite samples. Sampling may be done manually or automatically, and discretely or continuously. For discrete sampling, at least 12 aliquots must be composited. Discrete sampling may be flow-proportioned either by varying the time interval between each aliquot or the volume of each aliquot. All composites must be flow-proportional to either stream flow at time of collection of influent aliquot or to the total influent flow since the previous influent aliquot. Volatile pollutant aliquots must be combined in the laboratory immediately before analysis.

2) Number of Samples

A) Twelve samples must be taken at approximately equal intervals throughout the full year. Sampling must be evenly distributed over the days of the week so as to include non-workdays. If the Agency determines that this schedule will not be most representative of the actual operation of the POTW treatment plant, the Agency must approve an alternative sampling schedule.

B) Upon concurrence of the Agency, a POTW may utilize a historical database amassed during the three years immediately preceding the application if the data otherwise meet the requirements of this Section. For the historical database to be approved, it must present a statistically valid description of daily, weekly, and seasonal sewage treatment plant loadings and performance for at least one year.

3) Effluent sample collection need not be delayed to compensate for hydraulic detention time unless the POTW elects to include detention time compensation or unless the Agency requires detention time compensation. The Agency must require that each effluent sample be taken approximately one detention time later than the corresponding influent sample when failure to do so would result in an unrepresentative portrayal of actual POTW operation. The detention period must be based on a 24-hour average daily flow value. The average daily flow used must be based upon the average of the daily flows during the same month of the previous year.

d) Sampling Procedures. Grab. If composite sampling is not an appropriate sampling technique, one or more grab samples must be taken to obtain influent and effluent operational data. Collection of influent grab samples must precede collection of effluent samples by approximately one detention period. A detention period is to be based on a 24-hour average daily flow value. The average daily flow used must be based upon the average of the daily flows during the same month of the previous year. Grab samples are required, for example, where the parameters being evaluated are those such as cyanide and phenol, which may not be held for any extended period because of biological, chemical, or physical interactions that take place after sample collection and affect the results. A grab sample is an individual sample collected over a period of time not exceeding 15 minutes.

e) Analytical Methods. The POTW must analyze the samples for pollutants in accordance with the analytical techniques prescribed in 35 Ill. Adm. Code 307.1003. If 35 Ill. Adm. Code 307.1003 does not reference analytical techniques for the pollutant in question, or if USEPA determines, as provided in Section 310.602, that the 35 Ill. Adm. Code 307.1003 analytical techniques are inappropriate, the analysis must be performed using validated analytical methods or any other applicable analytical procedures approved by USEPA, including procedures suggested by the POTW.

f) Calculation of Removal. All data acquired under provisions of this Subpart must be submitted to the Agency. Removal for the specific pollutant must be determined for each sample by measuring the difference between the concentrations of the pollutant in the influent and effluent of the POTW and expressing the difference as a percent of the influent concentration. If these data cannot be obtained, the POTW may demonstrate removal using other data or procedures subject to concurrence by the Agency.

BOARD NOTE: Derived from 40 CFR 403.7(b) (2003), as modified to reflect NRDC v. USEPA, 790 F.2d 289 (3d Cir. 1986)

(Source: Amended at 47 Ill. Reg. 5083, effective March 23, 2023)