3745-81-67 **LT2 bin classification and treatment technique requirements.**

(A) Following completion of the initial round of source water monitoring required by paragraph (A) of rule 3745-81-65 of the Administrative Code, systems shall calculate an initial Cryptosporidium bin concentration for each plant for which monitoring was required. Calculation of the bin concentration shall use the Cryptosporidium results reported under paragraph (A) of rule 3745-81-65 of the Administrative Code and ~~shall~~ use the following procedures:

(1) For systems that collect a total of at least forty-eight samples, the bin concentration is equal to the arithmetic mean of all sample concentrations.

(2) For systems that collect a total of at least twenty-four samples, but not more than forty-seven samples, the bin concentration is equal to the highest arithmetic mean of all sample concentrations in any twelve consecutive months during which Cryptosporidium samples were collected.

(3) For systems that serve less than ten thousand people and monitor for Cryptosporidium for only one year (i.e., collect twenty-four samples in twelve months), the bin concentration is equal to the arithmetic mean of all sample concentrations.

(4) For systems with plants operating only part of the year that monitor less than twelve months per year in accordance with paragraph ~~(E)~~(D) of rule 3745-81-65 of the Administrative Code, the bin concentration is equal to the highest arithmetic mean of all sample concentrations during any year of Cryptosporidium monitoring.

(5) If the monthly Cryptosporidium sampling frequency varies, systems shall first calculate a monthly average for each month of monitoring. Systems shall then use these monthly average concentrations, rather than individual sample concentrations, in the applicable calculation for bin classification in paragraphs (A)(1) to (A)(4) of this rule.

(B) Systems shall determine ~~their~~the initial bin classification from the following table and using the Cryptosporidium bin concentration calculated under paragraphs (A)(1) to (A)(5) of this rule:

Bin Classification Table for Systems

For systems that are:	With a ~~Crypotosporidium~~Cryptosporidium bin concentration of:[1]	The bin classification is:

... required to monitor for [Cryptosporidium] as specified in paragraphs (A) to (H) of rule 3745-81-65 of the Administrative Code.	Cryptosporidium <0.075 oocyst/L	Bin 1.
	0.075 oocysts/L < = Cryptosporidium, < 1.0 oocysts/L	Bin 2.
	1.0 oocysts/L < = Cryptosporidium, < 3.0 oocysts/L	Bin 3.
	Cryptosporidium > = 3.0 oocysts/L	Bin 4.
... serving less than 10,000 people and NOT required to monitor for Cryptosporidium under paragraph (A)(4) of rule 3745-81-65 of the Adminstrative Code.	Not applicable	Bin 1.

[1] Based on calculations in paragraph (A) or (C) of this rule, as applicable.

Systems shall report ~~their~~the initial bin classification to the director for approval no later than six months after the system is required to complete initial source water monitoring based on the schedule in paragraph (C) of rule 3745-81-65 of the Administrative Code. The bin classification report to the director shall include a summary of source water monitoring data and the calculation procedure used to determine bin classification.

~~For systems serving less than one hundred thousand within twelve months after the system is required to complete initial source water monitoring, the~~The system shall submit a general plan to the director indicating the system's plan for complying with any additional Cryptosporidium inactivation or removal requirements within twelve months after completing initial source water monitoring. ~~Systems serving at least one hundred thousand people shall submit a general plan by March 1, 2010.~~ The general plan shall include at a minimum, a description of each toolbox option which may be used, and a schedule for submitting any required detail plans or protocols/pilot study results for the proposed toolbox option. The general plan shall be prepared and submitted by a professional engineer.

(C) Following completion of the second round of source water monitoring required in accordance with paragraph (B) of rule 3745-81-65 of the Administrative

Code, systems shall recalculate their Cryptosporidium bin concentration using the Cryptosporidium results reported in accordance with paragraph (B) of rule 3745-81-65 of the Administrative Code and following the procedures in paragraphs (A)(1) to (A)(4) of this rule. Systems shall then re-determine ~~their~~the bin classification using this bin concentration and the table in paragraph (B) of this rule. Systems shall report their bin classification to the director for approval no later than six months after the system is required to complete the second round of source water monitoring based on the schedule in paragraph ~~(C)~~(E)(3) of rule 3745-81-65 of the Administrative Code. The bin classification report to the director shall include a summary of source water monitoring data and the calculation procedure used to determine bin classification.

Within six months of receiving the director's approval of the bin classification, the system shall submit a general plan to the director indicating the system's plan for complying with any additional Cryptosporidium inactivation or removal requirements. The general plan shall include at a minimum, a description of each toolbox option which may be used, and a schedule for submitting any required detail plans or protocols/pilot study results for the proposed toolbox option.

(D) Failure to comply with the reporting requirements in paragraphs (B) and (C) of this rule with exception of the requirement to submit a general plan is a violation of the treatment technique requirement.

(E) Additional Cryptosporidium treatment requirements based on bin classification.

(1) Systems shall provide the level of additional treatment for Cryptosporidium specified in this paragraph based on their bin classification as determined in accordance with paragraphs (A) to (D) of this rule and according to the schedule in paragraph (F) of this rule.

Additional Cryptosporidium treatment requirements based on bin classification.

If the system bin classification is...	And the system uses the following filtration treatment in full compliance with rules 3745-81-71 to 3745-81-76 of the Administrative Code (as applicable), then the additional Cryptosporidium treatment requirements are...			
	Conventional filtration treatment (including softening)	Direct filtration	Slow sand or diatmaceous earth filtration	Alternative filtration technologies

Bin 1	No additional treatment	No additional treatment	No additional treatment	No additional treatment
Bin 2	1-log treatment	1.5-log treatment	1-log treatment	As determined by the director such that the total Cryptosporidium removal and inactivation is at least 4.0-log.
Bin 3	2-log treatment	2.5-log treatment	2-log treatment	As determined by the director such that the total Cryptosporidium removal and inactivation is at least 5.0-log.
Bin 4	2.5- log treatment	3-log treatment	2.5-log treatment	As determined by the director such that the total Cryptosporidium removal and inactivation is at least 5.5-log.

(2) Systems shall use one or more of the treatment and management options listed in paragraph (A) of rule 3745-81-68 of the Administrative Code, termed the microbial toolbox, to comply with the additional Cryptosporidium treatment required in paragraph (E)(1) of this rule.

(3) Systems classified in Bin 3 and Bin 4 shall achieve at least 1-log of the additional Cryptosporidium treatment required under paragraph (E)(1) of this rule using either one or a combination of the following: bag filters, bank filtration, cartridge filters, chlorine dioxide, membranes, ozone, or UV, as described in paragraphs (B) to (N) of rule 3745-81-68 of the Administrative Code.

(4) Failure by a system in any month to achieve treatment credit by meeting criteria in paragraphs (B) to (N) of rule 3745-81-68 of the Administrative Code for microbial toolbox options that is at least equal to the level of treatment required in paragraph (E)(1) of this rule is a violation of the treatment technique requirement.

(5) If the director determines during a sanitary survey or an equivalent source water assessment that after a system completed the monitoring conducted in accordance with paragraphs (A) or (B) of rule 3745-81-65 of the Administrative Code, significant changes occurred in the system's watershed that could lead to increased contamination of the source water by Cryptosporidium, the system shall take actions specified by the director to address the contamination. These actions may include additional source water monitoring ~~and/or~~or implementing

microbial toolbox options listed in paragraph (A) of rule 3745-81-68 of the Administrative Code.

(F) Schedule for compliance with Cryptosporidium treatment requirements.

(1) After the initial bin classification is determined, systems shall provide the level of treatment for Cryptosporidium required by paragraph (E) of this rule ~~in accordance with the following schedule:~~on a schedule the director approves.

~~Cryptosporidium Treatment Compliance Dates Table~~

~~Systems that serve:~~	~~Shall comply with Cryptosporidium treatment requirements no later than... *~~
~~(1) At least 100,000 people.~~	~~(1) April 1, 2012~~
~~(2) From 50,000 to 99,999 people.~~	~~(2) October 1, 2012~~
~~(3) From 10,000 to 49,999 people.~~	~~(3) October 1, 2013~~
~~(4) Fewer than 10,000.~~	~~(4) October 1, 2014~~
~~* Systems with a bin classification of Bin 3 or Bin 4 shall have an additional two years for complying with the treatment requirement if capital improvements will be made. The director may allow up to an additional two years for complying with the treatment requirement for systems in Bin 2 if capital improvements will be made.~~	

(2) If the bin classification for a system changes following the second round of source water monitoring, as determined in accordance with paragraph (C) of this rule, the system shall provide the level of treatment for Cryptosporidium required in accordance with paragraph (E) of this rule on a schedule the director approves.

Effective:

Five Year Review (FYR) Dates:	10/27/2026

Certification

Date

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