

Presented below are water quality standards that are in effect for Clean Water Act purposes.

EPA is posting these standards as a convenience to users and has made a reasonable effort to assure their accuracy. Additionally, EPA has made a reasonable effort to identify parts of the standards that are not approved, disapproved, or are otherwise not in effect for Clean Water Act purposes.

3745-33-07. Establishing Permit Conditions

Note: EPA disapproved provisions at OAC 3745-33-07(B) for determining reasonable potential for a discharge to cause or contribute to an exceedance of Ohio's whole effluent toxicity requirements.

Pursuant to the Great Lakes Guidance contained at 40 CFR 132, these provisions are replaced by federal provisions contained at 40 CFR 132, Appendix F, Procedure 6, Section C, paragraph 1 and Section D.

3745-33-07 Establishing water quality-based permit conditions.

[Comment: For dates of non-regulatory government publications, publications of recognized organizations and associations, federal rules and federal statutory provisions referenced in this rule, see rule 3745-33-01 of the Administrative Code.]

- (A) Establishing final permit conditions for parameters other than whole effluent toxicity. Final effluent limitations and monitoring requirements shall be established in an NPDES permit in accordance with this rule. The director may impose additional terms and conditions as part of an NPDES permit as are appropriate or necessary to ensure compliance with the applicable laws and to ensure adequate protection of water quality.
- (1) Final effluent limitations shall be required for pollutants that meet any of the following conditions:
- (a) Pollutants assigned to group five of the pollutant assessment under rule 3745-2-06 of the Administrative Code, except as provided in paragraph (A)(5) of this rule.
 - (b) Pollutants determined to have reasonable potential during a treatment plant design review.
 - (c) Pollutants determined by the director to need limits due to an antidegradation review.
 - (d) Other pollutant parameters determined by the director to have the reasonable potential to cause or contribute to an excursion above water quality standards.
 - (e) Pollutants that have wasteload allocations (WLAs) more restrictive than effluent limitations established under sections 301, 306 and 307 of the act.
- (2) Final effluent monitoring shall be required for pollutants assigned to group four of the pollutant assessment. In addition, the permit shall include a tracking mechanism for all group four parameters with a projected effluent quality (PEQ) equivalent to or exceeding seventy-five per cent of the PEL. The tracking language shall contain all of the following:
- (a) Projected effluent limit (PEL) values for applicable parameters.
 - (b) Requirements for the permittee to notify Ohio EPA in writing within thirty days of an effluent concentration sample result greater than the PEL. Written notification shall detail the reasons for the level being above the PEL and for expectation of continued levels above the PEL.
 - (c) Requirements for the permittee to reduce discharge levels to below the PEL within six months if either of the following conditions are met:
 - (i) The maximum detected concentration per month is greater than the maximum PEL for four or more months during a consecutive six month period.
 - (ii) The thirty-day average for any pollutant is greater than the average PEL for two

or more months during a consecutive six month period.

- (d) If the permittee cannot reduce discharge levels within six months to below the PEL, the permittee may request to modify the permit to contain a compliance schedule. This request shall contain a justification for the additional time necessary to reduce discharge levels.

(3) Pollutant monitoring for pollutants in groups one, two or three of the pollutant assessment may be specified by the director.

(4) Final effluent monitoring for dioxin shall be required for a minimum of twelve months when detectable levels of pentachlorophenol are present in the effluent.

(5) The director may make exceptions to the effluent limitations under paragraph (A)(1) of this rule if the data used to determine the PEQ are invalid or unrepresentative. If the director determines that a PEQ is unrepresentative due to a small data set, the pollutant shall be subject to the group four conditions of this rule, unless paragraph (A)(6) of this rule applies.

(6) The director may make exceptions to the monitoring requirements under paragraph (A)(2) of this rule after consideration of other relevant factors including, but not limited to, the frequency of occurrences and variability of the levels of pollutants.

(7) The director may establish water quality-based effluent limits (WQBELs) that represent the sum of all wastestreams containing a pollutant in a discharge or group of discharges under the same NPDES permit, using the WLA and total maximum daily load (TMDL) methods in Chapter 3745-2 of the Administrative Code and the reasonable potential procedures in this rule and rule 3745-2-06 of the Administrative Code.

(8) Additivity of pollutant effects.

- (a) When a point source discharge is subject to a WQBEL for pollutants considered additive, the permit for that discharge shall contain a limitation on the additivity of the pollutants unless either of the following apply:

- (i) Effluent limitations needed to meet other state or federal laws or regulations result in limitations more stringent than limitations on the additivity of the pollutants.

- (ii) There is no reasonable potential for the additive effects of discharged pollutants to cause or contribute to a lifetime upper bound incremental risk greater than one in one hundred thousand of developing cancer for carcinogens or an appreciable risk of adverse human health effects (e.g. acute, subchronic, or chronic toxicity, or increased reproductive or developmental effects) during a lifetime of exposure for non-carcinogens. Reasonable potential for additive effects is determined by dividing the PEQ average for each pollutant by the human health wasteload allocation for that pollutant and adding these values for all additive pollutants. If the sum is equal to or greater than 1.0, the permit shall contain a limitation regulating the additivity of these pollutants.

- (b) If a WLA for an additive pollutant is less than the quantification level for that

pollutant, the director may remove that pollutant from the consideration of additivity.

- (9) Reasonable potential for noncontact cooling water. For the purposes of this paragraph, "once-through noncontact cooling water" means water used for cooling that does not come into direct contact with any raw material, intermediate product, final product or waste product, not including additives, and makes one or two passes for the purpose of removing waste heat. This paragraph shall not apply to temperature and pH.
- (a) The director shall not impose WQBELs for a discharge consisting solely of once-through noncontact cooling water drawn from the same body of water that the effluent is discharged to as determined under paragraph (C) of rule 3745-2-06 of the Administrative Code, except in the following situations:
- (i) The director shall require a WQBEL for a pollutant or a whole effluent toxicity (WET) limit when information is available indicating that such a limit is necessary to protect existing or designated uses, unless the discharger is able to demonstrate that the presence of the pollutant or WET is due solely to its presence in the intake water as determined under paragraph (C) of rule 3745-2-06 of the Administrative Code.
 - (ii) The director shall require a WQBEL for a pollutant when the pollutant concentration in the discharge exhibits reasonable potential, is higher than ambient concentrations in the receiving water due to recirculation of the cooling water in the receiving water body, and available information indicates that a limit is necessary to protect existing or designated uses.
 - (iii) The director shall establish a WQBEL or other requirement in the permit for the noncontact cooling water wastestream if biological index measurements or WET measurements indicate that the noncontact cooling water discharge contributes to an impairment of an existing or designated use of the receiving waters.
 - (iv) If a pollutant is present at elevated levels in the noncontact cooling water wastestream due to pollutants entering the cooling system, paragraph (A)(9) of this rule shall not apply to the discharge of pollutants present at elevated levels.
 - (v) If the permittee uses or proposes to use additives in the noncontact cooling water wastestream, the director shall evaluate the additives to determine whether there is a reasonable potential for the additive to cause or contribute to an excursion of the water quality standards contained in Chapter 3745-1 of the Administrative Code. The director shall establish permit conditions or other requirements for the additives or their ingredients that ensure that Ohio water quality standards are attained.
 - (vi) If the source of the noncontact cooling water wastestream is contaminated groundwater, paragraph (A)(9) of this rule does not apply to the discharge of pollutants in the groundwater that exhibit reasonable potential.

- (vii) If the noncontact cooling water is combined with other wastestreams prior to final discharge, the provisions of paragraph (A)(9) of this rule are restricted to the noncontact cooling water wastestream, and WQBELs shall be established on a reasonable potential analysis for the sum of the other wastestreams conducted according to this rule and rule 3745-2-06 of the Administrative Code. If other individual wastestreams cannot be practically monitored, the director shall require WQBELs at the final discharge point.
 - (viii) The director shall require monitoring of the intake and any other locations necessary to verify and confirm the conclusions about reasonable potential under paragraph (A)(9)(a) of this rule.
- (10) Ohio NPDES permits shall require that discharges of treatment additives meet Ohio water quality standards. To determine whether treatment additive discharges meet water quality standards, the director shall use the procedures from rule 3745-1-40 and Chapter 3745-2 of the Administrative Code, or alternatively, using the procedures from paragraph (D) of rule 3745-1-04 of the Administrative Code if toxicity data are available for the limiting endpoint, acute or chronic, for at least one freshwater fish species and one freshwater invertebrate species. In determining the limiting endpoint the director may consider the duration and frequency of discharge of the additive.
- (11) A discharge shall be deemed to be in compliance with an effluent limitation based upon the 0.012 ug/l thirty-day average water quality criterion for total recoverable mercury specified in Chapter 3745-1 of the Administrative Code if either of the following occur:
 - (a) The discharge does not exceed the effluent limitation established in the NPDES permit based upon the 0.012 ug/l thirty-day average criterion.
 - (b) The permittee demonstrates to the director's satisfaction that the geometric mean concentration of methylmercury in the edible portion of a consumed species or weighted average of the geometric means of various species based upon local consumption exposed to the discharge does not exceed 0.3 mg/kg. Any discharger seeking to make a demonstration pursuant to this paragraph shall include a notification of intent to perform such a study in the monthly operating report that reports any exceedance of a mercury effluent limit based on the 0.012 ug/l thirty-day average water quality criterion for total recoverable mercury. Such demonstration shall be based upon results of a fish tissue study, conducted in accordance with a methodology approved by the director. The results of the fish tissue study shall be submitted to the director for review and approval within one hundred and twenty days of the discharge, or such additional period of time as specified by the director. Provided that the study is submitted within the time allowed, the determination of whether or not the discharger is in compliance with the applicable effluent limitation will be made when the director approves or disapproves the demonstration. If the geometric mean of all representative samples of any species or weighted average of the geometric means of various locally consumed species exceeds 0.3 mg/kg methylmercury, the director shall disapprove the demonstration and the discharger shall implement a strategy to reduce sources of mercury. This rule does not apply to any mercury effluent limitation other than the

thirty-day average effluent limitation based upon the 0.012 ug/l thirty-day average water quality criterion for total recoverable mercury specified in Chapter 3745-1 of the Administrative Code.

(B) Establishing final limitations for whole effluent toxicity.

[Comment: In the lake Erie watershed, federal regulations in 40 C.F.R. 132 overwrite paragraph (B) of this rule.]

- (1) The director shall evaluate whole effluent toxicity for a discharge using a weight-of-evidence evaluation of available data on the factors listed in paragraphs (B)(1)(a) to (B)(1)(d) of this rule and the evaluation matrix in table 1 of this rule to determine whether the discharge has the reasonable potential to cause or contribute to violations of water quality standards contained in Chapter 3745-1 of the Administrative Code. The director shall classify the toxicity hazard of the discharge in one of the four categories listed in table 1 of this rule.
 - (a) The magnitude, frequency and variability of toxicity discharged.
 - (b) The degree and type of near-field and far-field effects in the receiving water as measured by physical, chemical, toxicity or biological index measurements.
 - (c) The quality and quantity of each type of data available.
 - (d) Other relevant factors.
- (2) When the director determines that the discharge has the reasonable potential to cause or contribute to an exceedance of the water quality standards contained in paragraph (D) of rule 3745-1-04 of the Administrative Code, the discharger shall be classified in hazard category 1 of table 1 of this rule, and the permit shall contain a discharge limitation for toxicity as determined using the procedures in rule 3745-2-09 of the Administrative Code, and any applicable procedures in paragraphs (B)(5) to (B)(10) of this rule.
- (3) For dischargers classified in hazard category 2, the director shall require monitoring with a permit limit for WET that is triggered by events specified in the permit. As an alternative to limits, the director may require the permittee to conduct a plant performance evaluation (PPE). A PPE contains an evaluation of processes, inputs and treatment including but not limited to toxicity pass-through at the treatment plant, chemicals used in the treatment process, and the effect of plant processes or industrial users on WET discharged by the treatment plant.
- (4) When the evaluation from paragraph (B)(1) of this rule using factors in paragraphs (B)(1)(a) to (B)(1)(d) of this rule indicates the discharger is classified in hazard category 3 of table 1 of this rule, the permit shall contain a monitoring requirement.
- (5) Limits for acute toxicity of 1.0 TUa that are based on protecting the inside-mixing-zone water quality standard in paragraph (D) of rule 3745-1-04 of the Administrative Code may be modified if the discharger demonstrates attainment of this water quality standard using any one of the following methods:

- (a) An AIM study approved under rule 3745-1-06 of the Administrative Code.
 - (b) A correlation of effluent and near-field toxicity data for the discharge that indicates that the narrative water quality standard is being attained.
 - (c) Biological index measurements taken within the area defined in rule 3745-1-06 of the Administrative Code that indicate the absence of toxic conditions.
 - (d) Other studies that indicate that the area where acute toxicity is expected to be present is too small to be habitable by aquatic life. Such studies must demonstrate that this zone is not rapidly lethal to floating or passing organisms.
- (6) Demonstrations conducted under paragraph (B)(5)(b) to (B)(5)(d) of this rule shall meet the requirements of rule 3745-1-06 of the Administrative Code. In addition, the director may modify maximum limitations that are approved under paragraph (B)(5)(b) or (B)(5)(c) of this rule using the results of an AIM computer modeling or field study performed in accordance with rule 3745-1-06 of the Administrative Code.
- (7) The director shall review demonstrations under paragraphs (B)(5) and (B)(6) of this rule using the factors in paragraphs (B)(1)(a) to (B)(1)(d) of this rule to ensure that uses are not impaired by toxicity before approving modified limitations for whole effluent toxicity.
- (8) The director may modify limitations for acute or chronic toxicity that are based on protecting the water quality standard in paragraph (D) of rule 3745-1-04 of the Administrative Code if the discharger reduces effluent toxicity by a substantial amount after the issuance of the effluent limit, and if subsequent biological index measurements indicate the absence of toxic conditions downstream of the discharge or mixing zone, as appropriate.
- (9) The director may modify limitations for acute toxicity for discharges to water bodies designated limited resource water under Chapter 3745-1 of the Administrative Code if the discharger demonstrates that severe habitat degradation prevents the presence of biological communities typically associated with this water body use.
- (10) For the purposes of establishing whole effluent toxicity limitations, the values of 1.0 TUa and 1.0 TUC shall be the most restrictive limitations applied in permits. If the ratio of stream design flow to effluent flow is less than 3.3 to 1.0, the director may require special measures to investigate and remediate acute toxicity when an effluent consistently exhibits thirty per cent to fifty per cent mortality in one hundred per cent effluent.
- (11) Minimum monitoring requirements for whole effluent toxicity. The following requirements satisfy the application toxicity test requirements in 40 C.F.R. 122.21(j)(5), however do not apply to discharges from facilities that treat only combined sewer overflows:
- (a) The following testing requirements apply to permits for both:
 - (i) Any publicly-owned treatment works (POTW) with design flow rates greater than

or equal to one million gallons per day.

- (ii) Any POTWs with approved pretreatment programs or POTWs required to develop a pretreatment program.
 - (b) Permits shall contain testing requirements at least four times per permit cycle for at least two species, one fish species and one macroinvertebrate species.
 - (c) Permits shall contain chronic toxicity testing requirements if the ratio of the downstream or mixing zone dilution is less than twenty to one, according to the procedures in rule 3745-2-09 of the Administrative Code.
 - (d) Permits shall contain acute toxicity testing requirements if the ratio of the downstream or mixing zone dilution is twenty to one or greater, according to the procedures in rule 3745-2-09 of the Administrative Code.
 - (e) Where the POTW has two or more outfalls with substantially identical effluent discharging to the same receiving water segment, the director may allow applicants to submit whole effluent toxicity data for only one outfall on a case-by-case basis. The director may also allow applicants to composite samples from one or more outfalls that discharge into the same mixing zone.
- (C) WQBELs below quantification levels. The following shall apply when a water quality based effluent limit for a pollutant is calculated to be less than the quantification level:
- (1) The director shall designate as the limit in the NPDES permit the WQBEL exactly as calculated.
 - (2) Analytical methods, quantification, and compliance levels.
 - (a) The permittee shall use the most sensitive analytical procedure currently approved under 40 C.F.R. 136 for each individual pollutant.
 - (b) If the most sensitive analytical procedure in paragraph (C)(2)(a) of this rule changes, resulting in a more sensitive quantification level, the director may issue a compliance schedule to allow the permittee to implement the new quantification level and demonstrate compliance using the revised quantification level or WQBEL, whichever is higher.
 - (c) For the purpose of assessing compliance with an NPDES permit, any value reported below the quantification level shall be considered in compliance with the effluent limit. For the purpose of calculating compliance with average limitations contained in an NPDES permit, compliance shall be determined by taking the arithmetic mean of reported values for a given reporting period and comparing that mean to the appropriate average permit limitation, using zero for any values detected at concentrations less than the quantification level. Arithmetic mean values that are less than or equal to the permit limitation shall be considered in compliance with the effluent limit.
 - (d) The quantification level is defined as the practical quantification level (PQL) except,

for discharges to the lake Erie drainage basin, the quantification level shall be the minimum level for analytical procedures that have minimum levels specified in, or approved under, 40 C.F.R. 136.

- (e) The director may establish PQLs for a pollutant with a listed method in 40 C.F.R. 136 or, if no analytical method for the pollutant has been promulgated under 40 C.F.R. 136, the director may establish a PQL for the pollutant using an appropriate consensus standard or other generally accepted standard for the analytical method; if no such standard exists, the director may establish a PQL in the permit based on MDLs determined using the procedures in 40 C.F.R. 136, appendix B.
- (f) Discharge-specific quantification levels. Permittees may apply for discharge-specific quantification levels. Discharge-specific quantification levels shall be calculated using the procedures provided in 40 C.F.R. 136, appendix B.
- (3) Permit reopener clause. Ohio NPDES permits shall contain a reopener clause authorizing modification or revocation and reissuance of the permit if new information generated as a result of special conditions included in the permit indicates the presence of the pollutant in the discharge at levels above the WQBEL. Special conditions that may be included in the permit include, but are not limited to, fish tissue sampling, whole effluent toxicity tests, monitoring requirements on internal waste streams, and monitoring for surrogate parameters. Data generated as a result of special conditions can be used to reopen the permit to establish more stringent effluent limits or conditions, if necessary.
- (4) Pollutant minimization program. For discharges to the lake Erie drainage basin, the director shall include a condition in the permit requiring the permittee to develop and conduct a pollutant minimization program in accordance with rule 3745-33-09 of the Administrative Code for each pollutant with a WQBEL below the quantification level.

Table C-1. Criteria for determining reasonable potential for effluent toxicity

Attribute Evaluated	Hazard Category 1	Hazard Category 2	Hazard Category 3	Hazard Category 4
Degree of toxicity problem	Adequately Documented	Strongly Suspected	Possible	None
(A) Effluent toxicity				
(1) Minimum number of tests (Actual number ____)	3	1	0 or 1	0 or 1
(2) Per cent of tests greater than WLA (Actual per cent ____)	> 30	20 to 30	10 to 20	< 10
(3) Effluent geometric mean TU				

Table C-1. Criteria for determining reasonable potential for effluent toxicity

		TUa (___) TUC (___)				
		(4) Average exceedance ¹				
		(a) Without paragraph (B) and (C) of this table available				
		(i) Acute ²	> 0.3	> or = 0.3	> or = 0.2	< 0.2
		(ii) Chronic	> 0.3 x WLA	> or = 0.3 x WLA	> or = 0.2 x WLA	< 0.2 x WLA
		(b) With paragraph (B) or (C) of this table available				
		(i) Acute ²	> 0.5	> or = 0.3	> or = 0.3	< 0.3
		(ii) Chronic	> 0.67 x WLA	> or = 0.5 x WLA	> or = 0.5 x WLA	< 0.5 x WLA
		(5) Maximum TU value				
		(a) Without paragraph (B) and (C) of this table available	> or = 3 x WLA	> or = 1 x WLA	> or = 1 x WLA	< 1 x WLA
		(b) With paragraph (B) or (C) of this table available and confirming toxic impact	> 1 x WLA	> or = 1 x WLA	> or = 0.5 x WLA	< 0.5 x WLA
		(B) Near-field impact				
		(1) Mortality within mixing zone ³	> or = 20%	> or = 20%	< or = 20%	< 20%
		(2) Stream community impact within mixing zone				
		(a) Implied chemically ⁴	> or = 3 x IMZM or > LC50 ⁶	> or = 1.5 x IMZM or > LC50 ⁶	> or = IMZM or > 0.75xLC50 ⁶	< or = 0.5 x IMZM or < or = to 0.75xLC50 ⁶
		(b) Implied toxicologically ⁴	> or = 1.0 TUa	> or = 1.0 TUa	> or = 1.0 TUa	< 1.0 TUa
		(c) Measured biologically	Toxic or severe unknown signature	Fair/poor community	Slight impact or unknown impact signature	None or non-toxic signature
		(C) Far-field impact				
		(1) Aquatic life use impairment (Ohio EPA biological criteria)	Yes ⁵	Yes or partial ⁵	Partial	None or non-toxic signature

Table C-1. Criteria for determining reasonable potential for effluent toxicity

	(2) Stream community impact				
	(a) Implied toxicologically ³	Significant effect	Significant effect	Unknown or slight effect	None
	(3) Other indicators	Stress indicated	Stress indicated	Stress indicated	No stress

¹ Compare (per cent exceedances x geometric mean TU) to table factor.

² Use 0.3 x WLA for situations where AIM exists.

³ Results of ambient toxicity test are not binding or required for classification as to category but, if available, will be interpreted under the weight of evidence principle giving due consideration as to sampling location and conditions.

⁴ Based on effluent data. May not be appropriate for situations where AIM exists.

⁵ Lack of attainment due to toxic, complex or unidentifiable type of impact.

⁶ The LC50-based criteria are used only for pollutant parameters that do not have numeric criteria.

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