DISINFECTANTS & DISINFECTION BYPRODUCTS RULE (D/DBPR)

COMMENT AND RESPONSE DOCUMENT

List of Commentators

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5. Independent Regulatory Review Commission

Definitions

Comment #1: The definition of *Maximum Residual Disinfectant Level* (MRDL) includes the phrase "…unacceptable possibility of adverse health effects." What is an unacceptable possibility of adverse health effects? (5)

Response #1: The language in question is contained in the federal definition of *MRDL* at 40 CFR § 141.2. The "…unacceptable possibility of adverse health effects" is reflected in the actual values of the prescribed MRDLs as set forth in 40 CFR § 141.65 and proposed for incorporation in § 109.202(f).

State MCLs, MRDLs and Treatment Technique Requirements

Comment #2: Under § 109.202(g)(2)(ii)(F), an exemption from the required TOC monitoring and subsequent compliance with the TOC reduction requirements can be met if "The system's finished water SUVA, measured in accordance with Subchapter C, is less than or equal to 2.0 L/mg-m, calculated quarterly as a running annual average." The Department should define the term "finished water" for compliance purposes. Finished water can mean combined filter effluent prior to any post chemical feeds, combined filter effluent after post chemical feeds, or at the entry point to the distribution system. Clarification is needed on the interpretation of this requirement. (4)

Response #2: Recent discussions with the United States Environmental Protection Agency (EPA) have revealed that the "finished water SUVA" sample, as required by 40 CFR § 141.135(a)(2)(vi), must be taken prior to the addition of any disinfectants or oxidants. The Department has revised § 109.202(g) to omit paragraph (2) in its entirety. The proposed language in § 109.202(g)(1) adequately incorporates by reference the treatment technique in 40 CFR § 141.135.

Comment #3: In § 109.202(a)(3), public water systems installing granular activated carbon or membrane technologies "…may apply to the Department for an extension of up to 24 months past the applicable compliance date specified in the Federal regulations, but not beyond December 31, 2003." How will a public water system apply for an extension, and what criteria will be used in determining whether or not to grant an extension? (5)

Response #3: Public water systems will apply for compliance date extensions through the appropriate Department regional office. The water system will need to propose a schedule for compliance and demonstrate to the Department's satisfaction that the appropriate technology is being installed for the appropriate purpose. In accordance with 40 CFR § 141.64(b)(2), the

Department must set a schedule for compliance, including any interim measures that the system must take. The Department will use both a permit amendment for the construction or installation of the technology and a consent order and agreement to set the compliance schedule on a case-by-case basis.

Comment #4: In § 109.202(a)(3), a typographical error exists in the first sentence. It appears that the phrase "…in the Federal regulations. but not beyond …." should read "…in the Federal regulations, but not beyond….". (5)

Response #4: The Department agrees and has made the suggested revision.

Comment #5: Regarding the enhanced coagulation treatment technique in § 109.202(g)(1), it is unclear in the referenced federal language of 40 CFR § 141.135 as to how a water system is to calculate the percent TOC reduction if the downstream TOC sample is higher than the source water TOC sample. If such a scenario were to occur, it is recommended that a reduction of 0% be used for the month instead of the actual negative percent removal achieved by actual calculation. (4)

Response #5: Recent discussions with EPA have revealed that if the downstream TOC sample is higher than the source TOC sample, then the resulting negative percent removal is to be used in the subsequent compliance determination. This issue will be addressed through Department-issued guidance and/or policy, which is currently being developed. In the interim, federal guidance is available.

Comment #6: The first sentence in § 109.202(g)(2)(ii)(C) is lengthy. For clarity, this sentence should be broken into shorter sentences. A typographical error also exists in the second and third sentences. It appears that the second and third sentences should be joined with a comma to form one sentence. (5)

Response #6: As stated above in Response #2, the Department has revised § 109.202(g) to omit paragraph (2).

<u>General Monitoring Requirements</u>

Comment #7: In § 109.301(12)(i)(A)(I)(-a-), it should be noted that the TTHM and HAA5 sample sites should be representative of the entire distribution system. (1,5)

Response #7: The Department agrees and has made the suggested revision.

Comment #8: In § 109.301(12)(i)(B)(I), items (-a-) through (-c-) state "Systems on reduced monitoring are not required to monitor source water TOC." These statements should be removed. Although systems do not have to meet a particular TOC level to remain on reduced monitoring for TTHM and HAA5, they would still need to monitor for source water TOC if they are a conventional filtration plant under the DBP precursor treatment technique. Therefore, they would not be exempt from source water TOC monitoring. (1,5)

Response #8: The Department agrees and has made the suggested revision.

Comment #9: Under § 109.301(12)(iv)(A), "Systems shall take monthly samples of the source water alkalinity, the source water TOC and the combined filter TOC for each treatment plant that utilizes conventional filtration." If a plant does not have a combined filter effluent line, it will be unsure as to where the "treated" TOC sample should be taken for the determination of TOC reductions required by the Rule. (4,5)

Response #9: Recent discussions with EPA have revealed that the "treated" TOC sample can be taken anywhere between the sedimentation effluent and the entry point to the distribution system. Therefore, the Department has revised the language in § 109.301(12)(iv)(A) to reflect these allowable sample locations. In addition, a monitoring plan shall be submitted to the Department for review under § 109.701(e).

Comment #10: In § 109.301(13)(i), the word "samples" should be changed to "sampled." (1)

Response #10: The Department agrees and has made the suggested revision.

<u>Public Notification</u>

Comment #11: The EPA recommends that the Department not adopt the provision of the Federal rule relating to the total trihalomethane (TTHM) health effects language required to be included in Consumer Confidence Reports (CCR) (as per 40 CFR § 141.154(e)). The Department proposed to include this in § 109.403(d). Adopting only one provision of the CCR rule will be confusing to water systems since the Department has not yet adopted all of the CCR. It is acceptable to EPA for the Department to adopt public notification (PN) provisions which are necessary to address revisions to

the Disinfectants and Disinfection Byproducts Rule (D/DBPR), without adopting the entire Federal PN rule at this time. EPA understands that the Department will adopt the Federal PN rule by August 2002. (1,5)

Response #11: The Department agrees and has omitted the proposed language in § 109.403(d) as per EPA's suggestion.

Comment #12: In § 109.403(d), the citation is incorrect as a result of the minor June 30, 2000 corrections to the Federal PN rule. The Appendices to the Federal CCR rule were merged into Appendix A and the paragraph numbering was removed. (1)

Response #12: The Department agrees and has omitted the proposed language in § 109.403(d).

Reporting and Recordkeeping

Comment #13: In § 109.701(a)(8), the following reporting requirements for disinfectant residuals need to be included:
(a) For chlorine dioxide, systems must also report whether the MRDL was exceeded and whether it was exceeded in any two consecutive daily samples and whether the resulting violation was acute or nonacute.
(b) For chlorine and chloramines, systems must also report the number of samples and whether the MRDL was exceeded. (1,5)

Response #13: The Department agrees and has made the suggested revision.

Comment #14: In § 109.701(a)(9)(ii)(A), the words "entry point" should be removed. Systems have to report the number of total samples, not just entry point samples. (1,5)

Response #14: The Department agrees and has made the suggested revision.

Bottled Water

Comment #15: It should be clarified as to whether the entire proposed D/DBPR applies to bottled water systems or if only the section on bromate monitoring in § 109.1003(a)(1)(viii) applies to bottled water systems. Monitoring for disinfection byproducts (DBPs) other than bromate is not applicable to bottled water since bottled water companies do not typically use chlorine as a residual disinfectant in their product water. It should be clarified what DBPs should be monitored and at what frequencies for bottled water

companies. For the sake of clarity, the proposed D/DBPR should consolidate specific monitoring requirements and standards for bottled water in Subchapter J. (2,3,5)

Response #15: The proposed D/DBPR applies to bottled water systems. The Department feels that this is adequately communicated in the provisions of § 109.1002(a) and § 109.1003(a), as well as by the definitions of *Public Water System* and *Bottled Water System* in § 109.1. However, if a bottled water system does not use chlorine-based chemicals and does not use a source that has been treated with chlorine-based chemicals, then that system will not need to comply with the monitoring requirements for TTHM and HAA5.

The Department feels that the DBP monitoring provisions are not adequately communicated in § 109.1003(a). Therefore, the Department has revised the proposed language in § 109.1003(a)(1) to clarify these requirements.

Comment #16: Section 109.1003(a) of the proposed D/DBPR states that "Bottled water and vended water systems, retail water facilities and bulk water hauling systems shall monitor for compliance with the MCLs and MRDLs in accordance with § 109.301 (relating to general monitoring requirements)…." The definition for maximum residual disinfectant level (MRDL) proposed in § 109.1 is not applicable to bottled waters because they are not obtained at the consumer's tap. Because of the protection afforded by the sealed bottle (as opposed to the need for a residual disinfectant throughout an underground municipal water distribution system), there is no need to mandate a residual disinfectant – ozone, chlorine, or otherwise – in bottled water. This comment also applies to § 109.202(f)(2), which adopts the National Primary Drinking Water Regulations MRDLs; and § 109.301(2)(i)(D), which requires continuous monitoring of MRDLs with a provision for testing every 4 hours in lieu of continuous monitoring. (2,3)

Response #16: Although an adequately sealed bottle provides a high level of sustained microbial protection, the MRDL provisions of the D/DBPR nevertheless apply to bottled water systems. The monitoring provisions in § 109.1003(c)(1) specify that MCL and MRDL compliance sampling for bottled water systems shall take place at the entry point. Subparagraph (i) of § 109.1003(c)(1) defines the entry point for bottled water systems to mean each finished bottled water product. The Department has revised the proposed definition of *MRDL* to clarify that the "consumer's tap" will be the entry point for bottled, vended, retail, and bulk hauling water systems.

Comment #17: Section 109.202(a)(3) provides for a 24-month extension past the applicable compliance date specified in the Federal regulations, but not beyond December 31, 2003. This proposed extension period would also apply to public water systems required to comply with the proposed MCL for bromate. It should be clarified that this extension applies to bottled water companies who are investigating and installing new technologies to comply with the proposed bromate MCL. (2,3)

Response #17: The Department agrees that the extension period is available to bottled water systems but feels that this is adequately communicated in the provisions of § 109.1002(a), as well as by the definitions of *Public Water System* and *Bottled Water System* in § 109.1.

Comment #18: Section 109.1003(d)(3) states that "if a check sample is total coliform-positive, the system shall be deemed to have violated the MCL for total coliforms…." Section 109.301(3) (Monitoring requirements for coliforms) requires that the presence or absence of fecal coliforms or *E. coli* also be determined in routine or check samples. Section 109.1003(d)(3) does not provide detail on how many check samples must be collected when a primary sample is total coliform-positive. In actual situations where public water systems in Pennsylvania and elsewhere in the United States find total coliform-positive primary samples, specific requirements for collection of check samples is provided. For example, a small system may be directed to collect four (4) check samples immediately upon notice of a total coliform-positive sample, followed by increased sampling the next month. The International Bottled Water Association (IBWA) has developed an *Escherichia coli and Total Coliform Standard and Policy*, which uses this check-sample procedure. A similar procedure should exist for responding to total coliform-positive bottled water samples. (2,3)

Response #18: Section 109.1003(d) prescribes the repeat monitoring requirements for bottled water systems. The Department feels that § 109.1003(d)(1)(i) requires bottled water systems to collect three check samples after a routine sample is found to be total coliform-positive. Section 109.1003(d)(3) applies after a routine (i.e., primary) sample and check samples have been taken. The IBWA policy is generally consistent with Department-issued guidance.

Comment #19: Section 109.301(12) (Monitoring requirements for disinfection byproducts and disinfection byproduct precursors) states that systems using groundwater sources shall begin monitoring by January 1, 2004. It is interpreted that this date also applies to bottled water companies with ground water sources, such as springs and wells. (2,3)

Response #19: This is the Department's intent. The Department has revised § 109.1003 to clarify this requirement.

Comment #20: It is not clear about locations of entry points in bottled water plants that are sampled for compliance with this and other regulations. Sections 109.701(a)(8) (Reporting requirements for disinfectant residuals) and 109.1003(a)(1)(viii)(A) do not clearly indicate where that entry point is located. This issue should be clarified so that the proper numbers of samples may be collected. It is recommend that entry points be designated as each *product type* bottled at each bottling plant as it complies with the bottled water routine monitoring requirements of the Food and Drug Administration (FDA). (2,3)

Response #20: "Entry point" for bottled water systems is specified within § 109.1003(c)(1). "Entry point" is further defined for bottled water systems in § 109.1003(c)(1)(i) as being *each finished bottled water product.*

Comment #21: TTHM monitoring for systems using chlorine-based disinfectants is performed quarterly. For consistency, it is recommended that the same DBP monitoring schedule be applied to the bromate monitoring in § 109.1003(a)(1)(viii)(A), which currently proposes that one sample per month be collected at each entry point. If adopted, the reduced monitoring proposed in § 109.1003(a)(1)(viii)(B) should be changed from quarterly to *annually.* (2,3)

Response #21: The proposed bromate monitoring provisions in § 109.1003(a)(1)(viii)(B) are consistent with the requirements for other public water systems and with the federal D/DBPR in 40 CFR § 141.132(b)(3)(ii). As stated above in Response #15, the Department has revised the proposed language in § 109.1003(a)(1). Therefore, the bromate monitoring provisions are reflected in a new § 109.1003(a)(1)(x).

Comment #22: The proposed rule does not clearly address the basis for determining compliance. Monitoring frequencies and reporting requirements are outlined in the proposed rule, but it should be clarified as to whether compliance is based on single-sample results or a running average. It is recommended that a compliance schedule be developed that is similar to that applicable to TTHMs (i.e., a running annual average calculated quarterly using sample results obtained each quarter). (2,3)

Response #22: The Department feels that compliance determinations are adequately communicated in the provisions of § 109.1002(a) and § 109.1003(a) by way of reference to § 109.202 and § 109.301, respectively, which reference the federal regulations.

Comment #23: The system operational requirements described in section 109.1009(c) state that "A disinfectant residual acceptable to the Department shall be maintained at the entry point of the bottled water… system….". The proposed EPA Groundwater Rule, scheduled to be finalized in November 2000, allows for use of ultraviolet (UV) light as an alternative disinfectant. This provision in the *Federal Register* (Vol. 65; May 10, 2000; pg. 30271; § 141.404(C)(2)) states "Ground water systems using UV disinfection must continuously monitor for and maintain the State-prescribed UV irradiance level every day the ground water system serves water to the public." The EPA also considered the fact that UV would not provide a disinfection residual and deemed this acceptable, ruling that "As long as the system attains IT values necessary for 4-log virus inactivation, the system meets the treatment technique requirement." (*Federal Register*, Vol. 65; May 10, 2000; pg. 30235; paragraph E. Treatment Technique for Systems With Fecally Contaminated Source Water or Uncorrected Significant Deficiencies; (1)(b)(iii) Disinfection).

In a similar manner, other alternative technologies provide an acceptable level of public health protection without the presence of a chemical disinfectant residual. Because of the protection afforded by the sealed bottle (as opposed to the need for a residual disinfectant throughout an underground municipal water distribution system), there is no need to mandate a residual disinfectant – ozone, chlorine, or otherwise – in bottled water. It is urged that guidance be sought from the FDA on the availability of alternative treatment techniques and their acceptability for the production of bottled water. (2,3)

Response #23: Although an adequately sealed bottle provides a high level of sustained microbial protection, the MRDL provisions of the D/DBPR still apply to bottled water systems. While the MRDL sets a maximum disinfectant level, the Department determines the minimum acceptable residual on a case-by-case basis as per the provisions of § 109.1009(c).