



October 20, 2020

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## *Responsiveness Summary*

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# OAC 3745-1 Ohio Surface Water Quality Standards

for  
Ohio Administrative Code

- 3745-1-32 Ohio river standards.
- 3745-1-33 Water quality criteria for water supply use designation.
- 3745-1-34 Water quality criteria for the protection of human health [fish consumption].

### Appendix C

October 15, 2019 Interested Party Comment  
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Hearing Summary Report  
Summary of Refiled Rules Process  
To Be Refiled Rules  
JCARR Hearing Materials

**BEFORE THE  
OHIO ENVIRONMENTAL PROTECTION AGENCY**

**Public Notice  
Public Hearing Scheduled For  
Proposed Rulemaking Governing  
Water Quality Standards Program**

Notice is hereby given that a public hearing regarding proposed amendments to the Water Quality Standards Program rules in Ohio Administrative Code (OAC) Chapter 3745-1 has been scheduled for **December 4, 2019**. This rulemaking includes the following rules:

<b>Rule Number</b>	<b>Rule Title</b>
3745-1-32	Ohio river standards.
3745-1-33	Water quality criteria for water supply use designation.
3745-1-34	Water quality criteria for the protection of human health [fish consumption].

OAC Chapter 3745-1 contains Ohio's standards for water quality. This rulemaking includes the review and update of three rules containing numeric water quality criteria to reflect the latest scientific information available from U.S. EPA and the Ohio River Valley Sanitation Commission (ORSANCO).

The Agency invites all interested parties to comment on this rule. The public comment period will run until **December 4, 2019**. A public hearing on this proposed rulemaking will be held to consider public comments in accordance with Section 119.03 of the Ohio Revised Code. This hearing will be held at **Conference Room A at the Ohio EPA Central Office, 50 West Town Street, Suite 700, Columbus, Ohio at 10:30 a.m. on December 4, 2019**. All visitors to Ohio EPA must register at the Security desk in the lobby upon arrival. Please bring photo identification (such as a valid driver's license). For security reasons, visitors are required to wear their badge at all times while in the building. Please arrive early to complete these procedures.

To facilitate the scheduling of oral presentations, persons intending to give testimony at the hearing should notify the Ohio EPA Public Interest Center, P.O. Box 1049, Columbus, Ohio 43216-1049, (614) 644-2160. Prior registration will ensure that registrants are heard ahead of those individuals who register at the hearing. Oral testimony may be limited to five minutes, depending on the number of persons testifying. All interested persons are entitled to attend or be represented and to present oral and/or written comments concerning the proposed rulemaking.

Written testimony should be sent to the attention of Emily DeLay at the Division of Surface Water, P.O. Box 1049, Columbus Ohio 43216-1049. Written comments may also be submitted to the Hearing Officer at the public hearing. Written testimony will receive the same consideration as oral testimony. All testimony received at the hearing or by close of business on **December 4, 2019**, will

be considered by Ohio EPA prior to final action on this rulemaking proposal. Written comments submitted after this date may be considered as time and circumstances permit.

Pre-notice of this rulemaking is being given to provide a minimum of 45 days' notice of the public hearing. The preliminary proposed rule and a fact sheet explaining the rule revisions are posted on the Ohio EPA website at [www.epa.ohio.gov/dsw/dswrules.aspx](http://www.epa.ohio.gov/dsw/dswrules.aspx). Another notice will be provided when this rule is officially filed with the Joint Committee on Agency Rule Review and the rule will be posted on the Ohio EPA website at the above link. Questions regarding this rule package should be directed to Audrey Rush, at the Division of Surface Water, at (614) 644-2035.

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**BEFORE THE  
OHIO ENVIRONMENTAL PROTECTION AGENCY**

**Public Notice  
Proposed Rulemaking Governing  
Water Quality Standards Program**

Notice is hereby given that the Director of Environmental Protection, under the authority of Sections 6111.041 of the Ohio Revised Code and in accordance with Chapter 119, proposes to amend the following rules of the Ohio Administrative Code (OAC):

<b>Rule Number</b>	<b>Rule Title</b>
3745-1-32	Ohio river standards.
3745-1-33	Water quality criteria for water supply use designation.
3745-1-34	Water quality criteria for the protection of human health [fish consumption].

The rulemaking includes the five-year review of three rules in OAC Chapter 3745-1, which contains Ohio's standards for water quality. This rulemaking includes the review and update of three rules containing numeric water quality criteria to reflect the latest scientific information available from U.S. EPA and the Ohio River Valley Sanitation Commission (ORSANCO). Major updates in this rulemaking include the adoption of U.S. EPA's updated 94 water quality chemical criteria for the protection of human health, as well as updated from ORSANCO's 2015 Pollution Control Standards, and the statewide incorporation of maximum contaminant levels (MCLs) which apply within 500 yards of a drinking water intake. These MCLs only previously applied in the Ohio River Basin.

The Agency invites all interested parties to comment on this rule. The public comment period will run until **December 4, 2019**. A public hearing on this proposed rulemaking will be held to consider public comments in accordance with Section 119.03 of the Ohio Revised Code. This hearing will be held at **Conference Room A at the Ohio EPA Central Office, 50 West Town Street, Suite 700, Columbus, Ohio at 10:30 a.m. on December 4, 2019**. All visitors to Ohio EPA must register at the Security desk in the lobby upon arrival. Please bring photo identification (such as a valid driver's license). For security reasons, visitors are required to wear their badge at all times while in the building. Please arrive early to complete these procedures.

To facilitate the scheduling of oral presentations, persons intending to give testimony at the hearing should notify the Ohio EPA Public Interest Center, P.O. Box 1049, Columbus, Ohio 43216-1049, (614) 644-2160. Prior registration will ensure that registrants are heard ahead of those individuals who register at the hearing. Oral testimony may be limited to five minutes, depending on the number of persons testifying. All interested persons are entitled to attend or be represented and to present oral and/or written comments concerning the proposed rulemaking. Written testimony should be sent to the attention of Emily DeLay at the Division of Surface Water, P.O. Box 1049, Columbus Ohio 43216-1049. Written comments may also be submitted to the

Hearing Officer at the public hearing. Written testimony will receive the same consideration as oral testimony. All testimony received at the hearing or by close of business on **December 4, 2019**, will be considered by Ohio EPA prior to final action on this rulemaking proposal. Written comments submitted after this date may be considered as time and circumstances permit.

The proposed rule and a fact sheet explaining the rule revisions are posted on the Ohio EPA website at [www.epa.ohio.gov/dsw/dswrules.aspx](http://www.epa.ohio.gov/dsw/dswrules.aspx). The proposed rule is also available on the Register of Ohio website at [www.registerofohio.state.oh.us](http://www.registerofohio.state.oh.us). Questions regarding this rule package should be directed to Audrey Rush at the Division of Surface Water, at (614) 644-2035.

3745-1-32

**Ohio river standards.**

[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 3745-1-03 of the Administrative Code.]

(A) The Ohio river is designated warmwater habitat, public water supply, agricultural water supply, industrial water supply and bathing waters, and will meet the most stringent criteria set forth in, or derived in accordance with, this rule, rules 3745-1-01 to 3745-1-07 and 3745-1-33 to 3745-1-40 of the Administrative Code.

Table 32-1. Water quality criteria for the Ohio river.

Chemical	Form <sup>1</sup>	Units <sup>2</sup>	IMZM <sup>3</sup>	OMZM <sup>3</sup>	OMZA <sup>3</sup>
<u>Bacteria (E. coli)<sup>a</sup></u>	<u>T</u>	<u>cfu/100 mL</u>	<u>126</u>	<u>126</u>	<u>126</u>
<u>Bacteria (E. coli)<sup>b</sup></u>	<u>T</u>	<u>cfu/100 mL</u>	<u>410</u>	<u>410</u>	<u>410</u>
Bacteria (fecal coliform) <sup>c</sup>	T	<u>cfu/100 mL</u>	<u>--2,000</u>	<u>2,000</u>	<u>2,000</u>
Cyanide	free	µg/l	44	22	5.2
Dissolved oxygen <sup>4</sup>	T	mg/l	--	4.0 <sup>bd</sup>	5.0
Radionuclides	T		--	ee	ee
Temperature	--	°F	--	Table 32-3	Table 32-3

<sup>1</sup>T = total.

<sup>2</sup>mg/l = milligrams per liter (parts per million); µg/l = micrograms per liter (parts per billion); °F = degrees Fahrenheit; cfu/100 mL = colony forming units per one hundred milliliters.

<sup>3</sup>IMZM = inside mixing zone maximum; OMZM = outside mixing zone maximum; OMZA = outside mixing zone average.

<sup>4</sup>For dissolved oxygen, OMZM means outside mixing zone minimum at any time and OMZA means outside mixing zone minimum daily average.

<sup>a</sup>~~For the months of May to October, the maximum allowable level of fecal coliform bacteria shall not exceed two hundred per one hundred ml as a monthly geometric mean based on not less than five samples per month; nor exceed four hundred per one hundred ml in more than ten per cent of all samples taken during the month. For the months of May to October, measurements of Escherichia coli bacteria may be substituted for fecal coliform. Content shall not exceed one hundred thirty per one hundred ml as a monthly geometric mean, based on not less than five samples per month, nor exceed two hundred forty per one hundred ml in any sample. For the months of November to April, the maximum allowable level of fecal coliform bacteria shall not exceed two thousand per one hundred ml as a geometric mean based on not less than five samples per month. Criterion applies for contact recreation during the months of May through October and is expressed as a ninety-day geometric mean.~~

<sup>b</sup>Criterion applies for contact recreation during the months of May through October and is not to be exceeded in more than ten per cent of samples taken during any ninety-day period.

<sup>c</sup>Criterion applies at all times and is expressed as a monthly geometric mean based on not less than five samples per month. For the months of May through October, measurements of E. coli bacteria may be substituted for fecal coliform.

<sup>bd</sup>A minimum of 5.0 mg/l at any time shall be maintained during the April fifteen to June fifteen spawning season.

<sup>ee</sup>Gross total alpha particle activity (including radium-226, but excluding radon and uranium) shall not exceed fifteen picocuries per liter (pci/l) and combined radium-226 and radium-228 shall not exceed four pci/l. The concentration of total gross beta particle activity shall not exceed fifty pci/l. The concentration of total strontium-90 shall not exceed eight pci/l.

Table 32-2. Ohio river water quality criteria for the protection of human health.

Chemical	Form <sup>1</sup>	Units <sup>2</sup>	OMZA <sup>3</sup>	
			Intakes	Elsewhere
Acenaphthene	T	µg/l	<del>1,200</del> <u>70</u>	<del>1,200</del> <u>70</u>
Acrolein	T	µg/l	<del>3203</del> <u>.0</u>	<del>3203</del> <u>.0</u>
Acrylonitrile <sup>5</sup>	T	µg/l	<del>0.590</del> <u>.51</u>	<del>0.590</del> <u>.51</u>



Alachlor	T	µg/l	2.0 <sup>a</sup>	--
<del>Aldicarb</del> <sup>6</sup>	<del>F</del>	<del>µg/l</del>	<del>7.0a</del>	<del>--</del>
<del>Aldicarb sulfone</del> <sup>6</sup>	<del>F</del>	<del>µg/l</del>	<del>7.0a</del>	<del>--</del>
<del>Aldicarb sulfoxide</del> <sup>6</sup>	<del>F</del>	<del>µg/l</del>	<del>7.0a</del>	<del>--</del>
Aldrin <sup>5</sup>	T	µg/l	<del>0.001</del> <u>37.7*10<sup>-6</sup></u>	<del>0.001</del> <u>37.7*10<sup>-6</sup></u> <sup>6</sup>
Anthracene	T	µg/l	<del>9,600</del> <u>300</u>	<del>9,600</del> <u>300</u>
Antimony	TR	µg/l	<del>6.0a</del> <u>5.6</u>	<del>4</del> <u>5.6</u>
Arsenic	TR	µg/l	10 <sup>a</sup>	50
Asbestos	T	Mf/l	7.0 <sup>a</sup>	--
Atrazine	T	µg/l	3.0 <sup>a</sup>	--
Barium	TR	µg/l	<del>2,000a</del> <u>1,000</u>	<del>--</del> <u>1,000</u>
Benzene <sup>5</sup>	T	µg/l	5.0 <sup>a</sup>	12
Benzidine <sup>5</sup>	T	µg/l	<del>0.001</del> <u>20.00086</u>	<del>0.001</del> <u>20.00086</u>
Benzo(a)anthracene <sup>5</sup>	T	µg/l	<del>0.044</del> <u>0.012</u>	<del>0.044</del> <u>0.012</u>
Benzo(a)pyrene <sup>5</sup>	T	µg/l	<del>0.044</del> <u>0.0012</u>	<del>0.044</del> <u>0.0012</u>
Benzo(b)fluoranthene <sup>5</sup>	T	µg/l	<del>0.044</del> <u>0.012</u>	<del>0.044</del> <u>0.012</u>
Benzo(k)fluoranthene <sup>5</sup>	T	µg/l	<del>0.044</del> <u>0.038</u>	<del>0.044</del> <u>0.038</u>
Beryllium	TR	µg/l	4.0 <sup>a</sup>	16
Bromate	T	µg/l	10 <sup>a</sup>	--
Bromoform ( <u>Tribromomethane</u> ) <sup>5</sup>	T	µg/l	43	43
Butylbenzyl phthalate <sup>5</sup>	T	µg/l	<del>3,000</del> <u>1.0</u>	<del>3,000</del> <u>1.0</u>
Cadmium	TR	µg/l	5.0 <sup>a</sup>	--

Carbofuran	T	µg/l	40 <sup>a</sup>	--
Carbon tetrachloride <sup>5</sup>	T	µg/l	<del>2.5</del> <u>2.3</u>	<del>2.5</del> <u>2.3</u>
Chloramine	T	µg/l	4,000 <sup>a</sup>	--
Chlordane <sup>5</sup>	T	µg/l	<del>0.02</del> <u>0.0031</u>	<del>0.02</del> <u>0.0031</u>
Chlorides	T	mg/l	250 <sup>a</sup>	250
Chlorine	T	µg/l	4,000 <sup>a</sup>	--
Chlorine dioxide	T	µg/l	800 <sup>a</sup>	--
Chlorite	T	µg/l	1,000 <sup>a</sup>	--
Chloroacetic acid <sup>76</sup>	T	µg/l	60 <sup>a</sup>	--
Chlorobenzene	T	µg/l	100 <sup>a</sup>	<del>68</del> <u>100</u>
Chlorodibromomethane <sup>5</sup>	T	µg/l	<del>4.1</del> <u>4.0</u>	<del>4.1</del> <u>4.0</u>
<u>Bis(2-Chloro-1-methylethyl) ether</u>	<u>T</u>	<u>µg/l</u>	<u>200</u>	<u>200</u>
Bis(2-Chloroethyl) ether <sup>5</sup>	T	µg/l	<del>0.3</del> <u>0.30</u>	<del>0.3</del> <u>0.30</u>
Chloroform <sup>5</sup>	T	µg/l	57	57
bis(2-Chloroisopropyl) ether	T	µg/l	1,400	1,400
bis(2-Chloromethyl) ether <sup>5</sup>	T	µg/l	<del>0.0013</del> <u>0.0015</u>	<del>0.0013</del> <u>0.0015</u>
2-Chloronaphthalene	T	µg/l	<del>1,700</del> <u>800</u>	<del>1,700</del> <u>800</u>
2-Chlorophenol	T	µg/l	<del>120</del> <u>30</u>	<del>120</del> <u>30</u>
Chromium	TR	µg/l	100 <sup>a</sup>	--
Chrysene <sup>5</sup>	T	µg/l	<del>0.044</del> <u>0.038</u>	<del>0.044</del> <u>0.038</u>
<del>Copper</del>	<del>TR</del>	<del>µg/l</del>	--	--
Cyanide	free	µg/l	<del>200</del> <u>4.0</u>	<del>700</del> <u>4.0</u>

2,4-D (2,4-Dichlorophenoxy-acetic acid)	T	µg/l	70 <sup>a</sup>	<del>100</del> <u>1,300</u>
Dalapon	T	µg/l	200 <sup>a</sup>	--
4,4'-DDD <sup>5</sup>	T	µg/l	<del>0.00830</del> <u>0.0012</u>	<del>0.00830</del> <u>0.0012</u>
4,4'-DDE <sup>5</sup>	T	µg/l	<del>0.00590</del> <u>0.00018</u>	<del>0.00590</del> <u>0.00018</u>
4,4'-DDT <sup>5</sup>	T	µg/l	<del>0.00590</del> <u>0.0003</u>	<del>0.00590</del> <u>0.0003</u>
Dibenzo (a,h) anthracene <sup>5</sup>	T	µg/l	<del>0.0440</del> <u>0.0012</u>	<del>0.0440</del> <u>0.0012</u>
Dibromochloropropane	T	µg/l	0.2 <sup>a</sup>	--
Di-n-butyl phthalate	T	µg/l	<del>2,700</del> <u>20</u>	<del>2,700</del> <u>20</u>
Dichloroacetic acid <sup>76</sup>	T	µg/l	60 <sup>a</sup>	--
1,2-Dichlorobenzene	T	µg/l	<del>600a</del> <u>420</u>	<del>2,700</del> <u>420</u>
1,3-Dichlorobenzene	T	µg/l	<del>400</del> <u>7.0</u>	<del>400</del> <u>7.0</u>
1,4-Dichlorobenzene	T	µg/l	<del>75a</del> <u>63</u>	<del>400</del> <u>63</u>
3,3'-Dichlorobenzidine <sup>5</sup>	T	µg/l	<del>0.400</del> <u>0.21</u>	<del>0.400</del> <u>0.21</u>
Dichlorobromomethane <sup>5</sup>	T	µg/l	<del>5.65</del> <u>5.5</u>	<del>5.65</del> <u>5.5</u>
1,2-Dichloroethane <sup>5</sup>	T	µg/l	3.8	3.8
1,1-Dichloroethylene <sup>5</sup>	T	µg/l	<del>0.577</del> <u>0.0<sup>a</sup></u>	<del>0.57</del> <u>300</u>
cis-1,2-Dichloroethylene	T	µg/l	70 <sup>a</sup>	--
trans-1,2-Dichloroethylene	T	µg/l	100 <sup>a</sup>	<del>700</del> <u>100</u>
2,4-Dichlorophenol	T	µg/l	<del>93</del> <u>10</u>	<del>93</del> <u>10</u>
1,2-Dichloropropane <sup>5</sup>	T	µg/l	5.0 <sup>a</sup>	<del>5.25</del> <u>0</u>
1,3-Dichloropropene <sup>5</sup>	T	µg/l	<del>102</del> <u>7</u>	<del>102</del> <u>7</u>

Dieldrin <sup>5</sup>	T	µg/l	<del>0.0014</del> <u>1.2*10<sup>-5</sup></u>	<del>0.0014</del> <u>1.2*10<sup>-5</sup></u>
Di (2-ethylhexyl) adipate	T	µg/l	400 <sup>a</sup>	--
Diethyl phthalate	T	µg/l	<del>23,000</del> <u>600</u>	<del>23,000</del> <u>600</u>
2,4-Dimethylphenol	T	µg/l	<del>540</del> <u>100</u>	<del>540</del> <u>100</u>
Dimethyl phthalate	T	µg/l	<del>310,000</del> <u>2,000</u>	<del>310,000</del> <u>2,000</u>
4,6-Dinitro-o-cresol (4,6- Dinitro-2-methylphenol)	T	µg/l	<del>132.0</del>	<del>132.0</del>
Dinitrophenols <sup>4</sup>	T	µg/l	<del>70</del> <u>10</u>	<del>70</del> <u>10</u>
2,4-Dinitrotoluene <sup>5</sup>	T	µg/l	<del>1.10</del> <u>.49</u>	<del>1.10</del> <u>.49</u>
<u>2,4-Dinitrophenol</u>	<u>T</u>	<u>µg/l</u>	<u>10</u>	<u>10</u>
Dinoseb	T	µg/l	7.0 <sup>a</sup>	--
1,2-Diphenylhydrazine <sup>5</sup>	T	µg/l	<del>0.400</del> <u>.30</u>	<del>0.400</del> <u>.30</u>
Diquat	T	µg/l	20 <sup>a</sup>	--
Dissolved solids	T	mg/l	750/500 <sup>a,b</sup>	--
alpha-Endosulfan <sup>8Z</sup>	T	µg/l	<del>110</del> <u>20</u>	<del>110</del> <u>20</u>
beta-Endosulfan <sup>8Z</sup>	T	µg/l	<del>110</del> <u>20</u>	<del>110</del> <u>20</u>
Endosulfan sulfate <sup>8Z</sup>	T	µg/l	<del>110</del> <u>20</u>	<del>110</del> <u>20</u>
Endothall	T	µg/l	100 <sup>a</sup>	--
Endrin <sup>98</sup>	T	µg/l	<del>0.760</del> <u>.03</u>	<del>0.760</del> <u>.03</u>
Endrin aldehyde <sup>98</sup>	T	µg/l	<del>0.760</del> <u>.29</u>	<del>0.760</del> <u>.29</u>
Ethylbenzene	T	µg/l	<del>700a</del> <u>68</u>	<del>3,100</del> <u>68</u>
Ethylene dibromide (EDB)	T	µg/l	0.050 <sup>a</sup>	--

bis (2-Ethylhexyl) phthalate <sup>5</sup>	T	µg/l	<del>6.0</del> <u>3.2</u>	<u>183.2</u>
Fluoranthene	T	µg/l	<del>300</del> <u>20</u>	<u>30020</u>
Fluorene	T	µg/l	<del>1,300</del> <u>50</u>	<u>1,30050</u>
Fluoride	T	µg/l	1,000	1,000
Glyphosate	T	µg/l	700 <sup>a</sup>	--
Heptachlor <sup>5</sup>	T	µg/l	<del>0.00215.9</del> <u>*10<sup>-5</sup></u>	<u>0.00215.9*10<sup>-5</sup></u>
Heptachlor epoxide <sup>5</sup>	T	µg/l	<del>0.00100.00032</del>	<u>0.00100.00032</u>
Hexachlorobenzene <sup>5</sup>	T	µg/l	<del>0.00750.00079</del>	<u>0.00750.00079</u>
Hexachlorobutadiene <sup>5</sup>	T	µg/l	<del>4.4</del> <u>0.1</u>	<u>4.40.1</u>
alpha-Hexachlorocyclohexane <sup>5</sup>	T	µg/l	<del>0.0390.0036</del>	<u>0.0390.0036</u>
beta-Hexachlorocyclohexane <sup>5</sup>	T	µg/l	<del>0.14</del> <u>0.08</u>	<u>0.140.08</u>
gamma-Hexachlorocyclohexane (Lindane) <sup>5</sup>	T	µg/l	<del>0.19</del> <u>0.20<sup>a</sup></u>	<u>0.190.98</u>
Hexachlorocyclohexane - technical grade <sup>5</sup>	T	µg/l	<del>0.12</del> <u>0.066</u>	<u>0.120.066</u>
Hexachlorocyclopentadiene	T	µg/l	<del>50</del> <u>4.0</u>	<u>2404.0</u>
Hexachloroethane <sup>5</sup>	T	µg/l	<del>19</del> <u>1.0</u>	<u>191.0</u>
Indeno (1,2,3-c,d) pyrene <sup>5</sup>	T	µg/l	<del>0.044</del> <u>0.012</u>	<u>0.0440.012</u>
Iron	S	µg/l	300 <sup>a</sup>	--
Isophorone <sup>5</sup>	T	µg/l	<del>360</del> <u>340</u>	<u>360340</u>
Mercury	TR	µg/l	0.012	0.012
Methoxychlor	T	µg/l	<del>40</del> <u>0.02</u>	<u>1000.02</u>
Methyl bromide	T	µg/l	<del>48</del> <u>47</u>	<u>4847</u>

<u>3-Methyl-4-chlorophenol</u>	<u>T</u>	<u>µg/l</u>	<u>500</u>	<u>500</u>
Methylene chloride <sup>5</sup>	T	µg/l	5.0 <sup>a</sup>	<del>4746</del>
Nickel	TR	µg/l	610	610
Nitrate-N + Nitrite-N	T	µg/l	10,000 <sup>a</sup>	10,000
Nitrite-N	T	µg/l	1,000 <sup>a</sup>	1,000
Nitrobenzene	T	µg/l	<del>4710</del>	<del>4710</del>
Nitrosoamines <sup>5</sup>	T	µg/l	0.0080	0.0080
N-Nitrosodibutylamine <sup>5</sup>	T	µg/l	<del>0.0640.063</del>	<del>0.0640.063</del>
N-Nitrosodiethylamine <sup>5</sup>	T	µg/l	0.0080	0.0080
N-Nitrosodimethylamine <sup>5</sup>	T	µg/l	0.0069	0.0069
N-Nitrosodi-n-propylamine <sup>5</sup>	T	µg/l	0.050	0.050
N-Nitrosodiphenylamine <sup>5</sup>	T	µg/l	<del>5033</del>	<del>5033</del>
N-Nitrosodipyrrolidine <sup>5</sup>	T	µg/l	0.16	0.16
Oxamyl (Vydate)	T	µg/l	200 <sup>a</sup>	--
Pentachlorobenzene	T	µg/l	<del>3.50.1</del>	<del>3.50.1</del>
Pentachlorophenol <sup>5</sup>	T	<u>µg/ lmg/l</u>	<del>1.0a0.3</del>	<del>820.3</del>
Phenol	T	µg/l	<del>21,0004.000</del>	<del>21,0004.000</del>
Phenolics	T	µg/l	5.0	<del>5.0--</del>
Picloram	T	µg/l	500 <sup>a</sup>	--
Polychlorinated biphenyls <sup>5</sup>	T	µg/l	<del>0.00170.00064</del>	<del>0.00170.00064</del>
Pyrene	T	µg/l	<del>96020</del>	<del>96020</del>
Selenium	TR	µg/l	50 <sup>a</sup>	170

Silver	T	µg/l	50	50
Silvex (2, 4, 5-TP, 2- [2, 4, 5-Trichlorophenoxy] propionic acid	T	µg/l	<del>40</del> <u>50</u> <sup>a</sup>	<del>40</del> <u>100</u>
Simazine	T	µg/l	4.0 <sup>a</sup>	--
Styrene	T	µg/l	100 <sup>a</sup>	--
Sulfates	T	mg/l	250 <sup>a</sup>	<del>250</del> --
1, 2, 4, 5-Tetrachlorobenzene	T	µg/l	<del>2.30</del> <u>0.03</u>	<del>2.30</del> <u>0.03</u>
2, 3, 7, 8-Tetrachlorodibenzo-p-dioxin <sup>5</sup>	T	<del>pg/l</del> µg/l	<del>0.135.0</del> <u>*10<sup>-8</sup></u>	<del>0.135.0</del> <u>*10<sup>-8</sup></u>
1, 1, 2, 2-Tetrachloroethane <sup>5</sup>	T	µg/l	1.7	1.7
Tetrachloroethylene <sup>5</sup>	T	µg/l	5.0 <sup>a</sup>	<del>8.0</del> <u>6.9</u>
Thallium	TR	µg/l	1.7	1.7
Toluene	T	µg/l	<del>1,000</del> <u>a57</u>	<del>6,800</del> <u>57</u>
Toxaphene <sup>5</sup>	T	µg/l	<del>0.00730</del> <u>.0028</u>	<del>0.00730</del> <u>.0028</u>
Trichloroacetic acid <sup>76</sup>	T	µg/l	60 <sup>a</sup>	--
1, 2, 4-Trichlorobenzene <sup>5</sup>	T	µg/l	<del>70</del> <u>a0.71</u>	<del>260</del> <u>0.71</u>
1, 1, 1-Trichloroethane	T	µg/l	200 <sup>a</sup>	-- <u>10,000</u>
1, 1, 2-Trichloroethane <sup>5</sup>	T	µg/l	5.0 <sup>a</sup>	<del>6.0</del> <u>5.5</u>
Trichloroethylene <sup>5</sup>	T	µg/l	5.0 <sup>a</sup>	<del>27</del> <u>6.0</u>
2, 4, 5-Trichlorophenol	T	µg/l	<del>2,600</del> <u>300</u>	<del>2,600</del> <u>300</u>
2, 4, 6-Trichlorophenol <sup>5</sup>	T	µg/l	<del>21</del> <u>14</u>	<del>21</del> <u>14</u>
Vinyl chloride <sup>5</sup>	T	µg/l	<del>2.0</del> <u>a0.22</u>	<del>20</del> <u>0.22</u>
Xylenes	T	µg/l	10,000 <sup>a</sup>	--

Zinc	T	µg/l	<del>9,100</del> <u>7,400</u>	<del>9,100</del> <u>7,400</u>
<sup>1</sup> S = soluble; T = total; TR = total recoverable.				
<sup>2</sup> mg/l = milligrams per liter (parts per million); µg/l = micrograms per liter (parts per billion); <del>ng/l = nanograms per liter (parts per trillion); pg/l = picograms per liter (parts per quadrillion);</del> Mf/l = million fibers per liter.				
<sup>3</sup> OMZA = outside mixing zone average. Criteria in the "Intakes" column apply within five hundred yards of drinking water intakes. Criteria in the "Elsewhere" column apply at all other locations.				
<sup>4</sup> The criteria for this chemical apply to the sum of all dinitrophenols.				
<sup>5</sup> Criteria for this chemical are based on a carcinogenic endpoint.				
<del><sup>6</sup>The criterion for this chemical applies to the sum of aldicarb, aldicarb sulfone and aldicarb sulfoxide.</del>				
<sup>7</sup> <del><sup>6</sup></del> The criterion for this chemical applies to the sum of chloroacetic acid, dichloroacetic acid and trichloroacetic acid.				
<del><sup>8</sup><sup>7</sup></del> The criteria for this chemical apply to the sum of alpha-endosulfan, beta-endosulfan and endosulfan sulfate.				
<del><sup>9</sup><sup>8</sup></del> The criteria for this chemical apply to the sum of endrin and endrin aldehyde.				
<sup>a</sup> This criterion is the maximum contaminant level (MCL) developed under the "Safe Drinking Water Act".				
<sup>b</sup> Equivalent 25°C specific conductance values are 1200 micromhos/cm as a maximum and 800 micromhos/cm as a thirty-day average.				

Table 32-3. Ohio river temperature criteria.

	<u>PA state line to Greenup Lock and Dam (RM 341.1)</u>	<u>PA state line to Greenup Lock and Dam (RM 341.1)</u>	<u>Greenup Lock and Dam (RM 341.1) to IN state line</u>	<u>Greenup Lock and Dam (RM 341.1) to IN state line</u>
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Month/date	Period Average (°F)	<u>Instantaneous Maximum (°F)</u>	<u>Period Average (°F)</u>	Instantaneous Maximum (°F)
January 1 - 31	<del>45</del> <u>45.7</u>	<u>47.0</u>	<u>46.8</u>	<del>50</del> <u>47.2</u>
February 1 - 29	<del>45</del> <u>43.9</u>	<u>46.3</u>	<u>47.9</u>	<del>50</del> <u>52.8</u>
March 1 - <del>45</del> <u>31</u>	<del>51</del> <u>51.2</u>	<u>56.4</u>	<u>57.4</u>	<del>56</del> <u>62.4</u>
<del>March 16 - 31</del>	54			59
April 1 - <del>45</del> <u>30</u>	<del>58</del> <u>61.2</u>	<u>66.3</u>	<u>66.9</u>	<del>64</del> <u>71.1</u>
<del>April 16 - 30</del>	64			69
May 1 - <del>45</del> <u>31</u>	<del>68</del> <u>71.2</u>	<u>76.5</u>	<u>76.4</u>	<del>73</del> <u>81.4</u>
<del>May 16 - 31</del>	75			80
June 1 - <del>45</del> <u>14</u>	<del>80</del> <u>78.8</u>	<u>81.0</u>	<u>83.5</u>	<del>85</del> <u>85.7</u>
June <del>46</del> <u>15</u> - 30	<del>83</del> <u>87.0</u>	<u>87.0</u>	<u>87.0</u>	<del>87</del> <u>87.0</u>
July 1 - 31	<del>84</del> <u>89.0</u>	<u>89.0</u>	<u>89.0</u>	<del>89</del> <u>89.0</u>
August 1 - 31	<del>84</del> <u>89.0</u>	<u>89.0</u>	<u>89.0</u>	<del>89</del> <u>89.0</u>
September 1 - 15	<del>84</del> <u>87.0</u>	<u>87.0</u>	<u>87.0</u>	<del>87</del> <u>87.0</u>
September 16 - 30	<del>82</del> <u>81.0</u>	<u>83.1</u>	<u>84.7</u>	<del>86</del> <u>87.0</u>
October 1 - <del>45</del> <u>31</u>	<del>77</del> <u>74.1</u>	<u>78.3</u>	<u>76.7</u>	<del>82</del> <u>81.6</u>
<del>October 16 - 31</del>	72			77
November 1 - 30	<del>67</del> <u>65.0</u>	<u>69.0</u>	<u>66.2</u>	<del>72</del> <u>70.8</u>
December 1 - 31	<del>52</del> <u>55.8</u>	<u>60.0</u>	<u>55.6</u>	<del>57</del> <u>60.4</u>

Effective:

Five Year Review (FYR) Dates: 10/30/2019

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Certification

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Date

Promulgated Under: 119.03  
Statutory Authority: 6111.041  
Rule Amplifies: 6111.041  
Prior Effective Dates: 04/04/1985, 08/19/1985, 05/01/1990, 10/31/1997,  
12/30/2002, 02/06/2017

## Rule Summary and Fiscal Analysis

### Part A - General Questions

**Rule Number:** 3745-1-32

**Rule Type:** Amendment

**Rule Title/Tagline:** Ohio river standards.

**Agency Name:** Ohio Environmental Protection Agency

**Division:** Division of Surface Water (DSW)

**Address:** 50 W. Town St. Columbus OH 43221

**Contact:** Jennie Pugliese **Phone:** 614-728-2396

**Email:** Jennie.Pugliese@epa.ohio.gov

#### I. Rule Summary

1. **Is this a five year rule review?** Yes
  - A. **What is the rule's five year review date?** 10/30/2019
2. **Is this rule the result of recent legislation?** No
3. **What statute is this rule being promulgated under?** 119.03
4. **What statute(s) grant rule writing authority?** 6111.041
5. **What statute(s) does the rule implement or amplify?** 6111.041
6. **What are the reasons for proposing the rule?**

This rule is being reviewed in order to comply with Ohio Revised Code section 106.03 and the five year rule review.

7. **Summarize the rule's content, and if this is an amended rule, also summarize the rule's changes.**

Rule 3745-1-32 contains the numerical water quality criteria for the protection of human health in the Ohio River Mainstem, meaning National Pollutant Discharge Elimination System (NPDES) dischargers that discharge directly to the Ohio River or a direct tributary to the Ohio River. This rule contains the numerical values for the

maximum concentration of a pollutant in given body of water, and is fundamentally different than a permit limit through the NPDES program.

This rule has two values for each chemical, titled "intake" and "elsewhere." The intake values apply within 500 yards of a public water supply intake and is the more stringent value of: U.S. EPA's national recommended criteria updated in 2015, Ohio River Valley Sanitation Commission's (ORSANCO's) 2015 pollution control standards, and U.S. EPA's maximum contaminant level (MCL). The elsewhere values apply everywhere except for where the intake value applies, and is the more stringent of U.S. EPA's national recommended criteria and ORSANCO's pollution control standards. Four chemicals were deleted from this rule and three new chemicals were added to this rule. The Ohio River temperature criteria were also updated to ORSANCO's 2015 temperature criteria.

8. **Does the rule incorporate material by reference? Yes**
9. **If the rule incorporates material by reference and the agency claims the material is exempt pursuant to R.C. 121.71 to 121.76, please explain the basis for the exemption and how an individual can find the referenced material.**

This rule contains references to rules in the Ohio Administrative Code and federal acts, both of which are exempt under ORC 121.71 to 121.74.

The Ohio Revised Code exempts IBR requirements that are found in ORC 121.71 through 121.74, if the IBR comes from one of the following Ohio government references:

ORC, an uncodified Ohio statute, an act of the state in the Laws of Ohio, a rule in the OAC, a rule in the Monthly Record, a rule in the Register of Ohio.

The following federal government references are also exempt from ORC 121.71 through 121.74, but must specify a date of the text being incorporated: the United States Code, an uncodified federal statute, a regulation from the Federal Register, internal agency management rules, a rule that maintains authorization of a federally delegated program, a rule required to receive federal funds under a federally funded program, digital applications which do not establish policies, references that describe federal administrative or legislative data, references that describe generally accepted building codes, and references that are copyrighted materials where permission has been obtained to use.

10. **If revising or re-filing the rule, please indicate the changes made in the revised or re-filed version of the rule.**

No changes have been made to the originally filed rule as the result of the re-filing.

## **II. Fiscal Analysis**

- 11. As a result of this proposed rule, please estimate the increase / decrease in revenues or expenditures affecting this agency, or the state generally, in the current biennium or future years. If the proposed rule is likely to have a different fiscal effect in future years, please describe the expected difference and operation.**

This will have no impact on revenues or expenditures.

\$0

This rule would neither increase nor decrease expenditures for the Agency or the State.

- 12. What are the estimated costs of compliance for all persons and/or organizations directly affected by the rule?**

Ohio EPA has identified two potential sources of additional cost to regulated entities – costs due to treatment upgrades, and costs for more advanced chemical testing. The Agency does not believe that any significant treatment upgrades will be needed to meet limits based on the new criteria. Therefore, no new cost.

Ensuring compliance with these lower numbers will require some dischargers to do additional, low-level testing for a few parameters. Ohio EPA projects that these new costs will run from \$0 - \$400 per year per facility; the specific cost will depend on the sampling frequency required by the permit, the number of discharge points tested at the facility, and whether or not the facility is already using one or more of these advanced analytical techniques.

- 13. Does the rule increase local government costs? (If yes, you must complete an RSFA Part B). Yes**
- 14. Does the rule regulate environmental protection? (If yes, you must complete an RSFA Part C). Yes**

## **III. Common Sense Initiative (CSI) Questions**

- 15. Was this rule filed with the Common Sense Initiative Office? Yes**
- 16. Does this rule have an adverse impact on business? No**
- A. Does this rule require a license, permit, or any other prior authorization to engage in or operate a line of business? No**

- B. Does this rule impose a criminal penalty, a civil penalty, or another sanction, or create a cause of action, for failure to comply with its terms? No**
  
- C. Does this rule require specific expenditures or the report of information as a condition of compliance? No**

## Rule Summary and Fiscal Analysis

### Part B - Local Governments Questions

**1. Does the rule increase costs for:**

<b>A. Public School Districts</b>	Yes
<b>B. County Government</b>	Yes
<b>C. Township Government</b>	Yes
<b>D. City and Village Governments</b>	Yes

**2. Please estimate the total cost, in dollars, of compliance with the rule for the affected local government(s). If you cannot give a dollar cost, explain how the local government is financially impacted.**

Ohio EPA has identified two potential sources of additional cost to regulated entities – costs due to treatment upgrades, and costs for more advanced chemical testing. The Agency does not believe that any significant treatment upgrades will be needed to meet limits based on the new criteria. Therefore, no new cost.

Ensuring compliance with these lower numbers will require some dischargers to do additional, low-level testing for a few parameters. Ohio EPA projects that these new costs will run from \$0 - \$400 per year per facility; the specific cost will depend on the sampling frequency required by the permit, the number of discharge points tested at the facility, and whether or not the facility is already using one or more of these advanced analytical techniques.

**3. Is this rule the result of a federal government requirement? Yes**

- A. If yes, does this rule do more than the federal government requires? No**
- B. If yes, what are the costs, in dollars, to the local government for the regulation that exceeds the federal government requirement?**

*Not Applicable*

**4. Please provide an estimated cost of compliance for the proposed rule if it has an impact on the following:**

- A. Personnel Costs**

Please see response 2 above.

**B. New Equipment or Other Capital Costs**

Please see response 2 above.

**C. Operating Costs**

Please see response 2 above.

**D. Any Indirect Central Service Costs**

Please see response 2 above.

**E. Other Costs**

Please see response 2 above.

**5. Please explain how the local government(s) will be able to pay for the increased costs associated with the rule.**

The Agency does not anticipate that any facilities affected by these rule amendments will need to change how they operate, maintain, and treat water in their facilities. The only cost that has the potential to be incurred by these entities is site specific and depends on what pollutants the influent water contains. That being said, a cost of \$0 - \$400 per facility per year is a relatively insignificant cost that a facility should be able to absorb into their budget. The facilities should not have to raise rates or incur a superfluous cost increase.

**6. What will be the impact on economic development, if any, as the result of this rule?**

There should be no impact on economic development.



## Rule Summary and Fiscal Analysis

### Part C - Environmental Rule Questions

Pursuant to Am. Sub. H.B. 106 of the 121st General Assembly, prior to adopting a rule or an amendment to a rule dealing with environmental protection, or containing a component dealing with environmental protection, a state agency shall:

- (1) Consult with organizations that represent political subdivisions, environmental interests, business interests, and other persons affected by the proposed rule or amendment.
- (2) Consider documentation relevant to the need for, the environmental benefits or consequences of, other benefits of, and the technological feasibility of the proposed rule or rule amendment.
- (3) Specifically identify whether the proposed rule or rule amendment is being adopted or amended to enable the state to obtain or maintain approval to administer and enforce a federal environmental law or to participate in a federal environmental program, whether the proposed rule or rule amendment is more stringent than its federal counterpart, and, if the proposed rule or rule amendment is more stringent, the rationale for not incorporating its federal counterpart.
- (4) Include with the proposed rule or rule amendment and rule summary and fiscal analysis required to be filed with the Joint Committee on Agency Rule Review information relevant to the previously listed requirements.

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**(A) Were organizations that represent political subdivisions, environmental interests, business interests, and other persons affected by the proposed rule or amendment consulted? Yes**

**Please list each contact.**

Ohio EPA invited interested parties to comment on the rule amendments during the period of April 2, 2019 to May 2, 2019. Notice of the comment period was emailed to approximately 4,000 interested parties. Ohio EPA also mailed letters to 153 dischargers that may be impacted by this rule. Both lists of interested parties is available upon request.

**(B) Was documentation that is relevant to the need for, the environmental benefits or consequences of, other benefits of, and the technological feasibility of the proposed rule or amendment considered? Yes**

**Please list the information provided and attach a copy of each piece of documentation to this form. (A SUMMARY OR INDEX MAY BE ATTACHED IN LIEU OF THE ACTUAL DOCUMENTATION.)**

Ohio River Valley Water Sanitation Commission, Pollution Control Standards for Discharges to the Ohio River, 2015 Revision.

United States Environmental Protection Agency, National Recommended Water Quality Criteria - Human Health, 2015. Found here: <https://www.epa.gov/wqc/national-recommended-water-quality-criteria-human-health-criteria-table>.

United States Environmental Protection Agency, National Primary Drinking Water Regulations, 2009.

40 CFR 131 Water Quality Standards

ORC 6111.041 Standards of Water Quality

- (C) Is the proposed rule or rule amendment being adopted or amended to enable the state to obtain or maintain approval to administer and enforce a federal environmental law or to participate in a federal environmental program? Yes**

**Is the proposed rule or rule amendment more stringent than its federal counterpart?**  
*No Not Applicable*

- (D) If this is a rule amendment that is being adopted under a state statute that establishes standards with which the amendment is to comply, is the proposed rule amendment more stringent than the rule that it is proposing to amend? No**

# CSI - Ohio

## The Common Sense Initiative

### Business Impact Analysis

Agency Name: Ohio Environmental Protection Agency

Regulation/Package Title: Water Quality Criteria for the Protection of Human Health

Rule Number(s): OAC 3745-1-32, 1-33, 1-34

Date: April 2, 2019

**Rule Type:**

New

Amended

5-Year Review

Rescinded

The Common Sense Initiative was established by Executive Order 2011-01K and placed within the Office of the Lieutenant Governor. Under the CSI Initiative, agencies should balance the critical objectives of all regulations with the costs of compliance by the regulated parties. Agencies should promote transparency, consistency, predictability, and flexibility in regulatory activities. Agencies should prioritize compliance over punishment, and to that end, should utilize plain language in the development of regulations.

#### **Regulatory Intent**

**1. Please briefly describe the draft regulation in plain language.**

*Please include the key provisions of the regulation as well as any proposed amendments.*

This rulemaking concerns the numeric water quality criteria for the protection of human health in the Ohio River Mainstem, Ohio River Basin, and Lake Erie Basin.

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Under the Clean Water Act (CWA) states are required to have water quality standards that protect lakes, rivers, streams or other surface waters from pollution. Ohio's water quality standards are in OAC Chapter 3745-1. The required components of a water quality standard include beneficial use designations; narrative and numeric criteria protective of the use designations; and implementation procedures used to evaluate decisions that could result in the lowering of water quality (referred to as the antidegradation or rule).

Water quality standards are then used in other CWA programs such as the National Pollutant Discharge Elimination System (NPDES) permits, Section 401 Water Quality Certifications and the establishment of Total Maximum Daily Loads (TMDLs). Any impacts to the business community are realized only through the implementation of water quality standards in these other regulatory programs.

The NPDES program prohibits discharges of pollutants from any point source (a discrete conveyance such as a pipe or ditch) into the nation's waters unless authorized under an NPDES permit. The program gives U.S. EPA the authority to regulate discharges into the nation's waters by setting limits on the effluent that can be discharged to a body of water. The NPDES program is closely intertwined with this rulemaking and is how we will quantify the effect of these new numerical criteria in this analysis.

These rules are being updated to reflect the most recent human health numbers from U.S. EPA's 2015 updated chemical criteria, ORSANCO's 2015 Pollution Control Standards (PCS), and maximum contaminant levels (MCLs) promulgated under the Safe Drinking Water Act.

**2. Please list the Ohio statute authorizing the Agency to adopt this regulation.**

Ohio Revised Code 6111.041.

**3. Does the regulation implement a federal requirement? Is the proposed regulation being adopted or amended to enable the state to obtain or maintain approval to administer and enforce a federal law or to participate in a federal program?**

*If yes, please briefly explain the source and substance of the federal requirement.*

Yes, the regulations implement federal requirements in the CWA and Title 40 of the Code of Federal Regulations (CFR) Parts 131 Water Quality Standards and 132 Water Quality Guidance for the Great Lakes System. 40 CFR 131.20 further stipulates that the State shall adopt new or revised criteria for parameters for which US EPA has published. If the state does not adopt new or revised criteria, then the State shall provide an explanation of why the criteria have not been adopted.

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**4. If the regulation includes provisions not specifically required by the federal government, please explain the rationale for exceeding the federal requirement.**

Rule 3745-1-34 will be amended to apply maximum contaminant levels (MCLs) statewide. MCLs are National Primary Drinking Water Regulations (NPDWRs) established by U.S. EPA under the Safe Drinking Water Act (SDWA). NPDWRs are legally enforceable primary standards and treatment techniques that apply to public water systems. Primary standards and treatment techniques protect public health by limiting the levels of contaminants in drinking water.

Ohio EPA's Division of Drinking and Ground Water has also promulgated these MCLs into regulations to cover drinking water and ground water. Ohio EPA Division of Surface Water currently applies these MCLs only to the Ohio River basin and with this rulemaking extending this protection statewide (to the Lake Erie basin). The Division of Surface Water is promulgating these standards as a way to protect the treatment technology at the intakes of the drinking water plants in the Lake Erie basin as well. This is an extension of the applicability of the MCL to surface water within five hundred yards of an intake in the Lake Erie basin, as Ohio's drinking water supply is a very important resource. The extension of these MCLs is a common sense regulatory change.

**5. What is the public purpose for this regulation (i.e., why does the Agency feel that there needs to be any regulation in this area at all)?**

The CWA section 303(c)(2)(A) requires that water quality standards protect "public health or welfare, enhance the quality of the water and serve the purposes of [the Act]." The CWA section 101(a)(2) establishes as a national goal "water quality which provides for protection and propagation of fish, shellfish, and wildlife, and recreation in and on the water, wherever attainable." 40 C.F.R. Part 131.11 specifies that states must adopt those water quality criteria that protect the designated use. Such criteria must be based on sound scientific rationale and must contain sufficient parameters or constituents to protect the designated use.

The value of clean water as a public resource is a well-established fact. Ohio is an economically important and diverse state with strong manufacturing and agricultural industries that depend upon abundant and clean water. Ohio's economy also depends upon the tourism that its waters attract. The program ensures that Ohio's streams, rivers and lakes can be used for purposes such as industrial and agricultural production, recreation, and as a source of drinking water. These regulations are necessary in order to adequately protect public health and the environment.

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**6. How will the Agency measure the success of this regulation in terms of outputs and/or outcomes?**

Success can be measured in two ways: 1) tracking various administrative milestones in the programs that implement the water quality standards; and 2) monitoring the conditions of streams, rivers and lakes over time. The NPDES permit program routinely provides data and annual reports that describe the compliance performance of the regulated community. The Agency sets targets for achieving compliance with permit terms and conditions.

As described in the response to question # 11 the water quality standards regulations are performance based expectations regarding the quality of Ohio's surface water. Ohio EPA measures the success of the State's overall pollution control efforts through biological and chemical monitoring that determines whether or not a water body is attaining its designated uses. The status or health of Ohio's streams, rivers and lakes is reported every two years in the Integrated Water Quality Monitoring and Assessment Report, which is available on Ohio EPA's website at: <http://epa.ohio.gov/dsw/tmdl/OhioIntegratedReport.aspx>.

**Development of the Regulation**

**7. Please list the stakeholders included by the Agency in the development or initial review of the draft regulation.**

*If applicable, please include the date and medium by which the stakeholders were initially contacted.*

Ohio EPA sent electronic notification of the beginning of the Triennial WQS Review to the Division of Surface Water's rulemaking interested party list and posted the Early Stakeholder Outreach fact sheet on the Division's website on September 14, 2016. The comment period deadline was November 14, 2016. Ohio EPA also held a webinar and public hearing on this matter on September 28, 2016 and November 9, 2016, respectively. Six comment letters were received during the comment period from The Nature Conservancy, Ohio Department of Transportation, Ohio Environmental Council, Midwest Biodiversity institute, City of Columbus, and Ohio Utility Group.

**8. What input was provided by the stakeholders, and how did that input affect the draft regulation being proposed by the Agency?**

The only feedback provided on these rules stated that Ohio EPA should adopt US EPA's, and/or ORSANCO's updated criteria into rule.

**9. What scientific data was used to develop the rule or the measurable outcomes of the rule? How does this data support the regulation being proposed?**

These numerical criteria were taken directly from U.S. EPA's 2015 Updated Human Health Criteria, U.S. EPA's list of Maximum Contaminant Levels (also referred to as National Primary Drinking Water Regulations), and ORSANCO's 2015 Pollution Control Standards update. Links to these documents are provided below.

<https://www.epa.gov/wqc/national-recommended-water-quality-criteria-human-health-criteria-table>

<https://www.epa.gov/ground-water-and-drinking-water/national-primary-drinking-water-regulations>

<http://www.orsanco.org/programs/pollution-control-standards/>

**10. What alternative regulations (or specific provisions within the regulation) did the Agency consider, and why did it determine that these alternatives were not appropriate? If none, why didn't the Agency consider regulatory alternatives?**

The Agency reviewed revisions to the recommended federal water quality criteria and ORSANCO's pollution control standards (PCS) since the last review and determined that revisions were necessary to bring consistency between state regulations, ORSANCO PCS, and federal water quality criteria.

**11. Did the Agency specifically consider a performance-based regulation? Please explain. *Performance-based regulations define the required outcome, but don't dictate the process the regulated stakeholders must use to achieve compliance.***

Water quality standards function as a performance-based regulation because for each beneficial use defined in the rules there are measurable water quality criteria for determining if a water body meets its designated beneficial uses. Ohio's water quality standards include numeric criteria for many chemical substances to protect human health and aquatic life, bacteria indicators to protect water based recreation and biological criteria used to gauge attainment of certain aquatic life use designations.

The business community is affected by these standards when they are used to establish conditions in permits that regulate how much pollution can be safely discharged into a receiving stream. Any business that discharges pollutants to waters of the State must comply with permits designed to ensure the standards are met. The Agency does not specify the technology that must be used to comply with permits.

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**12. What measures did the Agency take to ensure that this regulation does not duplicate an existing Ohio regulation?**

Ohio EPA is the delegated state agency for the water quality standards program. Only a review of existing Ohio EPA rules was necessary, and no duplication was found.

**13. Please describe the Agency’s plan for implementation of the regulation, including any measures to ensure that the regulation is applied consistently and predictably for the regulated community.**

The Agency will put the effective date of the adopted rules three months out from the date of adoption, which provides for U.S. EPA’s review and approval and gives the Agency time to update web pages.

**Adverse Impact to Business**

**14. Provide a summary of the estimated cost of compliance with the rule. Specifically, please do the following:**

- a. Identify the scope of the impacted business community;**
- b. Identify the nature of the adverse impact (e.g., license fees, fines, employer time for compliance); and**
- c. Quantify the expected adverse impact from the regulation.**

*The adverse impact can be quantified in terms of dollars, hours to comply, or other factors; and may be estimated for the entire regulated population or for a “representative business.” Please include the source for your information/estimated impact.*

The water quality standards affect the business community indirectly through other regulatory programs that are designed to assure compliance with requirements based on meeting the water quality standards. These requirements take the form of effluent limits imposed by Ohio EPA through the NPDES permit program or 401 certifications. Though there is no direct cost associated with this water quality standards rulemaking, the Agency has evaluated potential costs or impacts the business community might incur through other CWA programs.

The Agency has determined that 151 of the 3,250 permitted dischargers in Ohio could potentially be negatively impacted by the adoption of these criteria. Of these 151 dischargers, 60 already have limits for one or more of these chemicals that could impact them. The remaining 91 dischargers monitor for one or more of these chemicals but do not currently have limits. Some dischargers could receive less stringent limits from these numerical changes as well. Permit limits are dependent on

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a multitude of factors and may not always be directly correlated to this specific type water quality criterion, therefore the impact on stakeholders is somewhat varied and difficult to estimate.

a. The impacted business community primarily includes those regulated through the NPDES program.

Existing NPDES permit dischargers with current effluent limits for the draft criteria that could have the potential to be negatively affected by the adoption of these rules were notified by mail that these rules are available for comment.

b. There is no cost directly associated with these amended rules. However, the cost associated with implementing these water quality criteria through the NPDES program will vary widely based on factors such as volume of wastewater treated, complexity of treatment system, stringency of the effluent limitations, effluent monitoring requirements, and treatment technology installed at the point source. Most facilities should not be impacted by these updated water quality criteria, but if a discharger receives a more stringent permit limit or a permit limit for a new chemical, or additional monitoring requirements, the nature of the adverse impact may include the treatment of the wastewater, any cost to maintain or operate the equipment, sampling, and time for paperwork completion.

c. As previously stated, there is no cost directly associated with these rule updates, however there may be cost associated with the implementation of these water quality criteria. The cost of compliance with these rules for a facility is site specific and will vary greatly based on the type of treatment, the amount of sludge generated, amount of water discharged, the types of samples and the amount of sampling required, and the amount of treatment that would be required to satisfy the limitations. Most facilities should not be impacted by these updated water quality criteria, but if a discharger receives a more stringent permit limit or a permit limit for a new criterion, the nature of the adverse impact may include the treatment of the wastewater, any cost to maintain or operate the equipment, sampling, and time for paperwork completion.

If a revision to a permittee's effluent limitations due to these water quality criteria is necessary upon permit renewal, the Agency will include a schedule of compliance in the permit to allow the permittee the time to plan and construct or modify any necessary treatment to comply with the NPDES permit.

**15. Why did the Agency determine that the regulatory intent justifies the adverse impact to the regulated business community?**

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The water quality standards program and these draft rule revisions are the primary means of ensuring that the quality of water in Ohio's streams, rivers and lakes is improved, maintained and remains suitable for swimming, drinking and fishing. The basic goal of meeting all numeric and narrative criteria established under the CWA is the normal requirement mandated by federal regulations. Deviation from that expectation is allowed in only a handful of extraordinary circumstances, one of which is imposition of widespread social and economic impact. Thus, it is incumbent upon states to establish the proper balance between the water quality goals and the costs to society of attaining those goals. The Agency believes the draft rules are supported by the need to protect public health, safety, and the environment.

### **Regulatory Flexibility**

**16. Does the regulation provide any exemptions or alternative means of compliance for small businesses? Please explain.**

With regard to the implementation programs impacted by this rulemaking, the regulations do not provide exemptions for small businesses. Corresponding federal regulations and the Ohio Revised Code do not provide for exemptions or alternative means of compliance for any permittees. The regulations are applied evenly regardless of the size of the treatment works. Smaller facilities are typically required to sample less frequently, which will cost them less money.

**17. How will the agency apply Ohio Revised Code section 119.14 (waiver of fines and penalties for paperwork violations and first-time offenders) into implementation of the regulation?**

The first time paperwork violation waiver is not applicable to this rule package. The rules in OAC Chapter 3745-1 contain standards for CWA permitting programs to enforce. No paperwork or permits are required by the standards themselves.

**18. What resources are available to assist small businesses with compliance of the regulation?**

• Ohio EPA Division of Environmental and Financial Assistance's Office of Compliance Assistance and Pollution Prevention (OCAPP) is a non-regulatory program that provides information and resources to help small businesses comply with environmental regulations. OCAPP also helps customers identify and implement pollution prevention measures that can save money, increase business performance and benefit the environment. Services of the office include a toll-free hotline, on-site compliance and pollution prevention assessments, workshops/training, plain-English publications library and assistance in completing permit

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application forms. Additional information is available at:

<http://epa.ohio.gov/ocapp/ComplianceAssistanceandPollutionPrevention.aspx>

- Ohio EPA also has a Customer Support Center web page

(<https://ohioepa.custhelp.com/app/home/session/L3RpbWUvMTQ0NTg2NTYzNi9zaWQvX1hTRkZWem0%3D>) that contains links to several items to help businesses navigate the permit process, including the Permit Wizard, Frequently Asked Questions (FAQ), training and subscription to various program listservs.

- Ohio EPA maintains the Compliance Assistance Hotline 800-329-7518, weekdays from 8:00 a.m. to 5:00 p.m.

- Ohio EPA, Division of Environmental and Financial Assistance's Compliance Assistance Unit provides technical support to small (less than 0.5 million gallons per day) wastewater treatment plants. Additional information is available at:

[http://epa.ohio.gov/dsw/compl\\_assist/compasst.aspx](http://epa.ohio.gov/dsw/compl_assist/compasst.aspx)

- U.S. EPA Small Business Gateway also has information on environmental regulations for small businesses available at: <http://www.epa.gov/smallbusiness/> and a Small Business Ombudsman Hotline 800-368-5888.

- U.S. EPA's Water Quality Standards Handbook, Second Edition available at:

<http://water.epa.gov/scitech/swguidance/standards/handbook/index.cfm>.

- U.S. EPA's Policy and Guidance: Reference Library contains an index of EPA documents related to water quality standards, including those referenced in the WQS Handbook. You can sort the index alphabetically, by publication date, or by topic. Available at:

<http://water.epa.gov/scitech/swguidance/standards/library/index.cfm>.

- The Division of Surface Water's Water Quality Standards program web page contains background information and direct links to sections of the regulations. Additional information is available at: <http://epa.ohio.gov/dsw/wqs/index.aspx>.

3745-1-33

**Water quality criteria for water supply use designations.**

[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 3745-1-03 of the Administrative Code.]

**(A) Human health water quality criteria [public water supply].**

- (1) The chemical specific criteria listed in table 33-1 of this rule, or site-specific modifications thereof, apply as "Outside Mixing Zone Averages" and shall apply to all water bodies located within five hundred yards of drinking water intakes. For the purpose of setting water quality based effluent limits, these criteria shall be met after the effluent and the receiving water are reasonably well mixed as provided in rules 3745-1-06 and 3745-2-05 of the Administrative Code.
- (2) Water bodies located within the Ohio river drainage basin. Any methodologies and procedures acceptable under 40 C.F.R. 131 may be used when developing or revising human health water quality criteria or implementing narrative criteria contained in rule 3745-1-04 of the Administrative Code. For any pollutant for which it is demonstrated that a methodology or procedure cited in this rule is not scientifically defensible, the director may apply an alternative methodology or procedure acceptable under 40 C.F.R. 131 when developing water quality criteria.
- (3) Water bodies located within the lake Erie drainage basin. The methodologies contained in rules 3745-1-41 and 3745-1-42 of the Administrative Code shall be used when adopting or revising numeric human health criteria and when implementing the narrative water quality criteria contained in rule 3745-1-04 of the Administrative Code. For pollutants listed in table 33-2 of this rule, any methodologies and procedures acceptable under 40 C.F.R. 131 may be used when developing water quality criteria or implementing narrative criteria. For any pollutant other than those in table 33-2 of this rule, for which it is demonstrated that a methodology or procedure cited in this rule is not scientifically defensible, the director may apply an alternative methodology or procedure acceptable under 40 C.F.R. 131 when developing water quality criteria.

Table 33-1. Water quality criteria for the protection of human health [public water supply].

			OMZA <sup>3</sup>
Chemical	Form <sup>1</sup>	Units <sup>2</sup>	Drinking

			Ohio river	Lake Erie
Acenaphthene	T	µg/l	<del>1,200</del> <u>70</u>	
Acrolein	T	µg/l	<del>3203.0</del>	
Acrylonitrile <sup>5</sup>	T	µg/l	<del>0.59</del> <u>0.51</u>	
Alachlor	T	µg/l	2.0 <sup>a</sup>	<u>2.0</u> <sup>a</sup>
<del>Aldicarb</del> <sup>6</sup>	<del>F</del>	<del>µg/l</del>	<del>7.0</del> <sup>a</sup>	
<del>Aldicarb sulfone</del> <sup>6</sup>	<del>F</del>	<del>µg/l</del>	<del>7.0</del> <sup>a</sup>	
<del>Aldicarb sulfoxide</del> <sup>6</sup>	<del>F</del>	<del>µg/l</del>	<del>7.0</del> <sup>a</sup>	
Aldrin <sup>5</sup>	T	µg/l	<del>0.00137.7</del> <sup>a</sup> <u>*10<sup>-6</sup></u>	
Anthracene	T	µg/l	<del>9,600</del> <u>300</u>	
Antimony <sup>5</sup>	TR	µg/l	<del>6.0</del> <u>5.6</u>	<u>6.0</u> <sup>a</sup>
Arsenic	TR	µg/l	10 <sup>a</sup>	10 <sup>a</sup>
Asbestos	T	Mf/l	7.0 <sup>a</sup>	<u>7.0</u> <sup>a</sup>
Atrazine	T	µg/l	3.0 <sup>a</sup>	<u>3.0</u> <sup>a</sup>
Barium <sup>5</sup>	TR	µg/l	<del>2,000</del> <u>a1.000</u> <u>2,000</u> <sup>a</sup>	
Benzene <sup>5</sup>	T	µg/l	5.0 <sup>a</sup>	<del>±</del> <u>25.0</u> <sup>a</sup>
Benzidine <sup>5</sup>	T	µg/l	<del>0.00120.000</del> <u>86</u>	
Benzo(a)anthracene <sup>5</sup>	T	µg/l	<del>0.0440.012</del> <u>0.2</u> <sup>a</sup>	
Benzo(a)pyrene <sup>5</sup>	T	µg/l	<del>0.0440.001</del> <u>2</u>	
Benzo(b)fluoranthene <sup>5</sup>	T	µg/l	<del>0.0440.012</del>	
Benzo(k)fluoranthene <sup>5</sup>	T	µg/l	<del>0.0440.038</del>	

Beryllium	TR	µg/l	4.0 <sup>a</sup>	<u>4.0<sup>a</sup></u>
Bromate	T	µg/l	10 <sup>a</sup>	<u>10<sup>a</sup></u>
Bromoform ( <u>Tribromomethane</u> ) <sup>5</sup>	T	µg/l	43	
Butylbenzyl phthalate	T	µg/l	<del>3,000</del> <u>0.10</u>	
Cadmium	TR	µg/l	5.0 <sup>a</sup>	<u>5.0<sup>a</sup></u>
Carbofuran	T	µg/l	40 <sup>a</sup>	<u>40<sup>a</sup></u>
Carbon tetrachloride <sup>5</sup>	T	µg/l	<del>2.5</del> <u>2.3</u>	<u>5.0<sup>a</sup></u>
Chloramine	T	µg/l	4,000 <sup>a</sup>	<u>4,000<sup>a</sup></u>
Chlordane <sup>5</sup>	T	µg/l	<del>0.02</del> <u>0.003</u>	<u>0.00025</u>
Chlorides	T	mg/l	250 <sup>a</sup>	250 <sup>a</sup>
Chlorine	T	µg/l	4,000 <sup>a</sup>	<u>4,000<sup>a</sup></u>
Chlorine dioxide	T	µg/l	800 <sup>a</sup>	<u>800<sup>a</sup></u>
Chlorite	T	µg/l	1,000 <sup>a</sup>	<u>1,000<sup>a</sup></u>
Chloroacetic acid <sup>76</sup>	T	µg/l	60 <sup>a</sup>	<u>60<sup>a</sup></u>
Chlorobenzene	T	µg/l	100 <sup>a</sup>	<del>470</del> <u>100<sup>a</sup></u>
Chlorodibromomethane <sup>5</sup>	T	µg/l	<del>4.1</del> <u>4.0</u>	
<u>Bis(2-Chloro-1-methylethyl) ether</u>	<u>T</u>	<u>µg/l</u>	<u>200</u>	
Bis(2-Chloroethyl)ether <sup>5</sup>	T	µg/l	<del>0.3</del> <u>0.30</u>	
Chloroform <sup>5</sup>	T	µg/l	57	
bis(2-Chloroisopropyl)ether	T	µg/l	1,400	
bis(2-Chloromethyl)ether <sup>5</sup>	T	µg/l	<del>0.00130</del> <u>0.0015</u>	
2-Chloronaphthalene	T	µg/l	<del>1,700</del> <u>800</u>	

2-Chlorophenol	T	µg/l	<del>120</del> <u>30</u>	
Chromium	TR	µg/l	100 <sup>a</sup>	<u>100<sup>a</sup></u>
Chrysene <sup>5</sup>	T	µg/l	<del>0.044</del> <u>0.038</u>	
Cyanide	free	µg/l	<del>200</del> <u>4.0</u>	<del>600</del> <u>4.0</u>
2,4-D (2,4-Dichlorophenoxy-acetic acid)	T	µg/l	70 <sup>a</sup>	<u>70<sup>a</sup></u>
Dalapon	T	µg/l	200 <sup>a</sup>	<u>200<sup>a</sup></u>
4,4'-DDD <sup>5</sup>	T	µg/l	<del>0.0083</del> <u>0.0012</u>	
4,4'-DDE <sup>5</sup>	T	µg/l	<del>0.0059</del> <u>0.0018</u>	
4,4'-DDT <sup>5</sup>	T	µg/l	<del>0.0059</del> <u>0.0003</u>	<u>0.0015</u>
Dibenzo(a,h)anthracene <sup>5</sup>	T	µg/l	<del>0.044</del> <u>0.0012</u>	
Dibromochloropropane	T	µg/l	0.2 <sup>a</sup>	<u>0.2<sup>a</sup></u>
Di-n-butyl phthalate	T	µg/l	<del>2,700</del> <u>20</u>	
Dichloroacetic acid <sup>76</sup>	T	µg/l	60 <sup>a</sup>	<u>60<sup>a</sup></u>
1,2-Dichlorobenzene	T	µg/l	<del>600</del> <u>420</u>	<u>600<sup>a</sup></u>
1,3-Dichlorobenzene	T	µg/l	<del>400</del> <u>7.0</u>	
1,4-Dichlorobenzene	T	µg/l	<del>75</del> <u>63</u>	<u>75<sup>a</sup></u>
3,3'-Dichlorobenzidine <sup>5</sup>	T	µg/l	<del>0.40</del> <u>0.21</u>	
Dichlorobromomethane <sup>5</sup>	T	µg/l	<del>5.6</del> <u>5.5</u>	
1,2-Dichloroethane <sup>5</sup>	T	µg/l	3.8	<u>5.0<sup>a</sup></u>
1,1-Dichloroethylene <sup>5</sup>	T	µg/l	0.57	<u>7.0<sup>a</sup></u>
cis-1,2-Dichloroethylene	T	µg/l	70 <sup>a</sup>	<u>70<sup>a</sup></u>
trans-1,2-Dichloroethylene	T	µg/l	100 <sup>a</sup>	<u>100<sup>a</sup></u>

2,4-Dichlorophenol	T	µg/l	<del>93</del> <u>10</u>	
1,2-Dichloropropane <sup>5</sup>	T	µg/l	5.0 <sup>a</sup>	<u>5.0<sup>a</sup></u>
1,3-Dichloropropene	T	µg/l	<del>102.7</del>	
Dieldrin <sup>5</sup>	T	µg/l	<del>0.00141.2</del> <u>0.000065</u>	
Di(2-ethylhexyl)adipate	T	µg/l	400 <sup>a</sup>	<u>400<sup>a</sup></u>
Diethyl phthalate	T	µg/l	<del>23,000</del> <u>600</u>	
2,4-Dimethylphenol	T	µg/l	<del>540</del> <u>100</u>	<u>450</u> <u>100</u>
Dimethyl phthalate	T	µg/l	<del>310,000</del> <u>2,000</u>	
4,6-Dinitro-o-cresol (4,6-Dinitro-2-methylphenol)	T	µg/l	<del>132.0</del>	
Dinitrophenols <sup>4</sup>	T	µg/l	<del>70</del> <u>10</u>	
2,4-Dinitrophenol	T	µg/l	<del>1</del> <u>10</u>	<u>55</u> <u>10</u>
2,4-Dinitrotoluene <sup>5</sup>	T	µg/l	<del>1.1</del> <u>0.49</u>	
Dinoseb	T	µg/l	7.0 <sup>a</sup>	<u>7.0<sup>a</sup></u>
1,2-Diphenylhydrazine <sup>5</sup>	T	µg/l	<del>0.400</del> <u>0.30</u>	
Diquat	T	µg/l	20 <sup>a</sup>	<u>20<sup>a</sup></u>
Dissolved solids	T	mg/l	750/500 <sup>a,h</sup>	750/500 <sup>a,b</sup>
alpha-Endosulfan <sup>87</sup>	T	µg/l	<del>110</del> <u>20</u>	
beta-Endosulfan <sup>87</sup>	T	µg/l	<del>110</del> <u>20</u>	
Endosulfan sulfate <sup>87</sup>	T	µg/l	<del>110</del> <u>20</u>	
Endothall	T	µg/l	100 <sup>a</sup>	<u>100<sup>a</sup></u>
Endrin <sup>98</sup>	T	µg/l	<del>0.760</del> <u>0.03</u>	<u>2.0<sup>a</sup></u>
Endrin aldehyde <sup>98</sup>	T	µg/l	<del>0.760</del> <u>0.29</u>	



Ethylbenzene	T	µg/l	<del>700</del> <sup>a</sup> <u>68</u>	<u>700</u> <sup>a</sup>
Ethylene dibromide (EDB)	T	µg/l	0.050 <sup>a</sup>	<u>0.050</u> <sup>a</sup>
bis(2-Ethylhexyl)phthalate <sup>5</sup>	T	µg/l	<del>6.0</del> <sup>a</sup> <u>3.2</u>	<u>6.0</u> <sup>a</sup>
Fluoranthene	T	µg/l	<del>300</del> <u>20</u>	
Fluorene	T	µg/l	<del>1,300</del> <u>50</u>	
Fluoride	T	µg/l	<del>4,000</del> <sup>a</sup> <u>1,000</u>	<u>1,000</u> <sup>a</sup>
Glyphosate	T	µg/l	700 <sup>a</sup>	<u>700</u> <sup>a</sup>
Heptachlor <sup>5</sup>	T	µg/l	<del>0.002</del> <sup>a</sup> <u>15.9</u> <sup>b</sup>	<u>0.10</u> <sup>b</sup>
Heptachlor epoxide <sup>5</sup>	T	µg/l	<del>0.0010</del> <u>0.0032</u>	
Hexachlorobenzene <sup>5</sup>	T	µg/l	<del>0.0075</del> <u>0.00070</u>	<u>0.045</u>
Hexachlorobutadiene <sup>5</sup>	T	µg/l	<del>4.4</del> <u>0.10</u>	
alpha-Hexachlorocyclohexane <sup>5</sup>	T	µg/l	<del>0.039</del> <u>0.0036</u>	
beta-Hexachlorocyclohexane <sup>5</sup>	T	µg/l	<del>0.14</del> <u>0.08</u>	
gamma-Hexachlorocyclohexane (Lindane) <sup>5</sup>	T	µg/l	<del>0.19</del> <u>0.20</u>	<u>0.47</u> <u>0.20</u> <sup>a</sup>
Hexachlorocyclohexane - technical grade <sup>5</sup>	T	µg/l	<del>0.12</del> <u>0.066</u>	
Hexachlorocyclopentadiene	T	µg/l	<del>50</del> <sup>a</sup> <u>4.0</u>	<u>50</u> <sup>a</sup>
Hexachloroethane <sup>5</sup>	T	µg/l	<del>19</del> <u>1.0</u>	<u>5.3</u> <u>1.0</u>
Indeno(1,2,3-c,d)pyrene <sup>5</sup>	T	µg/l	<del>0.044</del> <u>0.012</u>	
Iron	S	µg/l	300 <sup>a</sup>	300 <sup>a</sup>
Isophorone <sup>5</sup>	T	µg/l	<del>360</del> <u>340</u>	
Mercury	TR	µg/l	0.012	0.0031
Methoxychlor	T	µg/l	<del>40</del> <sup>a</sup> <u>0.02</u>	<u>40</u> <sup>a</sup>

Methyl bromide	T	µg/l	<del>4847</del>	
<u>3-Methyl-4-chlorophenol</u>	<u>T</u>	<u>µg/l</u>	<u>500</u>	
Methylene chloride <sup>5</sup>	T	µg/l	5.0 <sup>a</sup>	<u>475.0<sup>a</sup></u>
Nickel	TR	µg/l	610	
Nitrate-N + Nitrite-N	T	µg/l	10,000 <sup>a</sup>	10,000 <sup>a</sup>
Nitrite-N	T	µg/l	1,000 <sup>a</sup>	<u>1,000<sup>a</sup></u>
Nitrobenzene	T	µg/l	<del>4710</del>	
Nitrosoamines <sup>5</sup>	T	µg/l	0.0080	
N-Nitrosodibutylamine <sup>5</sup>	T	µg/l	<del>0.064</del> <u>0.063</u>	
N-Nitrosodiethylamine <sup>5</sup>	T	µg/l	0.0080	
N-Nitrosodimethylamine <sup>5</sup>	T	µg/l	0.0069	
N-Nitrosodi-n-propylamine <sup>5</sup>	T	µg/l	0.050	
N-Nitrosodiphenylamine <sup>5</sup>	T	µg/l	<del>5033</del>	
N-Nitrosodipyrrolidine <sup>5</sup>	T	µg/l	0.16	
Oxamyl (Vydate)	T	µg/l	200 <sup>a</sup>	<u>200<sup>a</sup></u>
Pentachlorobenzene	T	µg/l	<del>3.50.1</del>	
Pentachlorophenol <sup>5</sup>	T	mg/l	<del>1.0a</del> <u>0.3</u>	<u>0.001<sup>a</sup></u>
Phenol	T	µg/l	<del>21,000</del> <u>4,000</u>	
Picloram	T	µg/l	500 <sup>a</sup>	<u>500<sup>a</sup></u>
Polychlorinated biphenyls <sup>5</sup>	T	µg/l	<del>0.00170.00060</del> <u>0.00026</u>	
Pyrene	T	µg/l	<del>960</del> <u>20</u>	
Selenium	TR	µg/l	50 <sup>a</sup>	<u>50<sup>a</sup></u>

Silvex (2,4,5-TP, 2-[2,4,5-Trichlorophenoxy]propionic acid	T	µg/l	10	<u>50</u> <sup>a</sup>
Simazine	T	µg/l	4.0 <sup>a</sup>	<u>4.0</u> <sup>a</sup>
Styrene	T	µg/l	100 <sup>a</sup>	<u>100</u> <sup>a</sup>
Sulfates	T	mg/l	250 <sup>a</sup>	250 <sup>a</sup>
1,2,4,5-Tetrachlorobenzene	T	µg/l	<del>2.30</del> <u>0.03</u>	
2,3,7,8-Tetrachlorodibenzo-p-dioxin <sup>5</sup>	T	<del>pg/l</del> µg/l	<del>0.135.0*10<sup>8</sup></del> <u>0.00865.0*10<sup>-8</sup></u>	
1,1,2,2-Tetrachloroethane <sup>5</sup>	T	µg/l	1.7	
Tetrachloroethylene <sup>5</sup>	T	µg/l	5.0 <sup>a</sup>	<u>5.0</u> <sup>a</sup>
Thallium	TR	µg/l	1.7	
Toluene	T	µg/l	<del>1,000</del> <u>57</u>	<del>5,600</del> <u>57</u>
Toxaphene <sup>5</sup>	T	µg/l	<del>0.00730.002</del> <u>0.000068</u>	
Trichloroacetic acid <sup>76</sup>	T	µg/l	60 <sup>a</sup>	<u>60</u> <sup>a</sup>
1,2,4-Trichlorobenzene <sup>5</sup>	T	µg/l	<del>70</del> <u>0.71</u>	<u>70</u> <sup>a</sup>
1,1,1-Trichloroethane	T	µg/l	200 <sup>a</sup>	<u>200</u> <sup>a</sup>
1,1,2-Trichloroethane <sup>5</sup>	T	µg/l	5.0 <sup>a</sup>	<u>5.0</u> <sup>a</sup>
Trichloroethylene <sup>5</sup>	T	µg/l	5.0 <sup>a</sup>	<del>295</del> <u>5.0</u> <sup>a</sup>
2,4,5-Trichlorophenol	T	µg/l	<del>2,600</del> <u>300</u>	
2,4,6-Trichlorophenol <sup>5</sup>	T	µg/l	<del>21</del> <u>14</u>	
Vinyl chloride <sup>5</sup>	T	µg/l	<del>2.0</del> <u>0.22</u>	<u>2.0</u> <sup>a</sup>
Xylenes	T	µg/l	10,000 <sup>a</sup>	<u>10,000</u> <sup>a</sup>
Zinc	T	µg/l	<del>9,100</del> <u>7,400</u>	

<sup>1</sup> S = soluble; T = total; TR = total recoverable.

<sup>2</sup> mg/l = milligrams per liter (parts per million); µg/l = micrograms per liter (parts per billion); ~~ng/l = nanograms per liter (parts per trillion); pg/l = picograms per liter (parts per quadrillion);~~ Mf/l = million fibers per liter.

<sup>3</sup> OMZA = outside mixing zone average.

<sup>4</sup> The criteria for this chemical apply to the sum of all dinitrophenols.

<sup>5</sup> Criteria for this chemical are based on a carcinogenic endpoint.

~~<sup>6</sup> The criterion for this chemical applies to the sum of aldicarb, aldicarb sulfone and aldicarb sulfoxide.~~

<sup>7</sup>~~6~~ The criterion for this chemical applies to the sum of chloroacetic acid, dichloroacetic acid and trichloroacetic acid.

<sup>8</sup>~~7~~ The criteria for this chemical apply to the sum of alpha-endosulfan, beta-endosulfan and endosulfan sulfate.

<sup>9</sup>~~8~~ The criteria for this chemical apply to the sum of endrin and endrin aldehyde.

<sup>a</sup> This criterion is the maximum contaminant level (MCL) developed under the "Safe Drinking Water Act".

<sup>b</sup> Equivalent 25°C specific conductance values are 1200 micromhos/cm as a maximum and 800 micromhos/cm as a thirty day average.

Table 33-2. Pollutants subject to any methodologies and procedures acceptable under 40 C.F.R. 131 for water bodies located in the lake Erie drainage basin.

Alkalinity
Ammonia
Bacteria
Biochemical oxygen demand (BOD)
Chlorine
Color

Dissolved oxygen
Dissolved solids
pH
Phosphorus
Salinity
Temperature
Total and suspended solids
Turbidity

(B) Agricultural water supply criteria.

- (1) The chemical-specific criteria listed in table 33-3 of this rule apply as "Outside Mixing Zone Averages." For the purpose of setting water quality based effluent limits, the criteria shall be met after the effluent and the receiving water are reasonably well mixed as provided in rules 3745-1-06 and 3745-2-05 of the Administrative Code.
- (2) The water quality criteria for the protection of agricultural uses, or site-specific modifications thereof, adopted in, or developed pursuant to, this rule shall apply outside the mixing zone to all water bodies assigned the agricultural water supply use designation.
- (3) For any pollutant in table 33-3 of this rule for which it is demonstrated that a methodology or procedure cited in this chapter is not scientifically defensible, the director may apply an alternative methodology or procedure acceptable under 40 C.F.R. 131 when developing water quality criteria.

Table 33-3. Statewide water quality criteria for the protection of agricultural uses.

Chemical	Form <sup>1</sup>	Units <sup>2</sup>	OMZA <sup>3</sup>
Arsenic	TR	µg/l	100
Beryllium	TR	µg/l	100
Cadmium	TR	µg/l	50

Total chromium	TR	µg/l	100
Copper	TR	µg/l	500
Fluoride	T	µg/l	2,000
Iron	TR	µg/l	5,000
Lead	TR	µg/l	100
Mercury	TR	µg/l	10
Nickel	TR	µg/l	200
Nitrates+nitrites	T	mg/l	100
Selenium	TR	µg/l	50
Zinc	TR	µg/l	25,000

<sup>1</sup>T = total; TR = total recoverable.

<sup>2</sup>mg/l = milligrams per liter (parts per million); µg/l = micrograms per liter (parts per billion).

<sup>3</sup>OMZA = outside mixing zone average.

Effective:

Five Year Review (FYR) Dates: 10/30/2019

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Certification

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Date

Promulgated Under: 119.03  
Statutory Authority: 6111.041  
Rule Amplifies: 6111.041  
Prior Effective Dates: 02/14/1978, 04/04/1985, 08/19/1985, 04/30/1987,  
05/01/1990, 04/26/1997, 10/31/1997, 07/31/1998,  
07/31/1999, 02/22/2002, 12/30/2002, 10/01/2014,  
08/10/2016, 02/06/2017

## Rule Summary and Fiscal Analysis

### Part A - General Questions

**Rule Number:** 3745-1-33

**Rule Type:** Amendment

**Rule Title/Tagline:** Water quality criteria for water supply use designations.

**Agency Name:** Ohio Environmental Protection Agency

**Division:** Division of Surface Water (DSW)

**Address:** 50 W. Town St. Columbus OH 43221

**Contact:** Jennie Pugliese **Phone:** 614-728-2396

**Email:** Jennie.Pugliese@epa.ohio.gov

#### I. Rule Summary

1. **Is this a five year rule review?** Yes
  - A. **What is the rule's five year review date?** 10/30/2019
2. **Is this rule the result of recent legislation?** No
3. **What statute is this rule being promulgated under?** 119.03
4. **What statute(s) grant rule writing authority?** 6111.041
5. **What statute(s) does the rule implement or amplify?** 6111.041
6. **What are the reasons for proposing the rule?**

To comply with ORC 106.03 and the Five Year Rule Review.

7. **Summarize the rule's content, and if this is an amended rule, also summarize the rule's changes.**

This rule contains the numerical water quality criteria for the protection of human health within 500 yards of a public water supply intake in both the Ohio River basin and the Lake Erie basin, meaning NPDES dischargers that discharge in the Ohio River basin or the Lake Erie basin, not directly to the Ohio River. This rule contains the numerical



values for the maximum concentration of a pollutant in given body of water, and is fundamentally different than a permit limit through the NPDES program.

This rule has two values for each chemical, titled "Ohio River" and "Lake Erie." Again, all of the numerical values in this rule are public water supply (drinking water) values, which apply within 500 yards of a public water supply intake. The value in the Ohio River basin column is the more stringent value of: U.S. EPA's national recommended criteria updated in 2015, Ohio River Valley Sanitation Commission's (ORSANCO's) 2015 pollution control standards, and U.S. EPA's maximum contaminant level (MCL) which are protective of the treatment system at the intake. The few values in the Lake Erie column is the more stringent of U.S. EPA's MCL, and U.S. EPA's national recommended criteria value, but only if that value is more stringent than the number that Ohio EPA was specifically required to adopt by with Great Lake Initiative (40 C.F.R. Part 132). Three chemicals were deleted from this rule and two new chemicals were added to this rule.

8. **Does the rule incorporate material by reference? Yes**
9. **If the rule incorporates material by reference and the agency claims the material is exempt pursuant to R.C. 121.71 to 121.76, please explain the basis for the exemption and how an individual can find the referenced material.**

This rule contains references to rules in the Ohio Administrative Code, the Code of Federal Regulations, and federal acts, all of which are exempt under ORC 121.71 to 121.74.

The Ohio Revised Code exempts IBR requirements that are found in ORC 121.71 through 121.74, if the IBR comes from one of the following Ohio government references:

ORC, an uncodified Ohio statute, an act of the state in the Laws of Ohio, a rule in the OAC, a rule in the Monthly Record, a rule in the Register of Ohio.

The following federal government references are also exempt from ORC 121.71 through 121.74, but must specify a date of the text being incorporated: the United States Code, an uncodified federal statute, a regulation from the Federal Register, internal agency management rules, a rule that maintains authorization of a federally delegated program, a rule required to receive federal funds under a federally funded program, digital applications which do not establish policies, references that describe federal administrative or legislative data, references that describe generally accepted building codes, and references that are copyrighted materials where permission has been obtained to use.

- 10. If revising or re-filing the rule, please indicate the changes made in the revised or re-filed version of the rule.**

No changes have been made to the originally filed rule as the result of the re-filing.

*11/19/2019 Changed the units for the pentachlorophenol criteria from "mg/l" to "ug/l" and changes the Lake Erie criteria from 0.001 to 1.0.*

## **II. Fiscal Analysis**

- 11. As a result of this proposed rule, please estimate the increase / decrease in revenues or expenditures affecting this agency, or the state generally, in the current biennium or future years. If the proposed rule is likely to have a different fiscal effect in future years, please describe the expected difference and operation.**

This will have no impact on revenues or expenditures.

\$0

This rule would neither increase nor decrease expenditures for the Agency or the State.

- 12. What are the estimated costs of compliance for all persons and/or organizations directly affected by the rule?**

Ohio EPA has identified two potential sources of additional cost to regulated entities - costs due to treatment upgrades, and costs for more advanced chemical testing. The Agency does not believe that any significant treatment upgrades will be needed to meet limits based on the new criteria. Therefore, no new cost.

Ensuring compliance with these lower numbers will require some dischargers to do additional, low-level testing for a few parameters. Ohio EPA projects that these new costs will run from \$0 - \$400 per year per facility; the specific cost will depend on the sampling frequency required by the permit, the number of discharge points tested at the facility, and whether or not the facility is already using one or more of these advanced analytical techniques.

- 13. Does the rule increase local government costs? (If yes, you must complete an RSFA Part B). Yes**
- 14. Does the rule regulate environmental protection? (If yes, you must complete an RSFA Part C). Yes**

### **III. Common Sense Initiative (CSI) Questions**

**15. Was this rule filed with the Common Sense Initiative Office? Yes**

**16. Does this rule have an adverse impact on business? No**

- A. Does this rule require a license, permit, or any other prior authorization to engage in or operate a line of business? No**
- B. Does this rule impose a criminal penalty, a civil penalty, or another sanction, or create a cause of action, for failure to comply with its terms? No**
- C. Does this rule require specific expenditures or the report of information as a condition of compliance? No**

## Rule Summary and Fiscal Analysis

### Part B - Local Governments Questions

**1. Does the rule increase costs for:**

<b>A. Public School Districts</b>	Yes
<b>B. County Government</b>	Yes
<b>C. Township Government</b>	Yes
<b>D. City and Village Governments</b>	Yes

**2. Please estimate the total cost, in dollars, of compliance with the rule for the affected local government(s). If you cannot give a dollar cost, explain how the local government is financially impacted.**

Ohio EPA has identified two potential sources of additional cost to regulated entities – costs due to treatment upgrades, and costs for more advanced chemical testing. The Agency does not believe that any significant treatment upgrades will be needed to meet limits based on the new criteria. Therefore, no new cost.

Ensuring compliance with these lower numbers will require some dischargers to do additional, low-level testing for a few parameters. Ohio EPA projects that these new costs will run from \$0 - \$400 per year per facility; the specific cost will depend on the sampling frequency required by the permit, the number of discharge points tested at the facility, and whether or not the facility is already using one or more of these advanced analytical techniques.

**3. Is this rule the result of a federal government requirement? Yes**

- A. If yes, does this rule do more than the federal government requires? No**
- B. If yes, what are the costs, in dollars, to the local government for the regulation that exceeds the federal government requirement?**

*Not Applicable*

**4. Please provide an estimated cost of compliance for the proposed rule if it has an impact on the following:**

- A. Personnel Costs**

Please see response 2 above.

**B. New Equipment or Other Capital Costs**

Please see response 2 above.

**C. Operating Costs**

Please see response 2 above.

**D. Any Indirect Central Service Costs**

Please see response 2 above.

**E. Other Costs**

Please see response 2 above.

**5. Please explain how the local government(s) will be able to pay for the increased costs associated with the rule.**

The Agency does not anticipate that any facilities affected by these rule amendments will need to change how they operate, maintain, and treat water in their facilities. The only cost that has the potential to be incurred by these entities is site specific and depends on what pollutants the influent water contains. That being said, a cost of \$0 - \$400 per facility per year is a relatively insignificant cost that a facility should be able to absorb into their budget. The facilities should not have to raise rates or incur a superfluous cost increase.

**6. What will be the impact on economic development, if any, as the result of this rule?**

There should be no impact on economic development.

## Rule Summary and Fiscal Analysis

### Part C - Environmental Rule Questions

Pursuant to Am. Sub. H.B. 106 of the 121st General Assembly, prior to adopting a rule or an amendment to a rule dealing with environmental protection, or containing a component dealing with environmental protection, a state agency shall:

- (1) Consult with organizations that represent political subdivisions, environmental interests, business interests, and other persons affected by the proposed rule or amendment.
- (2) Consider documentation relevant to the need for, the environmental benefits or consequences of, other benefits of, and the technological feasibility of the proposed rule or rule amendment.
- (3) Specifically identify whether the proposed rule or rule amendment is being adopted or amended to enable the state to obtain or maintain approval to administer and enforce a federal environmental law or to participate in a federal environmental program, whether the proposed rule or rule amendment is more stringent than its federal counterpart, and, if the proposed rule or rule amendment is more stringent, the rationale for not incorporating its federal counterpart.
- (4) Include with the proposed rule or rule amendment and rule summary and fiscal analysis required to be filed with the Joint Committee on Agency Rule Review information relevant to the previously listed requirements.

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**(A) Were organizations that represent political subdivisions, environmental interests, business interests, and other persons affected by the proposed rule or amendment consulted? Yes**

**Please list each contact.**

Ohio EPA invited interested parties to comment on the rule amendments during the period of April 2, 2019 to May 2, 2019. Notice of the comment period was emailed to approximately 4,000 interested parties. Ohio EPA also mailed letters to 153 dischargers that may be impacted by this rule. Both lists of interested parties is available upon request.

**(B) Was documentation that is relevant to the need for, the environmental benefits or consequences of, other benefits of, and the technological feasibility of the proposed rule or amendment considered? Yes**

**Please list the information provided and attach a copy of each piece of documentation to this form. (A SUMMARY OR INDEX MAY BE ATTACHED IN LIEU OF THE ACTUAL DOCUMENTATION.)**

Ohio River Valley Water Sanitation Commission, Pollution Control Standards for Discharges to the Ohio River, 2015 Revision.

United States Environmental Protection Agency, National Recommended Water Quality Criteria - Human Health, 2015. Found here: <https://www.epa.gov/wqc/nationalrecommended-water-quality-criteria-human-health-criteria-table>.

United States Environmental Protection Agency, National Primary Drinking Water Regulations, 2009.

40 CFR 131 Water Quality Standards

40 CFR 132 Water Quality Guidance for the Great Lakes System

ORC 6111.041 Standards of Water Quality

- (C) Is the proposed rule or rule amendment being adopted or amended to enable the state to obtain or maintain approval to administer and enforce a federal environmental law or to participate in a federal environmental program? Yes**

**Is the proposed rule or rule amendment more stringent than its federal counterpart?**  
*No Not Applicable*

- (D) If this is a rule amendment that is being adopted under a state statute that establishes standards with which the amendment is to comply, is the proposed rule amendment more stringent than the rule that it is proposing to amend? No**

# CSI - Ohio

## The Common Sense Initiative

### Business Impact Analysis

Agency Name: Ohio Environmental Protection Agency

Regulation/Package Title: Water Quality Criteria for the Protection of Human Health

Rule Number(s): OAC 3745-1-32, 1-33, 1-34

Date: April 2, 2019

**Rule Type:**

New

5-Year Review

Amended

Rescinded

The Common Sense Initiative was established by Executive Order 2011-01K and placed within the Office of the Lieutenant Governor. Under the CSI Initiative, agencies should balance the critical objectives of all regulations with the costs of compliance by the regulated parties. Agencies should promote transparency, consistency, predictability, and flexibility in regulatory activities. Agencies should prioritize compliance over punishment, and to that end, should utilize plain language in the development of regulations.

#### **Regulatory Intent**

**1. Please briefly describe the draft regulation in plain language.**

*Please include the key provisions of the regulation as well as any proposed amendments.*

This rulemaking concerns the numeric water quality criteria for the protection of human health in the Ohio River Mainstem, Ohio River Basin, and Lake Erie Basin.

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Under the Clean Water Act (CWA) states are required to have water quality standards that protect lakes, rivers, streams or other surface waters from pollution. Ohio's water quality standards are in OAC Chapter 3745-1. The required components of a water quality standard include beneficial use designations; narrative and numeric criteria protective of the use designations; and implementation procedures used to evaluate decisions that could result in the lowering of water quality (referred to as the antidegradation or rule).

Water quality standards are then used in other CWA programs such as the National Pollutant Discharge Elimination System (NPDES) permits, Section 401 Water Quality Certifications and the establishment of Total Maximum Daily Loads (TMDLs). Any impacts to the business community are realized only through the implementation of water quality standards in these other regulatory programs.

The NPDES program prohibits discharges of pollutants from any point source (a discrete conveyance such as a pipe or ditch) into the nation's waters unless authorized under an NPDES permit. The program gives U.S. EPA the authority to regulate discharges into the nation's waters by setting limits on the effluent that can be discharged to a body of water. The NPDES program is closely intertwined with this rulemaking and is how we will quantify the effect of these new numerical criteria in this analysis.

These rules are being updated to reflect the most recent human health numbers from U.S. EPA's 2015 updated chemical criteria, ORSANCO's 2015 Pollution Control Standards (PCS), and maximum contaminant levels (MCLs) promulgated under the Safe Drinking Water Act.

**2. Please list the Ohio statute authorizing the Agency to adopt this regulation.**

Ohio Revised Code 6111.041.

**3. Does the regulation implement a federal requirement? Is the proposed regulation being adopted or amended to enable the state to obtain or maintain approval to administer and enforce a federal law or to participate in a federal program?**

*If yes, please briefly explain the source and substance of the federal requirement.*

Yes, the regulations implement federal requirements in the CWA and Title 40 of the Code of Federal Regulations (CFR) Parts 131 Water Quality Standards and 132 Water Quality Guidance for the Great Lakes System. 40 CFR 131.20 further stipulates that the State shall adopt new or revised criteria for parameters for which US EPA has published. If the state does not adopt new or revised criteria, then the State shall provide an explanation of why the criteria have not been adopted.

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**4. If the regulation includes provisions not specifically required by the federal government, please explain the rationale for exceeding the federal requirement.**

Rule 3745-1-34 will be amended to apply maximum contaminant levels (MCLs) statewide. MCLs are National Primary Drinking Water Regulations (NPDWRs) established by U.S. EPA under the Safe Drinking Water Act (SDWA). NPDWRs are legally enforceable primary standards and treatment techniques that apply to public water systems. Primary standards and treatment techniques protect public health by limiting the levels of contaminants in drinking water.

Ohio EPA's Division of Drinking and Ground Water has also promulgated these MCLs into regulations to cover drinking water and ground water. Ohio EPA Division of Surface Water currently applies these MCLs only to the Ohio River basin and with this rulemaking extending this protection statewide (to the Lake Erie basin). The Division of Surface Water is promulgating these standards as a way to protect the treatment technology at the intakes of the drinking water plants in the Lake Erie basin as well. This is an extension of the applicability of the MCL to surface water within five hundred yards of an intake in the Lake Erie basin, as Ohio's drinking water supply is a very important resource. The extension of these MCLs is a common sense regulatory change.

**5. What is the public purpose for this regulation (i.e., why does the Agency feel that there needs to be any regulation in this area at all)?**

The CWA section 303(c)(2)(A) requires that water quality standards protect "public health or welfare, enhance the quality of the water and serve the purposes of [the Act]." The CWA section 101(a)(2) establishes as a national goal "water quality which provides for protection and propagation of fish, shellfish, and wildlife, and recreation in and on the water, wherever attainable." 40 C.F.R. Part 131.11 specifies that states must adopt those water quality criteria that protect the designated use. Such criteria must be based on sound scientific rationale and must contain sufficient parameters or constituents to protect the designated use.

The value of clean water as a public resource is a well-established fact. Ohio is an economically important and diverse state with strong manufacturing and agricultural industries that depend upon abundant and clean water. Ohio's economy also depends upon the tourism that its waters attract. The program ensures that Ohio's streams, rivers and lakes can be used for purposes such as industrial and agricultural production, recreation, and as a source of drinking water. These regulations are necessary in order to adequately protect public health and the environment.

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**6. How will the Agency measure the success of this regulation in terms of outputs and/or outcomes?**

Success can be measured in two ways: 1) tracking various administrative milestones in the programs that implement the water quality standards; and 2) monitoring the conditions of streams, rivers and lakes over time. The NPDES permit program routinely provides data and annual reports that describe the compliance performance of the regulated community. The Agency sets targets for achieving compliance with permit terms and conditions.

As described in the response to question # 11 the water quality standards regulations are performance based expectations regarding the quality of Ohio's surface water. Ohio EPA measures the success of the State's overall pollution control efforts through biological and chemical monitoring that determines whether or not a water body is attaining its designated uses. The status or health of Ohio's streams, rivers and lakes is reported every two years in the Integrated Water Quality Monitoring and Assessment Report, which is available on Ohio EPA's website at: <http://epa.ohio.gov/dsw/tmdl/OhioIntegratedReport.aspx>.

**Development of the Regulation**

**7. Please list the stakeholders included by the Agency in the development or initial review of the draft regulation.**

*If applicable, please include the date and medium by which the stakeholders were initially contacted.*

Ohio EPA sent electronic notification of the beginning of the Triennial WQS Review to the Division of Surface Water's rulemaking interested party list and posted the Early Stakeholder Outreach fact sheet on the Division's website on September 14, 2016. The comment period deadline was November 14, 2016. Ohio EPA also held a webinar and public hearing on this matter on September 28, 2016 and November 9, 2016, respectively. Six comment letters were received during the comment period from The Nature Conservancy, Ohio Department of Transportation, Ohio Environmental Council, Midwest Biodiversity institute, City of Columbus, and Ohio Utility Group.

**8. What input was provided by the stakeholders, and how did that input affect the draft regulation being proposed by the Agency?**

The only feedback provided on these rules stated that Ohio EPA should adopt US EPA's, and/or ORSANCO's updated criteria into rule.

**9. What scientific data was used to develop the rule or the measurable outcomes of the rule? How does this data support the regulation being proposed?**

These numerical criteria were taken directly from U.S. EPA's 2015 Updated Human Health Criteria, U.S. EPA's list of Maximum Contaminant Levels (also referred to as National Primary Drinking Water Regulations), and ORSANCO's 2015 Pollution Control Standards update. Links to these documents are provided below.

<https://www.epa.gov/wqc/national-recommended-water-quality-criteria-human-health-criteria-table>

<https://www.epa.gov/ground-water-and-drinking-water/national-primary-drinking-water-regulations>

<http://www.orsanco.org/programs/pollution-control-standards/>

**10. What alternative regulations (or specific provisions within the regulation) did the Agency consider, and why did it determine that these alternatives were not appropriate? If none, why didn't the Agency consider regulatory alternatives?**

The Agency reviewed revisions to the recommended federal water quality criteria and ORSANCO's pollution control standards (PCS) since the last review and determined that revisions were necessary to bring consistency between state regulations, ORSANCO PCS, and federal water quality criteria.

**11. Did the Agency specifically consider a performance-based regulation? Please explain. *Performance-based regulations define the required outcome, but don't dictate the process the regulated stakeholders must use to achieve compliance.***

Water quality standards function as a performance-based regulation because for each beneficial use defined in the rules there are measurable water quality criteria for determining if a water body meets its designated beneficial uses. Ohio's water quality standards include numeric criteria for many chemical substances to protect human health and aquatic life, bacteria indicators to protect water based recreation and biological criteria used to gauge attainment of certain aquatic life use designations.

The business community is affected by these standards when they are used to establish conditions in permits that regulate how much pollution can be safely discharged into a receiving stream. Any business that discharges pollutants to waters of the State must comply with permits designed to ensure the standards are met. The Agency does not specify the technology that must be used to comply with permits.

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**12. What measures did the Agency take to ensure that this regulation does not duplicate an existing Ohio regulation?**

Ohio EPA is the delegated state agency for the water quality standards program. Only a review of existing Ohio EPA rules was necessary, and no duplication was found.

**13. Please describe the Agency’s plan for implementation of the regulation, including any measures to ensure that the regulation is applied consistently and predictably for the regulated community.**

The Agency will put the effective date of the adopted rules three months out from the date of adoption, which provides for U.S. EPA’s review and approval and gives the Agency time to update web pages.

**Adverse Impact to Business**

**14. Provide a summary of the estimated cost of compliance with the rule. Specifically, please do the following:**

- a. Identify the scope of the impacted business community;**
- b. Identify the nature of the adverse impact (e.g., license fees, fines, employer time for compliance); and**
- c. Quantify the expected adverse impact from the regulation.**

*The adverse impact can be quantified in terms of dollars, hours to comply, or other factors; and may be estimated for the entire regulated population or for a “representative business.” Please include the source for your information/estimated impact.*

The water quality standards affect the business community indirectly through other regulatory programs that are designed to assure compliance with requirements based on meeting the water quality standards. These requirements take the form of effluent limits imposed by Ohio EPA through the NPDES permit program or 401 certifications. Though there is no direct cost associated with this water quality standards rulemaking, the Agency has evaluated potential costs or impacts the business community might incur through other CWA programs.

The Agency has determined that 151 of the 3,250 permitted dischargers in Ohio could potentially be negatively impacted by the adoption of these criteria. Of these 151 dischargers, 60 already have limits for one or more of these chemicals that could impact them. The remaining 91 dischargers monitor for one or more of these chemicals but do not currently have limits. Some dischargers could receive less stringent limits from these numerical changes as well. Permit limits are dependent on

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a multitude of factors and may not always be directly correlated to this specific type water quality criterion, therefore the impact on stakeholders is somewhat varied and difficult to estimate.

a. The impacted business community primarily includes those regulated through the NPDES program.

Existing NPDES permit dischargers with current effluent limits for the draft criteria that could have the potential to be negatively affected by the adoption of these rules were notified by mail that these rules are available for comment.

b. There is no cost directly associated with these amended rules. However, the cost associated with implementing these water quality criteria through the NPDES program will vary widely based on factors such as volume of wastewater treated, complexity of treatment system, stringency of the effluent limitations, effluent monitoring requirements, and treatment technology installed at the point source. Most facilities should not be impacted by these updated water quality criteria, but if a discharger receives a more stringent permit limit or a permit limit for a new chemical, or additional monitoring requirements, the nature of the adverse impact may include the treatment of the wastewater, any cost to maintain or operate the equipment, sampling, and time for paperwork completion.

c. As previously stated, there is no cost directly associated with these rule updates, however there may be cost associated with the implementation of these water quality criteria. The cost of compliance with these rules for a facility is site specific and will vary greatly based on the type of treatment, the amount of sludge generated, amount of water discharged, the types of samples and the amount of sampling required, and the amount of treatment that would be required to satisfy the limitations. Most facilities should not be impacted by these updated water quality criteria, but if a discharger receives a more stringent permit limit or a permit limit for a new criterion, the nature of the adverse impact may include the treatment of the wastewater, any cost to maintain or operate the equipment, sampling, and time for paperwork completion.

If a revision to a permittee's effluent limitations due to these water quality criteria is necessary upon permit renewal, the Agency will include a schedule of compliance in the permit to allow the permittee the time to plan and construct or modify any necessary treatment to comply with the NPDES permit.

**15. Why did the Agency determine that the regulatory intent justifies the adverse impact to the regulated business community?**

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The water quality standards program and these draft rule revisions are the primary means of ensuring that the quality of water in Ohio's streams, rivers and lakes is improved, maintained and remains suitable for swimming, drinking and fishing. The basic goal of meeting all numeric and narrative criteria established under the CWA is the normal requirement mandated by federal regulations. Deviation from that expectation is allowed in only a handful of extraordinary circumstances, one of which is imposition of widespread social and economic impact. Thus, it is incumbent upon states to establish the proper balance between the water quality goals and the costs to society of attaining those goals. The Agency believes the draft rules are supported by the need to protect public health, safety, and the environment.

### **Regulatory Flexibility**

#### **16. Does the regulation provide any exemptions or alternative means of compliance for small businesses? Please explain.**

With regard to the implementation programs impacted by this rulemaking, the regulations do not provide exemptions for small businesses. Corresponding federal regulations and the Ohio Revised Code do not provide for exemptions or alternative means of compliance for any permittees. The regulations are applied evenly regardless of the size of the treatment works. Smaller facilities are typically required to sample less frequently, which will cost them less money.

#### **17. How will the agency apply Ohio Revised Code section 119.14 (waiver of fines and penalties for paperwork violations and first-time offenders) into implementation of the regulation?**

The first time paperwork violation waiver is not applicable to this rule package. The rules in OAC Chapter 3745-1 contain standards for CWA permitting programs to enforce. No paperwork or permits are required by the standards themselves.

#### **18. What resources are available to assist small businesses with compliance of the regulation?**

- Ohio EPA Division of Environmental and Financial Assistance's Office of Compliance Assistance and Pollution Prevention (OCAPP) is a non-regulatory program that provides information and resources to help small businesses comply with environmental regulations. OCAPP also helps customers identify and implement pollution prevention measures that can save money, increase business performance and benefit the environment. Services of the office include a toll-free hotline, on-site compliance and pollution prevention assessments, workshops/training, plain-English publications library and assistance in completing permit

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application forms. Additional information is available at:

<http://epa.ohio.gov/ocapp/ComplianceAssistanceandPollutionPrevention.aspx>

- Ohio EPA also has a Customer Support Center web page

(<https://ohioepa.custhelp.com/app/home/session/L3RpbWUvMTQ0NTg2NTYzNi9zaWQvX1hTRkZWem0%3D>) that contains links to several items to help businesses navigate the permit process, including the Permit Wizard, Frequently Asked Questions (FAQ), training and subscription to various program listservs.

- Ohio EPA maintains the Compliance Assistance Hotline 800-329-7518, weekdays from 8:00 a.m. to 5:00 p.m.

- Ohio EPA, Division of Environmental and Financial Assistance's Compliance Assistance Unit provides technical support to small (less than 0.5 million gallons per day) wastewater treatment plants. Additional information is available at:

[http://epa.ohio.gov/dsw/compl\\_assist/compasst.aspx](http://epa.ohio.gov/dsw/compl_assist/compasst.aspx)

- U.S. EPA Small Business Gateway also has information on environmental regulations for small businesses available at: <http://www.epa.gov/smallbusiness/> and a Small Business Ombudsman Hotline 800-368-5888.

- U.S. EPA's Water Quality Standards Handbook, Second Edition available at:

<http://water.epa.gov/scitech/swguidance/standards/handbook/index.cfm>.

- U.S. EPA's Policy and Guidance: Reference Library contains an index of EPA documents related to water quality standards, including those referenced in the WQS Handbook. You can sort the index alphabetically, by publication date, or by topic. Available at:

<http://water.epa.gov/scitech/swguidance/standards/library/index.cfm>.

- The Division of Surface Water's Water Quality Standards program web page contains background information and direct links to sections of the regulations. Additional information is available at: <http://epa.ohio.gov/dsw/wqs/index.aspx>.



3745-1-34

**Water quality criteria for the protection of human health [fish consumption].**

[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 3745-1-03 of the Administrative Code.]

- (A) The chemical specific criteria listed in table 34-1 of this rule, or site-specific modifications thereof, apply as "Outside Mixing Zone Averages" and shall apply to all water bodies. For the purpose of setting water quality based effluent limits, these criteria shall be met after the effluent and the receiving water are reasonably well mixed as provided in rules 3745-1-06 and 3745-2-05 of the Administrative Code.
- (B) Water bodies located within the Ohio river drainage basin. Any methodologies and procedures acceptable under 40 C.F.R. 131 may be used when developing or revising human health water quality criteria or implementing narrative criteria contained in rule 3745-1-04 of the Administrative Code. For any pollutant for which it is demonstrated that a methodology or procedure cited in this rule is not scientifically defensible, the director may apply an alternative methodology or procedure acceptable under 40 C.F.R. 131 when developing water quality criteria.
- (C) Water bodies located within the lake Erie drainage basin. The methodologies contained in rules 3745-1-41 and 3745-1-42 of the Administrative Code shall be used when adopting or revising numeric human health criteria and when implementing the narrative water quality criteria contained in rule 3745-1-04 of the Administrative Code. For pollutants listed in table 34-2 of this rule, any methodologies and procedures acceptable under 40 C.F.R. 131 may be used when developing water quality criteria or implementing narrative criteria. For any pollutant other than those in table 33-2 of this rule, for which it is demonstrated that a methodology or procedure cited in this rule is not scientifically defensible, the director may apply an alternative methodology or procedure acceptable under 40 C.F.R. 131 when developing water quality criteria.

Table 34-1. Water quality criteria for the protection of human health [fish consumption].

Chemical	Form <sup>1</sup>	Units <sup>2</sup>	OMZA <sup>3</sup>	
			Ohio river	Lake Erie
Acenaphthene	T	µg/l	<del>2,700</del> <u>90</u>	--
Acrolein	T	µg/l	<del>780</del> <u>400</u>	--
Acrylonitrile <sup>5</sup>	T	µg/l	<del>6.6</del> <u>70</u>	--

Aldrin <sup>5</sup>	T	µg/l	<del>0.0014</del> <u>7.7*10<sup>-6</sup></u>	--
Anthracene	T	µg/l	<del>110,000</del> <u>400</u>	--
Antimony	TR	µg/l	<del>4,300</del> <u>640</u>	--
Benzene <sup>5</sup>	T	µg/l	<del>710</del> <u>160</u>	<u>310160</u>
Benzidine <sup>5</sup>	T	µg/l	<del>0.0054</del> <u>0.11</u>	--
Benzo(a)anthracene <sup>5</sup>	T	µg/l	<del>0.490</del> <u>0.013</u>	--
Benzo(a)pyrene <sup>5</sup>	T	µg/l	<del>0.490</del> <u>0.0013</u>	--
Benzo(b)fluoranthene <sup>5</sup>	T	µg/l	<del>0.490</del> <u>0.013</u>	--
Benzo(k)fluoranthene <sup>5</sup>	T	µg/l	<del>0.490</del> <u>0.13</u>	--
Beryllium	TR	µg/l	280	--
Bromoform <sup>5</sup>	T	µg/l	<del>3,600</del> <u>1,200</u>	--
Butylbenzyl phthalate	T	µg/l	<del>5,200</del> <u>1.0</u>	--
Carbon tetrachloride <sup>5</sup>	T	µg/l	<del>44</del> <u>50</u>	--
Chlordane <sup>5</sup>	T	µg/l	<del>0.0220</del> <u>0.0032</u>	0.00025
Chlorobenzene	T	µg/l	<del>21,000</del> <u>800</u>	<u>3200800</u>
Chlorodibromomethane <sup>5</sup>	T	µg/l	<del>340</del> <u>210</u>	--
<u>Bis(2-Chloro-1-methylethyl)ether</u>	<u>T</u>	<u>µg/l</u>	<u>4.000</u>	
Bis(2-Chloroethyl)ether <sup>5</sup>	T	µg/l	<del>14</del> <u>22</u>	--
Chloroform <sup>5</sup>	T	µg/l	<del>4,700</del> <u>20,000</u>	--
<del>bis(2-Chloroisopropyl)ether</del>	<del>T</del>	<del>µg/l</del>	<del>170,000</del>	<del>--</del>
bis(2-Chloromethyl)ether <sup>5</sup>	T	µg/l	<del>0.0078</del> <u>0.17</u>	--
2-Chloronaphthalene	T	µg/l	<del>4,300</del> <u>1,000</u>	--

2-Chlorophenol	T	µg/l	<del>400</del> <u>800</u>	--
Chrysene <sup>5</sup>	T	µg/l	<del>0.49</del> <u>1.3</u>	--
Copper	TR	µg/l	1,300	--
Cyanide	free	µg/l	<del>220,000</del> <u>400</u>	<del>48,000(T)</del> <u>400</u>
<u>2,4-D (2,4-Dichlorophenoxy-acetic acid)</u>	<u>T</u>	<u>µg/l</u>	<u>12,000</u>	
4,4'-DDD <sup>5</sup>	T	µg/l	<del>0.00840</del> <u>0.0012</u>	--
4,4'-DDE <sup>5</sup>	T	µg/l	<del>0.00590</del> <u>0.00018</u>	--
4,4'-DDT <sup>5</sup>	T	µg/l	<del>0.00590</del> <u>0.0003</u>	0.00015
Dibenzo(a,h)anthracene <sup>5</sup>	T	µg/l	<del>0.490</del> <u>0.0013</u>	--
Di-n-butyl phthalate	T	µg/l	<del>12,000</del> <u>30</u>	--
1,2-Dichlorobenzene	T	µg/l	<del>17,000</del> <u>3,000</u>	--
1,3-Dichlorobenzene	T	µg/l	<del>2,600</del> <u>10</u>	--
1,4-Dichlorobenzene	T	µg/l	<del>2,600</del> <u>900</u>	--
3,3'-Dichlorobenzidine <sup>5</sup>	T	µg/l	<del>0.77</del> <u>1.5</u>	--
Dichlorobromomethane <sup>5</sup>	T	µg/l	<del>460</del> <u>270</u>	--
1,2-Dichloroethane <sup>5</sup>	T	µg/l	<del>990</del> <u>6,500</u>	--
1,1-Dichloroethylene <sup>5</sup>	T	µg/l	<del>32</del> <u>20,000</u>	--
trans-1,2-Dichloroethylene	T	µg/l	<del>140,000</del> <u>4,000</u>	--
2,4-Dichlorophenol	T	µg/l	<del>790</del> <u>60</u>	--
1,2-Dichloropropane <sup>5</sup>	T	µg/l	<del>390</del> <u>310</u>	--
1,3-Dichloropropene <sup>5</sup>	T	µg/l	<del>1,700</del> <u>120</u>	--
Dieldrin <sup>5</sup>	T	µg/l	<del>0.0014</del> <u>1.2*10<sup>-5</sup></u>	0.0000065

Diethyl phthalate	T	µg/l	<del>120,000</del> <u>600</u>	--
2,4-Dimethylphenol	T	µg/l	<del>2,300</del> <u>3,000</u>	<del>8,700</del> <u>3,000</u>
Dimethyl phthalate	T	µg/l	<del>2,900,000</del> <u>2,000</u>	--
4,6-Dinitro-o-cresol (4,6-Dinitro-2-methylphenol)	T	µg/l	<del>770</del> <u>30</u>	--
Dinitrophenols <sup>4</sup>	T	µg/l	<del>14,000</del> <u>1,000</u>	
2,4-Dinitrophenol	T	µg/l	<del>=</del> <u>300</u>	<del>2,800</del> <u>300</u>
2,4-Dinitrotoluene <sup>5</sup>	T	µg/l	<del>91</del> <u>17</u>	--
1,2-Diphenylhydrazine <sup>5</sup>	T	µg/l	<del>5.42</del> <u>.0</u>	--
alpha-Endosulfan <sup>6</sup>	T	µg/l	<del>240</del> <u>30</u>	--
beta-Endosulfan <sup>6</sup>	T	µg/l	<del>240</del> <u>40</u>	--
Endosulfan sulfate <sup>6</sup>	T	µg/l	<del>240</del> <u>40</u>	--
Endrin <sup>6</sup>	T	µg/l	<del>0.81</del> <u>0.03</u>	--
Endrin aldehyde <sup>6</sup>	T	µg/l	<del>0.81</del> <u>1.0</u>	--
Ethylbenzene	T	µg/l	<del>29,000</del> <u>130</u>	--
bis(2-Ethylhexyl)phthalate <sup>5</sup>	T	µg/l	<del>593</del> <u>.7</u>	--
Fluoranthene	T	µg/l	<del>370</del> <u>20</u>	--
Fluorene	T	µg/l	<del>14,000</del> <u>70</u>	--
Heptachlor <sup>5</sup>	T	µg/l	<del>0.002</del> <u>5.9*10<sup>-5</sup></u>	--
Heptachlor epoxide <sup>5</sup>	T	µg/l	<del>0.001</del> <u>0.00032</u>	--
Hexachlorobenzene <sup>5</sup>	T	µg/l	<del>0.0077</del> <u>0.00079</u>	0.00045
Hexachlorobutadiene <sup>5</sup>	T	µg/l	<del>5000</del> <u>.1</u>	--
alpha-Hexachlorocyclohexane <sup>5</sup>	T	µg/l	<del>0.130</del> <u>0.0039</u>	--

beta-Hexachlorocyclohexane <sup>5</sup>	T	µg/l	<del>0.46</del> <u>0.14</u>	--
gamma-Hexachlorocyclohexane (Lindane) <sup>5</sup>	T	µg/l	<del>0.6344</del>	0.50
Hexachlorocyclohexane - technical grade <sup>5</sup>	T	µg/l	<del>0.41</del> <u>0.1</u>	--
Hexachlorocyclopentadiene	T	µg/l	<del>17,000</del> <u>4.0</u>	--
Hexachloroethane <sup>5</sup>	T	µg/l	<del>891.0</del>	<u>6.71.0</u>
Indeno(1,2,3-c,d)pyrene <sup>5</sup>	T	µg/l	<del>0.490</del> <u>0.013</u>	--
Isophorone <sup>5</sup>	T	µg/l	<del>26,000</del> <u>18,000</u>	--
<u>Methoxychlor</u>	<u>T</u>	<u>µg/l</u>	<u>0.02</u>	
Mercury	TR	µg/l	0.012	0.0031
<u>3-Methyl-4-Chlorophenol</u>	<u>TR</u>	<u>µg/l</u>	<u>2,000</u>	
Methyl bromide	T	µg/l	<del>4,000</del> <u>10,000</u>	--
Methylene chloride <sup>5</sup>	T	µg/l	<del>16,000</del> <u>10,000</u>	2,600
Nickel	TR	µg/l	4,600	--
Nitrobenzene	T	µg/l	<del>1,900</del> <u>600</u>	--
Nitrosoamines <sup>5</sup>	T	µg/l	<del>12</del> <u>12.4</u>	--
N-Nitrosodibutylamine <sup>5</sup>	T	µg/l	<del>5.92</del> <u>2.2</u>	--
N-Nitrosodiethylamine <sup>5</sup>	T	µg/l	<del>12</del> <u>12.4</u>	--
N-Nitrosodimethylamine <sup>5</sup>	T	µg/l	<del>81</del> <u>30</u>	--
N-Nitrosodi-n-propylamine <sup>5</sup>	T	µg/l	<del>145</del> <u>1</u>	--
N-Nitrosodiphenylamine <sup>5</sup>	T	µg/l	<del>160</del> <u>60</u>	--
N-Nitrosodipyrrolidine <sup>5</sup>	T	µg/l	<del>920</del> <u>340</u>	--

Pentachlorobenzene	T	µg/l	<del>4,10.1</del>	--
Pentachlorophenol <sup>5</sup>	T	mg/l	<del>820.4</del>	--
Phenol	T	µg/l	<del>4,600,000</del> <u>300,000</u>	--
Polychlorinated biphenyls <sup>5</sup>	T	µg/l	<del>0.00170</del> <u>0.00064</u>	0.000026
Pyrene	T	µg/l	<del>11,000</del> <u>30</u>	--
Selenium	TR	µg/l	<del>11,000</del> <u>4,200</u>	--
<u>Silvex (2,4,5-Trichlorophenoxypropionic acid)</u>	<u>T</u>	<u>µg/l</u>	<u>400</u>	
1,2,4,5-Tetrachlorobenzene	T	µg/l	<del>2,90.03</del>	--
2,3,7,8-Tetrachlorodibenzo-p-dioxin <sup>5</sup>	T	pg/l	<del>0.140</del> <u>0.051</u>	0.0086
1,1,2,2-Tetrachloroethane <sup>5</sup>	T	µg/l	<del>110</del> <u>30</u>	--
Tetrachloroethylene <sup>5</sup>	T	µg/l	<del>89</del> <u>290</u>	--
Toluene	T	µg/l	<del>200,000</del> <u>520</u>	<del>51,000</del> <u>520</u>
Toxaphene <sup>5</sup>	T	µg/l	<del>0.00750</del> <u>0.0071</u>	0.000068
1,2,4-Trichlorobenzene <sup>5</sup>	T	µg/l	<del>9400.76</del>	--
<u>1,1,1-Trichloroethane</u>	<u>T</u>	<u>µg/l</u>	<u>200.000</u>	
1,1,2-Trichloroethane <sup>5</sup>	T	µg/l	<del>420</del> <u>89</u>	--
Trichloroethylene <sup>5</sup>	T	µg/l	<del>810</del> <u>70</u>	<del>370</del> <u>70</u>
2,4,5-Trichlorophenol	T	µg/l	<del>9,800</del> <u>600</u>	--
2,4,6-Trichlorophenol <sup>5</sup>	T	µg/l	<del>65</del> <u>28</u>	--
Vinyl chloride <sup>5</sup>	T	µg/l	<del>5,300</del> <u>16</u>	--
Zinc	T	µg/l	<del>69,000</del> <u>26,000</u>	--

<sup>1</sup> S = soluble; T = total; TR = total recoverable.

<sup>2</sup> mg/l = milligrams per liter (parts per million); µg/l = micrograms per liter (parts per billion); pg/l = picograms per liter (parts per quadrillion).

<sup>3</sup> OMZA = outside mixing zone average.

<sup>4</sup> The criteria for this chemical apply to the sum of all dinitrophenols.

<sup>5</sup> Criteria for this chemical are based on a carcinogenic endpoint.

<sup>6</sup> The criteria for this chemical apply to the sum of alpha-endosulfan, beta-endosulfan and endosulfan sulfate.

<sup>7</sup> The criteria for this chemical apply to the sum of endrin and endrin aldehyde.

Table 34-2. Pollutants subject to any methodologies and procedures acceptable under 40 C.F.R. 131 for water bodies located in the lake Erie drainage basin.

Alkalinity
Ammonia
Bacteria
Biochemical oxygen demand (BOD)
Chlorine
Color
Dissolved oxygen
Dissolved solids
pH
Phosphorus
Salinity
Temperature
Total and suspended solids
Turbidity

Effective:

Five Year Review (FYR) Dates: 10/30/2019

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Certification

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Date

Promulgated Under: 119.03  
Statutory Authority: 6111.041  
Rule Amplifies: 6111.041  
Prior Effective Dates: 02/14/1978, 04/04/1985, 08/19/1985, 04/30/1987,  
05/01/1990, 04/26/1997, 10/31/1997, 07/31/1998,  
07/31/1999, 02/22/2002, 12/30/2002, 10/01/2014,  
08/10/2016, 02/06/2017



## Rule Summary and Fiscal Analysis

### Part A - General Questions

**Rule Number:** 3745-1-34

**Rule Type:** Amendment

**Rule Title/Tagline:** Water quality criteria for the protection of human health [fish consumption].

**Agency Name:** Ohio Environmental Protection Agency

**Division:** Division of Surface Water (DSW)

**Address:** 50 W. Town St. Columbus OH 43221

**Contact:** Jennie Pugliese **Phone:** 614-728-2396

**Email:** Jennie.Pugliese@epa.ohio.gov

#### I. Rule Summary

1. **Is this a five year rule review?** Yes
  - A. **What is the rule's five year review date?** 10/30/2019
2. **Is this rule the result of recent legislation?** No
3. **What statute is this rule being promulgated under?** 119.03
4. **What statute(s) grant rule writing authority?** 6111.041
5. **What statute(s) does the rule implement or amplify?** 6111.041
6. **What are the reasons for proposing the rule?**

This rule is being reviewed in order to comply with Ohio Revised Code section 106.03 and the five year rule review.

7. **Summarize the rule's content, and if this is an amended rule, also summarize the rule's changes.**

This rule contains the one route exposure (fish consumption only) numerical water quality criteria for the protection of human health in the Ohio River basin and the Lake Erie basin.

This rule contains the numerical values for the maximum concentration of a pollutant in given body of water, and is fundamentally different than a permit limit through the NPDES program.

This rule has two values for each chemical, titled "Ohio River" and "Lake Erie." All of the numerical values in this rule are fish consumption only values (one route exposure), meaning that the amount of water humans drink is not factored into these values at all, and is solely based on the consumption of fish. The values in the Ohio River basin column are directly from U.S. EPA's 2015 Human Health update. The few values in the Lake Erie column are numbers that Ohio EPA was specifically required to adopt by the Great Lakes Initiative (40 CFR Part 132), however if a value has been struck through and replaced in this column, it is again from U.S. EPA's 2015 update. These GLI values were only replaced if they were less stringent than U.S. EPA's new human health criteria.

8. **Does the rule incorporate material by reference? Yes**
9. **If the rule incorporates material by reference and the agency claims the material is exempt pursuant to R.C. 121.71 to 121.76, please explain the basis for the exemption and how an individual can find the referenced material.**

This rule contains references to rules in the Ohio Administrative Code, and the Code of Federal Regulations, all of which are exempt under ORC 121.71 to 121.74.

The Ohio Revised Code exempts IBR requirements that are found in ORC 121.71 through 121.74, if the IBR comes from one of the following Ohio government references: ORC, an uncodified Ohio statute, an act of the state in the Laws of Ohio, a rule in the OAC, a rule in the Monthly Record, a rule in the Register of Ohio.

The following federal government references are also exempt from ORC 121.71 through 121.74, but must specify a date of the text being incorporated: the United States Code, an uncodified federal statute, a regulation from the Federal Register, internal agency management rules, a rule that maintains authorization of a federally delegated program, a rule required to receive federal funds under a federally funded program, digital applications which do not establish policies, references that describe federal administrative or legislative data, references that describe generally accepted building codes, and references that are copyrighted materials where permission has been obtained to use.

10. **If revising or re-filing the rule, please indicate the changes made in the revised or re-filed version of the rule.**

No changes have been made to the originally filed rule as the result of the re-filing.

*11/19/2019 Deleted copper criteria and changed pentachlorophenol units from "mg/l" to "ug/l".*

## **II. Fiscal Analysis**

- 11. As a result of this proposed rule, please estimate the increase / decrease in revenues or expenditures affecting this agency, or the state generally, in the current biennium or future years. If the proposed rule is likely to have a different fiscal effect in future years, please describe the expected difference and operation.**

This will have no impact on revenues or expenditures.

\$0

This rule would neither increase nor decrease expenditures for the Agency or the State.

- 12. What are the estimated costs of compliance for all persons and/or organizations directly affected by the rule?**

Ohio EPA has identified two potential sources of additional cost to regulated entities – costs due to treatment upgrades, and costs for more advanced chemical testing. The Agency does not believe that any significant treatment upgrades will be needed to meet limits based on the new criteria. Therefore, no new cost.

Ensuring compliance with these lower numbers will require some dischargers to do additional, low-level testing for a few parameters. Ohio EPA projects that these new costs will run from \$0 - \$400 per year per facility; the specific cost will depend on the sampling frequency required by the permit, the number of discharge points tested at the facility, and whether or not the facility is already using one or more of these advanced analytical techniques.

- 13. Does the rule increase local government costs? (If yes, you must complete an RSFA Part B). Yes**
- 14. Does the rule regulate environmental protection? (If yes, you must complete an RSFA Part C). Yes**

## **III. Common Sense Initiative (CSI) Questions**

- 15. Was this rule filed with the Common Sense Initiative Office? Yes**

**16. Does this rule have an adverse impact on business? No**

- A. Does this rule require a license, permit, or any other prior authorization to engage in or operate a line of business? No**
  
- B. Does this rule impose a criminal penalty, a civil penalty, or another sanction, or create a cause of action, for failure to comply with its terms? No**
  
- C. Does this rule require specific expenditures or the report of information as a condition of compliance? No**

## Rule Summary and Fiscal Analysis

### Part B - Local Governments Questions

**1. Does the rule increase costs for:**

<b>A. Public School Districts</b>	Yes
<b>B. County Government</b>	Yes
<b>C. Township Government</b>	Yes
<b>D. City and Village Governments</b>	Yes

**2. Please estimate the total cost, in dollars, of compliance with the rule for the affected local government(s). If you cannot give a dollar cost, explain how the local government is financially impacted.**

Ohio EPA has identified two potential sources of additional cost to regulated entities – costs due to treatment upgrades, and costs for more advanced chemical testing. The Agency does not believe that any significant treatment upgrades will be needed to meet limits based on the new criteria. Therefore, no new cost.

Ensuring compliance with these lower numbers will require some dischargers to do additional, low-level testing for a few parameters. Ohio EPA projects that these new costs will run from \$0 - \$400 per year per facility; the specific cost will depend on the sampling frequency required by the permit, the number of discharge points tested at the facility, and whether or not the facility is already using one or more of these advanced analytical techniques.

**3. Is this rule the result of a federal government requirement? Yes**

- A. If yes, does this rule do more than the federal government requires? No**
- B. If yes, what are the costs, in dollars, to the local government for the regulation that exceeds the federal government requirement?**

*Not Applicable*

**4. Please provide an estimated cost of compliance for the proposed rule if it has an impact on the following:**

- A. Personnel Costs**

Please see response 2 above.

**B. New Equipment or Other Capital Costs**

Please see response 2 above.

**C. Operating Costs**

Please see response 2 above.

**D. Any Indirect Central Service Costs**

Please see response 2 above.

**E. Other Costs**

Please see response 2 above.

**5. Please explain how the local government(s) will be able to pay for the increased costs associated with the rule.**

The Agency does not anticipate that any facilities affected by these rule amendments will need to change how they operate, maintain, and treat water in their facilities. The only cost that has the potential to be incurred by these entities is site specific and depends on what pollutants the influent water contains. That being said, a cost of \$0 - \$400 per facility per year is a relatively insignificant cost that a facility should be able to absorb into their budget. The facilities should not have to raise rates or incur a superfluous cost increase.

**6. What will be the impact on economic development, if any, as the result of this rule?**

This rule should not impact economic development.

## Rule Summary and Fiscal Analysis

### Part C - Environmental Rule Questions

Pursuant to Am. Sub. H.B. 106 of the 121st General Assembly, prior to adopting a rule or an amendment to a rule dealing with environmental protection, or containing a component dealing with environmental protection, a state agency shall:

- (1) Consult with organizations that represent political subdivisions, environmental interests, business interests, and other persons affected by the proposed rule or amendment.
- (2) Consider documentation relevant to the need for, the environmental benefits or consequences of, other benefits of, and the technological feasibility of the proposed rule or rule amendment.
- (3) Specifically identify whether the proposed rule or rule amendment is being adopted or amended to enable the state to obtain or maintain approval to administer and enforce a federal environmental law or to participate in a federal environmental program, whether the proposed rule or rule amendment is more stringent than its federal counterpart, and, if the proposed rule or rule amendment is more stringent, the rationale for not incorporating its federal counterpart.
- (4) Include with the proposed rule or rule amendment and rule summary and fiscal analysis required to be filed with the Joint Committee on Agency Rule Review information relevant to the previously listed requirements.

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**(A) Were organizations that represent political subdivisions, environmental interests, business interests, and other persons affected by the proposed rule or amendment consulted? Yes**

**Please list each contact.**

Ohio EPA invited interested parties to comment on the rule amendments during the period of April 2, 2019 to May 2, 2019. Notice of the comment period was emailed to approximately 4,000 interested parties. Ohio EPA also mailed letters to 153 dischargers that may be impacted by this rule. Both lists of interested parties is available upon request.

**(B) Was documentation that is relevant to the need for, the environmental benefits or consequences of, other benefits of, and the technological feasibility of the proposed rule or amendment considered? Yes**

**Please list the information provided and attach a copy of each piece of documentation to this form. (A SUMMARY OR INDEX MAY BE ATTACHED IN LIEU OF THE ACTUAL DOCUMENTATION.)**

40 CFR 131 Water Quality Standards

40 CFR 132 Water Quality Guidance for the Great Lakes System

ORC 6111.041 Standards of Water Quality

United States Environmental Protection Agency, National Recommended Water Quality Criteria - Human Health, 2015. Found here: <https://www.epa.gov/wqc/nationalrecommended-water-quality-criteria-human-health-criteria-table>.

- (C) Is the proposed rule or rule amendment being adopted or amended to enable the state to obtain or maintain approval to administer and enforce a federal environmental law or to participate in a federal environmental program? Yes**

**Is the proposed rule or rule amendment more stringent than its federal counterpart?**

*No Not Applicable*

- (D) If this is a rule amendment that is being adopted under a state statute that establishes standards with which the amendment is to comply, is the proposed rule amendment more stringent than the rule that it is proposing to amend? No**



# CSI - Ohio

## The Common Sense Initiative

### Business Impact Analysis

Agency Name: Ohio Environmental Protection Agency

Regulation/Package Title: Water Quality Criteria for the Protection of Human Health

Rule Number(s): OAC 3745-1-32, 1-33, 1-34

Date: April 2, 2019

**Rule Type:**

New

5-Year Review

Amended

Rescinded

The Common Sense Initiative was established by Executive Order 2011-01K and placed within the Office of the Lieutenant Governor. Under the CSI Initiative, agencies should balance the critical objectives of all regulations with the costs of compliance by the regulated parties. Agencies should promote transparency, consistency, predictability, and flexibility in regulatory activities. Agencies should prioritize compliance over punishment, and to that end, should utilize plain language in the development of regulations.

#### **Regulatory Intent**

**1. Please briefly describe the draft regulation in plain language.**

*Please include the key provisions of the regulation as well as any proposed amendments.*

This rulemaking concerns the numeric water quality criteria for the protection of human health in the Ohio River Mainstem, Ohio River Basin, and Lake Erie Basin.

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Under the Clean Water Act (CWA) states are required to have water quality standards that protect lakes, rivers, streams or other surface waters from pollution. Ohio's water quality standards are in OAC Chapter 3745-1. The required components of a water quality standard include beneficial use designations; narrative and numeric criteria protective of the use designations; and implementation procedures used to evaluate decisions that could result in the lowering of water quality (referred to as the antidegradation or rule).

Water quality standards are then used in other CWA programs such as the National Pollutant Discharge Elimination System (NPDES) permits, Section 401 Water Quality Certifications and the establishment of Total Maximum Daily Loads (TMDLs). Any impacts to the business community are realized only through the implementation of water quality standards in these other regulatory programs.

The NPDES program prohibits discharges of pollutants from any point source (a discrete conveyance such as a pipe or ditch) into the nation's waters unless authorized under an NPDES permit. The program gives U.S. EPA the authority to regulate discharges into the nation's waters by setting limits on the effluent that can be discharged to a body of water. The NPDES program is closely intertwined with this rulemaking and is how we will quantify the effect of these new numerical criteria in this analysis.

These rules are being updated to reflect the most recent human health numbers from U.S. EPA's 2015 updated chemical criteria, ORSANCO's 2015 Pollution Control Standards (PCS), and maximum contaminant levels (MCLs) promulgated under the Safe Drinking Water Act.

**2. Please list the Ohio statute authorizing the Agency to adopt this regulation.**

Ohio Revised Code 6111.041.

**3. Does the regulation implement a federal requirement? Is the proposed regulation being adopted or amended to enable the state to obtain or maintain approval to administer and enforce a federal law or to participate in a federal program?**

*If yes, please briefly explain the source and substance of the federal requirement.*

Yes, the regulations implement federal requirements in the CWA and Title 40 of the Code of Federal Regulations (CFR) Parts 131 Water Quality Standards and 132 Water Quality Guidance for the Great Lakes System. 40 CFR 131.20 further stipulates that the State shall adopt new or revised criteria for parameters for which US EPA has published. If the state does not adopt new or revised criteria, then the State shall provide an explanation of why the criteria have not been adopted.

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**4. If the regulation includes provisions not specifically required by the federal government, please explain the rationale for exceeding the federal requirement.**

Rule 3745-1-34 will be amended to apply maximum contaminant levels (MCLs) statewide. MCLs are National Primary Drinking Water Regulations (NPDWRs) established by U.S. EPA under the Safe Drinking Water Act (SDWA). NPDWRs are legally enforceable primary standards and treatment techniques that apply to public water systems. Primary standards and treatment techniques protect public health by limiting the levels of contaminants in drinking water.

Ohio EPA's Division of Drinking and Ground Water has also promulgated these MCLs into regulations to cover drinking water and ground water. Ohio EPA Division of Surface Water currently applies these MCLs only to the Ohio River basin and with this rulemaking extending this protection statewide (to the Lake Erie basin). The Division of Surface Water is promulgating these standards as a way to protect the treatment technology at the intakes of the drinking water plants in the Lake Erie basin as well. This is an extension of the applicability of the MCL to surface water within five hundred yards of an intake in the Lake Erie basin, as Ohio's drinking water supply is a very important resource. The extension of these MCLs is a common sense regulatory change.

**5. What is the public purpose for this regulation (i.e., why does the Agency feel that there needs to be any regulation in this area at all)?**

The CWA section 303(c)(2)(A) requires that water quality standards protect "public health or welfare, enhance the quality of the water and serve the purposes of [the Act]." The CWA section 101(a)(2) establishes as a national goal "water quality which provides for protection and propagation of fish, shellfish, and wildlife, and recreation in and on the water, wherever attainable." 40 C.F.R. Part 131.11 specifies that states must adopt those water quality criteria that protect the designated use. Such criteria must be based on sound scientific rationale and must contain sufficient parameters or constituents to protect the designated use.

The value of clean water as a public resource is a well-established fact. Ohio is an economically important and diverse state with strong manufacturing and agricultural industries that depend upon abundant and clean water. Ohio's economy also depends upon the tourism that its waters attract. The program ensures that Ohio's streams, rivers and lakes can be used for purposes such as industrial and agricultural production, recreation, and as a source of drinking water. These regulations are necessary in order to adequately protect public health and the environment.

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**6. How will the Agency measure the success of this regulation in terms of outputs and/or outcomes?**

Success can be measured in two ways: 1) tracking various administrative milestones in the programs that implement the water quality standards; and 2) monitoring the conditions of streams, rivers and lakes over time. The NPDES permit program routinely provides data and annual reports that describe the compliance performance of the regulated community. The Agency sets targets for achieving compliance with permit terms and conditions.

As described in the response to question # 11 the water quality standards regulations are performance based expectations regarding the quality of Ohio's surface water. Ohio EPA measures the success of the State's overall pollution control efforts through biological and chemical monitoring that determines whether or not a water body is attaining its designated uses. The status or health of Ohio's streams, rivers and lakes is reported every two years in the Integrated Water Quality Monitoring and Assessment Report, which is available on Ohio EPA's website at: <http://epa.ohio.gov/dsw/tmdl/OhioIntegratedReport.aspx>.

**Development of the Regulation**

**7. Please list the stakeholders included by the Agency in the development or initial review of the draft regulation.**

*If applicable, please include the date and medium by which the stakeholders were initially contacted.*

Ohio EPA sent electronic notification of the beginning of the Triennial WQS Review to the Division of Surface Water's rulemaking interested party list and posted the Early Stakeholder Outreach fact sheet on the Division's website on September 14, 2016. The comment period deadline was November 14, 2016. Ohio EPA also held a webinar and public hearing on this matter on September 28, 2016 and November 9, 2016, respectively. Six comment letters were received during the comment period from The Nature Conservancy, Ohio Department of Transportation, Ohio Environmental Council, Midwest Biodiversity institute, City of Columbus, and Ohio Utility Group.

**8. What input was provided by the stakeholders, and how did that input affect the draft regulation being proposed by the Agency?**

The only feedback provided on these rules stated that Ohio EPA should adopt US EPA's, and/or ORSANCO's updated criteria into rule.

**9. What scientific data was used to develop the rule or the measurable outcomes of the rule? How does this data support the regulation being proposed?**

These numerical criteria were taken directly from U.S. EPA's 2015 Updated Human Health Criteria, U.S. EPA's list of Maximum Contaminant Levels (also referred to as National Primary Drinking Water Regulations), and ORSANCO's 2015 Pollution Control Standards update. Links to these documents are provided below.

<https://www.epa.gov/wqc/national-recommended-water-quality-criteria-human-health-criteria-table>

<https://www.epa.gov/ground-water-and-drinking-water/national-primary-drinking-water-regulations>

<http://www.orsanco.org/programs/pollution-control-standards/>

**10. What alternative regulations (or specific provisions within the regulation) did the Agency consider, and why did it determine that these alternatives were not appropriate? If none, why didn't the Agency consider regulatory alternatives?**

The Agency reviewed revisions to the recommended federal water quality criteria and ORSANCO's pollution control standards (PCS) since the last review and determined that revisions were necessary to bring consistency between state regulations, ORSANCO PCS, and federal water quality criteria.

**11. Did the Agency specifically consider a performance-based regulation? Please explain. *Performance-based regulations define the required outcome, but don't dictate the process the regulated stakeholders must use to achieve compliance.***

Water quality standards function as a performance-based regulation because for each beneficial use defined in the rules there are measurable water quality criteria for determining if a water body meets its designated beneficial uses. Ohio's water quality standards include numeric criteria for many chemical substances to protect human health and aquatic life, bacteria indicators to protect water based recreation and biological criteria used to gauge attainment of certain aquatic life use designations.

The business community is affected by these standards when they are used to establish conditions in permits that regulate how much pollution can be safely discharged into a receiving stream. Any business that discharges pollutants to waters of the State must comply with permits designed to ensure the standards are met. The Agency does not specify the technology that must be used to comply with permits.

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**12. What measures did the Agency take to ensure that this regulation does not duplicate an existing Ohio regulation?**

Ohio EPA is the delegated state agency for the water quality standards program. Only a review of existing Ohio EPA rules was necessary, and no duplication was found.

**13. Please describe the Agency’s plan for implementation of the regulation, including any measures to ensure that the regulation is applied consistently and predictably for the regulated community.**

The Agency will put the effective date of the adopted rules three months out from the date of adoption, which provides for U.S. EPA’s review and approval and gives the Agency time to update web pages.

**Adverse Impact to Business**

**14. Provide a summary of the estimated cost of compliance with the rule. Specifically, please do the following:**

- a. Identify the scope of the impacted business community;**
- b. Identify the nature of the adverse impact (e.g., license fees, fines, employer time for compliance); and**
- c. Quantify the expected adverse impact from the regulation.**

*The adverse impact can be quantified in terms of dollars, hours to comply, or other factors; and may be estimated for the entire regulated population or for a “representative business.” Please include the source for your information/estimated impact.*

The water quality standards affect the business community indirectly through other regulatory programs that are designed to assure compliance with requirements based on meeting the water quality standards. These requirements take the form of effluent limits imposed by Ohio EPA through the NPDES permit program or 401 certifications. Though there is no direct cost associated with this water quality standards rulemaking, the Agency has evaluated potential costs or impacts the business community might incur through other CWA programs.

The Agency has determined that 151 of the 3,250 permitted dischargers in Ohio could potentially be negatively impacted by the adoption of these criteria. Of these 151 dischargers, 60 already have limits for one or more of these chemicals that could impact them. The remaining 91 dischargers monitor for one or more of these chemicals but do not currently have limits. Some dischargers could receive less stringent limits from these numerical changes as well. Permit limits are dependent on

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a multitude of factors and may not always be directly correlated to this specific type water quality criterion, therefore the impact on stakeholders is somewhat varied and difficult to estimate.

a. The impacted business community primarily includes those regulated through the NPDES program.

Existing NPDES permit dischargers with current effluent limits for the draft criteria that could have the potential to be negatively affected by the adoption of these rules were notified by mail that these rules are available for comment.

b. There is no cost directly associated with these amended rules. However, the cost associated with implementing these water quality criteria through the NPDES program will vary widely based on factors such as volume of wastewater treated, complexity of treatment system, stringency of the effluent limitations, effluent monitoring requirements, and treatment technology installed at the point source. Most facilities should not be impacted by these updated water quality criteria, but if a discharger receives a more stringent permit limit or a permit limit for a new chemical, or additional monitoring requirements, the nature of the adverse impact may include the treatment of the wastewater, any cost to maintain or operate the equipment, sampling, and time for paperwork completion.

c. As previously stated, there is no cost directly associated with these rule updates, however there may be cost associated with the implementation of these water quality criteria. The cost of compliance with these rules for a facility is site specific and will vary greatly based on the type of treatment, the amount of sludge generated, amount of water discharged, the types of samples and the amount of sampling required, and the amount of treatment that would be required to satisfy the limitations. Most facilities should not be impacted by these updated water quality criteria, but if a discharger receives a more stringent permit limit or a permit limit for a new criterion, the nature of the adverse impact may include the treatment of the wastewater, any cost to maintain or operate the equipment, sampling, and time for paperwork completion.

If a revision to a permittee's effluent limitations due to these water quality criteria is necessary upon permit renewal, the Agency will include a schedule of compliance in the permit to allow the permittee the time to plan and construct or modify any necessary treatment to comply with the NPDES permit.

**15. Why did the Agency determine that the regulatory intent justifies the adverse impact to the regulated business community?**

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The water quality standards program and these draft rule revisions are the primary means of ensuring that the quality of water in Ohio's streams, rivers and lakes is improved, maintained and remains suitable for swimming, drinking and fishing. The basic goal of meeting all numeric and narrative criteria established under the CWA is the normal requirement mandated by federal regulations. Deviation from that expectation is allowed in only a handful of extraordinary circumstances, one of which is imposition of widespread social and economic impact. Thus, it is incumbent upon states to establish the proper balance between the water quality goals and the costs to society of attaining those goals. The Agency believes the draft rules are supported by the need to protect public health, safety, and the environment.

### **Regulatory Flexibility**

**16. Does the regulation provide any exemptions or alternative means of compliance for small businesses? Please explain.**

With regard to the implementation programs impacted by this rulemaking, the regulations do not provide exemptions for small businesses. Corresponding federal regulations and the Ohio Revised Code do not provide for exemptions or alternative means of compliance for any permittees. The regulations are applied evenly regardless of the size of the treatment works. Smaller facilities are typically required to sample less frequently, which will cost them less money.

**17. How will the agency apply Ohio Revised Code section 119.14 (waiver of fines and penalties for paperwork violations and first-time offenders) into implementation of the regulation?**

The first time paperwork violation waiver is not applicable to this rule package. The rules in OAC Chapter 3745-1 contain standards for CWA permitting programs to enforce. No paperwork or permits are required by the standards themselves.

**18. What resources are available to assist small businesses with compliance of the regulation?**

• Ohio EPA Division of Environmental and Financial Assistance's Office of Compliance Assistance and Pollution Prevention (OCAPP) is a non-regulatory program that provides information and resources to help small businesses comply with environmental regulations. OCAPP also helps customers identify and implement pollution prevention measures that can save money, increase business performance and benefit the environment. Services of the office include a toll-free hotline, on-site compliance and pollution prevention assessments, workshops/training, plain-English publications library and assistance in completing permit

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application forms. Additional information is available at:

<http://epa.ohio.gov/ocapp/ComplianceAssistanceandPollutionPrevention.aspx>

- Ohio EPA also has a Customer Support Center web page

(<https://ohioepa.custhelp.com/app/home/session/L3RpbWUvMTQ0NTg2NTYzNi9zaWQvX1hTRkZWem0%3D>) that contains links to several items to help businesses navigate the permit process, including the Permit Wizard, Frequently Asked Questions (FAQ), training and subscription to various program listservs.

- Ohio EPA maintains the Compliance Assistance Hotline 800-329-7518, weekdays from 8:00 a.m. to 5:00 p.m.

- Ohio EPA, Division of Environmental and Financial Assistance's Compliance Assistance Unit provides technical support to small (less than 0.5 million gallons per day) wastewater treatment plants. Additional information is available at:

[http://epa.ohio.gov/dsw/compl\\_assist/compasst.aspx](http://epa.ohio.gov/dsw/compl_assist/compasst.aspx)

- U.S. EPA Small Business Gateway also has information on environmental regulations for small businesses available at: <http://www.epa.gov/smallbusiness/> and a Small Business Ombudsman Hotline 800-368-5888.

- U.S. EPA's Water Quality Standards Handbook, Second Edition available at:

<http://water.epa.gov/scitech/swguidance/standards/handbook/index.cfm>.

- U.S. EPA's Policy and Guidance: Reference Library contains an index of EPA documents related to water quality standards, including those referenced in the WQS Handbook. You can sort the index alphabetically, by publication date, or by topic. Available at:

<http://water.epa.gov/scitech/swguidance/standards/library/index.cfm>.

- The Division of Surface Water's Water Quality Standards program web page contains background information and direct links to sections of the regulations. Additional information is available at: <http://epa.ohio.gov/dsw/wqs/index.aspx>.

*Ohio River Valley Water Sanitation Commission***POLLUTION CONTROL STANDARDS  
for Discharges to the Ohio River****2015 Revision***Notice of Requirements*

You are hereby notified that, having considered all the evidence presented at public hearings, the Ohio River Valley Water Sanitation Commission, at its regularly held meeting on October 8, 2015, acting in accordance with and pursuant to the authority contained in Article VI of the Ohio River Valley Water Sanitation Compact, adopted and promulgated, subject to revision as changing conditions require, Pollution Control Standards 2015 Revision for the modification or treatment of all sewage from municipalities or other political subdivisions, public or private institutions, corporations or watercraft, and for the modification or treatment of all industrial wastes discharged or permitted to flow into the Ohio River from the point of confluence of the Allegheny and Monongahela Rivers at Pittsburgh, Pennsylvania, designated as Ohio River mile point 0.0 to Cairo Point, Illinois, located at the confluence of the Ohio and Mississippi Rivers, and being 981.0 miles downstream from Pittsburgh, Pennsylvania.

Under the terms and provisions of the Ohio River Valley Water Sanitation Compact, all sewage from municipalities or other political subdivisions, public or private institutions, corporations or watercraft and all industrial wastes discharged or permitted to flow into the Ohio River will be required to be modified or treated to the extent specified in the standards established as above set forth.

To the extent that Pollution Control Standards 2013 Revision, which were established by Commission action October 10, 2013, have been amended or restated by virtue of Pollution Control Standards 2015, the Pollution Control Standards 2013 Revision, including any definitions and application procedures appended to or incorporated therein, are rescinded.



Richard Harrison, P.E.  
Executive Director and Chief Engineer



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# *Ohio River Valley Water Sanitation Commission*

## **POLLUTION CONTROL STANDARDS for Discharges to the Ohio River**

**2015 Revision**

### **CHAPTER 1: GENERAL PROVISIONS**

#### **1.1 AUTHORITY AND PURPOSE**

The Ohio River Valley Water Sanitation Compact (the Compact) was signed in 1948 by the Governors of the States of Illinois, Indiana, Kentucky, New York, Ohio, Pennsylvania, Virginia, and West Virginia, following the consent of the United States Congress and enactment of the Compact into law by the legislatures of the eight states. The Compact created the Ohio River Valley Water Sanitation Commission (the Commission) as a body corporate with powers and duties set forth in it for the purpose of abating water pollution within the Compact District. Article I of the Compact mandates that all waters in the District be placed and maintained in a satisfactory, sanitary condition, available for certain beneficial uses. It is the mission of the Commission to ensure protection of these uses and to preserve the waters for other legitimate purposes.

The Compact grants the Commission authority to carry out its mission. Article VI states that “the guiding principle of this Compact shall be that pollution by sewage or industrial wastes originating within a signatory State shall not injuriously affect the various uses of the interstate waters.” Minimum requirements for the treatment of sewage and industrial waste then are established in Article VI, as well as the authority of the Commission to require higher degrees of treatment where they are determined to be necessary after investigation, due notice, and hearing. Article VI concludes by authorizing the Commission to “adopt, prescribe, and promulgate rules, regulations and standards for administering and enforcing the provisions of this article.”

Article IX of the Compact grants the Commission authority to issue orders, after investigation and hearing, for the purpose of achieving compliance with its standards. Any court of general jurisdiction or any United States District Court in the signatory states may be used by the Commission in order to enforce such orders.

It is the policy of the Commission to rely on the member states for the primary enforcement of its standards. Each of the member states is authorized to do so under the legislation that enabled its membership in the Compact. Each of the member states is authorized to administer the federal/state National Pollutant Discharge Elimination System (NPDES) as established in Section 402 of the Federal Clean Water Act. Sections 301(b)(1)(C) and 510 of the Federal Act require that permits issued under that system incorporate applicable standards promulgated by an interstate agency wherever they are

more stringent than comparable state or federal standards. The NPDES permits are therefore the primary means by which the Commission's Standards are implemented and enforced.

These standards set forth the uses to be protected in the Ohio River (Chapter 2) as established in the Compact, establish water quality criteria to assure that those uses will be achieved (Chapter 3), and set wastewater discharge requirements (Chapter 5) needed to attain the water quality criteria. The standards also recognize the rights of individual states to adopt and apply more stringent regulations.

Specific wastewater discharge requirements are established in these regulations and must be incorporated into discharge permits issued under the authority of the NPDES or state discharge permitting programs when they are more stringent than:

- 1) applicable U.S. EPA technology-based effluent guidelines required under Sections 301, 304, 306, and 307 of the Federal Clean Water Act, or
- 2) any state treatment requirements, effluent standards, or water quality-based effluent limits.

In the absence of promulgated Federal effluent guidelines pursuant to Sections 301, 304, 306, and 307 of the Clean Water Act, the Compact signatory states have the responsibility to establish effluent limitations to be included in any discharge permit, consistent with the standards contained herein using best professional judgment on a case-by-case basis.

## **1.2 DEFINITIONS**

- A. "Acute Criteria" means the highest concentrations of toxic substances to which organisms can be exposed for a brief period of time (as measured by approved short-term exposure tests) without causing mortality or other unacceptable effects.
- B. "Biological Integrity" means the ability of an aquatic ecosystem to support and maintain a balanced, integrated, adaptive community of organisms having a species composition, diversity, and functional organization comparable to those best attainable given eco-regional attributes and the modified habitat types of the river.
- C. "Chronic Criteria" means the highest concentrations of toxic substances to which organisms can be exposed indefinitely without causing long-term harmful effects on growth and/or reproduction or other unacceptable effects (as measured by approved long-term exposure tests).
- D. "Combined Sewer Overflow" means a discharge from a sewer system designed to convey sanitary wastewaters and storm water through a single-pipe system to a treatment facility, at a point in the system prior to the treatment facility.

- E. “Compact,” as used in these regulations, means the Ohio River Valley Water Sanitation Compact and is an agreement entered into by and between the states of Indiana, West Virginia, Ohio, New York, Illinois, Kentucky, Pennsylvania, and Virginia, which pledges each to the other of the signatory states faithful cooperation in the control of existing and future pollution of the waters in the Ohio River Basin. This Compact created the Ohio River Valley Water Sanitation Commission.
- F. “Cooling Water” means water used as a heat transfer medium for once-through cooling or cooling tower blow down to which no industrial wastes, toxic wastes, residues from potable water treatment plants, untreated sewage, or other wastes, exclusive of antifouling agents approved by the appropriate regulatory agencies, are added prior to discharge.
- G. “Contact Recreation” means recreational activities where the human body may come in direct contact with water of the Ohio River.
- H. “Dry Weather Flow Conditions” means flow conditions within a combined sewer system resulting from one or more of the following: flows of domestic sewage, ground water infiltration, commercial and industrial wastewater, and any non-precipitation event related flows. Other non-precipitation event related flows that are included in dry weather flow conditions will be decided by the permitting agency based on site specific conditions.
- I. “Early Life Stages” of fish means the pre-hatch embryonic period, the post-hatch free embryo or yolk-sac fry, and the larval period, during which the organism feeds. Juvenile fish, which are anatomically rather similar to adults, are not considered an early life stage.
- J. “Industrial Wastes” means any liquid, gaseous, or solid materials, waste substances or combination thereof other than cooling water as herein defined, resulting from any process or operation including storage and transportation, manufacturing, commercial, agricultural, and government operations.
- K. “Mixing Zone” means that portion of the water body receiving a discharge where effluent and receiving waters are not totally mixed and uniform with the result that the zone is not representative of the receiving waters and may not meet all ambient water quality standards or other requirements of any signatory state applicable to the particular receiving waters. All applicable water quality criteria must be met at the edge of the mixing zone.
- L. “Net Discharge” is determined by excluding the amount of a pollutant in the intake water when determining the quality of a discharge if both the intake and discharge are from and to the same body of water.
- M. “96 hour LC<sub>50</sub>” as used in these regulations, means the concentration of a substance that kills 50 percent of the test organisms within 96 hours. The test



organisms shall be representative important species indigenous to the Ohio River or standard test organisms.

- N. The “Ohio River,” as used in these regulations, extends from the point of confluence of the Allegheny and Monongahela rivers at Pittsburgh, Pennsylvania, designated as Ohio River mile point 0.0 to Cairo Point, Illinois, located at the confluence of the Ohio and Mississippi Rivers, 981.0 miles downstream from Pittsburgh.
- O. “Ohio River Valley Water Sanitation Commission” (the Commission) means a body corporate created by authority of the Compact and is the operating agency established to implement the Compact. It consists of three representatives of each signatory state and three representatives of the federal government.
- P. “Other Wastes” means any waste other than sewage, cooling water, residues from potable water treatment plants, industrial wastes or toxic wastes which, if discharged to the Ohio River, could cause or contribute to any violations of these regulations, or of any water quality standards of any signatory state, or which may be deleterious to the designated uses. Other wastes include, but are not limited to: garbage, refuse, decayed wood, sawdust, shavings, bark and other wood debris and residues resulting from secondary processing, sand, lime cinders, ashes, offal, night soil, silt, oil, tar, dyestuffs, acids, chemicals, heat or other materials and substances not sewage or industrial wastes which may cause or might reasonably be expected to cause or contribute to the pollution of the Ohio River.
- Q. “Persistent Substances” means those substances that have a half-life for degradation under natural environmental conditions of more than four days. All other substances are non-persistent.
- R. “Pollution” means the human-made or human-induced alteration of the chemical, physical, biological and radiological integrity of the waters of the Ohio River.
- S. “Public Water System” means a system for the provision to the public of water for human consumption through pipes or other constructed conveyances, if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year. As this relates to Chapter 3.3.C (Total Ammonia-Nitrogen), the source water of the public water system is the Ohio River or ground water under the direct influence of the Ohio River.
- T. “Reasonable Treatment” means, for the purposes of these standards, the conventional drinking water treatment processes of mixing, flocculation, sedimentation, filtration, and disinfection.
- U. “Representative Aquatic Species” means those species of aquatic life whose protection and propagation will assure the sustained presence of a balanced indigenous community. Such species are representative in the sense that

maintenance of suitable water quality conditions will assure the overall protection and sustain propagation of the balanced, indigenous community.

- V. “Residues from Potable Water Treatment Plants” means those wastes emanating from processes used in water purification. Such processes may include sedimentation, chemical coagulation, filtration, iron and manganese removal, softening, and disinfection.
- W. “Sewage” means water-carried human or animal wastes from such sources as residences; industrial, commercial, or government establishments; public or private institutions; or other places. For the purposes of these standards, the mixture of sewage with industrial wastes, toxic wastes, or other wastes, shall be subject to treatment requirements for those types of wastes, but shall also be regarded as sewage.
- X. “Substantially Complete Removal” means removal to the lowest practicable level attainable with current technology.
- Y. “Toxic Wastes” means wastes containing substances or combinations of substances in concentrations which might reasonably be expected to cause death, disease, behavioral abnormalities, genetic mutations, physiological malfunctions, including those in reproduction, or physical deformations in fish, other aquatic life, wildlife, livestock, or humans.
- Z. “Wastewater” means sewage and/or industrial wastes as herein defined.

### **1.3 GENERAL CONDITIONS**

#### **A. General**

The minimum conditions which these standards are intended to achieve in the receiving waters are as follows:

1. Freedom from anything that will settle to form objectionable sludge deposits which interfere with designated water uses.
2. Freedom from floating debris, scum, oil, and other floating material in amounts sufficient to be unsightly or deleterious.
3. Freedom from materials producing color or odors to such a degree as to create unaesthetic conditions or a nuisance.
4. Freedom from substances in concentrations which are toxic or harmful to humans, animals, or fish and other aquatic life; which would in any manner adversely affect the flavor, color, odor, or edibility of fish and other aquatic life, wildlife, or livestock; or which are otherwise detrimental to the designated uses specified in Chapter 2.

## **1.4 LIMITATIONS**

Nothing contained in these regulations shall be construed to limit the powers of any state signatory to the Compact to promulgate more stringent criteria, conditions, and restrictions to further lessen or prevent the pollution of waters within its jurisdiction.

## **1.5 SEVERABILITY CLAUSE**

Should any one or more of the Pollution Control Standards hereby established or should any one or more provisions of the regulations herein contained be held or determined to be invalid, illegal or unenforceable, for any reason whatsoever, all other standards and other provisions shall remain effective.

## **1.6 VARIANCES**

- A. The Commission may grant a variance from the provisions of Chapter 5 or Chapter 4.F of these standards, provided that the uses set forth in Chapter 2 are maintained and that the water quality criteria set forth in Chapter 3 are met. The permittee shall submit an application which includes, but is not limited to, the following:
1. The specific reasons for the variance.
  2. Information on alternatives considered, including elimination of the discharge.
  3. The effluent limitations that the discharger believes can be met by the highest level of treatment achievable.
  4. A demonstration that the uses set forth in Chapter 2 and the water quality criteria set forth in Chapter 3 will be maintained.
  5. Variances granted pursuant to this section will be included in Appendix F of these standards.
- B. The Commission may require additional information that it deems relevant to its decision-making process, including, but not limited to, the NPDES permitting state regulation that would allow the requested variance absent the ORSANCO standard.
- C. The Commission will provide opportunity for public comment in its consideration of any variance request.
- D. A variance may be granted for a period not to exceed five years; the applicant may apply for a variance renewal prior to the expiration of the permit.

## **1.7 SITE SPECIFIC CRITERIA**

Alternative site-specific criteria for the constituents listed herein may be approved if they are demonstrated to be appropriate to the satisfaction of the Commission. Such demonstrations shall utilize methods contained in the Water Quality Standards Handbook (U.S. EPA publication EPA823-B94005A, August 1994), or other methods approved by the U.S. EPA.

## **CHAPTER 2: DESIGNATED USES**

### **2.1 USES AS ESTABLISHED BY THE OHIO RIVER VALLEY WATER SANITATION COMPACT**

The Ohio River, as hereinbefore defined, has been designated by the Compact as available for safe and satisfactory use as public and industrial water supplies after reasonable treatment, suitable for recreational usage, capable of maintaining fish and other aquatic life, and adaptable to such other uses as may be legitimate. It is the purpose of these Pollution Control Standards to safeguard the waters of the Ohio River for these designated uses. No degradation of the water quality of the Ohio River that would interfere with or become injurious to these uses shall be permitted.

### **2.2 DEFINITION / CLARIFICATION OF USES**

For the purposes of these Standards, water quality criteria to protect the uses stated above shall be developed, adopted and presented as follows:

- A. Aquatic life protection criteria shall assure water quality conditions capable of maintaining fish and other aquatic life.
- B. Human health protection criteria shall assure water quality conditions that allow safe and satisfactory use as public and industrial water supplies after reasonable treatment as defined in Chapter 1.2.T; are suitable for contact recreation as defined in Chapter 1.2.G during those months when the river is otherwise suitable for such activities; and allow safe consumption of fish.
- C. Taste and odor protection criteria shall assure water quality conditions that allow safe and satisfactory use as public and industrial water supplies after reasonable treatment as defined in Chapter 1.2.T without unaesthetic conditions such as taste or odor.

## CHAPTER 3: WATER QUALITY CRITERIA

### 3.1 WATER QUALITY CRITERIA SUMMARY

The frequency and duration values for the acute, chronic, human health (carcinogen and non-carcinogen) and fish consumption criteria contained in the existing Pollution Control Standards, where not specified, shall be consistent with the design assumptions utilized in development of the criteria.

The following table is a summary of all applicable criteria:

Pollutant	Human Health		Aquatic Life		All Other Uses (e.g. Taste & Odor)
	Carcinogenic (ug/L)	Non-Carcinogenic (ug/L)	Acute (ug/L)	Chronic (ug/L)	
Acenaphthene		670 <sup>A,B</sup>			
Acrolein		190			
Acrylonitrile	0.051 <sup>A,C</sup>				
Aldrin	0.000049 <sup>A,C</sup>				
alpha-BHC	0.0026 <sup>A,C</sup>				
alpha-Endosulfan		62 <sup>A</sup>			
Ammonia		1.0 mg/L <sup>D</sup>	7.3 <sup>E</sup>	1.0 <sup>E</sup>	
Anthracene		8300 <sup>A</sup>			
Antimony		5.6 <sup>A</sup>			
Arsenic		0.010 mg/L	340 <sup>F</sup>	150 <sup>F</sup>	
Asbestos		7,000,000 fibers/L <sup>G</sup>			
Barium		1.0 mg/L			
Benzene	2.2 <sup>A,C</sup>				
Benzidine	0.000086 <sup>A,C</sup>				
Benzo(a) Anthracene	0.0038 <sup>A,C</sup>				
Benzo(a) Pyrene	0.0038 <sup>A,C</sup>				
Benzo(b) Fluoranthene	0.0038 <sup>A,C</sup>				
Benzo(k) Fluoranthene	0.0038 <sup>A,C</sup>				
beta-BHC	0.0091 <sup>A,C</sup>				
beta-Endosulfan		62 <sup>A</sup>			
Bis(2-Chloroethyl) Ether	0.03 <sup>A,C</sup>				
Bis(2-Chloroisopropyl) Ether		1400 <sup>A</sup>			
Bis(2-Ethylhexyl)Phthalate	1.2 <sup>A,C</sup>				
Bromoform	4.3 <sup>A,C</sup>				
Butylbenzyl Phthalate		1500 <sup>A</sup>			
Cadmium			2.01 <sup>H</sup>	0.25 <sup>H</sup>	
Carbon Tetrachloride	0.23 <sup>A,C</sup>				
Chlordane	0.0008 <sup>A,C</sup>				
Chloride					250 mg/L
Chlorobenzene		130 <sup>B,I</sup>			

Pollutant	Human Health		Aquatic Life		All Other Uses (e.g. Taste & Odor)
	Carcinogenic (ug/L)	Non-Carcinogenic (ug/L)	Acute (ug/L)	Chronic (ug/L)	
Chlorodibromomethane	0.4 <sup>A,C</sup>				
Chloroform	5.7 <sup>C,J</sup>				
Chromium III			570 <sup>H</sup>	74.1 <sup>H</sup>	
Chromium VI			15.712 <sup>F</sup>	10.582 <sup>F</sup>	
Chrysene		0.0038 <sup>A,C</sup>			
Copper		1300 <sup>B</sup>	13.4 <sup>H</sup>	8.96 <sup>H</sup>	
Cyanide		140 <sup>K</sup>			
Cyanide (free)			22 <sup>L</sup>	5.2 <sup>L</sup>	
Dibenzo(a,h) Anthracene	0.0038 <sup>A,C</sup>				
Dichlorobromomethane	0.55 <sup>A,C</sup>				
Dieldrin	0.000052 <sup>A,C</sup>				
Diethyl Phthalate		17000 <sup>A</sup>			
Dimethyl Phthalate		270000			
Di-n-Butyl Phthalate		2000 <sup>A</sup>			
Dissolved Oxygen			> 4.0 mg/L <sup>M</sup>	> 5.0 mg/L <sup>M</sup>	
E. Coli		130 CFU/100mL (GM) <sup>R</sup> , 240 CFU/100mL <sup>S</sup>			
Endosulfan Sulfate		62 <sup>A</sup>			
Endrin		0.059			
Endrin Aldehyde		0.29 <sup>A</sup>			
Ethylbenzene		530			
Fecal Coliform		2,000 CFU/100mL <sup>N</sup>			
Fluoride		1.0 mg/L			
Fluoranthene		130 <sup>A</sup>			
Fluorene		1100 <sup>A</sup>			
gamma-BHC (Lindane)		0.98			
Heptachlor	0.000079 <sup>A,C</sup>				
Heptachlor Epoxide	0.000039 <sup>A,C</sup>				
Hexachlorobenzene	0.00028 <sup>A,C</sup>				
Hexachlorobutadiene	0.44 <sup>A,C</sup>				
Hexachlorocyclopentadiene		40 <sup>B</sup>			
Hexachloroethane	1.4 <sup>A,C</sup>				
Ideno(1,2,3-cd) Pyrene	0.0038 <sup>A,C</sup>				
Isophorone	35 <sup>A,C</sup>				
Lead			64.6 <sup>H</sup>	2.52 <sup>H</sup>	
Mercury		0.000012mg/L	1.45 <sup>F</sup>	0.774 <sup>F</sup>	
Methyl Bromide		47 <sup>A</sup>			

Pollutant	Human Health		Aquatic Life		All Other Uses (e.g. Taste & Odor)
	Carcinogenic (ug/L)	Non-Carcinogenic (ug/L)	Acute (ug/L)	Chronic (ug/L)	
Methylene Chloride	4.6 <sup>A,C</sup>				
Methylmercury		0.3 mg/kg <sup>O</sup>			
Nickel		610 <sup>A</sup>	469 <sup>H</sup>	52 <sup>H</sup>	
Nitrite Nitrate Nitrogen		10 mg/L			
Nitrite Nitrogen		1 mg/L			
Nitrobenzene		17 <sup>A</sup>			
N-Nitrosodimethylamine	0.00069 <sup>A,C</sup>				
N-Nitrosodi-n-Propylamine	0.005 <sup>A,C</sup>				
N-Nitrosodiphenylamine	3.3 <sup>A,C</sup>				
Pentachlorophenol	0.27 <sup>A,C</sup>				
pH				>6.0 and <9.0	
Phenol	21000 <sup>A,B</sup>				
Phenolics					0.005 mg/L
Polychlorinated Biphenyls	0.000064 <sup>A,C,P</sup>				
Pyrene		830 <sup>A</sup>			
combined radium-226 and radium 228	4 pCi/L				
gross total alpha	15 pCi/L				
total gross beta	50 pCi/L				
total gross strontium-90	8 pCi/L				
Selenium	170 <sup>I</sup>			5 <sup>L</sup>	
Silver	0.05 mg/L		3.22 <sup>H</sup>		
Sulfate					250 mg/L
Temperature		110 Deg F	See table Chapter 3.2.C.		
Tetrachloroethylene	0.69 <sup>C</sup>				
Thallium		0.24			
Toluene		1300 <sup>I</sup>			
Total dissolved solids					500 mg/L <sup>D</sup>
Toxaphene	0.00028 <sup>A,C</sup>				
Trichloroethylene	2.5 <sup>C</sup>				
Vinyl Chloride	0.025 <sup>C,Q</sup>				
Zinc		7400 <sup>B</sup>	117 <sup>H</sup>	118 <sup>H</sup>	
1,1,2,2-Tetrachloroethane	0.17 <sup>A,C</sup>				
1,1,2-Trichloroethane	0.59 <sup>A,C</sup>				
1,1-Dichloroethylene		330			
1,2,4-Trichlorobenzene		35			
1,2-Dichlorobenzene		420			
1,2-Dichloroethane	0.38 <sup>A,C</sup>				
1,2-Dichloropropane	0.5 <sup>A,C</sup>				
1,2-Diphenylhydrazine	0.036 <sup>A,C</sup>				

Pollutant	Human Health		Aquatic Life		All Other Uses (e.g. Taste & Odor)
	Carcinogenic (ug/L)	Non-Carcinogenic (ug/L)	Acute (ug/L)	Chronic (ug/L)	
1,2-Trans-Dichloroethylene		140 <sup>I</sup>			
1,3-Dichlorobenzene		320			
1,3-Dichloropropene	0.34 <sup>C</sup>				
1,4-Dichlorobenzene		63			
2,3,7,8-TCDD (Dioxin)	0.000000005 <sup>C</sup>				
2,4,6-Trichlorophenol	1.4 <sup>A,C</sup>				
2,4-Dichlorophenol		77 <sup>A,B</sup>			
2,4-Dimethylphenol		380 <sup>A</sup>			
2,4-Dinitrophenol		69 <sup>A</sup>			
2,4-Dinitrotoluene	0.11 <sup>C</sup>				
2-Chloronaphthalene		1000 <sup>A</sup>			
2-Chlorophenol		81 <sup>A,B</sup>			
2-Methyl-4,6-Dinitrophenol		13			
3,3-Dichlorobenzidine	0.021 <sup>A,C</sup>				
4,4'-DDD	0.00031 <sup>A,C</sup>				
4,4'-DDE	0.00022 <sup>A,C</sup>				
4,4'-DDT	0.00022 <sup>A,C</sup>				

<sup>A</sup> This criterion has been revised to reflect The U.S. EPA's q1\* or RfD, as contained in the Integrated Risk Information System (IRIS) as of May 17, 2002. The fish tissue bioconcentration factor (BCF) from the 1980 Ambient Water Quality Criteria document was retained in each case.

<sup>B</sup> The organoleptic effect criterion is more stringent than the value for priority toxic pollutants.

<sup>C</sup> This criterion is based on carcinogenicity of 10<sup>-6</sup> risk. Alternate risk levels may be obtained by moving the decimal point (e.g., for a risk level of 10<sup>-5</sup>, move the decimal point in the recommended criterion one place to the right).

<sup>D</sup> Criteria applies at drinking water intakes.

<sup>E</sup> Criteria dependant on pH and temp, see formulas Sec. 3.2.E and 4-day avg. rule, Appendix A1-A5. Criteria shown at pH 7.0, most restrictive temperature, and unionid mussels present.

<sup>F</sup> Presented in the dissolved form.

<sup>G</sup> This criterion for asbestos is the Maximum Contaminant Level (MCL) developed under the Safe Drinking Water Act (SDWA).

<sup>H</sup> Presented in the dissolved form and shown at Hardness 100, specific formulas in Sec. 3.2. F.

<sup>I</sup> U.S. EPA has issued a more stringent MCL. Refer to drinking water regulations (40 CFR 141) or Safe Drinking Water Hotline (1-800-426-4791) for values.

<sup>J</sup> Although a new RfD is available in IRIS, the surface water criteria will not be revised until the National Primary Drinking Water Regulations: Stage 2 Disinfectants and Disinfection Byproducts Rule (Stage 2 DBPR) is completed, since public comment on the relative source contribution (RSC) for chloroform is anticipated.

<sup>K</sup> This recommended water quality criterion is expressed as total cyanide, even though the IRIS RfD we used to derive the criterion is based on free cyanide. The multiple forms of cyanide that are present in ambient water have significant differences in toxicity due to their differing abilities to liberate the CN-moiety. Some complex cyanides require even more extreme conditions than refluxing with sulfuric acid to liberate the CN-moiety. Thus, these complex cyanides are expected to have little or no 'bioavailability' to humans. If a substantial fraction of the cyanide present in a water body is present in a complexed form (e.g., Fe<sub>4</sub>[Fe(CN)<sub>6</sub>]<sub>3</sub>), this criterion may be over conservative.

<sup>L</sup> Criteria shown to be applied in total recoverable form.



<sup>M</sup> Dissolved oxygen minimum 5.0 mg/L April 15 – June 15.

<sup>N</sup> Criteria based on 5-sample per month geometric mean.

<sup>O</sup> This fish tissue residue criterion for methylmercury is based on a total fish consumption rate of 0.0175 kg/day.

<sup>P</sup> This criterion applies to total PCBs, (e.g., the sum of all congener or all isomer or homolog or Aroclor analyses).

<sup>Q</sup> This recommended water quality criterion was derived using the cancer slope factor of 1.4 (LMS exposure from birth).

<sup>R</sup> Criteria based on 90 day geometric mean.

<sup>S</sup> Not to be exceeded in greater than 25% of the samples during 90 day period.

## 3.2 AQUATIC LIFE PROTECTION

To protect aquatic life, the following criteria shall be met outside the mixing zone:

- A. **BIOLOGICAL:** The biological integrity of the Ohio River shall be safeguarded, protected, and preserved.
- B. **DISSOLVED OXYGEN:** The average concentration shall be at least 5.0 mg/L for each calendar day; the minimum concentration shall not be less than 4.0 mg/L. During the April 15-June 15 spawning season, a minimum concentration of 5.0 mg/L shall be maintained at all times.
- C. **TEMPERATURE:** Allowable daily maximum stream temperatures are based on the following table (in degrees Fahrenheit), where MP is mile point below Pittsburgh, and Julian Day is the number day of the year (1 - 366):

Julian Day	MP 0 to MP 341	MP 341.1 to MP 606.8	MP 606.9 to MP 981
1 - 49	47.1 – 0.086 * Julian Day	47.2 – 0.024 * Julian Day	50.1 – 0.047 * Julian Day
50 - 166	26.6 + 0.328 * Julian Day	34.1 + 0.311 * Julian Day	34.8 + 0.269 * Julian Day
167 - 181	87	87	87
182 - 243	89	89	89
244 - 258	87	87	87
259 - 366	160.8 – 0.300 * Julian Day	176.7 – 0.346 * Julian Day	164.5 – 0.308 * Julian Day

Monthly averages of the daily maximum allowable stream temperatures (calculated using above criteria) may be used as permitting endpoints in place of daily criteria and are shown in the following table:

Month	MP 0 to MP 341		MP 341.1 to MP 606.8		MP 606.9 to MP 981	
	°F	°C	°F	°C	°F	°C
January	45.7	7.6	46.8	8.2	49.3	9.6
February	43.9	6.6	47.9	8.8	48.6	9.2
March	51.2	10.7	57.4	14.1	55.0	12.8
April	61.2	16.2	66.9	19.4	63.2	17.3
May	71.2	21.8	76.4	24.7	71.4	21.9
June 1-15	78.8	26.0	83.5	28.6	77.6	25.3
June 16-30	87.0	30.6	87.0	30.6	87.0	30.6
July	89.0	31.7	89.0	31.7	89.0	31.7
August	89.0	31.7	89.0	31.7	89.0	31.7
September 1-15	87.0	30.6	87.0	30.6	87.0	30.6
September 16-30	81.0	27.2	84.7	29.3	82.6	28.1
October	74.1	23.4	76.7	24.8	75.5	24.2
November	65.0	18.3	66.2	19.0	66.1	19.0
December	55.8	13.2	55.6	13.1	56.7	13.7

D. pH: No value below 6.0 standard units nor above 9.0 standard units.

E. AMMONIA:

1. Acute Criterion Concentration: The one-hour average concentration of total ammonia nitrogen (mg/L) shall not exceed, more than once every three years on the average, the ACC (acute criterion) calculated using the following equations:

- i. If unionid mussels are present:

$$ACC = 0.7249 * \left( \frac{0.0114}{1 + 10^{7.204 - pH}} + \frac{1.6181}{1 + 10^{pH - 7.204}} \right) * MIN(51.93 \text{ or } 23.12 * 10^{0.036 * (20 - T)})$$

Where: T = Temperature, °C.

- ii. If unionid mussels are absent\*\*:

$$ACC = 0.7249 * \left( \frac{0.0114}{1 + 10^{7.204 - pH}} + \frac{1.6181}{1 + 10^{pH - 7.204}} \right) * MIN(51.93 \text{ or } 62.15 * 10^{0.036 * (20 - T)})$$

Where: T = Temperature, °C.

2. Chronic Criterion Concentration: The 30-day rolling average concentration of total ammonia nitrogen (mg/L) shall not exceed, more than once every three years on the average, the CCC (chronic criterion)

calculated using the following equations:

i. If unionid mussels are present:

$$CCC = 0.8876 * \left( \frac{0.0278}{1 + 10^{7.688-pH}} + \frac{1.1994}{1 + 10^{pH-7.688}} \right) * (2.126 * 10^{0.028*(20-\text{Max}(T \text{ or } 7))})$$

Where: T = Temperature, °C.

ii. If unionid mussels are absent\*\* and when fish early life stages are present (from March 1 to October 31):

$$CCC = 0.9405 * \left( \frac{0.0278}{1 + 10^{7.688-pH}} + \frac{1.1994}{1 + 10^{pH-7.688}} \right) * \text{MIN}(6.920 \text{ or } 7.547 * 10^{0.028*(20-T)})$$

Where: T = Temperature, °C.

iii. If unionid mussels are absent\*\* and when fish early life stages are absent (from November 1 to the last day of February):

$$CCC = 0.9405 * \left( \frac{0.0278}{1 + 10^{7.688-pH}} + \frac{1.1994}{1 + 10^{pH-7.688}} \right) * (7.547 * 10^{0.028*(20-\text{Max}(T \text{ or } 7))})$$

Where: T = Temperature, °C.

iv. In addition, the highest four-day average within the 30-day period should not exceed 2.5 times the chronic criterion.

*Note:* Acute and chronic criteria concentrations for total ammonia-nitrogen (in mg/L) for different combinations of pH and temperature are shown in Appendix A.

\*\* For purposes of determining the applicable water quality-based limitations on ammonia-nitrogen, unionid mussels shall be presumed to be present at all times in the Ohio River unless the applicant demonstrates to the satisfaction of the permitting authority and ORSANCO that mussels are absent.

#### F. CHEMICAL CONSTITUENTS:

1. The following constituents are presented in the total recoverable form. However, Ohio River criteria for these constituents are to be applied in the dissolved form (except for cyanide and selenium) which are calculated by multiplying the criteria in this table by the corresponding conversion factors from the table in Chapter 3.2.F.2, unless it can be demonstrated to the satisfaction of the Commission and its member states that a more appropriate analytical technique is available which provides a measurement of that portion of the metal present which causes toxicity to aquatic life.

Arsenic	340	150
Cadmium	$e^{(1.0166(\ln \text{Hard})-3.924)}$	$e^{(0.7409(\ln \text{Hard})-4.719)}$
Chromium III	$e^{(0.819(\ln \text{Hard})+3.7256)}$	$e^{(0.819(\ln \text{Hard})+0.6848)}$
Chromium VI	16	11
Copper	$e^{(0.9422(\ln \text{Hard})-1.700)}$	$e^{(0.8545(\ln \text{Hard})-1.702)}$
Cyanide (free) *	22	5.2
Lead	$e^{(1.273(\ln \text{Hard})-1.460)}$	$e^{(1.273(\ln \text{Hard})-4.705)}$
Mercury	1.7	0.91
Nickel	$e^{(0.846(\ln \text{Hard})+2.255)}$	$e^{(0.846(\ln \text{Hard})+0.0584)}$
Selenium *		5
Silver	$e^{(1.72(\ln \text{Hard})-6.59)}$	---
Zinc	$e^{(0.8473(\ln \text{Hard})+0.884)}$	$e^{(0.8473(\ln \text{Hard})+0.884)}$

\* Ohio River criteria for cyanide (free) and selenium are to be applied in the total recoverable form as expressed in this table. Hardness is expressed as mg/L of CaCO<sub>3</sub>.

- Conversion factors presented in this table are to be applied to calculate Ohio River criteria in the dissolved form when multiplied by the criteria set forth in the table in Chapter 3.2.F.1 (with the exception of cyanide and selenium). Numeric values for hardness-dependent criteria at specified hardness values are listed in Appendix B.

Constituent	Acute Dissolved Criterion Conversion Factor	Chronic Dissolved Criterion Conversion Factor
Arsenic	1.0	1.0
Cadmium	$1.136672-[\ln(\text{Hard})*(0.041838)]$	$1.101672-[\ln(\text{Hard})*0.041838]$
Chromium (III)	0.316	0.86
Chromium (VI)	0.982	0.962
Copper	0.960	0.960
Lead	$1.46203-[\ln(\text{Hard})*(0.145712)]$	$1.46203-[\ln(\text{Hard})*0.145712]$
Mercury	0.85	0.85
Nickel	0.998	0.997
Silver	0.85	---
Zinc	0.978	0.986

G. OTHER TOXIC SUBSTANCES:

Water quality criteria for substances not otherwise specified in this section shall be derived based on the following:

1. For the protection of aquatic life, methodologies set forth in U.S. EPA's final Water Quality Guidance for the Great Lakes System, adopted in the Federal Register, March 23, 1995, shall be used (see Appendix D).
2. Limiting concentrations other than those derived from the above may be used for the protection of aquatic life when justified on the basis of scientifically defensible evidence.

**3.3 HUMAN HEALTH PROTECTION**

To protect human health, the following criteria shall be met outside the mixing zone:

A. BACTERIA:

1. Protection of public water supply use -- public water supply use shall be protected at all times. Fecal coliform bacteria content shall not exceed 2,000/100 mL as a monthly geometric mean based on not less than five samples per month.
2. Maximum allowable level of *E. coli* bacteria for contact recreation -- for the months of April through October, measurements of *E. coli* bacteria shall not exceed 130/100 mL as a 90-day geometric mean, based on not less than five samples per month, nor exceed 240/100 mL in more than 25 percent of samples.

B. CHEMICAL CONSTITUENTS:

Not to exceed the following concentrations:

<u>Constituent</u>	<u>Concentration (mg/L)</u>
Arsenic (total)	0.010
Barium (total)	1.0
Chloride	250.0
Fluoride	1.0
Mercury (total)	0.000012
Nitrite + Nitrate Nitrogen	10.0
Nitrite Nitrogen	1.0
Phenolics	0.005
Silver (total)	0.05
Sulfate	250.0

- C. **TOTAL AMMONIA-NITROGEN:** Total ammonia-nitrogen shall not exceed 1.0 mg/L at any surface water intake for a public water system providing at least reasonable treatment.
- D. **RADIONUCLIDES:** Gross total alpha activity (including radium-226, but excluding radon and uranium) shall not exceed 15 picocuries per liter (pCi/L) and combined radium-226 and radium-228 shall not exceed 4 pCi/L. Concentration of total gross beta particle activity shall not exceed 50 pCi/L; the concentration of total strontium-90 shall not exceed 8 pCi/L.
- E. **TOTAL DISSOLVED SOLIDS:** To protect drinking water supplies from adverse taste and odor, concentrations of total dissolved solids (TDS) shall not exceed 500 mg/L at Ohio River drinking water intakes.
- F. **TEMPERATURE:** The maximum temperature at any location where public access is possible, whether inside or outside a mixing zone, shall not exceed 110 degrees F to protect human health caused by exposure resulting from water contact.

#### **CHAPTER 4: MIXING ZONE DESIGNATION**

- A. Where mixing zones are allowed by the permitting authority, the specific numerical limits for any mixing zone shall be determined on a case-by-case basis, and shall include considerations for existing uses, linear distance (i.e., length and width) from the point of discharge, surface area involved, and volume of receiving water within the defined zone.
- B. Conditions within the mixing zone shall not be injurious to human health, in the event of a temporary exposure.
- C. Acute water quality criteria, as specified in Chapter 3.2.F, will apply at all points within the mixing zone; except that, states may at their discretion allow a smaller zone in the immediate vicinity of the point of discharge sometimes referred to as a zone of initial dilution in which acute criteria are exceeded, provided the zone does not impact the water of another state, but the acute criteria must be met at the edge of the acute mixing zone or zone of initial dilution. Acute mixing zones shall be calculated in accordance with one of the approaches presented in Appendix E, or by such other method as may be demonstrated to be appropriate to the Commission.
- D. The mixing zone shall be located so as not to interfere significantly with migratory movements and passage of fish, other aquatic life, and wildlife. No mixing zone shall adversely impact water quality so as to interfere with potable or industrial water supplies, bathing areas, reproduction of fish, other aquatic life and wildlife.

- E. In no case shall a permitting authority grant a mixing zone that would likely jeopardize the continued existence of any endangered or threatened species listed under Section 4 of the Federal Endangered Species Act or result in the destruction or adverse modification of such species' critical habitat.
- F. 1. Facilities with discharges which were in existence on or before October 16, 2003 will have mixing zones eliminated for any bioaccumulative chemical of concern (BCC) as soon as is practicable, as determined by the permitting authority, considering the following criteria:
- i. Measures taken during the current permit cycle and an evaluation of those measures proposed to be taken during the next permit cycle to reduce or eliminate the necessity of a mixing zone for each BCC;
  - ii. The concentration and duration of the discharge, bioaccumulation factors and exposure considerations for each BCC for which the mixing zone is sought to be continued.
2. The necessity for continuation of a mixing zone for a BCC shall be evaluated and determined by the permitting authority during each permit renewal and reissuance utilizing the criteria above in subparagraph 1.i. and 1.ii.
3. The addition of waste streams to an existing facility shall be evaluated under this section by the permitting authority at the time of permit review.
4. Mixing zones shall continue to be prohibited for BCCs for discharges from facilities that came into existence after October 16, 2003.
5. No mixing zone for a BCC shall be approved by a permitting authority that would result in a violation of any water quality standard or impairment of any designated use of a waterbody.
6. BCCs are defined as any chemicals that accumulate in aquatic organisms by a human health bioaccumulation factor (BAF) greater than 1000 (after considering various specified factors), and have the potential upon entering surface waters to cause adverse effects, either by themselves or in the form of their toxic transformation, as a result of that accumulation. Currently, the list of BCCs, as described in the Final Rule to Amend the Final Water Quality Guidance for the Great Lakes System to Prohibit Mixing Zones for Bioaccumulative Chemicals of Concern, includes:

Bioaccumulative Chemicals of Concern

Lindane	Mirex
Hexachlorocyclohexane	Hexachlorobenzene
alpha-Hexachlorocyclohexane	Chlordane
beta-Hexachlorocyclohexane	DDD
delta-Hexachlorocyclohexane	DDT
Hexachlorobutadiene	DDE
Photomirex	Octachlorostyrene
1,2,4,5-Tetrachlorobenzene	PCBs
Toxaphene	2,3,7,8-TCDD
Pentachlorobenzene	Mercury
1,2,3,4-Tetrachlorobenzene	Dieldrin

- G. If mixing zones from two or more proximate sources interact or overlap, the combined effect must be evaluated to ensure that applicable values will be met in the area where any applicable mixing zones overlap.

## **CHAPTER 5: WASTEWATER DISCHARGE REQUIREMENTS**

### **5.1 GENERAL**

- A. No discharge of sewage, industrial wastes, toxic wastes, other wastes, cooling water or residues from potable water treatment plants shall cause or contribute to a violation of these wastewater discharge requirements, shall preclude the attainment of any designated use of the main stem waters of the Ohio River, or cause or contribute to a violation of the water quality criteria set forth in Chapter 3.
- B. Each holder of an individual NPDES permit shall post and maintain a permanent marker at the establishment under permit as follows:
1. A marker shall be posted on the stream bank at each outfall discharging directly to the Ohio River.
  2. The marker shall consist of, at a minimum, the name of the establishment to which the permit was issued, the permit number, and the outfall number. The information shall be printed in letters not less than two inches in height.
  3. The marker shall be a minimum of two feet by two feet and shall be a minimum of three feet above ground level.



## 5.2 CRITICAL FLOW

For derivation of effluent limitations, the following river flows shall be used:

- A. For substances identified as human carcinogens, wastewater discharge requirements shall be developed based on the in-stream concentration above the point of discharge, and calculated so as to prevent one additional cancer per one million population at the harmonic mean stream flow (see Appendix C).
- B. For substances not identified as human carcinogens, wastewater discharge requirements shall be developed based on the in-stream concentration above the point of discharge and calculated to meet the water quality criteria at the minimum seven day, ten year flow (see Appendix C).

## 5.3 WASTEWATER DISCHARGES FOR CHEMICAL CONSTITUENTS

Wastewater discharge requirements for these constituents shall be expressed as total recoverable limits based on the dissolved aquatic life criteria multiplied by the appropriate translators, the appropriate in-stream concentration upstream of the point of discharge, and the minimum appropriate critical flow as contained in Appendix C. The appropriate critical flow shall be the seven day, ten year low flow for chronic criteria, and the one day, ten year low flow for acute criteria. The appropriate translators for arsenic, copper, nickel and zinc are in the table below. Translators for cadmium, chromium (III), chromium (VI), lead, mercury, and silver are the inverse of the values contained in the table in Chapter 3.2.F.2. Other translators may be used after successful demonstration to the Commission and its member states.

Constituent	Translators of Upper Ohio River (river miles 0-265)	Translators of Middle Ohio River (river miles 266-629)	Translators of Lower Ohio River (river miles 630-981)
Arsenic	$1+(0.040*TSS)$	$1+(0.023*TSS)$	$1+(0.013*TSS)$
Copper	$1+(0.049*TSS)$	$1+(0.033*TSS)$	$1+(0.023*TSS)$
Nickel	$1+(0.035*TSS)$	$1+(0.039*TSS)$	$1+(0.032*TSS)$
Zinc	$1+(0.21*TSS)$	$1+(0.15*TSS)$	$1+(0.083*TSS)$

Note: Total Suspended Solids (TSS) values in translator formulas are to be applied in units of mg/L.

## 5.4 SEWAGE

- A. MINIMUM LEVEL OF TREATMENT:

Sewage shall be treated prior to discharge, to meet the following effluent limitations in addition to the requirements of Chapter 5.1.

1. Biochemical Oxygen Demand

- i. Five-day biochemical oxygen demand (BOD<sub>5</sub>) -- the arithmetic mean of the values for effluent samples collected in a month shall not exceed 30 mg/L, and the arithmetic mean of the values for effluent samples collected in a week shall not exceed 45 mg/L.
- ii. Five-day carbonaceous biochemical oxygen demand (CBOD<sub>5</sub>) may be substituted for BOD<sub>5</sub>, provided that the arithmetic mean of the values for effluent samples collected in a month shall not exceed 25 mg/L, and the arithmetic mean of the values of effluent samples collected in a week shall not exceed 40 mg/L.

2. Suspended Solids

The arithmetic mean of the values for effluent samples collected in a month shall not exceed 30 mg/L, and the arithmetic mean of the values for effluent samples collected in a week shall not exceed 45 mg/L.

3. pH

The effluent values for pH shall be maintained within the limits of 6.0 to 9.0 standard units.

4. Bacteria

- i. The geometric mean of the fecal coliform bacteria content of effluent samples collected in a month shall not exceed 2,000/100 mL.
- ii. During the months of April through October, the geometric mean of the *E. coli* bacteria content of effluent samples collected in a 90-day period shall not exceed 130/100 mL, and no more than 25 percent of the values shall exceed 240/100 mL.

B. ALTERNATIVE TREATMENT:

Such facilities as waste stabilization ponds and trickling filters shall be deemed to provide effective treatment of sewage, provided that the requirements of Chapter 5.1, 5.4.A are met, that the effluent does not cause any violations of applicable states' water quality standards or Chapter 2 and Chapter 3 of these regulations, and that the following requirements are met:

1. Biochemical Oxygen Demand

- i. Five-day biochemical oxygen demand (BOD<sub>5</sub>) -- the arithmetic mean of the values for effluent samples collected in a month shall

not exceed 45 mg/L; and the arithmetic mean of the values for effluent samples collected in a week shall not exceed 65 mg/L.

- ii. Five-day carbonaceous biochemical oxygen demand (CBOD<sub>5</sub>) may be substituted for BOD<sub>5</sub>, provided that the levels are not less stringent than the following: the arithmetic mean of the values for effluent samples collected in a month shall not exceed 40 mg/L and; the arithmetic mean of the values for effluent samples collected in a week shall not exceed 60 mg/L.

2. Suspended Solids

The arithmetic mean of the values for effluent samples collected in a month shall not exceed 45 mg/L; and the arithmetic mean of the values for effluent samples collected in a week shall not exceed 65 mg/L.

C. COMBINED SEWER SYSTEMS:

1. Prohibition of Dry Weather Discharges

No combined sewer overflow (CSO) to the Ohio River shall occur under dry weather flow conditions unless the discharge is caused by elevated river stage. All discharges from combined sewers must be in compliance with the NPDES permit and the National Combined Sewer Overflow Control Policy.

2. System Overflows During Wet Weather

A direct discharge, if caused by temporary excess flows due to storm water collected and conveyed through combined sewer systems, shall not be considered in violation of these wastewater discharge requirements, providing that the discharger is demonstrating compliance with the nine minimum controls as specified in the National Combined Sewer Overflow Control Policy. The nine minimum controls are as follows:

- i. Proper operation and regular maintenance programs for the sewer system and the CSOs;
- ii. Maximum use of the collection system for storage;
- iii. Review and modification of pre-treatment requirements to assure CSO impacts are minimized;
- iv. Maximization of flow to the POTW for treatment;
- v. Prohibition of CSOs during dry weather;
- vi. Control of solid and floatable materials in CSOs;

- vii. Pollution prevention;
- viii. Public notification to ensure that the public receives adequate notice of CSO occurrences and CSO impacts;
- ix. Monitoring to effectively characterize CSO impacts and the efficacy of CSO controls.

In addition, the system must be operated in accordance with an approved Long Term Control Plan (LTCP), where required, and the discharge must not interfere with the attainment of the water quality criteria set forth in Chapter 3 except in situations where alternative criteria are authorized by the permitting agency and the Commission. Authorization of such alternative criteria shall be based upon and justified through a Use Attainability Analysis (UAA) consistent with 40 CFR 131.10g. The LTCP must be developed and implemented to fully attain the alternative criteria.

The approved LTCP and UAA will identify the conditions, at or above which, the contact recreation use and associated bacteria criteria cannot be achieved, and will identify alternative bacteria criteria that can be achieved. The alternative bacteria criteria shall apply for the period during which conditions exist and shall not exceed 2000 fecal coliform per 100 mL as a monthly geometric mean for the protection of public water supplies.

### 3. Treatment of Flows from Combined Sewer Systems during Wet Weather Conditions

In cases where municipal wastewater treatment plants serving combined sewer areas have primary treatment capacity in excess of secondary treatment capacity, opportunities may exist for partial treatment of combined flows which would otherwise be discharged as untreated combined sewer overflows. In such cases, in order to maximize the treatment of wet weather flows from combined sewer systems and reduce the frequency and duration of combined sewer overflow (CSO) events, bypass of the secondary treatment during wet weather conditions may be allowed on an interim basis, provided the following conditions are met:

- i. the facilities are properly operated and maintained;
- ii. the maximum possible quantity of wastewater (determined through an approved engineering study) receives secondary treatment in accordance with discharge requirements; and
- iii. the discharge does not cause exceedances of water quality criteria in the Ohio River outside the mixing zone.

Bypasses of secondary treatment which are necessary in order to implement a CSO long-term control plan which includes primary treatment options at the municipal wastewater treatment plant may be allowed, provided it is not technically or financially feasible to provide secondary treatment of greater amounts of wet weather flow. The consideration of feasible alternatives should be documented in the development of the long-term control plan.

## **5.5 INDUSTRIAL WASTES, INCLUDING TOXIC WASTES**

- A. The minimum level of treatment for industrial wastes including toxic wastes, prior to discharge, shall be in accordance with national effluent limitations and guidelines adopted by the Administrator of the U.S. EPA pursuant to Sections 301 and 302 of the Federal Clean Water Act, national standards of performance for new sources adopted pursuant to Section 306 of the Federal Clean Water Act, and national toxic and pretreatment effluent limitations, adopted pursuant to Section 307 of the Federal Clean Water Act or in accordance with the standards of the state in which the discharge occurs.
- B. Effluent limitations for discharges of industrial wastes, including toxic wastes may be based on the net discharge of pollutants, provided that the following conditions are met:
  - 1. Any determination for net discharge of pollutants must be made on a pollutant-by-pollutant, outfall-by-outfall basis.
  - 2. A net discharge of pollutants would only be allowed in the absence of a TMDL applicable to the discharge.
  - 3. The facility withdraws 100 percent of the intake water containing the pollutant from the same body of water into which the discharge is made.
  - 4. The facility does not contribute any additional mass of the identified intake pollutant to its wastewater.
  - 5. The facility does not alter the identified intake pollutant chemically or physically in a manner that would cause adverse water quality impacts to occur that would not occur if the pollutants were left in-stream.
  - 6. The facility does not increase the identified intake pollutant concentration, as defined by the permitting authority, at the edge of the mixing zone, or at the point of discharge if a mixing zone is not allowed, as compared to the pollutant concentration in the intake water, unless the increased concentration does not cause or contribute to an excursion above an applicable water quality standard.

7. The timing and location of the discharge would not cause adverse water quality impacts to occur that would not occur if the identified intake pollutant were left in-stream.
- C. Industrial waste treatment facilities shall notify ORSANCO of all upsets and bypasses within two hours of their discovery.

## **5.6 RESIDUES FROM POTABLE WATER TREATMENT PLANTS**

The use of controlled discharge for residues from potable water treatment plant processes of sedimentation, coagulation, and filtration may be authorized provided that, as a minimum, the discharge meets all the requirements of Chapters 3.1 and 5.1.

## **5.7 COOLING WATER**

- A. A discharge of cooling water shall meet the requirements of Chapter 5.1. and shall not cause violations of the temperature criteria set forth in Chapter 3.2.C, except as authorized by a variance issued pursuant to Section 316(a) of the Federal Clean Water Act.
- B. Any cooling water additives that will ultimately be discharged to the environment must be approved by the appropriate state agency.

## **5.8 OTHER WASTES**

The discharge of Other Wastes (other than those specified above) shall meet the requirements of Chapter 5.1 and shall not cause or contribute to a violation of the water quality criteria set forth in Chapter 3.

## **5.9 ANALYTICAL METHODS**

Tests or analytical determinations establish compliance or non-compliance with the Wastewater Discharge Requirements and stream criteria established herein shall be made in accordance with accepted procedures such as those contained in the: (a) latest edition of Standard Methods for the Examination of Water and Wastewater, prepared and published jointly by the American Public Health Association (APHA), American Water Works Association (AWWA), and Water Environment Federation (WEF); (b) Annual Book of ASTM Standards, Part 31 – Water, by the American Society for Testing and Materials; (c) Guidelines Establishing Test Procedures for the Analysis of Pollutants (40 CFR 136) by the U.S. EPA; or (d) by such other methods as are approved by the Commission as equal or superior to or not available within methods in documents listed above, provided such other test methods are available to the public.

# **Appendix A**

**Acute and Chronic Criteria Concentrations  
for Total Ammonia-Nitrogen (in mg/L)  
For Varying Combinations of pH and Temperature**

**Table A1: Temperature and pH-Dependent Values of the Acute Criterion for Total Ammonia Nitrogen; Unionid Mussels Present**

pH	Temperature, Celsius																				
	0-10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
6.5	51	48	44	41	37	34	32	29	27	25	23	21	19	18	16	15	14	13	12	11	9.9
6.6	49	46	42	39	36	33	30	28	26	24	22	20	18	17	16	14	13	12	11	10	9.5
6.7	46	44	40	37	34	31	29	27	24	22	21	19	18	16	15	14	13	12	11	9.8	9.0
6.8	44	41	38	35	32	30	27	25	23	21	20	18	17	15	14	13	12	11	10	9.2	8.5
6.9	41	38	35	32	30	28	25	23	21	20	18	17	15	14	13	12	11	10	9.4	8.6	7.9
7.0	38	35	33	30	28	25	23	21	20	18	17	15	14	13	12	11	10	9.4	8.6	7.9	7.3
7.1	34	32	30	27	25	23	21	20	18	17	15	14	13	12	11	10	9.3	8.5	7.9	7.2	6.7
7.2	31	29	27	25	23	21	19	18	16	15	14	13	12	11	9.8	9.1	8.3	7.7	7.1	6.5	6.0
7.3	27	26	24	22	20	18	17	16	14	13	12	11	10	9.5	8.7	8.0	7.4	6.8	6.3	5.8	5.3
7.4	24	22	21	19	18	16	15	14	13	12	11	9.8	9.0	8.3	7.7	7.0	6.5	6.0	5.5	5.1	4.7
7.5	21	19	18	17	15	14	13	12	11	10	9.2	8.5	7.8	7.2	6.6	6.1	5.6	5.2	4.8	4.4	4.0
7.6	18	17	15	14	13	12	11	10	9.3	8.6	7.9	7.3	6.7	6.2	5.7	5.2	4.8	4.4	4.1	3.8	3.5
7.7	15	14	13	12	11	10	9.3	8.6	7.9	7.3	6.7	6.2	5.7	5.2	4.8	4.4	4.1	3.8	3.5	3.2	2.9
7.8	13	12	11	10	9.3	8.5	7.9	7.2	6.7	6.1	5.6	5.2	4.8	4.4	4.0	3.7	3.4	3.2	2.9	2.7	2.5
7.9	11	9.9	9.1	8.4	7.7	7.1	6.6	6.0	5.6	5.1	4.7	4.3	4.0	3.7	3.4	3.1	2.9	2.6	2.4	2.2	2.1
8.0	8.8	8.2	7.6	7.0	6.4	5.9	5.4	5.0	4.6	4.2	3.9	3.6	3.3	3.0	2.8	2.6	2.4	2.2	2.0	1.9	1.7
8.1	7.2	6.8	6.3	5.8	5.3	4.9	4.5	4.1	3.8	3.5	3.2	3.0	2.7	2.5	2.3	2.1	2.0	1.8	1.7	1.5	1.4
8.2	6.0	5.6	5.2	4.8	4.4	4.0	3.7	3.4	3.1	2.9	2.7	2.4	2.3	2.1	1.9	1.8	1.6	1.5	1.4	1.3	1.2
8.3	4.9	4.6	4.3	3.9	3.6	3.3	3.1	2.8	2.6	2.4	2.2	2.0	1.9	1.7	1.6	1.4	1.3	1.2	1.1	1.0	0.96
8.4	4.1	3.8	3.5	3.2	3.0	2.7	2.5	2.3	2.1	2.0	1.8	1.7	1.5	1.4	1.3	1.2	1.1	1.0	0.93	0.86	0.79
8.5	3.3	3.1	2.9	2.7	2.4	2.3	2.1	1.9	1.8	1.6	1.5	1.4	1.3	1.2	1.1	1.0	0.90	0.83	0.77	0.71	0.65
8.6	2.8	2.6	2.4	2.2	2.0	1.9	1.7	1.6	1.5	1.3	1.2	1.1	1.0	1.0	0.88	0.81	0.75	0.69	0.63	0.58	0.54
8.7	2.3	2.2	2.0	1.8	1.7	1.6	1.4	1.3	1.2	1.1	1.0	0.94	0.87	0.80	0.74	0.68	0.62	0.57	0.53	0.49	0.45
8.8	1.9	1.8	1.7	1.5	1.4	1.3	1.2	1.1	1.0	0.93	0.86	0.79	0.73	0.67	0.62	0.57	0.52	0.48	0.44	0.41	0.37
8.9	1.6	1.5	1.4	1.3	1.2	1.1	1.0	0.93	0.85	0.79	0.72	0.67	0.61	0.56	0.52	0.48	0.44	0.40	0.37	0.34	0.32
9.0	1.4	1.3	1.2	1.1	1.0	0.93	0.86	0.79	0.73	0.67	0.62	0.57	0.52	0.48	0.44	0.41	0.37	0.34	0.32	0.29	0.27



**Table A2: Temperature and pH-Dependent Values of the Acute Criterion for Total Ammonia Nitrogen; Unionid Mussels Absent**

pH	Temperature, Celsius																
	0-14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
<b>6.5</b>	51	51	51	51	51	51	51	51	51	48	44	40	37	34	31	29	27
<b>6.6</b>	49	49	49	49	49	49	49	49	49	46	42	39	36	33	30	28	26
<b>6.7</b>	46	46	46	46	46	46	46	46	46	43	40	37	34	31	29	26	24
<b>6.8</b>	44	44	44	44	44	44	44	44	44	41	38	35	32	29	27	25	23
<b>6.9</b>	41	41	41	41	41	41	41	41	41	38	35	32	30	27	25	23	21
<b>7.0</b>	38	38	38	38	38	38	<b>38</b>	38	38	35	32	30	27	25	23	21	20
<b>7.1</b>	34	34	34	34	34	34	34	34	34	32	29	27	25	23	21	19	18
<b>7.2</b>	31	31	31	31	31	31	31	31	31	29	26	24	22	21	19	17	16
<b>7.3</b>	27	27	27	27	27	27	27	27	27	26	23	22	20	18	17	16	14
<b>7.4</b>	24	24	24	24	24	24	24	24	24	22	21	19	17	16	15	14	13
<b>7.5</b>	21	21	21	21	21	21	21	21	21	19	18	16	15	14	13	12	11
<b>7.6</b>	18	18	18	18	18	18	18	18	18	17	15	14	13	12	11	10	9.3
<b>7.7</b>	15	15	15	15	15	15	15	15	15	14	13	12	11	10	9.3	8.6	7.9
<b>7.8</b>	13	13	13	13	13	13	13	13	13	12	11	10	9.2	8.5	7.8	7.2	6.6
<b>7.9</b>	11	11	11	11	11	11	11	11	11	9.9	9.1	8.4	7.7	7.1	6.5	6.0	5.5
<b>8.0</b>	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.2	7.5	6.9	6.4	5.9	5.4	5.0	4.6
<b>8.1</b>	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	6.8	6.2	5.7	5.3	4.9	4.5	4.1	3.8
<b>8.2</b>	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	5.6	5.1	4.7	4.4	4.0	3.7	3.4	3.1
<b>8.3</b>	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.6	4.2	3.9	3.6	3.3	3.0	2.8	2.6
<b>8.4</b>	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	3.8	3.4	3.2	3.0	2.7	2.5	2.3	2.1
<b>8.5</b>	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.1	2.9	2.6	2.4	2.2	2.1	1.9	1.8
<b>8.6</b>	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.6	2.4	2.2	2.0	1.9	1.7	1.6	1.4
<b>8.7</b>	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.2	2.0	1.8	1.7	1.5	1.4	1.3	1.2
<b>8.8</b>	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.7	1.5	1.4	1.3	1.2	1.1	1.0
<b>8.9</b>	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5	1.4	1.3	1.2	1.1	1.0	0.92	0.85
<b>9.0</b>	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.3	1.2	1.1	1.0	0.93	0.85	0.78	0.72

**Table A3: Temperature and pH-Dependent Values of the Chronic Criterion for Total Ammonia Nitrogen; Unionid Mussels Present**

pH	Temperature, Celsius																							
	0-7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
6.5	4.9	4.6	4.3	4.1	3.8	3.6	3.3	3.1	2.9	2.8	2.6	2.4	2.3	2.1	2.0	1.9	1.8	1.6	1.5	1.5	1.4	1.3	1.2	1.1
6.6	4.8	4.5	4.3	4.0	3.8	3.5	3.3	3.1	2.9	2.7	2.5	2.4	2.2	2.1	2.0	1.8	1.7	1.6	1.5	1.4	1.3	1.3	1.2	1.1
6.7	4.8	4.5	4.2	3.9	3.7	3.5	3.2	3.0	2.8	2.7	2.5	2.3	2.2	2.1	1.9	1.8	1.7	1.6	1.5	1.4	1.3	1.2	1.2	1.1
6.8	4.6	4.4	4.1	3.8	3.6	3.4	3.2	3.0	2.8	2.6	2.4	2.3	2.1	2.0	1.9	1.8	1.7	1.6	1.5	1.4	1.3	1.2	1.1	1.1
6.9	4.5	4.2	4.0	3.7	3.5	3.3	3.1	2.9	2.7	2.5	2.4	2.2	2.1	2.0	1.8	1.7	1.6	1.5	1.4	1.3	1.2	1.2	1.1	1.0
7.0	4.4	4.1	3.8	3.6	3.4	3.2	3.0	2.8	2.6	2.4	2.3	2.2	2.0	1.9	1.8	1.7	1.6	1.5	1.4	1.3	1.2	1.1	1.1	1.0
7.1	4.2	3.9	3.7	3.5	3.2	3.0	2.8	2.7	2.5	2.3	2.2	2.1	1.9	1.8	1.7	1.6	1.5	1.4	1.3	1.2	1.2	1.1	1.0	1.0
7.2	4.0	3.7	3.5	3.3	3.1	2.9	2.7	2.5	2.4	2.2	2.1	2.0	1.8	1.7	1.6	1.5	1.4	1.3	1.3	1.2	1.1	1.0	1.0	0.90
7.3	3.8	3.5	3.3	3.1	2.9	2.7	2.6	2.4	2.2	2.1	2.0	1.8	1.7	1.6	1.5	1.4	1.3	1.3	1.2	1.1	1.0	1.0	0.91	0.85
7.4	3.5	3.3	3.1	2.9	2.7	2.5	2.4	2.2	2.1	2.0	1.8	1.7	1.6	1.5	1.4	1.3	1.3	1.2	1.1	1.0	1.0	0.90	0.85	0.79
7.5	3.2	3.0	2.8	2.7	2.5	2.3	2.2	2.1	1.9	1.8	1.7	1.6	1.5	1.4	1.3	1.2	1.2	1.1	1.0	1.0	0.89	0.83	0.78	0.73
7.6	2.9	2.8	2.6	2.4	2.3	2.1	2.0	1.9	1.8	1.6	1.5	1.4	1.4	1.3	1.2	1.1	1.1	1.0	0.92	0.86	0.81	0.76	0.71	0.67
7.7	2.6	2.4	2.3	2.2	2.0	1.9	1.8	1.7	1.6	1.5	1.4	1.3	1.2	1.1	1.1	1.0	0.94	0.88	0.83	0.78	0.73	0.68	0.64	0.60
7.8	2.3	2.2	2.1	1.9	1.8	1.7	1.6	1.5	1.4	1.3	1.2	1.2	1.1	1.0	1.0	0.89	0.84	0.79	0.74	0.69	0.65	0.61	0.57	0.53
7.9	2.1	1.9	1.8	1.7	1.6	1.5	1.4	1.3	1.2	1.2	1.1	1.0	1.0	0.89	0.84	0.79	0.74	0.69	0.65	0.61	0.57	0.53	0.50	0.47
8.0	1.8	1.7	1.6	1.5	1.4	1.3	1.2	1.1	1.1	1.0	0.94	0.88	0.83	0.78	0.73	0.68	0.64	0.60	0.56	0.53	0.50	0.44	0.44	0.41
8.1	1.5	1.5	1.4	1.3	1.2	1.1	1.1	1.0	0.92	0.87	0.81	0.76	0.71	0.67	0.63	0.59	0.55	0.52	0.49	0.46	0.43	0.40	0.38	0.35
8.2	1.3	1.2	1.2	1.1	1.0	1.0	0.90	0.84	0.79	0.74	0.70	0.65	0.61	0.57	0.54	0.50	0.47	0.44	0.42	0.39	0.37	0.34	0.32	0.30
8.3	1.1	1.1	1.0	0.93	0.87	0.82	0.76	0.72	0.67	0.63	0.59	0.55	0.52	0.49	0.46	0.43	0.40	0.38	0.35	0.33	0.31	0.29	0.27	0.26
8.4	0.95	0.89	0.84	0.79	0.74	0.69	0.65	0.61	0.57	0.53	0.50	0.47	0.44	0.41	0.39	0.36	0.34	0.32	0.30	0.28	0.26	0.25	0.23	0.22
8.5	0.80	0.75	0.71	0.67	0.62	0.58	0.55	0.51	0.48	0.45	0.42	0.40	0.37	0.35	0.33	0.31	0.29	0.27	0.25	0.24	0.22	0.21	0.20	0.18
8.6	0.68	0.64	0.60	0.56	0.53	0.49	0.46	0.43	0.41	0.38	0.36	0.33	0.31	0.29	0.28	0.26	0.24	0.23	0.21	0.20	0.19	0.18	0.16	0.15
8.7	0.57	0.54	0.51	0.47	0.44	0.42	0.39	0.37	0.34	0.32	0.30	0.28	0.27	0.25	0.23	0.22	0.21	0.19	0.18	0.17	0.16	0.15	0.14	0.13
8.8	0.49	0.46	0.43	0.40	0.38	0.35	0.33	0.31	0.29	0.27	0.26	0.24	0.23	0.21	0.20	0.19	0.17	0.16	0.15	0.14	0.13	0.13	0.12	0.11
8.9	0.42	0.39	0.37	0.34	0.32	0.30	0.28	0.27	0.25	0.23	0.22	0.21	0.19	0.18	0.17	0.16	0.15	0.14	0.13	0.12	0.12	0.11	0.10	0.09
9.0	0.36	0.34	0.32	0.30	0.28	0.26	0.24	0.23	0.21	0.20	0.19	0.18	0.17	0.16	0.15	0.14	0.13	0.12	0.11	0.11	0.10	0.09	0.09	0.08

**Table A4: Temperature and pH-Dependent Values of the Chronic Criterion for Total Ammonia Nitrogen; Unionid Mussels Absent and Fish Early Life Stages Present (March 1 – October 31)**

pH	Temperature, Celsius																
	0-14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
6.5	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.0	6.6	6.2	5.8	5.4	5.1	4.8	4.5	4.2
6.6	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	6.9	6.5	6.1	5.7	5.4	5.0	4.7	4.4	4.1
6.7	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	6.8	6.4	6.0	5.6	5.3	4.9	4.6	4.3	4.1
6.8	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.6	6.2	5.8	5.5	5.1	4.8	4.5	4.2	4.0
6.9	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.5	6.1	5.7	5.3	5.0	4.7	4.4	4.1	3.9
7.0	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.2	5.8	5.5	5.1	4.8	4.5	4.2	4.0
7.1	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.0	5.6	5.3	4.9	4.6	4.3	4.1	3.8	3.6
7.2	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.7	5.3	5.0	4.7	4.4	4.1	3.9	3.6	3.4
7.3	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.4	5.0	4.7	4.4	4.1	3.9	3.6	3.4	3.2
7.4	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.0	4.7	4.4	4.1	3.9	3.6	3.4	3.2	3.0
7.5	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.6	4.3	4.1	3.8	3.6	3.3	3.1	2.9	2.8
7.6	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.2	3.9	3.7	3.5	3.2	3.0	2.9	2.7	2.5
7.7	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.8	3.5	3.3	3.1	2.9	2.7	2.6	2.4	2.3
7.8	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.4	3.2	3.0	2.8	2.6	2.4	2.3	2.1	2.0
7.9	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.0	2.8	2.6	2.4	2.3	2.1	2.0	1.9	1.8
8.0	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.6	2.4	2.3	2.1	2.0	1.9	1.7	1.6	1.5
8.1	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.2	2.1	1.9	1.8	1.7	1.6	1.5	1.4	1.3
8.2	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.8	1.7	1.6	1.5	1.4	1.3	1.2	1.1
8.3	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.5	1.4	1.3	1.2	1.2	1.1	1.0	0.96
8.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.3	1.2	1.1	1.1	0.99	0.93	0.87	0.81
8.5	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.1	1.0	0.95	0.89	0.83	0.78	0.73	0.69
8.6	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.97	0.91	0.85	0.80	0.75	0.70	0.66	0.62	0.58
8.7	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.82	0.77	0.72	0.68	0.64	0.60	0.56	0.52	0.49
8.8	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.70	0.65	0.61	0.58	0.54	0.51	0.47	0.44	0.42
8.9	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.60	0.56	0.52	0.49	0.46	0.43	0.41	0.38	0.36
9.0	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.51	0.48	0.45	0.42	0.40	0.37	0.35	0.33	0.31

**Table A5: Temperature and pH-Dependent Values of the Chronic Criterion for Total Ammonia Nitrogen; Unionid Mussels Absent and Fish Early Life Stages Absent (November 1 – February 29)**

pH	Temperature, Celsius																							
	0-7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
6.5	19	17	16	15	14	13	13	12	11	10	9.7	9.1	8.5	8.0	7.5	7.0	6.6	6.2	5.8	5.4	5.1	4.8	4.5	4.2
6.6	18	17	16	15	14	13	12	12	11	10	9.6	9.0	8.4	7.9	7.4	6.9	6.5	6.1	5.7	5.4	5.0	4.7	4.4	4.1
6.7	18	17	16	15	14	13	12	11	11	10	9.4	8.8	8.3	7.7	7.3	6.8	6.4	6.0	5.6	5.3	4.9	4.6	4.3	4.1
6.8	17	16	15	14	14	13	12	11	10	9.8	9.2	8.6	8.1	7.6	7.1	6.7	6.2	5.8	5.5	5.1	4.8	4.5	4.2	4.0
6.9	17	16	15	14	13	12	12	11	10	9.5	8.9	8.4	7.8	7.4	6.9	6.5	6.1	5.7	5.3	5.0	4.7	4.4	4.1	3.9
7.0	16	15	14	14	13	12	11	10	9.8	9.2	8.6	8.1	7.6	7.1	6.7	6.2	5.9	5.5	5.1	4.8	4.5	4.2	4.0	3.7
7.1	16	15	14	13	12	11	11	10	9.4	8.8	8.3	7.7	7.3	6.8	6.4	6.0	5.6	5.3	4.9	4.6	4.3	4.1	3.8	3.6
7.2	15	14	13	12	12	11	10	9.5	9.0	8.4	7.9	7.4	6.9	6.5	6.1	5.7	5.3	5.0	4.7	4.4	4.1	3.9	3.6	3.4
7.3	14	13	12	12	11	10	9.6	9.0	8.4	7.9	7.4	6.9	6.5	6.1	5.7	5.4	5.0	4.7	4.4	4.1	3.9	3.6	3.4	3.2
7.4	13	12	12	11	10	9.5	9.0	8.4	7.9	7.4	6.9	6.5	6.1	5.7	5.3	5.0	4.7	4.4	4.1	3.9	3.6	3.4	3.2	3.0
7.5	12	11	11	10	9.4	8.8	8.2	7.7	7.2	6.8	6.4	6.0	5.6	5.2	4.9	4.6	4.3	4.1	3.8	3.6	3.3	3.1	2.9	2.8
7.6	11	10	10	9.1	8.5	8.0	7.5	7.0	6.6	6.2	5.8	5.4	5.1	4.8	4.5	4.2	3.9	3.7	3.5	3.2	3.0	2.9	2.7	2.5
7.7	9.9	9.3	8.7	8.1	7.7	7.2	6.8	6.3	5.9	5.6	5.2	4.9	4.6	4.3	4.0	3.8	3.5	3.3	3.1	2.9	2.7	2.6	2.4	2.3
7.8	8.8	8.3	7.8	7.3	6.8	6.4	6.0	5.6	5.3	5.0	4.6	4.4	4.1	3.8	3.6	3.4	3.2	3.0	2.8	2.6	2.4	2.3	2.1	2.0
7.9	7.8	7.3	6.8	6.4	6.0	5.6	5.3	5.0	4.6	4.4	4.1	3.8	3.6	3.4	3.2	3.0	2.8	2.6	2.4	2.3	2.1	2.0	1.9	1.8
8.0	6.8	6.3	6.0	5.6	5.2	4.9	4.6	4.3	4.0	3.8	3.6	3.3	3.1	2.9	2.7	2.6	2.4	2.3	2.1	2.0	1.9	1.7	1.6	1.5
8.1	5.8	5.5	5.1	4.8	4.5	4.2	4.0	3.7	3.5	3.3	3.1	2.9	2.7	2.5	2.4	2.2	2.1	2.0	1.8	1.7	1.6	1.5	1.4	1.3
8.2	5.0	4.7	4.4	4.1	3.9	3.6	3.4	3.2	3.0	2.8	2.6	2.5	2.3	2.2	2.0	1.9	1.8	1.7	1.6	1.5	1.4	1.3	1.2	1.1
8.3	4.2	4.0	3.7	3.5	3.3	3.1	2.9	2.7	2.5	2.4	2.2	2.1	2.0	1.8	1.7	1.6	1.5	1.4	1.3	1.2	1.2	1.1	1.0	1.0
8.4	3.6	3.4	3.2	3.0	2.8	2.6	2.4	2.3	2.1	2.0	1.9	1.8	1.7	1.6	1.5	1.4	1.3	1.2	1.1	1.1	1.0	0.92	0.87	0.81
8.5	3.0	2.8	2.7	2.5	2.3	2.2	2.1	1.9	1.8	1.7	1.6	1.5	1.4	1.3	1.2	1.2	1.1	1.0	1.0	0.89	0.83	0.78	0.73	0.69
8.6	2.6	2.4	2.2	2.1	2.0	1.9	1.7	1.6	1.5	1.4	1.3	1.3	1.2	1.1	1.0	1.0	0.91	0.85	0.80	0.75	0.70	0.66	0.62	0.58
8.7	2.2	2.0	1.9	1.8	1.7	1.6	1.5	1.4	1.3	1.2	1.1	1.1	1.0	0.93	0.88	0.82	0.77	0.72	0.68	0.63	0.60	0.56	0.52	0.49
8.8	1.8	1.7	1.6	1.5	1.4	1.3	1.3	1.2	1.1	1.0	1.0	0.90	0.85	0.79	0.74	0.70	0.65	0.61	0.58	0.54	0.51	0.47	0.44	0.42
8.9	1.6	1.5	1.4	1.3	1.2	1.1	1.1	1.0	0.94	0.88	0.82	0.77	0.72	0.68	0.64	0.60	0.56	0.52	0.49	0.46	0.43	0.40	0.38	0.36
9.0	1.4	1.3	1.2	1.1	1.0	1.0	0.92	0.87	0.81	0.76	0.71	0.66	0.62	0.58	0.55	0.51	0.48	0.45	0.42	0.40	0.37	0.35	0.33	0.31

# Appendix B

## Dissolved Metals Criteria

**Table B1: Numerical Values of Dissolved Metals Criteria at Specified Hardness Levels**

Hardness	Cadmium		Chromium (III)		Lead		Silver	
	Acute Criterion (ug/L)	Chronic Criterion (ug/L)	Acute Criterion (ug/L)	Chronic Criterion (ug/L)	Acute Criterion (ug/L)	Chronic Criterion (ug/L)	Acute Criterion (ug/L)	Chronic Criterion (ug/L)
50	1.03	0.15	323	42.0	30.1	1.17	0.98	---
100	2.01	0.25	570	74.1	64.6	2.52	3.22	---
150	2.99	0.33	794	103	100	3.90	6.46	---
200	3.95	0.40	1005	131	136	5.31	10.6	---
250	4.90	0.46	1207	157	172	6.72	15.6	---
300	5.85	0.53	1401	182	209	8.13	21.3	---

Hardness	Copper		Nickel		Zinc	
	Acute Criterion (ug/L)	Chronic Criterion (ug/L)	Acute Criterion (ug/L)	Chronic Criterion (ug/L)	Acute Criterion (ug/L)	Chronic Criterion (ug/L)
50	6.99	4.95	261	28.9	65.1	65.7
100	13.4	8.96	469	52.0	117	118
150	19.7	12.7	660	73.3	165	167
200	25.8	16.2	842	93.5	211	213
250	31.9	19.6	1017	113	255	257
300	37.8	22.9	1187	132	297	300

# Appendix C

## Critical Flow Values

FROM	TO	Minimum 7-day 10-year Low-Flow, cfs <sup>1</sup>	Minimum 1-day 10-year Low-Flow, cfs <sup>2</sup>	Harmonic Mean Flow, cfs <sup>2</sup>
Pittsburgh (MP 0.0)	Montgomery Dam (MP 31.7)	4,730	4,200	16,200
Montgomery Dam (MP 31.7)	Willow Island Dam (MP 161.7)	5,880	5,000	20,500
Willow Island Dam (MP 161.7)	Racine Dam (MP 237.5)	6,560	5,170	24,500
Racine Dam (MP 237.5)	R.C. Byrd Dam (MP 279.2)	6,700	5,170	26,000
R.C. Byrd Dam (MP 279.2)	Guyandotte River (MP 305.2)	9,120	5,870	34,500
Guyandotte River (MP 305.2)	Big Sandy River (MP 317.1)	9,300	6,000	35,900
Big Sandy River (MP 317.1)	Greenup Dam (MP 341.0)	10,000	7,000	38,400
Greenup Dam (MP 341.0)	Meldahl Dam (MP 436.2)	10,600	7,960	42,100
Meldahl Dam (MP 436.2)	McAlpine Dam (MP 606.8)	10,600	8,670	45,300
McAlpine Dam (MP 606.8)	Newburgh Dam (MP 776.1)	11,000	8,670	49,000
Newburgh Dam (MP 776.1)	J.T. Myers Dam (MP 846.0)	12,900	10,000	60,900
J.T. Myers Dam (MP 846.0)	Smithland Dam (MP 918.5)	16,900	12,700	78,600
Smithland Dam (MP 918.5)	Cairo Point (MP 981.0)	51,000	40,900	175,000

<sup>1</sup>Minimum 7-day, 10-year flow (in cubic feet per second) provided by the U.S. Army Corps of Engineers.

<sup>2</sup>Based on Commission analysis of stream flow data provided by the U.S. Army Corps of Engineers.

# Appendix D

## Great Lakes Water Quality Initiative Methodologies for Development of Aquatic Life Criteria and Values

### Methodology for Deriving Aquatic Life Criteria: Tier I

Great Lakes States and Tribes shall adopt provisions consistent with (as protective as) this appendix.

#### I. Definitions

- A. **Material of Concern.** When defining the material of concern, the following should be considered:
1. Each separate chemical that does not ionize substantially in most natural bodies of water should usually be considered a separate material, except possibly for structurally similar organic compounds that only exist in large quantities as commercial mixtures of the various compounds and apparently have similar biological, chemical, physical, and toxicological properties.
  2. For chemicals that ionize substantially in most natural bodies of water (e.g., some phenols and organic acids, some salts of phenols and organic acids, and most inorganic salts and coordination complexes of metals and metalloid), all forms that would be in chemical equilibrium should usually be considered one material. Each different oxidation state of a metal and each different non-ionizable covalently bonded organometallic compound should usually be considered a separate material.
  3. The definition of the material of concern should include an operational analytical component. Identification of a material simply as "sodium," for example, implies "total sodium," but leaves room for doubt. If "total" is meant, it must be explicitly stated. Even "total" has different operational definitions, some of which do not necessarily measure "all that is there" in all samples. Thus, it is also necessary to reference or describe the analytical method that is intended. The selection of the operational analytical component should take into account the analytical and environmental chemistry of the material and various practical considerations, such as labor and equipment requirements, and whether the

method would require measurement in the field or would allow measurement after samples are transported to a laboratory.

- a. The primary requirements of the operational analytical component are that it be appropriate for use on samples of receiving water, that it be compatible with the available toxicity and bioaccumulation data without making extrapolations that are too hypothetical, and that it rarely results in underprotection or overprotection of aquatic organisms and their uses. Toxicity is the property of a material, or combination of materials, to adversely affect organisms.
- b. Because an ideal analytical measurement will rarely be available, an appropriate compromise measurement will usually have to be used. This compromise measurement must fit with the general approach that if an ambient concentration is lower than the criterion, unacceptable effects will probably not occur, i.e., the compromise measure must not err on the side of underprotection when measurements are made on a surface water. What is an appropriate measurement in one situation might not be appropriate for another. For example, because the chemical and physical properties of an effluent are usually quite different from those of the receiving water, an analytical method that is appropriate for analyzing an effluent might not be appropriate for expressing a criterion, and vice versa. A criterion should be based on an appropriate analytical measurement, but the criterion is not rendered useless if an ideal measurement either is not available or is not feasible.

**Note:** The analytical chemistry of the material might have to be taken into account when defining the material or when judging the acceptability of some toxicity tests, but a criterion must not be based on the sensitivity of an analytical method. When aquatic organisms are more sensitive than routine analytical methods, the proper solution is to develop better analytical methods.

4. It is now the policy of U.S. EPA that the use of dissolved metals to set and measure compliance with water quality standards is the recommended approach, because dissolved metals more closely approximates the bioavailable fraction of metal in the water column than does total recoverable metal. One reason is that a primary mechanism for water column toxicity is adsorption at the gill surface which requires metals to be in the dissolved form. Reasons for the consideration of total recoverable metals criteria include risk management considerations not covered by evaluation of water column toxicity. A risk manager may consider sediments and food chain effects and may decide to take a conservative approach for metals, considering that metals are very persistent chemicals. This approach could include the use of total recoverable metals in water



quality standards. A range of different risk management decisions can be justified. U.S. EPA recommends that State water quality standards be based on dissolved metals. U.S. EPA will also approve a State risk management decision to adopt standards based on total recoverable metals, if those standards are otherwise approvable under this program.

- B. **Acute Toxicity.** Concurrent and delayed adverse effect(s) that results from an acute exposure and occurs within any short observation period which begins when the exposure begins, may extend beyond the exposure period, and usually does not constitute a substantial portion of the life span of the organism. (Concurrent toxicity is an adverse effect to an organism that results from, and occurs during, its exposure to one or more test materials.) Exposure constitutes contact with a chemical or physical agent. Acute exposure, however, is exposure of an organism for any short period which usually does not constitute a substantial portion of its life span.
- C. **Chronic Toxicity.** Concurrent and delayed adverse effect(s) that occurs only as a result of a chronic exposure. Chronic exposure is exposure of an organism for any long period or for a substantial portion of its life span.

## II. Collection Of Data

- A. Collect all data available on the material concerning toxicity to aquatic animals and plants.
- B. All data that are used should be available in typed, dated, and signed hard copy (e.g., publication, manuscript, letter, memorandum, etc.) with enough supporting information to indicate that acceptable test procedures were used and that the results are reliable. In some cases, it might be appropriate to obtain written information from the investigator, if possible. Information that is not available for distribution shall not be used.
- C. Questionable data, whether published or unpublished, must not be used. For example, data must be rejected if they are from tests that did not contain a control treatment, and tests in which too many organisms in the control treatment died or showed signs of stress or disease.
- D. Data on technical grade materials may be used, if appropriate, but data on formulated mixtures and emulsifiable concentrates of the material must not be used.
- E. For some highly volatile, hydrolyzable, or degradable materials, it might be appropriate to use only results of flow-through tests in which the concentrations of test material in test solutions were measured using acceptable analytical methods. A flow-through test is a test with aquatic organisms in which test solutions flow into constant-volume test chambers either intermittently (e.g., every few minutes) or continuously, with the excess flowing out.

- F. Data must be rejected if obtained using:
1. Brine shrimp, because they usually only occur naturally in water with salinity greater than 35 g/kg.
  2. Species that do not have reproducing wild populations in North America.
  3. Organisms that were previously exposed to substantial concentrations of the test material or other contaminants.
  4. Saltwater species except for use in deriving Acute-Chronic Ratios (ACR). An ACR is a standard measure of the acute toxicity of a material divided by an appropriate measure of the chronic toxicity of the same material under comparable conditions.
- G. Questionable data, data on formulated mixtures and emulsifiable concentrates, and data obtained with species non-resident to North America or previously exposed organisms may be used to provide auxiliary information but must not be used in the derivation of criteria.

### **III. Required Data**

- A. Certain data should be available to help ensure that each of the major kinds of possible adverse effects receives adequate consideration. An adverse effect is a change in an organism that is harmful to the organism. Exposure means contact with a chemical or physical agent. Results of acute and chronic toxicity tests with representative species of aquatic animals are necessary so that data available for tested species can be considered a useful indication of the sensitivities of appropriate untested species. Fewer data concerning toxicity to aquatic plants are usually available because procedures for conducting tests with plants and interpreting the results of such tests are not as well developed.
- B. To derive a Tier I criterion for aquatic organisms and their uses, the following must be available:
1. Results of acceptable acute (or chronic) tests (see section IV or VI of this appendix) with at least one species of freshwater animal in at least eight different families such that all of the following are included:
    - a. The family Salmonidae in the class Osteichthyes;
    - b. One other family (preferably a commercially or recreationally important, warmwater species) in the class Osteichthyes (e.g., bluegill, channel catfish);
    - c. A third family in the phylum Chordata (e.g., fish, amphibian);
    - d. A planktonic crustacean (e.g., a cladoceran, copepod);
    - e. A benthic crustacean (e.g., ostracod, isopod, amphipod, crayfish);

- f. An insect (e.g., mayfly, dragonfly, damselfly, stonefly, caddisfly, mosquito, midge);
    - g. A family in a phylum other than Arthropoda or Chordata (e.g., Rotifera, Annelida, Mollusca);
    - h. A family in any order of insect or any phylum not already represented.
  - 2. Acute-chronic ratios (see section VI of this appendix) with at least one species of aquatic animal in at least three different families provided that of the three species:
    - a. At least one is a fish,
    - b. At least one is an invertebrate, and
    - c. At least one species is an acutely sensitive freshwater species.
  - 3. Results of at least one acceptable test with a freshwater algae or vascular plant is desirable but not required for criterion derivation (see section VIII of this appendix). If plants are among the aquatic organisms most sensitive to the material, results of a test with a plant in another phylum (division) should also be available.
- C. If all required data are available, a numerical criterion can usually be derived except in special cases. For example, derivation of a chronic criterion might not be possible if the available ACRs vary by more than a factor of ten with no apparent pattern. Also, if a criterion is to be related to a water quality characteristic (see sections V and VII of this appendix), more data will be required.
- D. Confidence in a criterion usually increases as the amount of available pertinent information increases. Thus, additional data are usually desirable.

#### **IV. Final Acute Value**

- A. Appropriate measures of the acute (short-term) toxicity of the material to a variety of species of aquatic animals are used to calculate the Final Acute Value (FAV). The calculated FAV is a calculated estimate of the concentration of a test material such that 95 percent of the genera (with which acceptable acute toxicity tests have been conducted on the material) have higher Genus Mean Acute Values (GMAVs). An acute test is a comparative study in which organisms, that are subjected to different treatments, are observed for a short period usually not constituting a substantial portion of their life span. However, in some cases, the Species Mean Acute Value (SMAV) of a commercially or recreationally important species is lower than the calculated FAV, then the SMAV replaces the calculated FAV in order to provide protection for that important species.
- B. Acute toxicity tests shall be conducted using acceptable procedures. For good examples of acceptable procedures see American Society for Testing and

Materials (ASTM) Standard E 729, Guide for Conducting Acute Toxicity Tests with Fishes, Macroinvertebrates and Amphibians.

- C. Results of acute tests during which the test organisms were fed should not be used, unless data indicate that the food did not affect the toxicity of the test material.
- D. Results of acute tests conducted in unusual dilution water, e.g., dilution water in which total organic carbon or particulate matter exceeded five mg/L, should not be used, unless a relationship is developed between acute toxicity and organic carbon or particulate matter, or unless data show that organic carbon or particulate matter, etc., do not affect toxicity.
- E. Acute values must be based upon endpoints which reflect the total severe adverse impact of the test material on the organisms used in the test. Therefore, only the following kinds of data on acute toxicity to aquatic animals shall be used:
  - 1. Tests with daphnids and other cladocerans must be started with organisms less than 24 hours old and tests with midges must be started with second or third instar larvae. It is preferred that the results should be the 48-hour EC50 based on the total percentage of organisms killed and immobilized. If such an EC50 is not available for a test, the 48-hour LC50 should be used in place of the desired 48-hour EC50. An EC50 or LC50 of longer than 48 hours can be used as long as the animals were not fed and the control animals were acceptable at the end of the test. An EC50 is a statistically or graphically estimated concentration that is expected to cause one or more specified effects in 50 percent of a group of organisms under specified conditions. An LC50 is a statistically or graphically estimated concentration that is expected to be lethal to 50 percent of a group of organisms under specified conditions.
  - 2. It is preferred that the results of a test with embryos and larvae of barnacles, bivalve mollusks (clams, mussels, oysters and scallops), sea urchins, lobsters, crabs, shrimp and abalones be the 96-hour EC50 based on the percentage of organisms with incompletely developed shells plus the percentage of organisms killed. If such an EC50 is not available from a test, of the values that are available from the test, the lowest of the following should be used in place of the desired 96-hour EC50: 48- to 96-hour EC50s based on percentage of organisms with incompletely developed shells plus percentage of organisms killed, 48- to 96-hour EC50s based upon percentage of organisms with incompletely developed shells, and 48-hour to 96-hour LC50s.
  - 3. It is preferred that the result of tests with all other aquatic animal species and older life stages of barnacles, bivalve mollusks (clams, mussels, oysters and scallops), sea urchins, lobsters, crabs, shrimp and abalones be the 96-hour EC50 based on percentage of organisms exhibiting loss of

equilibrium plus percentage of organisms immobilized plus percentage of organisms killed. If such an EC50 is not available from a test, of the values that are available from a test the lower of the following should be used in place of the desired 96-hour EC50: the 96-hour EC50 based on percentage of organisms exhibiting loss of equilibrium plus percentage of organisms immobilized and the 96-hour LC50.

4. Tests whose results take into account the number of young produced, such as most tests with protozoans, are not considered acute tests, even if the duration was 96 hours or less.
  5. If the tests were conducted properly, acute values reported as "greater than" values and those that are above the solubility of the test material should be used, because rejection of such acute values would bias the FAV by eliminating acute values for resistant species.
- F. If the acute toxicity of the material to aquatic animals has been shown to be related to a water quality characteristic such as hardness or particulate matter for freshwater animals, refer to section V of this appendix.
- G. The agreement of the data within and between species must be considered. Acute values that appear to be questionable in comparison with other acute and chronic data for the same species and for other species in the same genus must not be used. For example, if the acute values available for a species or genus differ by more than a factor of ten, rejection of some or all of the values would be appropriate, absent countervailing circumstances.
- H. If the available data indicate that one or more life stages are at least a factor of two more resistant than one or more other life stages of the same species, the data for the more resistant life stages must not be used in the calculation of the SMAV because a species cannot be considered protected from acute toxicity if all of the life stages are not protected.
- I. For each species for which at least one acute value is available, the SMAV shall be calculated as the geometric mean of the results of all acceptable flow-through acute toxicity tests in which the concentrations of test material were measured with the most sensitive tested life stage of the species. For a species for which no such result is available, the SMAV shall be calculated as the geometric mean of all acceptable acute toxicity tests with the most sensitive tested life stage, i.e., results of flow-through tests in which the concentrations were not measured and results of static and renewal tests based on initial concentrations (nominal concentrations are acceptable for most test materials if measured concentrations are not available) of test material. A renewal test is a test with aquatic organisms in which either the test solution in a test chamber is removed and replaced at least once during the test or the test organisms are transferred into a new test solution of the same composition at least once during the test. A static test is a test with aquatic organisms in which the solution and organisms that are in a test chamber

at the beginning of the test remain in the chamber until the end of the test, except for removal of dead test organisms.

**Note 1:** Data reported by original investigators must not be rounded off. Results of all intermediate calculations must not be rounded off to fewer than four significant digits.

**Note 2:** The geometric mean of N numbers is the  $N^{\text{th}}$  root of the product of the N numbers. Alternatively, the geometric mean can be calculated by adding the logarithms of the N numbers, dividing the sum by N, and taking the antilog of the quotient. The geometric mean of two numbers is the square root of the product of the two numbers, and the geometric mean of one number is that number. Either natural (base e) or common (base 10) logarithms can be used to calculate geometric means as long as they are used consistently within each set of data, i.e., the antilog used must match the logarithms used.

**Note 3:** Geometric means, rather than arithmetic means, are used here because the distributions of sensitivities of individual organisms in toxicity tests on most materials and the distributions of sensitivities of species within a genus are more likely to be lognormal than normal. Similarly, geometric means are used for ACRs because quotients are likely to be closer to lognormal than normal distributions. In addition, division of the geometric mean of a set of numerators by the geometric mean of the set of denominators will result in the geometric mean of the set of corresponding quotients.

- J. For each genus for which one or more SMAVs are available, the GMAV shall be calculated as the geometric mean of the SMAVs available for the genus.
- K. Order the GMAVs from high to low.
- L. Assign ranks, R, to the GMAVs from "1" for the lowest to "N" for the highest. If two or more GMAVs are identical, assign them successive ranks.
- M. Calculate the cumulative probability, P, for each GMAV as  $R/(N + 1)$ .
- N. Select the four GMAVs which have cumulative probabilities closest to 0.05 (if there are fewer than 59 GMAVs, these will always be the four lowest GMAVs).
- O. Using the four selected GMAVs, and Ps, calculate:

$$L = \frac{\sum(\ln GMAV) - S(\sum(\sqrt{P}))}{4}$$

$$S^2 = \frac{\sum((\ln GMAV)^2) - \frac{(\sum(\ln GMAV))^2}{4}}{\sum(P) - \frac{(\sum(\sqrt{P}))^2}{4}}$$

$$A = S(\sqrt{0.05}) + L$$

**Note:** Natural logarithms (logarithms to base e, denoted as ln) are used herein merely because they are easier to use on some hand calculators and computers than common (base 10) logarithms. Consistent use of either will produce the same result.

- P. If, for a commercially or recreationally important species, the geometric mean of the acute values from flow-through tests in which the concentrations of test material were measured is lower than the calculated Final Acute Value (FAV), then that geometric mean must be used as the FAV instead of the calculated FAV.
- Q. See section VI of this appendix.

## V. Final Acute Equation

- A. When enough data are available to show that acute toxicity to two or more species is similarly related to a water quality characteristic, the relationship shall be taken into account as described in sections V.B through V.G of this appendix or using analysis of covariance. The two methods are equivalent and produce identical results. The manual method described below provides an understanding of this application of covariance analysis, but computerized versions of covariance analysis are much more convenient for analyzing large data sets. If two or more factors affect toxicity, multiple regression analysis shall be used.
- B. For each species for which comparable acute toxicity values are available at two or more different values of the water quality characteristic, perform a least squares regression of the acute toxicity values on the corresponding values of the water quality characteristic to obtain the slope and its 95 percent confidence limits for each species.

**Note:** Because the best documented relationship is that between hardness and acute toxicity of metals in fresh water and a log-log relationship fits these data, geometric means and natural logarithms of both toxicity and water quality are used in the rest of this section. For relationships based on other water quality

characteristics, such as pH or temperature, no transformation or a different transformation might fit the data better, and appropriate changes will be necessary throughout this section.

- C. Decide whether the data for each species are relevant, taking into account the range and number of the tested values of the water quality characteristic and the degree of agreement within and between species. For example, a slope based on six data points might be of limited value if it is based only on data for a very narrow range of values of the water quality characteristic. A slope based on only two data points, however, might be useful if it is consistent with other information and if the two points cover a broad enough range of the water quality characteristic. In addition, acute values that appear to be questionable in comparison with other acute and chronic data available for the same species and for other species in the same genus should not be used. For example, if after adjustment for the water quality characteristic, the acute values available for a species or genus differ by more than a factor of ten, rejection of some or all of the values would be appropriate, absent countervailing justification. If useful slopes are not available for at least one fish and one invertebrate or if the available slopes are too dissimilar or if too few data are available to adequately define the relationship between acute toxicity and the water quality characteristic, return to section IV.G of this appendix, using the results of tests conducted under conditions and in waters similar to those commonly used for toxicity tests with the species.
- D. For each species, calculate the geometric mean of the available acute values and then divide each of the acute values for the species by the geometric mean for the species. This normalizes the acute values so that the geometric mean of the normalized values for each species individually and for any combination of species is 1.0.
- E. Similarly, normalize the values of the water quality characteristic for each species individually using the same procedure as above.
- F. Individually for each species, perform a least squares regression of the normalized acute values of the water quality characteristic. The resulting slopes and 95 percent confidence limits will be identical to those obtained in section V.B. of this appendix. If, however, the data are actually plotted, the line of best fit for each individual species will go through the point 1,1 in the center of the graph.
- G. Treat all of the normalized data as if they were all for the same species and perform a least squares regression of all of the normalized acute values on the corresponding normalized values of the water quality characteristic to obtain the pooled acute slope,  $V$ , and its 95 percent confidence limits. If all of the normalized data are actually plotted, the line of best fit will go through the point 1,1 in the center of the graph.



- H. For each species, calculate the geometric mean, W, of the acute toxicity values and the geometric mean, X, of the values of the water quality characteristic. (These were calculated in sections V.D and V.E of this appendix.)
- I. For each species, calculate the logarithm, Y, of the SMAV at a selected value, Z, of the water quality characteristic using the equation:

$$Y = \ln W - V(\ln X - \ln Z)$$

- J. For each species, calculate the SMAV at X using the equation:

$$\text{SMAV} = e^Y$$

**Note:** Alternatively, the SMAVs at Z can be obtained by skipping step H above, using the equations in steps I and J to adjust each acute value individually to Z, and then calculating the geometric mean of the adjusted values for each species individually. This alternative procedure allows an examination of the range of the adjusted acute values for each species.

- K. Obtain the FAV at Z by using the procedure described in sections IV.J through IV.O of this appendix.
- L. If, for a commercially or recreationally important species, the geometric mean of the acute values at Z from flow-through tests in which the concentrations of the test material were measured is lower than the FAV at Z, then the geometric mean must be used as the FAV, instead of the FAV.
- M. The Final Acute Equation is written as:

$$\text{FAV} = e^{(V[\ln(\text{water quality characteristic})] + A - V[\ln Z])},$$

where V = pooled acute slope, and A = ln(FAV at Z).

Because V, A, and Z are known, the FAV can be calculated for any selected value of the water quality characteristic.

## VI. Final Chronic Value

- A. Depending on the data that are available concerning chronic toxicity to aquatic animals, the Final Chronic Value (FCV) can be calculated in the same manner as the FAV or by dividing the FAV by the Final Acute-Chronic Ratio (FACR). In some cases, it might not be possible to calculate a FCV. The FCV is (a) a calculated estimate of the concentration of a test material such that 95 percent of the genera (with which acceptable chronic toxicity tests have been conducted on the material) have higher GMCVs, or (b) the quotient of an FAV divided by an appropriate ACR, or (c) the SMCV of an important and/or critical species, if the

SMCV is lower than the calculated estimate or the quotient, whichever is applicable.

**Note:** As the name implies, the ACR is a way of relating acute and chronic toxicities.

- B. Chronic values shall be based on results of flow-through (except renewal is acceptable for daphnids) chronic tests in which the concentrations of test material in the test solutions were properly measured at appropriate times during the test. A chronic test is a comparative study in which organisms, that are subjected to different treatments, are observed for a long period or a substantial portion of their life span.
- C. Results of chronic tests in which survival, growth, or reproduction in the control treatment was unacceptably low shall not be used. The limits of acceptability will depend on the species.
- D. Results of chronic tests conducted in unusual dilution water, e.g., dilution water in which total organic carbon or particulate matter exceeded five mg/L, should not be used, unless a relationship is developed between chronic toxicity and organic carbon or particulate matter, or unless data show that organic carbon, particulate matter, etc., do not affect toxicity.
- E. Chronic values must be based on endpoints and lengths of exposure appropriate to the species. Therefore, only results of the following kinds of chronic toxicity tests shall be used:
  - 1. Life-cycle toxicity tests consisting of exposures of each of two or more groups of individuals of a species to a different concentration of the test material throughout a life cycle. To ensure that all life stages and life processes are exposed, tests with fish should begin with embryos or newly hatched young less than 48 hours old, continue through maturation and reproduction, and should end not less than 24 days (90 days for salmonids) after the hatching of the next generation. Tests with daphnids should begin with young less than 24 hours old and last for not less than 21 days, and for ceriodaphnids not less than seven days. For good examples of acceptable procedures see American Society for Testing and Materials (ASTM) Standard E 1193 Guide for conducting renewal life-cycle toxicity tests with *Daphnia magna* and ASTM Standard E 1295 Guide for conducting three-brood, renewal toxicity tests with *Ceriodaphnia dubia*. Tests with mysids should begin with young less than 24 hours old and continue until seven days past the median time of first brood release in the controls. For fish, data should be obtained and analyzed on survival and growth of adults and young, maturation of males and females, eggs spawned per female, embryo viability (salmonids only), and hatchability. For daphnids, data should be obtained and analyzed on survival and young

per female. For mysids, data should be obtained and analyzed on survival, growth, and young per female.

2. Partial life-cycle toxicity tests consist of exposures of each of two more groups of individuals of a species of fish to a different concentration of the test material through most portions of a life cycle. Partial life-cycle tests are allowed with fish species that require more than a year to reach sexual maturity, so that all major life stages can be exposed to the test material in less than 15 months. A life-cycle test is a comparative study in which organisms, that are subjected to different treatments, are observed at least from a life stage in one generation to the same life-stage in the next generation. Exposure to the test material should begin with immature juveniles at least two months prior to active gonad development, continue through maturation and reproduction, and end not less than 24 days (90 days for salmonids) after the hatching of the next generation. Data should be obtained and analyzed on survival and growth of adults and young, maturation of males and females, eggs spawned per female, embryo viability (salmonids only), and hatchability.
3. Early life-stage toxicity tests consisting of 28-day to 32-day (60 days post hatch for salmonids) exposures of the early life stages of a species of fish from shortly after fertilization through embryonic, larval, and early juvenile development. Data should be obtained and analyzed on survival and growth.

**Note:** Results of an early life-stage test are used as predictions of results of life cycle and partial life-cycle tests with the same species. Therefore, when results of a life cycle or partial life-cycle test are available, results of an early life-stage test with the same species should not be used. Also, results of early life-stage tests in which the incidence of mortalities or abnormalities increased substantially near the end of the test shall not be used because the results of such tests are possibly not good predictions of comparable life-cycle or partial life-cycle tests.

F. A chronic value may be obtained by calculating the geometric mean of the lower and upper chronic limits from a chronic test or by analyzing chronic data using regression analysis.

1. A lower chronic limit is the highest tested concentration:
  - a) In an acceptable chronic test;
  - b) Which did not cause an unacceptable amount of adverse effect on any of the specified biological measurements; and
  - c) Below which no tested concentration caused an unacceptable effect.
2. An upper chronic limit is the lowest tested concentration:
  - a) In an acceptable chronic test;

- b) Which did cause an unacceptable amount of adverse effect on one or more of the specified biological measurements; and
- c) Above which all tested concentrations also caused such an effect.

**Note:** Because various authors have used a variety of terms and definitions to interpret and report results of chronic tests, reported results should be reviewed carefully. The amount of effect that is considered unacceptable is often based on a statistical hypothesis test, but might also be defined in terms of a specified percent reduction from the controls. A small percent reduction (e.g., three percent) might be considered acceptable even if it is statistically significantly different from the control, whereas a large percent reduction (e.g., 30 percent) might be considered unacceptable even if it is not statistically significant.

- G. If the chronic toxicity of the material to aquatic animals has been shown to be related to a water quality characteristic such as hardness or particulate matter for freshwater animals, refer to section VII of this appendix.
- H. If chronic values are available for species in eight families as described in section III.B.1 of this appendix, a SMCV shall be calculated for each species for which at least one chronic value is available by calculating the geometric mean of the results of all acceptable life-cycle and partial life-cycle toxicity tests with the species; for a species of fish for which no such result is available, the SMCV is the geometric mean of all acceptable early life-stage tests. Appropriate GMCVs shall also be calculated. A GMCV is the geometric mean of the SMCVs for the genus. The FCV shall be obtained using the procedure described in sections IV.J through IV.O of this appendix, substituting SMCV and GMCV for SMAV and GMAV respectively. (See section VI.M of this appendix.)

**Note:** Sections VI.I through VI.L of this appendix are for use when chronic values are not available for species in eight taxonomic families as described in section III.B.1 of this appendix.

- I. For each chronic value for which at least one corresponding appropriate acute value is available, calculate an ACR, using for the numerator the geometric mean of the results of all acceptable flow-through (except static is acceptable for daphnids and midges) acute tests in the same dilution water in which the concentrations are measured. For fish, the acute test(s) should be conducted with juveniles. The acute test(s) should be part of the same study as the chronic test. If acute tests were not conducted as part of the same study, but were conducted as part of a different study in the same laboratory and dilution water, then they may be used. If no such acute tests are available, results of acute tests conducted in the same dilution water in a different laboratory may be used. If no such acute tests are available, an ACR shall not be calculated.
- J. For each species, calculate the SMACR as the geometric mean of all ACRs available for that species.

K. For some materials, the ACR seems to be the same for all species, but for other materials the ratio seems to increase or decrease as the SMAV increases. Thus the FACR can be obtained in three ways, depending on the data available:

1. If the species mean ACR seems to increase or decrease as the MAVs increase, the FACR shall be calculated as the geometric mean of the ACRs for species whose SMAVs are close to the FAV.
2. If no major trend is apparent and the ACRs for all species are within a factor of ten, the FACR shall be calculated as the geometric mean of all of the SMACRs.
3. If the most appropriate SMACRs are less than 2.0, and especially if they are less than 1.0, acclimation has probably occurred during the chronic test. In this situation, because continuous exposure and acclimation cannot be assured to provide adequate protection in field situations, the FACR should be assumed to be 2.0, so that the FCV is equal to the Criterion Maximum Concentration (CMC). (See section X.B of this appendix.)

If the available SMACRs do not fit one of these cases, a FACR may not be obtained and a Tier I FCV probably cannot be calculated.

L. Calculate the FCV by dividing the FAV by the FACR:

$$\text{FCV} = \text{FAV}/\text{FACR}$$

If there is a Final Acute Equation rather than a FAV, see Section V of this appendix.

M. If the SMCV of a commercially or recreationally important species is lower than the calculated FCV, then that SMCV must be used as the FCV instead of the calculated FCV.

N. See section VIII of this appendix.

## **VII. Final Chronic Equation**

A. A Final Chronic Equation can be derived in two ways. The procedure described in section VII.A of this appendix will result in the chronic slope being the same as the acute slope. The procedure described in sections VII.B. through N of this appendix will usually result in the chronic slope being different from the acute slope.

1. If ACRs are available for enough species at enough values of the water quality characteristic to indicate that the ACR appears to be the same for all species and appears to be independent of the water quality

characteristic, calculate the FACR as the geometric mean of the available SMACRs.

2. Calculate the FCV at the selected value Z of the water quality characteristic by dividing the FAV at Z (see section V.M of this appendix) by the FACR.
  3. Use V = pooled acute slope (see section V.M of this appendix), and L = pooled chronic slope.
  4. See section VII.M of this appendix.
- B. When enough data are available to show that chronic toxicity to at least one species is related to a water quality characteristic, the relationship should be taken into account as described in Sections C through G below or using analysis of covariance. The two methods are equivalent and produce identical results. The manual method described below provides an understanding of this application of covariance analysis, but computerized versions of covariance analysis are much more convenient for analyzing large data sets. If two or more factors affect toxicity, multiple regression analysis shall be used.
- C. For each species for which comparable chronic toxicity values are available at two or more different values of the water quality characteristic, perform a least squares regression of the chronic toxicity values on the corresponding values of the water quality characteristic to obtain the slope and its 95 percent confidence limits for each species.

**Note:** Because the best documented relationship is that between hardness and acute toxicity of metals in fresh water and a log-log relationship fits these data, geometric means and natural logarithms of both toxicity and water quality are used in the rest of this section. For relationships based on other water quality characteristics, such as pH or temperature, no transformation or a different transformation might fit the data better, and appropriate changes will be necessary throughout this section. It is probably preferable, but not necessary, to use the same transformation that was used with the acute values in section V of this appendix.

- D. Decide whether the data for each species are relevant, taking into account the range and number of the tested values of the water quality characteristic and the degree of agreement within and between species. For example, a slope based on six data points might be of limited value if it is based only on data for a very narrow range of values of the water quality characteristic. A slope based on only two data points, however, might be more useful if it is consistent with other information and if the two points cover a broad range of the water quality characteristic. In addition, chronic values that appear to be questionable in comparison with other acute and chronic data available for the same species and for other species in the same genus in most cases should not be used. For

example, if after adjustment for the water quality characteristic, the chronic values available for a species or genus differ by more than a factor of ten, rejection of some or all of the values is, in most cases, absent countervailing circumstances, appropriate. If a useful chronic slope is not available for at least one species or if the available slopes are too dissimilar or if too few data are available to adequately define the relationship between chronic toxicity and the water quality characteristic, it might be appropriate to assume that the chronic slope is the same as the acute slope, which is equivalent to assuming that the ACR is independent of the water quality characteristic. Alternatively, return to section VI.H of this appendix, using the results of tests conducted under conditions and in waters similar to those commonly used for toxicity tests with the species.

- E. Individually for each species, calculate the geometric mean of the available chronic values and then divide each chronic value for a species by the mean for the species. This normalizes the chronic values so that the geometric mean of the normalized values for each species individually, and for any combination of species, is 1.0.
- F. Similarly, normalize the values of the water quality characteristic for each species individually.
- G. Individually for each species, perform a least squares regression of the normalized chronic toxicity values on the corresponding normalized values of the water quality characteristic. The resulting slopes and the 95 percent confidence limits will be identical to those obtained in section VII.B of this appendix. Now, however, if the data are actually plotted, the line of best fit for each individual species will go through the point 1,1 in the center of the graph.
- H. Treat all of the normalized data as if they were all the same species and perform a least squares regression of all of the normalized chronic values on the corresponding normalized values of the water quality characteristic to obtain the pooled chronic slope, L, and its 95 percent confidence limits. If all normalized data are actually plotted, the line of best fit will go through the point 1,1 in the center of the graph.
- I. For each species, calculate the geometric mean, M, of the toxicity values and the geometric mean, P, of the values of the water quality characteristic. (These are calculated in sections VII.E and F of this appendix.)
- J. For each species, calculate the logarithm, Q, of the SMCV at a selected value, Z, of the water quality characteristic using the equation:

$$Q = \ln M - L(\ln P - \ln Z)$$

**Note:** Although it is not necessary, it is recommended that the same value of the water quality characteristic be used here as was used in section V of this appendix.

- K. For each species, calculate a SMCV at Z using the equation:

$$\text{SMCV} = e^Q$$

**Note:** Alternatively, the SMCV at Z can be obtained by skipping section VII.J of this appendix, using the equations in sections VII.J and K of this appendix to adjust each chronic value individually to Z, and then calculating the geometric means of the adjusted values for each species individually. This alternative procedure allows an examination of the range of the adjusted chronic values for each species.

- L. Obtain the FCV at Z by using the procedure described in sections IV.J through O of this appendix.
- M. If the SMCV at Z of a commercially or recreationally important species is lower than the calculated FCV at Z, then that SMCV shall be used as the FCV at Z instead of the calculated FCV.
- N. The Final Chronic Equation is written as:

$$\text{FCV} = e^{(L[\ln(\text{water quality characteristic})] + \ln S - L[\ln Z])}$$

where:

$$\begin{aligned} L &= \text{pooled chronic slope} \\ S &= \text{FCV at Z.} \end{aligned}$$

Because L, S, and Z are known, the FCV can be calculated for any selected value of the water quality characteristic.

## VIII. Final Plant Value

- A. A Final Plant Value (FPV) is the lowest plant value that was obtained with an important aquatic plant species in an acceptable toxicity test for which the concentrations of the test material were measured and the adverse effect was biologically important. Appropriate measures of the toxicity of the material to aquatic plants are used to compare the relative sensitivities of aquatic plants and animals. Although procedures for conducting and interpreting the results of toxicity tests with plants are not well-developed, results of tests with plants usually indicate that criteria which adequately protect aquatic animals and their uses will, in most cases, also protect aquatic plants and their uses.
- B. A plant value is the result of a 96-hour test conducted with an alga or a chronic test conducted with an aquatic vascular plant.

**Note:** A test of the toxicity of a metal to a plant shall not be used if the medium contained an excessive amount of a completing agent, such as EDTA, that might



affect the toxicity of the metal. Concentrations of EDTA above 200 µg/L should be considered excessive.

- C. The FPV shall be obtained by selecting the lowest result from a test with an important aquatic plant species in which the concentrations of test material are measured and the endpoint is biologically important.

## **IX. Other Data**

Pertinent information that could not be used in earlier sections might be available concerning adverse effects on aquatic organisms. The most important of these are data on cumulative and delayed toxicity, reduction in survival, growth, or reproduction, or any other adverse effect that has been shown to be biologically important. Delayed toxicity is an adverse effect to an organism that results from, and occurs after the end of, its exposure to one or more test materials. Especially important are data for species for which no other data are available. Data from behavioral, biochemical, physiological, microcosm, and field studies might also be available. Data might be available from tests conducted in unusual dilution water (see sections IV.D and VI.D of this appendix), from chronic tests in which the concentrations were not measured (see section VI.B of this appendix), from tests with previously exposed organisms (see section II.F.3 of this appendix), and from tests on formulated mixtures or emulsifiable concentrates (see section II.D of this appendix). Such data might affect a criterion if the data were obtained with an important species, the test concentrations were measured, and the endpoint was biologically important.

## **X. Criterion**

- A. A criterion consists of two concentrations: the Criterion Maximum Concentration (CMC) and the Criterion Continuous Concentration (CCC).
- B. The CMC is equal to one-half the FAV. The CMC is an estimate of the highest concentration of a material in the water column to which an aquatic community can be exposed briefly without resulting in an unacceptable effect.
- C. The CCC is equal to the lowest of the FCV or the FPV (if available) unless other data (see section IX of this appendix) show that a lower value should be used. The CCC is an estimate of the highest concentration of a material in the water column to which an aquatic community can be exposed indefinitely without resulting in an unacceptable effect. If toxicity is related to a water quality characteristic, the CCC is obtained from the Final Chronic Equation or FPV (if available) that results in the lowest concentrations in the usual range of the water quality characteristic, unless other data (see section IX of this appendix) show that a lower value should be used.
- D. Round both the CMC and the CCC to two significant digits.
- E. The criterion is stated as:

The procedures described in the Tier I methodology indicate that, except possibly where a commercially or recreationally important species is very sensitive, aquatic organisms should not be affected unacceptably if the four-day average concentration of (1) does not exceed (2)  $\mu\text{g/L}$  more than once every three years on the average and if the one-hour average concentration does not exceed (3)  $\mu\text{g/L}$  more than once every three years on the average.

where:

- (1) = Insert name of material
- (2) = Insert the CCC
- (3) = Insert the CMC

If the CMC averaging period of one hour or the CCC averaging period of four days is inappropriate for the pollutant, or if the once-in-three-year allowable excursion frequency is inappropriate for the pollutant or for the sites to which a criterion is applied, then the State may specify alternative averaging periods or frequencies. The choice of an alternative averaging period or frequency shall be justified by a scientifically defensible analysis demonstrating that the alternative values will protect the aquatic life uses of the water. Appropriate laboratory data and/or well-designed field biological surveys shall be submitted to U.S. EPA as justification for differing averaging periods and/or frequencies of exceedance.

## **XI. Final Review**

- A. The derivation of the criterion should be carefully reviewed by rechecking each step of the Guidance in this part. Items that should be especially checked are:
  - 1. If unpublished data are used, are they well documented?
  - 2. Are all required data available?
  - 3. Is the range of acute values for any species greater than a factor of ten?
  - 4. Is the range of SMAVs for any genus greater than a factor of ten?
  - 5. Is there more than a factor of ten difference between the four lowest GMAVs?
  - 6. Are any of the lowest GMAVs questionable?
  - 7. Is the FAV reasonable in comparison with the SMAVs and GMAVs?
  - 8. For any commercially or recreationally important species, is the geometric mean of the acute values from flow-through tests in which the concentrations of test material were measured lower than the FAV?
  - 9. Are any of the chronic values used questionable?

10. Are any chronic values available for acutely sensitive species?
  11. Is the range of acute-chronic ratios greater than a factor of ten?
  12. Is the FCV reasonable in comparison with the available acute and chronic data?
  13. Is the measured or predicted chronic value for any commercially or recreationally important species below the FCV?
  14. Are any of the other data important?
  15. Do any data look like they might be outliers?
  16. Are there any deviations from the guidance in this part? Are they acceptable?
- B. On the basis of all available pertinent laboratory and field information, determine if the criterion is consistent with sound scientific evidence. If it is not, another criterion, either higher or lower, shall be derived consistent with the Guidance in this part.

## **Methodology for Deriving Aquatic Life Values: Tier II**

### **XII. Secondary Acute Value**

If all eight minimum data requirements for calculating an FAV using Tier I are not met, a Secondary Acute Value (SAV) shall be calculated for a chemical as follows:

To calculate a SAV, the lowest GMAV in the database is divided by the Secondary Acute Factor (SAF) (Table A-1 of this appendix) corresponding to the number of satisfied minimum data requirements listed in the Tier I methodology (section III.B.1 of this appendix). Requirements for definitions, data collection and data review, contained in sections I, II, and IV shall be applied to calculation of a SAV. If all eight minimum data requirements are satisfied, a Tier I criterion calculation may be possible. In order to calculate a SAV, the database must contain, at a minimum, a genus mean acute value (GMAV) for one of the following three genera in the family Daphnidae - *Ceriodaphnia sp.*, *Daphnia sp.*, or *Simocephalus sp.*

If appropriate, the SAV shall be made a function of a water quality characteristic in a manner similar to that described in Tier I.

### **XIII. Secondary Acute-Chronic Ratio**

If three or more experimentally determined ACRs, meeting the data collection and review requirements of section VI of this appendix, are available for the chemical, determine the FACR using the procedure described in section VI of this appendix. If fewer than three acceptable experimentally determined ACRs are available, use enough assumed ACRs of 18 so that the total number of ACRs equals three. Calculate the Secondary Acute-Chronic Ratio (SACR) as the geometric mean of the three ACRs. Thus, if no experimentally determined ACRs are available, the SACR is 18.

### **XIV. Secondary Chronic Value**

Calculate the Secondary Chronic Value (SCV) using one of the following:

- A.  $SCV = \frac{FAV}{SACR}$  (use FAV from Tier I)
- B.  $SCV = \frac{SAV}{FACR}$
- C.  $SCV = \frac{SAV}{SACR}$

If appropriate, the SCV will be made a function of a water quality characteristic in a manner similar to that described in Tier I.

### **XV. Commercially Or Recreationally Important Species**

If for a commercially or recreationally important species the geometric mean of the acute values or chronic values from flow-through tests in which the concentrations of the test materials were measured is lower than the calculated SAV or SCV, then that geometric mean must be used as the SAV or SCV instead of the calculated SAV or SCV.

### **XVI. Tier II Value**

- A. A Tier II value shall consist of two concentrations: the Secondary Maximum Concentration (SMC) and the Secondary Continuous Concentration (SCC).
- B. The SMC is equal to one-half of the SAV.
- C. The SCC is equal to the lowest of the SCV or the Final Plant Value, if available, unless other data (see section IX of this appendix) show that a lower value should be used.

If toxicity is related to a water quality characteristic, the SCC is obtained from the Secondary Chronic Equation or FPV, if available, that results in the lowest concentrations in the usual range of the water quality characteristic, unless other data (see section IX of this appendix) show that a lower value should be used.

- D. Round both the SMC and the SCC to two significant digits.
- E. The Tier II value is stated as:

The procedures described in the Tier II methodology indicate that, except possibly where a locally important species is very sensitive, aquatic organisms should not be affected unacceptably if the four-day average concentration of (1) does not exceed (2)  $\mu\text{g/L}$  more than once every three years on the average and if the one-hour average concentration does not exceed (3)  $\mu\text{g/L}$  more than once every three years on the average, where:

- (1) = insert name of material
- (2) = insert the SCC
- (3) = insert the SMC

As discussed above, States and Tribes have the discretion to specify alternative averaging periods or frequencies.

## **XVII. Appropriate Modifications**

On the basis of all available pertinent laboratory and field information, determine if the Tier II value is consistent with sound scientific evidence. If it is not, another value, either higher or lower, shall be derived consistent with the Guidance in this part.

Table A-1: Secondary Acute Factors

Number of Minimum Data Requirements Satisfied	Adjustment Factor
1	21.9
2	13.0
3	8.0
4	7.0
5	6.1
6	5.2
7	4.3

## **XVIII. Definitions**

The following definitions apply in this part. Terms not defined in this section have the meaning given by the Clean Water Act and U.S. EPA implementing regulations.

- **Acute-chronic ratio (ACR)** is a standard measure of the acute toxicity of a material divided by an appropriate measure of the chronic toxicity of the same material under comparable conditions.
- **Acute toxicity** is concurrent and delayed adverse effect(s) that results from an acute exposure and occurs within any short observation period which begins when the exposure begins, may extend beyond the exposure period, and usually does not constitute a substantial portion of the life span of the organism.
- **Adverse effect** is any deleterious effect to organisms due to exposure to a substance. This includes effects which are or may become debilitating, harmful or toxic to the normal functions of the organism, but does not include non-harmful effects such as tissue discoloration alone or the induction of enzymes involved in the metabolism of the substance.
- **Bioaccumulation** is the net accumulation of a substance by an organism as a result of uptake from all environmental sources.
- **Bioaccumulation factor (BAF)** is the ratio (in L/kg) of a substance's concentration in tissue of an aquatic organism to its concentration in the ambient water, in situations where both the organism and its food are exposed and the ratio does not change substantially over time.
- **Bioaccumulative chemical of concern (BCC)** is any chemical that has the potential to cause adverse effects which, upon entering the surface waters, by itself or as its toxic transformation product, accumulates in aquatic organisms by a human health bioaccumulation factor greater than 1000, after considering metabolism and other physicochemical properties that might enhance or inhibit bioaccumulation, in accordance with the methodology in appendix B of this part. Chemicals with half-lives of less than eight weeks in the water column, sediment, and biota are not BCCs. The minimum BAF information needed to define an organic chemical as a BCC is either a field-measured BAF or a BAF derived using the BSAF methodology. The minimum BAF information needed to define an inorganic chemical, including an organometal, as a BCC is either a field-measured BAF or a laboratory-measured BCF. BCCs include, but are not limited to, the pollutants identified as BCCs in Chapter 4.F.
- **Bioconcentration** is the net accumulation of a substance by an aquatic organism as a result of uptake directly from the ambient water through gill membranes or other external body surfaces.
- **Bioconcentration factor (BCF)** is the ratio (in L/kg) of a substance's concentration in tissue of an aquatic organism to its concentration in the ambient water, in situations where the organism is exposed through the water only and the ratio does not change substantially over time.
- **Biota-sediment accumulation factor (BSAF)** is the ratio (in kg of organic carbon/kg of lipid) of a substance's lipid-normalized concentration in tissue of an aquatic organism to its organic carbon-normalized concentration in surface sediment, in situations where the ratio does not change substantially over time, both the organism and its food are exposed, and the surface sediment is representative of average surface sediment in the vicinity of the organism.

- **Carcinogen** is a substance which causes an increased incidence of benign or malignant neoplasms, or substantially decreases the time to develop neoplasms, in animals or humans.
- **Chronic toxicity** is concurrent and delayed adverse effect(s) that occurs only as a result of a chronic exposure.
- **Criterion continuous concentration (CCC)** is an estimate of the highest concentration of a material in the water column to which an aquatic community can be exposed indefinitely without resulting in an unacceptable effect.
- **Criterion maximum concentration (CMC)** is an estimate of the highest concentration of a material in the water column to which an aquatic community can be exposed briefly without resulting in an unacceptable effect.
- **EC50** is a statistically or graphically estimated concentration that is expected to cause one or more specified effects in 50 percent of a group of organisms under specified conditions.
- **Endangered or threatened species** are those species that are listed as endangered or threatened under section 4 of the Endangered Species Act.
- **Existing discharger** is any building, structure, facility, or installation from which there is or may be a "discharge of pollutants" (as defined in 40 CFR 122.2), that is not a new discharger.
- **Final acute value (FAV)** is (a) a calculated estimate of the concentration of a test material such that 95 percent of the genera (with which acceptable acute toxicity tests have been conducted on the material) have higher GMAVs, or (b) the SMAV of an important and/or critical species, if the SMAV is lower than the calculated estimate.
- **Final chronic value (FCV)** is (a) a calculated estimate of the concentration of a test material such that 95 percent of the genera (with which acceptable chronic toxicity tests have been conducted on the material) have higher GMCVs, (b) the quotient of an FAV divided by an appropriate acute-chronic ratio, or (c) the SMCV of an important and/or critical species, if the SMCV is lower than the calculated estimate or the quotient, whichever is applicable.
- **Final plant value (FPV)** is the lowest plant value that was obtained with an important aquatic plant species in an acceptable toxicity test for which the concentrations of the test material were measured and the adverse effect was biologically important.
- **Genus mean acute value (GMAV)** is the geometric mean of the SMAVs for the genus.
- **Genus mean chronic value (GMCV)** is the geometric mean of the SMCVs for the genus.
- **Human cancer criterion (HCC)** is a Human Cancer Value (HCV) for a pollutant that meets the minimum data requirements for Tier I.
- **Human cancer value (HCV)** is the maximum ambient water concentration of a substance at which a lifetime of exposure from either: drinking the water, consuming fish from the water, and water-related recreation activities; or consuming fish from the water, and water-related recreation activities, will represent a plausible upper-bound risk of contracting cancer of one in 100,000

using the exposure assumptions specified in the Methodologies for the Development of Human Health Criteria and Values.

- **Human noncancer criterion (HNC)** is a Human Noncancer Value (HNV) for a pollutant that meets the minimum data requirements for Tier I.
- **Human noncancer value (HNV)** is the maximum ambient water concentration of a substance at which adverse noncancer effects are not likely to occur in the human population from lifetime exposure via either: drinking the water, consuming fish from the water, and water-related recreation activities; or consuming fish from the water, and water-related recreation activities using the Methodologies for the Development of Human Health Criteria and Values.
- **LC50** is a statistically or graphically estimated concentration that is expected to be lethal to 50 percent of a group of organisms under specified conditions.
- **Load allocation (LA)** is the portion of a receiving water's loading capacity that is attributed either to one of its existing or future nonpoint sources or to natural background sources, as more fully defined at 40 CFR 130.2(g). Nonpoint sources include: in-place contaminants, direct wet and dry deposition, groundwater inflow, and overland runoff.
- **Loading capacity** is the greatest amount of loading that a water can receive without violating water quality standards.
- **Lowest observed adverse effect level (LOAEL)** is the lowest tested dose or concentration of a substance which resulted in an observed adverse effect in exposed test organisms when all higher doses or concentrations resulted in the same or more severe effects.
- **Method detection level** is the minimum concentration of an analyte (substance) that can be measured and reported with a 99 percent confidence that the analyte concentration is greater than zero as determined by the procedure set forth in appendix B of 40 CFR part 136.
- **Minimum level (ML)** is the concentration at which the entire analytical system must give a recognizable signal and acceptable calibration point. The ML is the concentration in a sample that is equivalent to the concentration of the lowest calibration standard analyzed by a specific analytical procedure, assuming that all the method-specified sample weights, volumes and processing steps have been followed.
- **New discharger** is any building, structure, facility, or installation from which there is or may be a "discharge of pollutants" (as defined in 40 CFR 122.2).
- **No observed adverse effect level (NOAEL)** is the highest tested dose or concentration of a substance which resulted in no observed adverse effect in exposed test organisms where higher doses or concentrations resulted in an adverse effect.
- **No observed effect concentration (NOEC)** is the highest concentration of toxicant to which organisms are exposed in a full life cycle or partial life-cycle (short-term) test, that causes no observable adverse effects on the test organisms (i.e., the highest concentration of toxicant in which the values for the observed responses are not statistically significantly different from the controls).
- **Quantification level** is a measurement of the concentration of a contaminant obtained by using a specified laboratory procedure calibrated at a specified



concentration above the method detection level. It is considered the lowest concentration at which a particular contaminant can be quantitatively measured using a specified laboratory procedure for monitoring of the contaminant.

- **Quantitative structure activity relationship (QSAR)** or structure activity relationship (SAR) is a mathematical relationship between a property (activity) of a chemical and a number of descriptors of the chemical. These descriptors are chemical or physical characteristics obtained experimentally or predicted from the structure of the chemical.
- **Risk associated dose (RAD)** is a dose of a known or presumed carcinogenic substance in (mg/kg)/day which, over a lifetime of exposure, is estimated to be associated with a plausible upper bound incremental cancer risk equal to one in 100,000.
- **Species mean acute value (SMAV)** is the geometric mean of the results of all acceptable flow-through acute toxicity tests (for which the concentrations of the test material were measured) with the most sensitive tested life stage of the species. For a species for which no such result is available for the most sensitive tested life stage, the SMAV is the geometric mean of the results of all acceptable acute toxicity tests with the most sensitive tested life stage.
- **Species mean chronic value (SMCV)** is the geometric mean of the results of all acceptable life-cycle and partial life-cycle toxicity tests with the species; for a species of fish for which no such result is available, the SMCV is the geometric mean of all acceptable early life-stage tests.
- **Stream design flow** is the stream flow that represents critical conditions, upstream from the source, for protection of aquatic life, human health, or wildlife.
- **Threshold effect** is an effect of a substance for which there is a theoretical or empirically established dose or concentration below which the effect does not occur.
- **Tier I criteria** are numeric values derived by use of the Tier I methodologies in Appendices A, C and D of this part, the methodology in Appendix B of this part, and the procedures in Appendix E of this part, that either have been adopted as numeric criteria into a water quality standard or are used to implement narrative water quality criteria.
- **Tier II values** are numeric values derived by use of the Tier II methodologies in Appendices A and C of this part, the methodology in Appendix B of this part, and the procedures in Appendix E of this part, that are used to implement narrative water quality criteria.
- **Total maximum daily load (TMDL)** is the sum of the individual waste load allocations for point sources and load allocations for nonpoint sources and natural background, as more fully defined at 40 CFR 130.2(i). A TMDL sets and allocates the maximum amount of a pollutant that may be introduced into a water body and still assure attainment and maintenance of water quality standards.
- **Uncertainty factor (UF)** is one of several numeric factors used in operationally deriving criteria from experimental data to account for the quality or quantity of the available data.
- **Uptake** is acquisition of a substance from the environment by an organism as a result of any active or passive process.

- **Waste load allocation (WLA)** is the portion of a receiving water's loading capacity that is allocated to one of its existing or future point sources of pollution, as more fully defined at 40 CFR 130.2(h). In the absence of a TMDL approved by U.S. EPA pursuant to 40 CFR 130.7 or an assessment and remediation plan developed and approved in accordance with procedure 3.A of appendix F of this part, a WLA is the allocation for an individual point source, that ensures that the level of water quality to be achieved by the point source is derived from and complies with all applicable water quality standards.
- **Wet weather point source** means any discernible, confined and discrete conveyance from which pollutants are, or may be, discharged as the result of a wet weather event. Discharges from wet weather point sources shall include only: discharges of storm water from a municipal separate storm sewer as defined at 40 CFR 122.26(b)(8); storm water discharge associated with industrial activity as defined at 40 CFR 122.26(b)(14); discharges of storm water and sanitary wastewater (domestic, commercial, and industrial) from a combined sewer overflow; or any other storm water discharge for which a permit is required under section 402(p) of the Clean Water Act. A storm water discharge associated with industrial activity which is mixed with process wastewater shall not be considered a wet weather point source.

# Appendix E

## Alternate Approaches For Calculating Acute Mixing Zones

### Alternative 1:

Apply the acute criterion at the end-of-pipe.

### Alternative 2 (for high velocity discharges => 3 m/s):

The acute criterion should be met within 50 times the discharge length scale (50 times square root of the cross-sectional pipe area). The scientific basis for this alternative is that these conditions will ensure that the acute criterion is met within a few minutes under practically all conditions.

### Alternative 3 (for low velocity discharges < 3 m/s):

The acute criterion should be met:

- 1) Within ten percent of the distance from the end-of-pipe to the edge of the regulatory mixing zone in any direction. This will restrict the acute zone to a relatively small area around the discharge pipe.
- 2) Within a distance of 50 times the square root of the pipe diameter (discharge length scale). This will ensure a dilution factor of at least ten at the edge of the acute mixing zone.
- 3) Within a distance of five times the local in any horizontal direction water depth. This will ensure that mixing zones are not established in shallow, near-shore waters.

### Alternative 4 (demonstration by discharger):

A discharger may demonstrate that a drifting organism would not be exposed to one-hour average concentrations exceeding acute aquatic life criteria or would not receive harmful exposure when evaluated by other valid toxicological analyses.




















**Ohio River Valley Water Sanitation Commission**

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# National Primary Drinking Water Regulations



Contaminant	MCL or TT <sup>1</sup> (mg/L) <sup>2</sup>	Potential health effects from long-term <sup>3</sup> exposure above the MCL	Common sources of contaminant in drinking water	Public Health Goal (mg/L) <sup>2</sup>
 Acrylamide	TT <sup>4</sup>	Nervous system or blood problems; increased risk of cancer	Added to water during sewage/wastewater treatment	<b>zero</b>
 Alachlor	0.002	Eye, liver, kidney, or spleen problems; anemia; increased risk of cancer	Runoff from herbicide used on row crops	<b>zero</b>
 Alpha/photon emitters	15 picocuries per Liter (pCi/L)	Increased risk of cancer	Erosion of natural deposits of certain minerals that are radioactive and may emit a form of radiation known as alpha radiation	<b>zero</b>
 Antimony	0.006	Increase in blood cholesterol; decrease in blood sugar	Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder	<b>0.006</b>
 Arsenic	0.010	Skin damage or problems with circulatory systems, and may have increased risk of getting cancer	Erosion of natural deposits; runoff from orchards; runoff from glass & electronics production wastes	<b>0</b>
 Asbestos (fibers >10 micrometers)	7 million fibers per Liter (MFL)	Increased risk of developing benign intestinal polyps	Decay of asbestos cement in water mains; erosion of natural deposits	<b>7 MFL</b>
 Atrazine	0.003	Cardiovascular system or reproductive problems	Runoff from herbicide used on row crops	<b>0.003</b>
 Barium	2	Increase in blood pressure	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits	<b>2</b>
 Benzene	0.005	Anemia; decrease in blood platelets; increased risk of cancer	Discharge from factories; leaching from gas storage tanks and landfills	<b>zero</b>
 Benzo(a)pyrene (PAHs)	0.0002	Reproductive difficulties; increased risk of cancer	Leaching from linings of water storage tanks and distribution lines	<b>zero</b>
 Beryllium	0.004	Intestinal lesions	Discharge from metal refineries and coal-burning factories; discharge from electrical, aerospace, and defense industries	<b>0.004</b>
 Beta photon emitters	4 millirems per year	Increased risk of cancer	Decay of natural and man-made deposits of certain minerals that are radioactive and may emit forms of radiation known as photons and beta radiation	<b>zero</b>
 Bromate	0.010	Increased risk of cancer	Byproduct of drinking water disinfection	<b>zero</b>
 Cadmium	0.005	Kidney damage	Corrosion of galvanized pipes; erosion of natural deposits; discharge from metal refineries; runoff from waste batteries and paints	<b>0.005</b>
 Carbofuran	0.04	Problems with blood, nervous system, or reproductive system	Leaching of soil fumigant used on rice and alfalfa	<b>0.04</b>

## LEGEND




















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Contaminant	MCL or TT <sup>1</sup> (mg/L) <sup>2</sup>	Potential health effects from long-term <sup>3</sup> exposure above the MCL	Common sources of contaminant in drinking water	Public Health Goal (mg/L) <sup>2</sup>
 Carbon tetrachloride	0.005	Liver problems; increased risk of cancer	Discharge from chemical plants and other industrial activities	<b>zero</b>
 Chloramines (as Cl <sub>2</sub> )	MRDL=4.0 <sup>1</sup>	Eye/nose irritation; stomach discomfort; anemia	Water additive used to control microbes	<b>MRDLG=4<sup>1</sup></b>
 Chlordane	0.002	Liver or nervous system problems; increased risk of cancer	Residue of banned termiticide	<b>zero</b>
 Chlorine (as Cl <sub>2</sub> )	MRDL=4.0 <sup>1</sup>	Eye/nose irritation; stomach discomfort	Water additive used to control microbes	<b>MRDLG=4<sup>1</sup></b>
 Chlorine dioxide (as ClO <sub>2</sub> )	MRDL=0.8 <sup>1</sup>	Anemia; infants, young children, and fetuses of pregnant women: nervous system effects	Water additive used to control microbes	<b>MRDLG=0.8<sup>1</sup></b>
 Chlorite	1.0	Anemia; infants, young children, and fetuses of pregnant women: nervous system effects	Byproduct of drinking water disinfection	<b>0.8</b>
 Chlorobenzene	0.1	Liver or kidney problems	Discharge from chemical and agricultural chemical factories	<b>0.1</b>
 Chromium (total)	0.1	Allergic dermatitis	Discharge from steel and pulp mills; erosion of natural deposits	<b>0.1</b>
 Copper	TT <sup>5</sup> ; Action Level=1.3	Short-term exposure: Gastrointestinal distress. Long-term exposure: Liver or kidney damage. People with Wilson's Disease should consult their personal doctor if the amount of copper in their water exceeds the action level	Corrosion of household plumbing systems; erosion of natural deposits	<b>1.3</b>
 <i>Cryptosporidium</i>	TT <sup>7</sup>	Short-term exposure: Gastrointestinal illness (e.g., diarrhea, vomiting, cramps)	Human and animal fecal waste	<b>zero</b>
 Cyanide (as free cyanide)	0.2	Nerve damage or thyroid problems	Discharge from steel/metal factories; discharge from plastic and fertilizer factories	<b>0.2</b>
 2,4-D	0.07	Kidney, liver, or adrenal gland problems	Runoff from herbicide used on row crops	<b>0.07</b>
 Dalapon	0.2	Minor kidney changes	Runoff from herbicide used on rights of way	<b>0.2</b>
 1,2-Dibromo-3-chloropropane (DBCP)	0.0002	Reproductive difficulties; increased risk of cancer	Runoff/leaching from soil fumigant used on soybeans, cotton, pineapples, and orchards	<b>zero</b>
 o-Dichlorobenzene	0.6	Liver, kidney, or circulatory system problems	Discharge from industrial chemical factories	<b>0.6</b>
 p-Dichlorobenzene	0.075	Anemia; liver, kidney, or spleen damage; changes in blood	Discharge from industrial chemical factories	<b>0.075</b>
 1,2-Dichloroethane	0.005	Increased risk of cancer	Discharge from industrial chemical factories	<b>zero</b>

## LEGEND



















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Contaminant	MCL or TT <sup>1</sup> (mg/L) <sup>2</sup>	Potential health effects from long-term <sup>3</sup> exposure above the MCL	Common sources of contaminant in drinking water	Public Health Goal (mg/L) <sup>2</sup>
 1,1-Dichloroethylene	0.007	Liver problems	Discharge from industrial chemical factories	<b>0.007</b>
 cis-1,2-Dichloroethylene	0.07	Liver problems	Discharge from industrial chemical factories	<b>0.07</b>
 trans-1,2-Dichloroethylene	0.1	Liver problems	Discharge from industrial chemical factories	<b>0.1</b>
 Dichloromethane	0.005	Liver problems; increased risk of cancer	Discharge from industrial chemical factories	<b>zero</b>
 1,2-Dichloropropane	0.005	Increased risk of cancer	Discharge from industrial chemical factories	<b>zero</b>
 Di(2-ethylhexyl) adipate	0.4	Weight loss, liver problems, or possible reproductive difficulties	Discharge from chemical factories	<b>0.4</b>
 Di(2-ethylhexyl) phthalate	0.006	Reproductive difficulties; liver problems; increased risk of cancer	Discharge from rubber and chemical factories	<b>zero</b>
 Dinoseb	0.007	Reproductive difficulties	Runoff from herbicide used on soybeans and vegetables	<b>0.007</b>
 Dioxin (2,3,7,8-TCDD)	0.00000003	Reproductive difficulties; increased risk of cancer	Emissions from waste incineration and other combustion; discharge from chemical factories	<b>zero</b>
 Diquat	0.02	Cataracts	Runoff from herbicide use	<b>0.02</b>
 Endothall	0.1	Stomach and intestinal problems	Runoff from herbicide use	<b>0.1</b>
 Endrin	0.002	Liver problems	Residue of banned insecticide	<b>0.002</b>
 Epichlorohydrin	TT <sup>4</sup>	Increased cancer risk; stomach problems	Discharge from industrial chemical factories; an impurity of some water treatment chemicals	<b>zero</b>
 Ethylbenzene	0.7	Liver or kidney problems	Discharge from petroleum refineries	<b>0.7</b>
 Ethylene dibromide	0.00005	Problems with liver, stomach, reproductive system, or kidneys; increased risk of cancer	Discharge from petroleum refineries	<b>zero</b>
 Fecal coliform and <i>E. coli</i>	MCL <sup>6</sup>	Fecal coliforms and <i>E. coli</i> are bacteria whose presence indicates that the water may be contaminated with human or animal wastes. Microbes in these wastes may cause short term effects, such as diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a special health risk for infants, young children, and people with severely compromised immune systems.	Human and animal fecal waste	<b>zero<sup>6</sup></b>

## LEGEND



DISINFECTANT
















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RADIONUCLIDES



Contaminant	MCL or TT <sup>1</sup> (mg/L) <sup>2</sup>	Potential health effects from long-term <sup>3</sup> exposure above the MCL	Common sources of contaminant in drinking water	Public Health Goal (mg/L) <sup>2</sup>
 Fluoride	4.0	Bone disease (pain and tenderness of the bones); children may get mottled teeth	Water additive which promotes strong teeth; erosion of natural deposits; discharge from fertilizer and aluminum factories	<b>4.0</b>
 <i>Giardia lamblia</i>	TT <sup>7</sup>	Short-term exposure: Gastrointestinal illness (e.g., diarrhea, vomiting, cramps)	Human and animal fecal waste	<b>zero</b>
 Glyphosate	0.7	Kidney problems; reproductive difficulties	Runoff from herbicide use	<b>0.7</b>
 Haloacetic acids (HAA5)	0.060	Increased risk of cancer	Byproduct of drinking water disinfection	<b>n/a<sup>9</sup></b>
 Heptachlor	0.0004	Liver damage; increased risk of cancer	Residue of banned termiticide	<b>zero</b>
 Heptachlor epoxide	0.0002	Liver damage; increased risk of cancer	Breakdown of heptachlor	<b>zero</b>
 Heterotrophic plate count (HPC)	TT <sup>7</sup>	HPC has no health effects; it is an analytic method used to measure the variety of bacteria that are common in water. The lower the concentration of bacteria in drinking water, the better maintained the water system is.	HPC measures a range of bacteria that are naturally present in the environment	<b>n/a</b>
 Hexachlorobenzene	0.001	Liver or kidney problems; reproductive difficulties; increased risk of cancer	Discharge from metal refineries and agricultural chemical factories	<b>zero</b>
 Hexachloro-cyclopentadiene	0.05	Kidney or stomach problems	Discharge from chemical factories	<b>0.05</b>
 Lead	TT <sup>5</sup> ; Action Level=0.015	Infants and children: Delays in physical or mental development; children could show slight deficits in attention span and learning abilities; Adults: Kidney problems; high blood pressure	Corrosion of household plumbing systems; erosion of natural deposits	<b>zero</b>
 <i>Legionella</i>	TT <sup>7</sup>	Legionnaire's Disease, a type of pneumonia	Found naturally in water; multiplies in heating systems	<b>zero</b>
 Lindane	0.0002	Liver or kidney problems	Runoff/leaching from insecticide used on cattle, lumber, and gardens	<b>0.0002</b>
 Mercury (inorganic)	0.002	Kidney damage	Erosion of natural deposits; discharge from refineries and factories; runoff from landfills and croplands	<b>0.002</b>
 Methoxychlor	0.04	Reproductive difficulties	Runoff/leaching from insecticide used on fruits, vegetables, alfalfa, and livestock	<b>0.04</b>
 Nitrate (measured as Nitrogen)	10	Infants below the age of six months who drink water containing nitrate in excess of the MCL could become seriously ill and, if untreated, may die. Symptoms include shortness of breath and blue-baby syndrome.	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits	<b>10</b>















## LEGEND



Contaminant	MCL or TT <sup>1</sup> (mg/L) <sup>2</sup>	Potential health effects from long-term <sup>3</sup> exposure above the MCL	Common sources of contaminant in drinking water	Public Health Goal (mg/L) <sup>2</sup>
 Nitrite (measured as Nitrogen)	1	Infants below the age of six months who drink water containing nitrite in excess of the MCL could become seriously ill and, if untreated, may die. Symptoms include shortness of breath and blue-baby syndrome.	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits	<b>1</b>
 Oxamyl (Vydate)	0.2	Slight nervous system effects	Runoff/leaching from insecticide used on apples, potatoes, and tomatoes	<b>0.2</b>
 Pentachlorophenol	0.001	Liver or kidney problems; increased cancer risk	Discharge from wood-preserving factories	<b>zero</b>
 Picloram	0.5	Liver problems	Herbicide runoff	<b>0.5</b>
 Polychlorinated biphenyls (PCBs)	0.0005	Skin changes; thymus gland problems; immune deficiencies; reproductive or nervous system difficulties; increased risk of cancer	Runoff from landfills; discharge of waste chemicals	<b>zero</b>
 Radium 226 and Radium 228 (combined)	5 pCi/L	Increased risk of cancer	Erosion of natural deposits	<b>zero</b>
 Selenium	0.05	Hair or fingernail loss; numbness in fingers or toes; circulatory problems	Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines	<b>0.05</b>
 Simazine	0.004	Problems with blood	Herbicide runoff	<b>0.004</b>
 Styrene	0.1	Liver, kidney, or circulatory system problems	Discharge from rubber and plastic factories; leaching from landfills	<b>0.1</b>
 Tetrachloroethylene	0.005	Liver problems; increased risk of cancer	Discharge from factories and dry cleaners	<b>zero</b>
 Thallium	0.002	Hair loss; changes in blood; kidney, intestine, or liver problems	Leaching from ore-processing sites; discharge from electronics, glass, and drug factories	<b>0.0005</b>
 Toluene	1	Nervous system, kidney, or liver problems	Discharge from petroleum factories	<b>1</b>
 Total Coliforms	5.0 percent <sup>8</sup>	Coliforms are bacteria that indicate that other, potentially harmful bacteria may be present. See fecal coliforms and <i>E. coli</i>	Naturally present in the environment	<b>zero</b>
 Total Trihalomethanes (TTHMs)	0.080	Liver, kidney, or central nervous system problems; increased risk of cancer	Byproduct of drinking water disinfection	<b>n/a<sup>9</sup></b>
 Toxaphene	0.003	Kidney, liver, or thyroid problems; increased risk of cancer	Runoff/leaching from insecticide used on cotton and cattle	<b>zero</b>
 2,4,5-TP (Silvex)	0.05	Liver problems	Residue of banned herbicide	<b>0.05</b>
 1,2,4-Trichlorobenzene	0.07	Changes in adrenal glands	Discharge from textile finishing factories	<b>0.07</b>

## LEGEND



Contaminant	MCL or TT <sup>1</sup> (mg/L) <sup>2</sup>	Potential health effects from long-term <sup>3</sup> exposure above the MCL	Common sources of contaminant in drinking water	Public Health Goal (mg/L) <sup>2</sup>		
 1,1,1-Trichloroethane	0.2	Liver, nervous system, or circulatory problems	Discharge from metal degreasing sites and other factories	<b>0.2</b>		
 1,1,2-Trichloroethane	0.005	Liver, kidney, or immune system problems	Discharge from industrial chemical factories	<b>0.003</b>		
 Trichloroethylene	0.005	Liver problems; increased risk of cancer	Discharge from metal degreasing sites and other factories	<b>zero</b>		
 Turbidity	TT <sup>7</sup>	Turbidity is a measure of the cloudiness of water. It is used to indicate water quality and filtration effectiveness (e.g., whether disease-causing organisms are present). Higher turbidity levels are often associated with higher levels of disease-causing microorganisms such as viruses, parasites, and some bacteria. These organisms can cause short term symptoms such as nausea, cramps, diarrhea, and associated headaches.	Soil runoff	<b>n/a</b>		
 Uranium	30µg/L	Increased risk of cancer, kidney toxicity	Erosion of natural deposits	<b>zero</b>		
 Vinyl chloride	0.002	Increased risk of cancer	Leaching from PVC pipes; discharge from plastic factories	<b>zero</b>		
 Viruses (enteric)	TT <sup>7</sup>	Short-term exposure: Gastrointestinal illness (e.g., diarrhea, vomiting, cramps)	Human and animal fecal waste	<b>zero</b>		
 Xylenes (total)	10	Nervous system damage	Discharge from petroleum factories; discharge from chemical factories	<b>10</b>		
<b>LEGEND</b>						
	DISINFECTANT	DISINFECTION BYPRODUCT	INORGANIC CHEMICAL	MICROORGANISM	ORGANIC CHEMICAL	RADIONUCLIDES

## NOTES

### 1 Definitions

- **Maximum Contaminant Level Goal (MCLG):** The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety and are non-enforceable public health goals.
- **Maximum Contaminant Level (MCL):** The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to MCLGs as feasible using the best available treatment technology and taking cost into consideration. MCLs are enforceable standards.
- **Maximum Residual Disinfectant Level Goal (MRDLG):** The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.
- **Maximum Residual Disinfectant Level (MRDL):** The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.
- **Treatment Technique (TT):** A required process intended to reduce the level of a contaminant in drinking water.

**2** Units are in milligrams per liter (mg/L) unless otherwise noted. Milligrams per liter are equivalent to parts per million (ppm).

**3** Health effects are from long-term exposure unless specified as short-term exposure.

**4** Each water system must certify annually, in writing, to the state (using third-party or manufacturer's certification) that when it uses acrylamide and/or epichlorohydrin to treat water, the combination (or product) of dose and monomer level does not exceed the levels specified, as follows: Acrylamide = 0.05 percent dosed at 1 mg/L (or equivalent); Epichlorohydrin = 0.01 percent dosed at 20 mg/L (or equivalent).

**5** Lead and copper are regulated by a Treatment Technique that requires systems to control the corrosiveness of their water. If more than 10 percent of tap water samples exceed the action level, water systems must take additional steps. For copper, the action level is 1.3 mg/L, and for lead is 0.015 mg/L.

**6** A routine sample that is fecal coliform-positive or E. coli-positive triggers repeat samples - if any repeat sample is total coliform-positive, the system has an acute MCL violation. A routine sample that is total coliform-positive and fecal coliform-negative or E. coli-negative triggers repeat samples - if any repeat sample is fecal coliform-positive or E. coli-positive, the system has an acute MCL violation. See also Total Coliforms.

**7** EPA's surface water treatment rules require systems using surface water or ground water under the direct influence of surface water to (1) disinfect their water, and (2) filter their water or meet criteria for avoiding filtration so that the following contaminants are controlled at the following levels:

- **Cryptosporidium:** 99 percent removal for systems that filter. Unfiltered systems are required to include Cryptosporidium in their existing watershed control provisions.

- **Giardia lamblia:** 99.9 percent removal/inactivation
- **Viruses:** 99.9 percent removal/inactivation
- **Legionella:** No limit, but EPA believes that if *Giardia* and viruses are removed/inactivated, according to the treatment techniques in the surface water treatment rule, *Legionella* will also be controlled.
- **Turbidity:** For systems that use conventional or direct filtration, at no time can turbidity (cloudiness of water) go higher than 1 nephelometric turbidity unit (NTU), and samples for turbidity must be less than or equal to 0.3 NTU in at least 95 percent of the samples in any month. Systems that use filtration other than the conventional or direct filtration must follow state limits, which must include turbidity at no time exceeding 5 NTU.
- **HPC:** No more than 500 bacterial colonies per milliliter
- **Long Term 1 Enhanced Surface Water Treatment:** Surface water systems or ground water systems under the direct influence of surface water serving fewer than 10,000 people must comply with the applicable Long Term 1 Enhanced Surface Water Treatment Rule provisions (e.g. turbidity standards, individual filter monitoring, *Cryptosporidium* removal requirements, updated watershed control requirements for unfiltered systems).
- **Long Term 2 Enhanced Surface Water Treatment:** This rule applies to all surface water systems or ground water systems under the direct influence of surface water. The rule targets additional *Cryptosporidium* treatment requirements for higher risk systems and includes provisions to reduce risks from uncovered finished water storages facilities and to ensure that the systems maintain microbial protection as they take steps to reduce the formation of disinfection byproducts. (Monitoring start dates are staggered by system size. The largest systems (serving at least 100,000 people) will begin monitoring in October 2006 and the smallest systems (serving fewer than 10,000 people) will not begin monitoring until October 2008. After completing monitoring and determining their treatment bin, systems generally have three years to comply with any additional treatment requirements.)
- **Filter Backwash Recycling:** The Filter Backwash Recycling Rule requires systems that recycle to return specific recycle flows through all processes of the system's existing conventional or direct filtration system or at an alternate location approved by the state.
- **8** No more than 5.0 percent samples total coliform-positive in a month. (For water systems that collect fewer than 40 routine samples per month, no more than one sample can be total coliform-positive per month.) Every sample that has total coliform must be analyzed for either fecal coliforms or E. coli. If two consecutive TC-positive samples, and one is also positive for E. coli or fecal coliforms, system has an acute MCL violation.
- **9** Although there is no collective MCLG for this contaminant group, there are individual MCLGs for some of the individual contaminants:
  - **Halooacetic acids:** dichloroacetic acid (zero); trichloroacetic acid (0.3 mg/L)
  - **Trihalomethanes:** bromodichloromethane (zero); bromoform (zero); dibromochloromethane (0.06 mg/L)

## NATIONAL SECONDARY DRINKING WATER REGULATION

National Secondary Drinking Water Regulations are non-enforceable guidelines regarding contaminants that may cause cosmetic effects (such as skin or tooth discoloration) or aesthetic effects (such as taste, odor, or color) in drinking water. EPA recommends secondary standards to water systems but does not require systems to comply. However, some states may choose to adopt them as enforceable standards.

Contaminant	Secondary Maximum Contaminant Level
Aluminum	0.05 to 0.2 mg/L
Chloride	250 mg/L
Color	15 (color units)
Copper	1.0 mg/L
Corrosivity	Noncorrosive
Fluoride	2.0 mg/L
Foaming Agents	0.5 mg/L
Iron	0.3 mg/L
Manganese	0.05 mg/L
Odor	3 threshold odor number
pH	6.5-8.5
Silver	0.10 mg/L
Sulfate	250 mg/L
Total Dissolved Solids	500 mg/L
Zinc	5 mg/L

FOR MORE INFORMATION ON EPA'S  
SAFE DRINKING WATER:



visit: [epa.gov/safewater](http://epa.gov/safewater)



call: **(800) 426-4791**

### ADDITIONAL INFORMATION:

To order additional posters or other ground water and drinking water publications, please contact the National Service Center for Environmental Publications at: **(800) 490-9198**, or email: [nscep@bps-lmit.com](mailto:nscep@bps-lmit.com).





## Common Sense Initiative

**Mike DeWine**, Governor  
**Jon Husted**, Lt. Governor

**Carrie Kuruc**, Director

### MEMORANDUM

**TO:** Amanda Payton, Ohio Environmental Protection Agency

**FROM:** Ethan Wittkorn, Regulatory Policy Advocate

**DATE:** September 26, 2019

**RE:** CSI Review – Water Quality Criteria for the Protection of Human Health (3745-1-32, 3745-1-33, 3745-1-34)

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On behalf of Lt. Governor Jon Husted, and pursuant to the authority granted to the Common Sense Initiative (CSI) Office under Ohio Revised Code (ORC) section 107.54, the CSI Office has reviewed the abovementioned administrative rule package and associated Business Impact Analysis (BIA). This memo represents the CSI Office's comments to the Agency as provided for in ORC 107.54.

#### Analysis

This Ohio Environmental Protection Agency (EPA) rule package consists of three amended rules. The draft rules were submitted to the CSI Office on April 2, 2019, and the public comment period was open through May 2, 2019. Unless otherwise noted below, this recommendation reflects the version of the proposed rules filed with the CSI office on April 2, 2019.

The proposed rules are located in OAC Chapter 3745-1, which governs Ohio standards for water quality. The EPA is amending the rules as a result of the required Agency Triennial Water Quality Standards Review by the Clean Water Act. The rules provide water quality criteria for human health numbers from the U.S. EPA updated chemical criteria, the Ohio River Valley Water Sanitation Commission's (ORSANCO) 2015 Pollution Control Standards, and maximum contaminant levels (MCLs) under the Safe Drinking Water Act. The criteria apply to facilities that discharge or plan to discharge wastewater containing any of the specific chemicals listed in these rules.

During the rule review period, the EPA sent notifications to the Division of Surface Water's

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[CSIPublicComments@governor.ohio.gov](mailto:CSIPublicComments@governor.ohio.gov)

interested party list and posted a factsheet to the Division website. In the fall of 2016, the EPA held a webinar on the proposed rules and received input from The Nature Conservancy, the Ohio Department of Transportation, Ohio Environmental Council, Midwest Biodiversity Institute, the City of Columbus, and Ohio Utility Group. All comments advocated for the adoption of the U.S. EPA's or ORSANCO updated criteria.

During the CSI public comment period, the EPA received comments from the Association of Ohio Metropolitan Wastewater Agencies, the American Forest and Paper Association, the National Council for Air and Stream Improvement Inc., the Ohio Manufacturers Association, and Greater Cincinnati Water Works. Comments included requests for clarifications, notations of specific data value typographical errors, questions about the EPA's decision not to pursue state-specific criteria, and questions about the potential impacts of the rules. Regarding its decision not to adopt a state-specific option, the EPA noted that the use of state or region-specific values for the ambient water quality criteria (AWQC) calculations would not largely affect the output. The EPA said it was unable to locate Ohio-specific drinking water consumption rate data, other calculations like obesity rates and fish consumption were comparable to the national average.

Furthermore, the EPA rejected assertions that the updates were conservative because they are based on a large data set compiled by the Centers for Disease Control. Some stakeholders suggested the adverse impacts of the proposed rules' costs were more significant than EPA estimates, particularly for National Pollutant Discharge Elimination System (NPDES) permits. The EPA identified two potential sources of increased costs—treatment upgrades and advanced chemical testing. While the EPA does not believe any significant treatment updates will be needed, some dischargers will be required to do additional low-level testing for new parameters. Low-level testing could cost up to \$400 annually per facility, depending on sampling frequency, discharge points being tested, and whether the facility already employs advanced analytical techniques to monitor water quality. The EPA has provided a cost analysis document to help determine potential impacts. Lastly, the EPA fulfilled a request for information regarding assessments of pollutants, documentation supporting the EPA's decisions and clarification of the EPA's actions, for the purpose of helping potentially impacted parties review the proposed rules.

The proposed rules will impact 151 of the 3,250 permitted dischargers in Ohio. Out of the identified facilities, 60 currently have limits on one or more of the chemicals, and 91 monitor one or more chemicals, but do not currently have limits. The EPA notes that some factors may not directly correlate to the specific water quality criteria, leading to varied estimates of impacts. Potential impacts include costs associated with implementing water quality criteria through NPDES, based on factors such as the volume of wastewater treated, complexity of treatment system, stringency of the effluent limitations, effluent monitoring requirements, and treatment technology installed at the

point source. Other impacts may arise for specific facilities if they receive a new permit. Costs associated with the proposed rules may vary based on the treatment type, sludge generated, water discharged, sampling requirements, and other required treatments.

The EPA states that the proposed rules are necessary to protect public health and the environment and implement a federal requirement. The Clean Water Act requires states to have water quality standards that protect lakes, rivers, streams and other surface waters from pollution.

### **Recommendations**

Based on the information above, the CSI Office has no recommendations on this rule package.

### **Conclusion**

The CSI Office concludes that the EPA should proceed in filing the proposed rules with the Joint Committee on Agency Rule Review.



# MEMORANDUM OF RESPONSE

To: Ethan Wittkorn, Regulatory Policy Advocate

From: Mandi Payton, Rules Coordinator

Date: September 26, 2019

Subject: Memorandum of Response to CSI Review – Water Quality Criteria for the Protection of Human Health (3745-1-32, 3745-1-33, 3745-1-34)

## **Recommendations**

On September 26, 2019, Ohio EPA received the Recommendations for the Division of Surface Water's Water Quality Criteria for the Protection of Human Health (3745-1-32, 3745-1-33, 3745-1-34) rules.

The CSI memorandum stated that:

“The proposed rules will impact 151 of the 3,250 permitted dischargers in Ohio. Out of the identified facilities, 60 currently have limits on one or more of the chemicals, and 91 monitor one or more chemicals, but do not currently have limits. The EPA notes that some factors may not directly correlate to the specific water quality criteria, leading to varied estimates of impacts. Potential impacts include costs associated with implementing water quality criteria through NPDES, based on factors such as the volume of wastewater treated, complexity of treatment system, stringency of the effluent limitations, effluent monitoring requirements, and treatment technology installed at the

point source. Other impacts may arise for specific facilities if they receive a new permit. Costs associated with the proposed rules may vary based on the treatment type, sludge generated, water discharged, sampling requirements, and other required treatments.

The EPA states that the proposed rules are necessary to protect public health and the environment and implement a federal requirement. The Clean Water Act requires states to have water quality standards that protect lakes, rivers, streams and other surface waters from pollution.

Based on the information above, the CSI Office has no recommendations on this rule package.

The CSI Office concludes that the EPA should proceed in filing the proposed rules with the Joint Committee on Agency Rule Review.”

## **Next Steps**

At this time, it is Ohio EPA's plan to move forward with the original filing of these rules with the Joint Committee on Agency Rule Review.

If you have any questions, please contact Mandi Payton at 614-644-3134.



# Hearing Summary

Rule Package: Water Quality Criteria for the Protection of Human Health

Original filing date: October 30, 2019

Public comment start date: October 30, 2019

Public comment end date: December 4, 2019

Public hearing date: December 4, 2019

List of Rules: 3745-1-32, 3745-1-33, 3745-1-34

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Were there any participants in this public hearing beyond Ohio EPA staff or JCARR staff?

Yes  No

Were there comments received during the public comment period outside of those presented at this hearing?

Yes  No

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This hearing summary has been compiled to meet the requirements of Section 119.03 of the Revised Code.

This hearing summary includes this cover sheet and the following attachments:

1. **Attachment A** - A copy of the public notice for this hearing,
2. **Attachment B** - A copy of the sign-in sheet for this hearing,
3. **Attachment C** - A copy of the script read into the record to begin and end the hearing, and
4. **Attachment D** - A copy of the response to comments including the original cost impact analysis.

Ohio EPA's response to comments document includes the comments received, who commented, the agency response to comments, and a statement of whether or not the rule was changed due to the comments.

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Ohio EPA digitally records all public hearings for rules. The digital recordings are available upon request in a WAVE (.wav) file format. These recordings may be sent out for transcription if necessary.

**BEFORE THE  
OHIO ENVIRONMENTAL PROTECTION AGENCY**

**Public Notice  
Public Hearing Scheduled For  
Proposed Rulemaking Governing  
Water Quality Standards Program**

Notice is hereby given that a public hearing regarding proposed amendments to the Water Quality Standards Program rules in Ohio Administrative Code (OAC) Chapter 3745-1 has been scheduled for **December 4, 2019**. This rulemaking includes the following rules:

<b>Rule Number</b>	<b>Rule Title</b>
3745-1-32	Ohio river standards.
3745-1-33	Water quality criteria for water supply use designation.
3745-1-34	Water quality criteria for the protection of human health [fish consumption].

OAC Chapter 3745-1 contains Ohio's standards for water quality. This rulemaking includes the review and update of three rules containing numeric water quality criteria to reflect the latest scientific information available from U.S. EPA and the Ohio River Valley Sanitation Commission (ORSANCO).

The Agency invites all interested parties to comment on this rule. The public comment period will run until **December 4, 2019**. A public hearing on this proposed rulemaking will be held to consider public comments in accordance with Section 119.03 of the Ohio Revised Code. This hearing will be held at **Conference Room A at the Ohio EPA Central Office, 50 West Town Street, Suite 700, Columbus, Ohio at 10:30 a.m. on December 4, 2019**. All visitors to Ohio EPA must register at the Security desk in the lobby upon arrival. Please bring photo identification (such as a valid driver's license). For security reasons, visitors are required to wear their badge at all times while in the building. Please arrive early to complete these procedures.

To facilitate the scheduling of oral presentations, persons intending to give testimony at the hearing should notify the Ohio EPA Public Interest Center, P.O. Box 1049, Columbus, Ohio 43216-1049, (614) 644-2160. Prior registration will ensure that registrants are heard ahead of those individuals who register at the hearing. Oral testimony may be limited to five minutes, depending on the number of persons testifying. All interested persons are entitled to attend or be represented and to present oral and/or written comments concerning the proposed rulemaking.

Written testimony should be sent to the attention of Emily DeLay at the Division of Surface Water, P.O. Box 1049, Columbus Ohio 43216-1049. Written comments may also be submitted to the Hearing Officer at the public hearing. Written testimony will receive the same consideration as oral testimony. All testimony received at the hearing or by close of business on **December 4, 2019**, will

be considered by Ohio EPA prior to final action on this rulemaking proposal. Written comments submitted after this date may be considered as time and circumstances permit.

Pre-notice of this rulemaking is being given to provide a minimum of 45 days' notice of the public hearing. The preliminary proposed rule and a fact sheet explaining the rule revisions are posted on the Ohio EPA website at [www.epa.ohio.gov/dsw/dswrules.aspx](http://www.epa.ohio.gov/dsw/dswrules.aspx). Another notice will be provided when this rule is officially filed with the Joint Committee on Agency Rule Review and the rule will be posted on the Ohio EPA website at the above link. Questions regarding this rule package should be directed to Audrey Rush, at the Division of Surface Water, at (614) 644-2035.



# SIGN-IN SHEET

Subject: DSW Rules 3745-1-32, 33, 34  
County: Statewide Date: December 4, 2019

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NAME: Kamryn Peters E-MAIL: kp752215@ohio.edu  
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TELEPHONE: \_\_\_\_\_

## DSW WQS Program Rules Hearing

12/4/19

My name is Mary McCarron. I am with the Public Interest Center. I will be presiding over today's public hearing.

Thank you for taking time to attend this hearing before Ohio EPA. The purpose of the hearing today is to obtain comments from any interested person regarding Ohio EPA's proposed rules.

Ohio EPA Division of Surface Water is proposing to amend the following rules of the Ohio Administrative Code chapter 3745-1-32, 1-33 and 1-34. These rules contain numeric water quality criteria to reflect the latest scientific information available from U.S. EPA and the Ohio River Valley Sanitation Commission.

These rules have been filed with the Joint Committee on Agency Rule Review. Copies of the rules are available for public review at Ohio EPA's Columbus Office and on our website.

All interested persons are entitled to attend or be represented, and to present oral and/or written comments concerning the proposed rules. All written and oral comments received as part of the official record will be considered by the director of Ohio EPA.

To be included in the official record, written comments must be received by Ohio EPA by the close of business, today, December 4, 2019. These comments may be filed with me today or emailed to [emily.delay@epa.ohio.gov](mailto:emily.delay@epa.ohio.gov). All written comments submitted for the record receive the same consideration as oral testimony given today.

Written statements submitted after today may be considered as time and circumstances permit, but will not be part of the official record of the hearing.

If you wish to present oral testimony at this hearing today and have not already signed the registration sheet, please do so at this time. The sheet is available at the registration table. Persons will be called in the order in which they have registered.

There is no cross examination of speakers or of representatives of Ohio EPA in public hearings. Ohio EPA hearings such as this afford citizens the opportunity to provide comments on the official record. Therefore, we will not be able to answer questions during the hearing. However, members of the panel may ask clarifying questions of the person testifying to ensure the record is as complete and accurate as possible.

I will now read the names of those who have registered at this hearing and will give each person an opportunity to testify.

Is there anyone else who wishes to testify at this time?

Seeing no further requests for testimony, I remind you that written comments can be submitted through the close of business today.

Thank you for attending. The time is now and this hearing is adjourned.



## Division of Surface Water Response to Comments

**Rules:** Water Quality Standards Program Rules, OAC Chapter 3745-1:  
OAC 3745-1-32: Ohio river standards.  
OAC 3745-1-33: Water quality criteria for water supply use designations.  
OAC 3745-1-34: Water quality criteria for the protection of human health [fish consumption].

### **Agency Contact for this Package:**

Division Contact: Audrey Rush  
Division of Surface Water  
614-644-2035  
[audrey.rush@epa.ohio.gov](mailto:audrey.rush@epa.ohio.gov)

Ohio EPA held a proposed rule comment period from October 30, 2019 to December 4, 2019 regarding three Water Quality Standards Program rules. This document summarizes the comments and questions received during the associated comment period.

Ohio EPA reviewed and considered all comments received during the public comment period. By law, Ohio EPA has authority to consider specific issues related to protection of the environment and public health.

In an effort to help you review this document, the questions are grouped by topic and organized in a consistent format. The name of the commenter follows the comment in parentheses.

Comment 1: **I. The RTC Document Does Not Adequately Demonstrate that Current and Future Dischargers Will Not Incur Treatment Costs**

To determine potential overall compliance costs, Ohio EPA first removed from consideration pollutants with aquatic life criteria more stringent than their corresponding HHC. Next, it eliminated pollutants where “there are not sufficient monitoring requirements in NPDES permits to provide data for analysis (in many cases, none).” For the remaining pollutants, “Ohio EPA first looked at whether the new criteria would generate new, lower limits through the wasteload allocation process,” and then reviewed 2011-2019 discharge data “to determine if the new limits would be met.” RTC document, Attachment 1, pp. 2-3.

AF&PA has two concerns with this approach. First, it is not clear how Ohio EPA performed its wasteload allocations, which usually are undertaken for specific

dischargers on specific water bodies. To better facilitate informed public comments, Ohio EPA should provide the underlying data and analysis to support its allocations.

Second, the discharge data examined by Ohio EPA were generated in the 2011-2019 time frame using available analytical methods. The RTC document states that “Ohio law requires that the dischargers use the most sensitive test method available.” Analytical methods are continuously becoming more sensitive and future methods likely will be able to detect and quantify pollutants at lower and lower levels. It is reasonable to expect that these new methods will find and quantify pollutants in dischargers’ effluents at levels above the new criteria, especially since approximately: 90 percent (86/96) of Ohio’s current criteria values are greater (less stringent) than EPA’s 2015 criteria recommendations; 70 percent (68/96) of Ohio’s current criteria values are greater than 10 times EPA’s 2015 criteria values, and 30 percent (32/96) are greater than 100 times EPA’s 2015 criteria. Further, 81/86 proposed criteria for the Ohio River basin are more stringent than Ohio’s previous criteria. While a few of these are due to updated IRIS toxicity values posted since Ohio last updated their criteria, most are more stringent because of changes in EPA policy choices related to selected exposure scenarios. With EPA’s criteria, many more dischargers will have permit limits and incur treatment costs in addition to the monitoring costs discussed in the RTC document. (American Forest & Paper Association)

Response 1:

Ohio EPA calculates wasteload allocations (WLAs) based on our rules in OAC Chapter 3745-2, specifically rules 3745-2-05 and 3745-2-10 for ammonia-nitrogen toxicity. If you need more information about calculating wasteloads, please see these rules.

As for how we calculated the WLAs for this particular exercise, we used the eDMR (electronic discharge monitoring report) data submitted by each facility and their permit limits to screen out those who would be unaffected by these rule changes, and then used: 1. the main outfall design flow of each facility; 2. a stream dilution ration of 0.10 or 10% (in the Ohio River Basin – set by ORSANCO); 3. the harmonic mean flow (HMQ), and 4. assumed no background water quality concentration for these pollutants not weeded out by our initial analysis (see attachment in IPR response to comments) because the parameters left are not naturally occurring substances. The equation to determine mass balance below was used (directly from OAC rule 3745-2-05):

$$\frac{WQC (Q_{\text{eff}} + Q_{\text{up}}) - Q_{\text{up}}(WQ_{\text{up}})}{Q_{\text{eff}}}$$

Where:

WQC = water quality criterion as established in OAC rule 3745-2-04.

$Q_{\text{eff}}$  = Effluent flow

$Q_{\text{up}}$  = percent of stream design flow (stream dilution ratio)

$WQ_{\text{up}}$  = background water quality

The Agency believes that it would be inappropriate to publish facility’s eDMR reports without permission or a public records request, so we opted to mail a letter about the rulemaking to each facility that we determined may be negatively impacted

by these rule changes. None of the 153 dischargers responded to our letters, reached out to the Agency or commented on these rules.

We would like to point out that facilities do not usually receive a permit limit that is a water quality standard (WQS) straight from the rule, hence Ohio EPA's analysis using calculated wasteload allocations. WQSs are only "end-of-pipe" limits if: the receiving stream has no dilution (a zero-low flow stream), if there is flow in the receiving stream but the background concentration of the pollutant is at or above the WQS, or if the pollutant is being discharged where mixing zones are not allowed (i.e., if a pollutant is a bioaccumulative chemical of concern). If these situations do not apply, then the WQS is applied as an ambient in-stream concentration, meaning that they are calculated with dilution factored in and would result in a permit limit higher than the WQS.

AF&PA quotes the Agency's response to IPR comments: "Ohio law requires that the dischargers use the most sensitive test method available." By this statement, we meant that dischargers are required to use the most sensitive test method available *that has been promulgated into our rules or in 40 CFR part 136*. This is a very important distinction to make and we apologize for any confusion because this does not include all of U.S. EPA's approved methods. Eventually there may be new analytical methods promulgated into rule that can read to a lower level with statistical confidence, however, as Ohio EPA has demonstrated by our wasteload analysis, almost all facilities are already meeting the new WQS numbers, and the other facilities would only need to make minor adjustments (i.e. increasing chemical feed) in order to meet the new WQS. To say that "It is reasonable to expect that these new methods will find and quantify pollutants in dischargers' effluents at levels above the new criteria" is simply incorrect because we have not promulgated any new methods and if the current methods find that the concentration of a parameter is below detection of the most sensitive method promulgated, the facility is still in compliance. Labs have to have equipment and employ methods sensitive enough to read to that level.

Detailed analysis of potential compliance costs associated with the adoption of these criteria were provided during interested party review and are found in Attachment 1.

Comment 2: II. EPA's National HHWQC are Extremely Conservative

As it undertakes the risk management inherent in establishing its HHC, Ohio EPA should recognize that EPA's national HHC (which are based on the 2000 Human Health Methodology) use very conservative default values that result in unnecessarily stringent criteria because of "compounded conservatism."<sup>1</sup> The RTC document states that U.S. EPA would not agree that the exposure factors in the 2015 update are "highly conservative revisions," because the increase in the new factors was not that significant compared to the old. In addition, the national factors are based on the "90th percentile for all adults over the age of 21" and Ohio EPA states this is not a "narrow range of the general population," as commenters such as AF&PA have asserted. RTC document, Attachment 1, p. 2. We have three important concerns regarding the positions articulated in the RTC.

First, the changes in exposure assumptions made by EPA as part of the 2015 "update" are primarily policy-based and do not merely reflect "the latest toxicological

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<sup>1</sup> See the NCASI comments that discuss in more detail the compounded conservatism embodied in the national HHC.



and exposure data.” For example, EPA’s fish consumption rate (FCR) reflects a policy change to include several marine species that may spend part of their lifecycle in near-shore marine waters and these species may not be relevant to waters in Ohio or exposures of Ohioans. EPA’s selection of 2.4 liters/day of drinking water (DW) consumption reflects a 90th percentile choice, whereas the previously used value of 2.0 liters was an 86th percentile. And, the vast majority of EPA’s 2015 criteria for non-carcinogens use a relative source contribution (RSC) value of 0.2 whereas nearly all of EPA’s criteria prior to 2015 used a value of 1.0. These choices are policy-based, not science-based, and Ohio should evaluate their appropriateness for waters of the state, just as other states have done.

Second, we disagree that use of “the new factors was not that significant compared to the old.” Considered collectively, the increase in FCR, DW and RSC make many of the resulting criteria 5-10 times more stringent than previous criteria values. This is a significant change not justified solely by new science or data. Rather, this increase in stringency is based largely on the policies for interpreting those data, not on a need to make the criteria more stringent to account for increased actual exposure.

Third, the RTC misses the point of what we mean by “compounded conservatism.” EPA’s methodology assumes that every day for 70 years, everyone in the state drinks 2.4 liters of water that is:

- Unfiltered and untreated and
- From surface water (lakes, streams, etc.) and
- Contaminated at the HHC level

For water and organism values, the methodology assumes that every day for 70 years people are not only drinking water as described above, but they also are eating 22 grams per day of fish from the same location that is:

- From local waters, grocery stores, aquaculture, foreign countries (now including some marine species not previously included) and
- From waters contaminated at the HHC level (including near-shore marine waters) and
- Contaminated with pollutants from the water to the maximum extent possible and
- Contaminated with the same amount of pollutants despite reductions from cooking.

Each of these exposure factors is conservative in and of itself. The conservatism of the individual factors is compounded because EPA’s methodology assumes all the people in the state every day for 70 years drink water and eat fish having all these characteristics. Clearly this is an excessive level of conservatism and it is very unlikely that there is even one citizen in the state that drinks water and eats fish as described above.

Ohio EPA highlights the data and supporting information underlying EPA’s national criteria to support its proposed action to adopt those criteria, without any further analysis. We are not challenging the national criteria in these comments, although there are significant flaws with those criteria, as discussed above and in the FWQC comments. We are asserting, however, that they are purposefully conservative to serve as national default criteria and that they do not apply to any Ohio waters or

consumers. Therefore, Ohio EPA should take the opportunity provided by EPA's water quality standards regulations to develop state-specific data that are reflective of actual Ohio residents and waters and undertake the analysis to tailor the national default criteria to Ohio. This would be consistent with the approach taken by other states including New York and Illinois, which specifically have deferred adoption, allowing for greater consideration of the criteria. Additionally, ORSANCO did not include the national criteria in their 2015 update to the Pollution Control Standards and states such as Delaware will be deriving their HHC using state-specific exposure factor values to better tailor the criteria to their communities.

Finally, there is a better, more scientifically advanced way to calculate HHC through PRA. U.S. EPA has both endorsed and used the probabilistic approach for several years. In 2014, they published a Risk Assessment Forum White Paper on PRA and their Guidelines for Human Exposure Assessment also recognizes the value of the method. The Probabilistic Risk Assessment is a systematic and comprehensive method to evaluate total risk and is used by a wide range of institutions including NASA and the US Federal Railroad Administration to determine the probability and severity of a detrimental outcome. The method is extremely flexible and can reliably account for a wide variety and range of risk while guarding against excessive conservatism which may bias results unnecessarily. As noted in the NCASI comments filed in May, a tool has been developed that allows easy, spreadsheet-based, application to PRA techniques. (AF&PA)

Response 2: Ohio EPA does recognize that U.S. EPA's national recommended water quality criteria are conservative and fully understands the concept of "compounded conservatism." However, water quality criteria are designed to be conservative in order to protect sensitive populations. The fish consumption rate, drinking water intake rate and relative source contribution change as more data are collected and the population demographic changes.

Comment 3: III. Conclusion

Based to a large extent on its wasteload allocation, Ohio EPA has concluded that no dischargers will incur treatment costs for compliance with the new criteria and that only analytical costs will increase, even though most of the existing criteria will become more stringent. The agency should provide additional information behind its wasteload allocation so commenters can better understand the agency's analysis, and provide more information to support its conclusion that dischargers will not incur treatment costs.

Further, Ohio EPA should take the opportunity provided under EPA regulations to develop more scientifically defensible criteria that are achievable and applicable to Ohio waters. Finally, Ohio EPA should consider the many benefits of using PRA. (AF&PA)

Response 3: Please see response 1. Ohio EPA will continue to promulgate U.S. EPA's national recommended criteria at this time.

Comment 4: FWQC member entities or their members own and operate facilities located throughout the country, including in Ohio. Those facilities operate pursuant to permits issued by States or EPA under the National Pollutant Discharge Elimination System

(NPDES) program, which impose control requirements with respect to wastewater discharges. Many of those permits either include or will include effluent limits based on water quality standards developed for the protection of human health. Those standards, issued by States, are often based on the recommended human health criteria issued by USEPA – which is exactly what Ohio EPA is proposing to do here. Those State standards will ultimately determine the effluent limits in permits for FWQC members – both in Ohio and, if the Ohio standards are used as a precedent elsewhere, for members in other States as well. The FWQC, therefore, has a direct interest in the Proposal.

It is important to recognize, here, one basic concept in the process of setting State water quality standards: States are NOT required to adopt the recommended criteria issued by USEPA. While they need to consider the EPA recommendations, States are entirely free to use other scientifically defensible approaches. Unfortunately, Ohio EPA has refused to do that here, even though there is ample justification for doing so. Instead, Ohio EPA has simply decided to adopt the Federal recommendations completely. This course of action ignores major scientific flaws in the EPA approach. Moreover, the State has based its Proposal on an unsupported and illogical claim that the new standards will impose no major burdens on the regulated community. The Proposal will impose such burdens, and Ohio EPA should reconsider before taking final action.

The scientific problems with EPA's human health recommendations were pointed out to EPA while it was developing those criteria. In 2014, the FWQC submitted extensive comments to EPA on the proposed criteria, accompanied by detailed technical reports. Those documents (copies of which are attached to these comments) point out a series of steps in EPA's methodology that are not scientifically justified, including: (1) the derivation of fish consumption rates; (2) the use of a Relative Source Contribution value; (3) the assumptions used as to the amount of fish consumed from local waters, (4) the use of unduly high fish lipid levels; and, even more fundamentally, (5) the use of a bioaccumulation model that ignores some important factors and overstates others. These issues were not addressed by EPA when it finalized its criteria, so all of these concerns remain. Despite these concerns, Ohio EPA seeks to adopt the USEPA criteria, instead of developing its own standards that could address these issues in a scientifically valid manner.

Ohio EPA justifies its acceptance of the flawed EPA recommendations by giving three reasons: "lack of data," "lack of resources," and a claim that the USEPA recommendations "have already been extensively vetted through peer and public review and comment. (Ohio EPA Response to Comments on Human Health WQC at p. 5.) None of those reasons are sufficient. Certainly the agency cannot excuse its acceptance of scientifically flawed standards because it has decided not to expend resources to develop its own data and approaches. And while the USEPA criteria were certainly heavily criticized, including by the FWQC, the fact is that those criticisms have not been addressed – by USEPA or Ohio EPA. That must happen before standards are adopted that will be used to develop enforceable effluent limits.

Ohio EPA also seeks to justify its Proposal by arguing that the new standards will not impose any significant compliance costs on businesses or municipalities in Ohio. But that claim is simply not credible. Many of the new standards are orders of magnitude more stringent than the previous standards. In fact, some are considerably lower than

measured ambient concentrations in waterbodies. For example, in the Ohio River, data collected by the Ohio River Valley Water Sanitation Commission (ORSANCO) have shown that ambient levels for various organic compounds are much greater than the new standards. If the new standards will require dischargers to treat their effluents to below ambient levels, it is hard to see how that would NOT impose major financial costs – if it is doable at all.

Ohio EPA tries to support its claim as to lack of compliance costs by citing to an analysis that it has done as to specific dischargers in the State, but that, too, is subject to question. The agency claims that it has “looked at whether the new criteria would generate new, lower limits through the wasteload allocation process.” (Ohio EPA Response to Comments on Human Health WQS, Attachment 1 at p. 3.) Does this mean that the agency has developed new wasteload allocations for the 151 facilities that are potentially affected by the new standards? If so, the agency needs to make those documents available, so those facilities and other stakeholders can review and comment on the calculations. But we doubt that actual wasteload allocations have been determined, since that process would take years. If Ohio EPA has performed some other kind of calculation that is not a true wasteload allocation, those results should not be relied on in support of the new standards.

There are other, additional concerns about the Ohio EPA cost analysis. For example, the agency says that the group of facilities that it reviewed (after going through the “wasteload allocation process”) included only organic chemical facilities and “other dischargers that had limits for the chemicals.” So the focus, there, is on facilities that already have effluent limits for the chemicals. But those facilities have limits because they have effluent levels that are already of concern under the existing, higher standards. The main impact of the new standards is that they are so low that many facilities that do not need limits under the existing standards will exhibit “reasonable potential” under the new standards, and therefore will receive new, stringent limits. It appears that Ohio EPA’s analysis completely ignores that set of affected facilities, which could be very large. Therefore, it is likely that the State’s analysis radically underestimates the true compliance costs, and needs to be redone before any final standards can be issued. (Federal Water Quality Coalition)

Response 4:

As stated in our response to IPR comments, “Although Ohio EPA is aware that there are options when updating the water quality criteria rules, we must satisfy our regulatory obligation for triennial review under the Clean Water Act and the State of Ohio requires review of rules every five years.

OUG also points out that states have three options when developing criteria, and as previously stated, Ohio EPA is adopting U.S. EPA’s national recommended criteria and will not develop state-specific criteria for several reasons including lack of data, lack of resources and because U.S. EPA’s criteria recommendations have already been extensively vetted through peer and public review and comment.”

U.S. EPA has an entire think tank dedicated to assessing and developing water quality standards. Ohio EPA does not currently have the resources for this type of undertaking. Ohio EPA will continue to adopt the national recommended criteria until additional staff can be hired to assist with the WQS program.

These new criteria should not impose major burdens on the regulated community as explained in the IPR response to comments and cost analysis. Ohio EPA

has recalculated the wasteload allocations for the facilities that had the potential to be affected and the data speaks for itself. Because FWQC has not completed their own cost analysis based on actual data and presented different results, FWQC's claim cannot be substantiated.

Comment 5: OUG submits the following comments on proposed changes to Ohio Adm. Code 3745-1-32, Ohio Adm. Code 3745-1-33, and Ohio Adm. Code 3745-1-34. These comments pertain to proposed changes to human health criteria ("HHC") applicable to the Ohio River, inland water supply use designations, and inland WQC for protection of human health (fish consumption).

With regard to the proposed changes to the WQC for the Ohio River (Ohio Adm. Code 3745-1-32), the agency is proposing to adopt the more stringent of the following: (1) the maximum concentration level ("MCL") per the Safe Drinking Water Act; (2) the ORSANCO human health criterion; and (3) U.S. EPA's 2-route human health criteria. Some of the proposed revised criteria are more stringent than existing criteria applicable to the Ohio River, while some of the proposed criteria are less stringent.

In addressing comments from interested stakeholders in its response to comments, Ohio EPA referred to the table that was presented in the factsheet for the draft rules and its response to comment number 1. Further clarification is necessary. The table provides no clarification of how Ohio EPA determined which criteria applied (other than the most stringent). The response to comment number 1 addresses only the use of U.S. EPA's default criteria. Ohio EPA is required to provide independent justification for its water quality criteria and its response to comments is inadequate. (Ohio Utility Group)

Response 5: The criteria listed in the various tables is selected from the following sources: ORSANCO PCS, U.S. EPA Human Health 304(a) criteria, MCLs, or Ohio-derived values. ORSANCO typically updates their values with U.S. EPA updated criteria. Because ORSANCO adopted the 2015 PCS before the U.S. EPA updated criteria became effective in 2015, some of the values in the Ohio River do not reflect the current PCS values – the most stringent of the two values were selected.

Comment 6: U.S. EPA Default Criteria Input Variables Were Not Evaluated by Ohio EPA

In comments on the draft water quality standards, OUG noted that Ohio EPA has not evaluated the relevance of U.S. EPA's updated HHC (finalized in 2015) for Ohio waters. A justification is needed that assesses the appropriateness of the U.S. EPA criteria input variables to Ohio waters. These input variables include: (1) a presumed drinking water intake level of 2.4 liters per day, for a lifetime exposure of 70 years; (2) a daily fish consumption rate of 22 grams per day, specific for locally-caught fish, which does not include consumption of marine fish that are typically purchased in grocery stores or fish markets; and (3) a presumed relative source contribution ("RSC") of 0.2. The conservative RSC value assumes that no more than 20% of the chemical-specific reference dose is attributed to consumption of water and ingestion of fish. Other sources of exposure (e.g., dermal and inhalation) are thus granted a higher proportion of exposure. OUG notes that U.S. EPA has, previously, approved state-specific RSC values of up to 0.8 for various chemical compounds. OUG thinks that, if the U.S. EPA HHC are adopted by Ohio EPA, a default RSC value of 0.5 should be set as the default

value, with the caveat that less stringent RSC values could be approved pending a technical demonstration. In short, Ohio EPA cannot simply propose to adopt nationally recommended U.S. EPA HHC without evaluating each input variable in terms of appropriateness to Ohio surface waters and sources of exposure.

Despite these comments (from several interested parties), Ohio EPA's response to comments reiterates that it is relying on the default criteria because of a lack of state-specific data. This response is inadequate. If Ohio EPA lacks state-specific data, Ohio EPA should consider delay of adoption of these standards until it has collected and assessed these data. This will ensure that the adoption of the water quality criteria is based on the assessment of sound data. (OUG)

Response 6: As we have previously stated in the IPR response to comments, Ohio EPA did evaluate the relevance of U.S. EPA's updated HHC for Ohio waters and determined that there is not enough data to establish scientifically defensible state-specific criteria, and that our preliminary evaluation of the available data indicates that the criteria would not be significantly different.

The RSC value is a number between 0.2 and 0.8 which represents the percentage of exposure from the consumption of fish and drinking water. This number is not always 0.2 and varies from parameter to parameter. U.S. EPA sets these percentages based on toxicological and demographics data for the nation, and Ohio will continue to use these inputs. As we stated in our response to IPR comments in October: "Ohio EPA does not have enough data to justify a default RSC value of 0.5. U.S. EPA's default RSC value is 0.2 unless there is enough data to prove that the RSC of a chemical is greater (up to 0.8). Ohio cannot set an arbitrary default value of 0.5 without the data to back it up."

Comment 7: Manganese.

With regard to the proposed changes to Ohio Adm.Code 3745-1-34 (WQC for the protection of human health – fish consumption), OUG opposed the proposed criterion of 100 µg/L for manganese. The proposed criterion had no basis in the protection of human health via fish ingestion. U.S. EPA, 2002 (National Recommended Water Quality Criteria: 2002 – Human Health Criteria Calculation Matrix, EPA-822-R-02-012, U.S. EPA Office of Water) indicates that this 2-route criterion "...is not based on toxic effects, but rather is intended to minimize objectionable qualities such as laundry stains and objectionable tastes in beverages." OUG thanks Ohio EPA for deleting this criterion as it has no basis in actual human health effects. (OUG)

Response 7: Comment noted.

Comment 8: States Are Not Required to Adopt U.S. EPA's HHC

U.S. EPA issues nationally-recommended HHC pursuant to Section 304(a) of the Clean Water Act; states use these as the starting point for deriving WQC in their respective Clean Water Act water quality standard regulations. On page 3 of the CSI, it is stated that the proposed revisions to Ohio WQC regulations are needed to satisfy 40 CFR §131.11. However, U.S. EPA regulations (40 CFR §131.11[b]) are clear that states have the three options when developing WQC and submitting them to U.S. EPA for approval: (1) adopt the U.S. EPA nationally-recommended criteria; (2) modify these

criteria to reflect site-specific conditions; or (3) develop other “scientifically defensible” criteria.

OUG understands that one of the options is to adopt the nationally-recommended criteria. However, if there is reason to think that the other alternatives are more appropriate, Ohio EPA should evaluate those alternatives and make a determination based on its evaluation. Ohio EPA’s justification for adopting the nationally-recommended criteria is simply that it lacks data that are specific to Ohio. OUG thinks that Ohio EPA should postpone adopting these criteria until it has adequate data to provide a justification for the criteria it will ultimately adopt. (OUG)

Response 8: Ohio EPA has evaluated alternatives to adopting the U.S. EPA nationally-recommended criteria. Based on these evaluations the Agency does not believe it feasible to modify criteria to reflect site-specific conditions or develop other “scientifically defensible” criteria. Ohio EPA does not currently have the resources for this type of undertaking. Ohio EPA will continue to adopt the nationally-recommended criteria until additional staff can be hired to assist with the WQS program. Therefore, although Ohio EPA is aware that there are options when updating the water quality criteria rules, we must satisfy our regulatory obligation for triennial review under the Clean Water Act and the State of Ohio requires review of rules every five years.

As we have previously stated in the IPR response to comments, Ohio EPA did evaluate the relevance of U.S. EPA’s updated HHC for Ohio waters and determined that there is not enough data to establish scientifically defensible state-specific criteria, and that our preliminary evaluation of the available data indicates that the criteria would not be significantly different.

Comment 9: Other State Activities in Adopting U.S. EPA HHC

OUG notes that two adjacent states have chosen not to initially adopt the U.S. EPA 2015 HHC. The West Virginia Department of Environmental Protection recently received instructions from the West Virginia State Legislature to delay adoption of the 2015 U.S. EPA HHC until a thorough analysis of the appropriateness of the U.S. EPA criteria to West Virginia waters be evaluated. Similarly, the Kentucky Division of Water has determined that an evaluation of the U.S. EPA criteria be conducted by a multi-stakeholder group, in terms of relevance to waters in the Kentucky Commonwealth. Lastly, OUG points out that U.S. EPA Region 10 recently approved the adoption of HHC, and other WQC, proposed by the Idaho Department of Environmental Quality (letter from Chris Hladick [U.S. EPA Region 10] to John Tippetts [“Idaho DEQ”] dated April 4, 2019). Some of the Idaho DEQ HHC deviated significantly from U.S. EPA’s 2015 updated criteria.

In its response to comments, Ohio EPA took note that other states are developing or assessing state-specific criteria but it provided no justification regarding why it is not assessing state-specific data. If Ohio still lacks the appropriate state-specific data, OUG recommends rather than adopting the default national values, Ohio EPA should spend additional time and resources to collect these state-specific data to ensure that the proposed criteria are appropriate.

OUG recommends that Ohio EPA, in conjunction with stakeholders, further evaluate the appropriateness of adopting U.S. EPA’s 2015 HHC to Ohio waters. OUG

thinks that a more extensive cost impact analysis must be conducted for potentially-affected facilities.

OUG thanks Ohio EPA for the opportunity to comment and looks forward to clarification in order to better understand the proposal. (OUG)

Response 9:

Ohio is obligated to update its water quality criteria through the triennial rule evaluation. This review was initiated in late 2016. In addition, Ohio requires that we evaluate our rules every five years for updates. These rules have not been updated since 2002 and are long overdue. As stated previously, we do not have the resources to exhaustively evaluate exposure and toxicity data specific to Ohio. If in the future such resources become available, we may consider the option of further evaluation.

The cost impact analysis was provided as part of the IPR response to comments and is attached. During the rules process we have reached out to all potentially affected permittees and did not receive any objection to criteria adoption. We have no data suggesting that significant costs will be incurred from these rules.

**- End of Response to Comments -**



**Attachment 1:**

Ohio EPA has identified two potential sources of additional cost to regulated entities – costs due to treatment upgrades, and costs for more advanced chemical testing. The Agency does not believe that any significant treatment upgrades will be needed to meet limits based on the new criteria. Therefore, no new cost.

Ensuring compliance with these lower numbers will require some dischargers to do additional, low-level testing for a few parameters. Ohio EPA projects that these new costs will run from \$0 - \$400 per year per facility; the specific cost will depend on the sampling frequency required by the permit, the number of discharge points tested at the facility, and whether or not the facility is already using one or more of these advanced analytical techniques.

In breaking down costs, Ohio EPA first filtered out pollutants that would not drive additional costs because the new human health numbers were higher than other regulatory standards that would drive permit conditions. These would include pollutants that have lower aquatic life water quality standards than the new human health criteria and pollutants that have lower treatment technology standards (BAT/NSPS) than the new human health criteria. Note that some BAT values were lower only for the basins.

<b>Table 1. Pollutants Where Aquatic Life WQS are lower than Human Health Criteria</b>			
<i>Ohio River</i>	<i>Ohio River</i>		<i>Lake Erie</i>
<i>Mainstem</i>	<i>Basin</i>		<i>Basin</i>
Acenaphthene	Acenaphthene		Benzene
Anthracene	Anthracene		Chlorobenzene
Barium	Antimony		Cyanide, free
Chlorobenzene	Barium		2,4-Dimethylphenol
1,2-Dichlorobenzene	Benzene		Toluene
1,4-Dichlorobenzene	Bromoform		
1,3-Dichloropropene	Chlorobenzene		
Diethylphthalate	Cyanide, free		
Dimethylphthalate	1,2-Dichlorobenzene		
2,4-Dimethylphenol	1,4-Dichlorobenzene		
Ethylbenzene	2,4-Dichlorophenol		
Fluoranthene	1,3-Dichloropropene		
Fluorene	Diethylphthalate		
Methyl Bromide	Dimethylphthalate		
Phenol	Ethylbenzene		
Pyrene	Fluoranthene		
2,4,6-Trichlorophenol	Fluorene		

Zinc	Isophorone		
	Methylene Chloride		
	Nitrobenzene		
	Phenol		
	Pyrene		
	Selenium		
	Toluene		
	2,4,6-Trichlorophenol		
	Zinc		

	Acenaphthene	2-Chlorophenol (ORB)
	Anthracene	Dibutylphthalate (ORB)
	Chlorobenzene	1,2-Dichloroethane (ORB)
	Chloroform	1,1-Dichloroethylene
	1,2-Dichlorobenzene	1,2-Dichloropropane (ORB)
	1,4-Dichlorobenzene	2,4-Dinitrophenol (ORB)
	trans-1,2-Dichloroethylene	Nitrobenzene (ORB)
	2,4-Dimethylphenol	Tetrachloroethylene (ORB)
	Ethylbenzene	1,1,2-Trichloroethane (ORB)
	Fluorene	Trichloroethylene (ORB/LEB)
	Phenol	
	Toluene	
	1,1,1-Trichloroethane	

An additional set of pollutants was removed from consideration because there are not sufficient monitoring requirements in NPDES permits to provide data for analysis (in many cases, none). Ohio EPA does not expect that new monitoring and limits will be required for these pollutants based on the low detection frequency of these pollutants in NPDES application testing data, and Ohio EPA effluent sampling.

	Benzidine	alpha -Hexachlorocyclohexane
	Bis(2-chloro-1methylethyl) ether	beta-Hexachlorocyclohexane
	Bis(2-chloromethyl) ether	gamma-Hexachlorocyclohexane

	Bis(2-chloroethoxy)ethane		Isophorone
	Chlordane		Methoxychlor
	2,4-D		3-Methyl-4-chlorophenol
	4,4'-DDD		N-Nitrosodiethylamine
	4,4'-DDE		N-Nitrosodibutyl amine
	4,4'-DDT		N-Nitrosodipyrrolidine
	3,3'Dichlorobenzidene		Pentachlorobenzene
	Dinitrophenols		Silvex
	Endrin aldehyde		1,2,4,5-Tetrachlorobenzene
	alpha-Endosulfan		Toxaphene
	beta-Endosulfan		2,4,5-Trichlorophenol
	Endosulfan sulfate		2,4,6-Trichlorophenol
	Hexachlorocyclohexane - technical grade		

To assess potential treatment costs of the remaining parameters, Ohio EPA first looked at whether the new criteria would generate new, lower limits through the wasteload allocation process. If so, the Agency looked at the facility's reported discharge data for 2011-19 to determine whether the new limits would be met. Ohio EPA reviewed information for all organic chemical facilities that directly discharge to waters of the state, and also looked at other dischargers that had limits for the chemicals not excluded using the methods above. For the following seven pollutants, at least one discharger had more restrictive wasteload allocations using the new criteria:

- 1,2,4-Trichlorobenzene
- 2,4-Dinitrotoluene
- Benzo(a)pyrene
- Bis(2-ethylhexyl)phthalate
- Hexachlorobenzene
- Hexachlorobutadiene
- Hexachloroethane
- Vinyl Chloride

The analysis for 1,2,4-trichlorobenzene showed that only 1 discharger out of 13 would have lower limits under this rule. Compliance with the new standard cannot be determined because the test methods currently used by the discharger are not sufficiently sensitive to determine compliance; however, highly chlorinated organic chemicals are not commonly used, and have historically been used/generated at relatively few plants. This is also true for hexachlorobenzene, hexachlorobutadiene and hexachloroethane (although more facilities will have lower limits for these pollutants). It is not expected that facilities will have compliance issues with these chemicals. The only facility that has a history of using similar chemicals has not shown significant detections (1 detection in 46 samples for hexachlorobenzene) and test quantification levels have generally been good for this facility. Ohio EPA does not expect compliance issues for these chemicals.

A similar situation exists with benzo(a)pyrene. This chemical is typically associated with tar manufacturing and processing and is not commonly detected in NPDES effluents. While seven of the nine facilities reviewed by Ohio EPA would have lower limits for benzo(a)pyrene, four of the seven use test methods capable of testing these new limits and have not found any detections. Ohio EPA does not believe that the remaining three facilities with lower limits will have any different results.

One facility would have more restrictive limits for 2,4-dinitrotoluene. The limit change is relatively small, from 87 ug/l to 69 ug/l. This facility has not detected this chemical and will be able to meet the new limit.

Similarly, neither of the two facilities facing lower limits for vinyl chloride would experience compliance issues.

Several facilities have discharge limits for bis(2-ethylhexyl)phthalate. The new WQS for this chemical would cause lower limits at 9 of 23 facilities. It appears that seven of the nine facilities meet the new limits currently; the remaining two plants are expected to meet the new limits as they implement good sampling protocols. Bis-2EHP is a common contaminant from automatic sampler tubing; Ohio EPA has recommended collecting samples manually for phthalate parameters to eliminate this issue. The Agency believes that there are some dischargers that have not adopted this practice and may still be getting occasional detections of bis-2EHP in the effluent as a result.

#### Analytical Costs

Testing for these pollutants are typically done using scans that test for large groups of pollutants at one time. For organic pollutants, these are done in 2 groups: (1) easily volatile chemicals (easily evaporated), and (2) less easily evaporated chemicals (semi-volatiles). Most dischargers testing these chemicals do 1-2 scans per year. Scans for volatile compounds cost \$75-100 per scan; semi-volatiles cost \$150-200 per scan.

Some of the ten pollutants specifically evaluated for treatment cost increases above will require more sensitive analyses to detect the new standards. Federal NPDES rules require that permittees use test methods sufficiently sensitive to quantify discharge limits or wasteload allocation values. For limits that are less than the lowest quantification limit for that pollutant, Ohio law requires that the discharger use the most sensitive test method available (ORC 6111.13). To test for these pollutants at very low levels, permittees may need to run samples using low-level methods, which will result in additional testing costs. Based on a short survey of commercial laboratories, using these methods amounts to an additional run of the sample at the same cost as the general method. About half of permittees appear to be using low-level methods currently. The remaining ten permittees will face extra costs of \$100-400 per year based on how many samples they are required to do per year, and how many extra method runs have to be performed.

**JOINT COMMITTEE ON AGENCY RULE REVIEW**  
**Agenda - 8/17/2020 - 1:30 P.M.**  
**Senate Finance Hearing Room (Finan Hearing Room)**



**FINAL AGENDA**

**FINAL AGENDA**

**Consent**

**1 Attorney General • Charitable Foundation**

Total Rules: 1	Original Filing Date: 6/23/2020				Jurisdiction Ends: 8/27/2020	Public Hearing: 7/29/2020
<u>Rule Type</u>	<u>Action</u>	<u>CSI</u>	<u>FYR</u>	<u>Rule Number</u>	<u>Rule Title</u>	
Amendment	Original Filing	No	Yes	<a href="#">109:1-1-04</a>	Annual report.	
Total Rules: 1	Original Filing Date: 6/23/2020			Date of Revised Filing: 6/29/2020	Jurisdiction Ends: 8/27/2020	Public Hearing: 7/29/2020
<u>Rule Type</u>	<u>Action</u>	<u>CSI</u>	<u>FYR</u>	<u>Rule Number</u>	<u>Rule Title</u>	
Amendment	Revised Filing	No	Yes	<a href="#">109:1-5-02</a>	Annual financial report of charitable organization.	

**2 Attorney General • Environmental Background Investigation**

Total Rules: 1	Original Filing Date: 6/29/2020				Jurisdiction Ends: 9/2/2020	Public Hearing: 8/5/2020
<u>Rule Type</u>	<u>Action</u>	<u>CSI</u>	<u>FYR</u>	<u>Rule Number</u>	<u>Rule Title</u>	
Amendment	Original Filing	No	Yes	<a href="#">109:6-1-05</a>	Waiver.	

**3 Bureau of Workers' Compensation •**

Total Rules: 1	Original Filing Date: 6/29/2020			Date of Revised Filing: 7/2/2020	Jurisdiction Ends: 9/2/2020	Public Hearing: 8/7/2020
<u>Rule Type</u>	<u>Action</u>	<u>CSI</u>	<u>FYR</u>	<u>Rule Number</u>	<u>Rule Title</u>	
Amendment	Revised Filing	Yes	Yes	<a href="#">4123-18-09</a>	Vocational rehabilitation provider fee schedule.	

**4 Counselor, Social Worker, and Marriage and Family Therapist Board •**

Total Rules: 1	Original Filing Date: 7/15/2020				Jurisdiction Ends: 9/18/2020	Public Hearing: 8/24/2020
<u>Rule Type</u>	<u>Action</u>	<u>CSI</u>	<u>FYR</u>	<u>Rule Number</u>	<u>Rule Title</u>	
Amendment	Original Filing	Yes	No	<a href="#">4757-5-13</a>	Standards of practice and professional conduct: electronic service delivery (internet, email, teleconference, etc.).	
Total Rules: 1	Original Filing Date: 7/15/2020			Date of Revised Filing: 7/27/2020	Jurisdiction Ends: 9/18/2020	Public Hearing: 8/24/2020
<u>Rule Type</u>	<u>Action</u>	<u>CSI</u>	<u>FYR</u>	<u>Rule Number</u>	<u>Rule Title</u>	
Amendment	Revised Filing	Yes	No	<a href="#">4757-5-13</a>	Standards of practice and professional conduct: electronic service delivery (internet, email, teleconference, etc.).	

Click on the rule number in blue above to view the rule in its entirety on the *Register of Ohio* website.

**JOINT COMMITTEE ON AGENCY RULE REVIEW**  
**8/17/2020 - 1:30 P.M.**  
**Senate Finance Hearing Room (Finan Hearing Room)**

**5 Department of Administrative Services • Division of EEO for Construction**

Total Rules: 15      Original Filing Date: 7/10/2020      Jurisdiction Ends: 9/13/2020      Public Hearing: 8/10/2020

<u>Rule Type</u>	<u>Action</u>	<u>CSI</u>	<u>FYR</u>	<u>Rule Number</u>	<u>Rule Title</u>
New Rule	Original Filing	Yes	No	<a href="#">123:2-14-01</a>	Definitions.
New Rule	Original Filing	Yes	No	<a href="#">123:2-14-02</a>	Certification Criteria.
New Rule	Original Filing	Yes	No	<a href="#">123:2-14-03</a>	Recertification.
New Rule	Original Filing	Yes	No	<a href="#">123:2-14-04</a>	Expedited certification.
New Rule	Original Filing	Yes	No	<a href="#">123:2-14-05</a>	Joint venture.
New Rule	Original Filing	Yes	No	<a href="#">123:2-14-06</a>	Commercially useful function.
New Rule	Original Filing	Yes	No	<a href="#">123:2-14-07</a>	Revocation.
New Rule	Original Filing	Yes	No	<a href="#">123:2-14-08</a>	Adjudication hearings.
New Rule	Original Filing	No	No	<a href="#">123:2-14-09</a>	EDGE Procurement Goals.
New Rule	Original Filing	Yes	No	<a href="#">123:2-14-10</a>	Demonstration of good faith effort to include EDGE business participation.
New Rule	Original Filing	No	No	<a href="#">123:2-14-11</a>	Annual expenditure projection report.
New Rule	Original Filing	No	No	<a href="#">123:2-14-12</a>	Quarterly expenditure report.
New Rule	Original Filing	No	No	<a href="#">123:2-14-13</a>	EDGE participation goals in solicitations and contracts.
New Rule	Original Filing	No	No	<a href="#">123:2-14-14</a>	EDGE data collection.
New Rule	Original Filing	No	No	<a href="#">123:2-14-15</a>	Monitoring Waiver Compliance.

Total Rules: 15      Original Filing Date: 7/10/2020      Date of Revised Filing: 7/16/2020      Jurisdiction Ends: 9/13/2020      Public Hearing: 8/10/2020

<u>Rule Type</u>	<u>Action</u>	<u>CSI</u>	<u>FYR</u>	<u>Rule Number</u>	<u>Rule Title</u>
New Rule	Revised Filing	Yes	No	<a href="#">123:2-14-01</a>	Definitions.
New Rule	Revised Filing	Yes	No	<a href="#">123:2-14-02</a>	Certification Criteria.
New Rule	Revised Filing	Yes	No	<a href="#">123:2-14-03</a>	Recertification.
New Rule	Revised Filing	Yes	No	<a href="#">123:2-14-04</a>	Expedited certification.
New Rule	Revised Filing	Yes	No	<a href="#">123:2-14-05</a>	Joint venture.
New Rule	Revised Filing	Yes	No	<a href="#">123:2-14-06</a>	Commercially useful function.
New Rule	Revised Filing	Yes	No	<a href="#">123:2-14-07</a>	Revocation.
New Rule	Revised Filing	Yes	No	<a href="#">123:2-14-08</a>	Adjudication hearings.
New Rule	Revised Filing	No	No	<a href="#">123:2-14-09</a>	EDGE Procurement Goals.
New Rule	Revised Filing	Yes	No	<a href="#">123:2-14-10</a>	Demonstration of good faith effort to include EDGE business participation.
New Rule	Revised Filing	No	No	<a href="#">123:2-14-11</a>	Annual expenditure projection report.

Click on the rule number in blue above to view the rule in its entirety on the *Register of Ohio* website.

**JOINT COMMITTEE ON AGENCY RULE REVIEW**

**8/17/2020 - 1:30 P.M.**

**Senate Finance Hearing Room (Finan Hearing Room)**

**FINAL AGENDA**

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New Rule	Revised Filing	No	No	<a href="#">123:2-14-12</a>	Quarterly expenditure report.
New Rule	Revised Filing	No	No	<a href="#">123:2-14-13</a>	EDGE participation goals in solicitations and contracts.
New Rule	Revised Filing	No	No	<a href="#">123:2-14-14</a>	EDGE data collection.
New Rule	Revised Filing	No	No	<a href="#">123:2-14-15</a>	Monitoring Waiver Compliance.
Total Rules: 15		Original Filing Date: 7/10/2020		Date of Revised Filing: 7/17/2020	Jurisdiction Ends: 9/13/2020    Public Hearing: 8/10/2020

<u>Rule Type</u>	<u>Action</u>	<u>CSI</u>	<u>FYR</u>	<u>Rule Number</u>	<u>Rule Title</u>
New Rule	Revised Filing	Yes	No	<a href="#">123:2-14-01</a>	Definitions.
New Rule	Revised Filing	Yes	No	<a href="#">123:2-14-02</a>	Certification criteria.
New Rule	Revised Filing	Yes	No	<a href="#">123:2-14-03</a>	Recertification.
New Rule	Revised Filing	Yes	No	<a href="#">123:2-14-04</a>	Expedited certification.
New Rule	Revised Filing	Yes	No	<a href="#">123:2-14-05</a>	Joint venture.
New Rule	Revised Filing	Yes	No	<a href="#">123:2-14-06</a>	Commercially useful function.
New Rule	Revised Filing	Yes	No	<a href="#">123:2-14-07</a>	Revocation.
New Rule	Revised Filing	Yes	No	<a href="#">123:2-14-08</a>	Adjudication hearings.
New Rule	Revised Filing	No	No	<a href="#">123:2-14-09</a>	EDGE procurement goals.
New Rule	Revised Filing	Yes	No	<a href="#">123:2-14-10</a>	Demonstration of good faith effort to include EDGE business participation.
New Rule	Revised Filing	No	No	<a href="#">123:2-14-11</a>	Annual expenditure projection report.
New Rule	Revised Filing	No	No	<a href="#">123:2-14-12</a>	Quarterly expenditure report.
New Rule	Revised Filing	No	No	<a href="#">123:2-14-13</a>	EDGE participation goals in solicitations and contracts.
New Rule	Revised Filing	No	No	<a href="#">123:2-14-14</a>	EDGE data collection.
New Rule	Revised Filing	No	No	<a href="#">123:2-14-15</a>	Monitoring waiver compliance.

**6 Department of Administrative Services • Division of EEO for Construction**

Total Rules: 22	Original Filing Date: 7/10/2020	Jurisdiction Ends: 9/13/2020	Public Hearing: 8/10/2020
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<u>Rule Type</u>	<u>Action</u>	<u>CSI</u>	<u>FYR</u>	<u>Rule Number</u>	<u>Rule Title</u>
Rescission	Original Filing	Yes	Yes	<a href="#">123:2-15-01</a>	Application for certification as a minority business enterprise.
Rescission	Original Filing	Yes	Yes	<a href="#">123:2-15-02</a>	Bid notifications and specifications concerning minority business enterprises.
Rescission	Original Filing	Yes	Yes	<a href="#">123:2-15-03</a>	Minority set aside review board established.
Rescission	Original Filing	Yes	Yes	<a href="#">123:2-15-04</a>	Application to the minority set aside review board.
Rescission	Original Filing	Yes	Yes	<a href="#">123:2-15-05</a>	Minority set aside review board procedures for emergency contracts.
Rescission	Original Filing	Yes	Yes	<a href="#">123:2-15-06</a>	Minority set aside review board notice of meetings.
Rescission	Original Filing	Yes	Yes	<a href="#">123:2-16-01</a>	Definitions.

Click on the rule number in blue above to view the rule in its entirety on the *Register of Ohio* website.

Rescission	Original Filing	Yes	Yes	<a href="#">123:2-16-02</a>	Certification criteria.
Rescission	Original Filing	Yes	Yes	<a href="#">123:2-16-03</a>	Certification of business structure.
Rescission	Original Filing	Yes	Yes	<a href="#">123:2-16-04</a>	Expedited certification.
Rescission	Original Filing	Yes	Yes	<a href="#">123:2-16-05</a>	Recertification.
Rescission	Original Filing	Yes	Yes	<a href="#">123:2-16-06</a>	Decertification and revocation.
Rescission	Original Filing	Yes	Yes	<a href="#">123:2-16-07</a>	Adjudication hearings.
Rescission	Original Filing	No	Yes	<a href="#">123:2-16-08</a>	Edge participation goals.
Rescission	Original Filing	Yes	Yes	<a href="#">123:2-16-09</a>	Demonstration of good faith effort to include EDGE business participation.
Rescission	Original Filing	No	Yes	<a href="#">123:2-16-10</a>	Annual expenditure projection report.
Rescission	Original Filing	No	Yes	<a href="#">123:2-16-11</a>	Quarterly expenditure report.
Rescission	Original Filing	No	Yes	<a href="#">123:2-16-12</a>	Proposals.
Rescission	Original Filing	No	Yes	<a href="#">123:2-16-13</a>	EDGE data collection.
Rescission	Original Filing	Yes	Yes	<a href="#">123:2-16-14</a>	Joint venture.
Rescission	Original Filing	Yes	Yes	<a href="#">123:2-16-15</a>	Commercially useful function.
Rescission	Original Filing	No	Yes	<a href="#">123:2-16-16</a>	Monitoring waiver compliance.

Total Rules: 22    Original Filing Date: 7/10/2020    Date of Revised Filing: 7/16/2020    Jurisdiction Ends: 9/13/2020    Public Hearing: 8/10/2020

<u>Rule Type</u>	<u>Action</u>	<u>CSI</u>	<u>FYR</u>	<u>Rule Number</u>	<u>Rule Title</u>
Rescission	Revised Filing	Yes	Yes	<a href="#">123:2-15-01</a>	Application for certification as a minority business enterprise.
Rescission	Revised Filing	Yes	Yes	<a href="#">123:2-15-02</a>	Bid notifications and specifications concerning minority business enterprises.
Rescission	Revised Filing	Yes	Yes	<a href="#">123:2-15-03</a>	Minority set aside review board established.
Rescission	Revised Filing	Yes	Yes	<a href="#">123:2-15-04</a>	Application to the minority set aside review board.
Rescission	Revised Filing	Yes	Yes	<a href="#">123:2-15-05</a>	Minority set aside review board procedures for emergency contracts.
Rescission	Revised Filing	Yes	Yes	<a href="#">123:2-15-06</a>	Minority set aside review board notice of meetings.
Rescission	Revised Filing	Yes	Yes	<a href="#">123:2-16-01</a>	Definitions.
Rescission	Revised Filing	Yes	Yes	<a href="#">123:2-16-02</a>	Certification criteria.
Rescission	Revised Filing	Yes	Yes	<a href="#">123:2-16-03</a>	Certification of business structure.
Rescission	Revised Filing	Yes	Yes	<a href="#">123:2-16-04</a>	Expedited certification.
Rescission	Revised Filing	Yes	Yes	<a href="#">123:2-16-05</a>	Recertification.
Rescission	Revised Filing	Yes	Yes	<a href="#">123:2-16-06</a>	Decertification and revocation.
Rescission	Revised Filing	Yes	Yes	<a href="#">123:2-16-07</a>	Adjudication hearings.
Rescission	Revised Filing	No	Yes	<a href="#">123:2-16-08</a>	Edge participation goals.
Rescission	Revised Filing	Yes	Yes	<a href="#">123:2-16-09</a>	Demonstration of good faith effort to include EDGE business participation.

Click on the rule number in blue above to view the rule in its entirety on the *Register of Ohio* website.



Rescission	Revised Filing	No	Yes	<a href="#">123:2-16-10</a>	Annual expenditure projection report.
Rescission	Revised Filing	No	Yes	<a href="#">123:2-16-11</a>	Quarterly expenditure report.
Rescission	Revised Filing	No	Yes	<a href="#">123:2-16-12</a>	Proposals.
Rescission	Revised Filing	No	Yes	<a href="#">123:2-16-13</a>	EDGE data collection.
Rescission	Revised Filing	Yes	Yes	<a href="#">123:2-16-14</a>	Joint venture.
Rescission	Revised Filing	Yes	Yes	<a href="#">123:2-16-15</a>	Commercially useful function.
Rescission	Revised Filing	No	Yes	<a href="#">123:2-16-16</a>	Monitoring waiver compliance.

**7 Department of Administrative Services • Division of Human Resources**

Total Rules: 1      Original Filing Date: 6/22/2020      Jurisdiction Ends: 8/26/2020      Public Hearing: 7/24/2020

<u>Rule Type</u>	<u>Action</u>	<u>CSI</u>	<u>FYR</u>	<u>Rule Number</u>	<u>Rule Title</u>
Amendment	Original Filing	No	Yes	<a href="#">123:1-46-05</a>	Leave donation program.

**8 Department of Administrative Services • Division of Human Resources**

Total Rules: 1      Original Filing Date: 7/8/2020      Jurisdiction Ends: 9/11/2020      Public Hearing: 8/13/2020

<u>Rule Type</u>	<u>Action</u>	<u>CSI</u>	<u>FYR</u>	<u>Rule Number</u>	<u>Rule Title</u>
Amendment	Original Filing	No	No	<a href="#">123:1-34-11</a>	Mandatory cost savings program.

**9 Department of Aging •**

Total Rules: 9      Original Filing Date: 6/30/2020      Date of Revised Filing: 7/1/2020      Jurisdiction Ends: 9/3/2020      Public Hearing: 8/4/2020

<u>Rule Type</u>	<u>Action</u>	<u>CSI</u>	<u>FYR</u>	<u>Rule Number</u>	<u>Rule Title</u>
Amendment	Revised Filing	Yes	Yes	<a href="#">173-50-01</a>	PACE: introduction and definitions.
Rescission	Revised Filing	Yes	Yes	<a href="#">173-50-02</a>	PACE: eligibility requirements.
New Rule	Revised Filing	Yes	No	<a href="#">173-50-02</a>	PACE: eligibility requirements.
Rescission	Revised Filing	Yes	Yes	<a href="#">173-50-03</a>	PACE: enrollment process.
New Rule	Revised Filing	Yes	No	<a href="#">173-50-03</a>	PACE: enrollment, plan of care, and reassessment.
Rescission	Revised Filing	Yes	Yes	<a href="#">173-50-04</a>	PACE: Voluntary disenrollment.
New Rule	Revised Filing	Yes	No	<a href="#">173-50-04</a>	PACE: voluntary disenrollment.
Rescission	Revised Filing	Yes	Yes	<a href="#">173-50-05</a>	PACE: involuntary disenrollment.
New Rule	Revised Filing	Yes	No	<a href="#">173-50-05</a>	PACE: involuntary disenrollment.

**10 Department of Aging •**

Total Rules: 5      Original Filing Date: 6/29/2020      Date of Revised Filing: 7/1/2020      Jurisdiction Ends: 9/2/2020      Public Hearing: 8/4/2020

<u>Rule Type</u>	<u>Action</u>	<u>CSI</u>	<u>FYR</u>	<u>Rule Number</u>	<u>Rule Title</u>
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Click on the rule number in blue above to view the rule in its entirety on the *Register of Ohio* website.

**JOINT COMMITTEE ON AGENCY RULE REVIEW**

**8/17/2020 - 1:30 P.M.**

**Senate Finance Hearing Room (Finan Hearing Room)**

**FINAL AGENDA**

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Amendment	Revised Filing	Yes	Yes	<a href="#">173-39-02</a>	ODA provider certification: requirements for providers to become, and to remain, certified.
Rescission	Revised Filing	Yes	Yes	<a href="#">173-39-02.12</a>	ODA provider certification: Social work counseling service.
New Rule	Revised Filing	Yes	No	<a href="#">173-39-02.12</a>	ODA provider certification: Social work counseling service.
Amendment	Revised Filing	Yes	Yes	<a href="#">173-39-02.23</a>	ODA provider certification: out-of-home respite.
Amendment	Revised Filing	Yes	Yes	<a href="#">173-39-03.5</a>	ODA provider certification: military provisions.

**11 Department of Aging •**

Total Rules: 7      Original Filing Date: 6/29/2020      Date of Revised Filing: 7/1/2020      Jurisdiction Ends: 9/2/2020      Public Hearing: 8/4/2020

<u>Rule Type</u>	<u>Action</u>	<u>CSI</u>	<u>FYR</u>	<u>Rule Number</u>	<u>Rule Title</u>
Amendment	Revised Filing	No	Yes	<a href="#">173-13-01</a>	Introduction and definitions.
Rescission	Revised Filing	No	Yes	<a href="#">173-13-02</a>	Procedures for accessing confidential personal information.
New Rule	Revised Filing	No	No	<a href="#">173-13-02</a>	Confidential personal information: procedures for accessing CPI.
Amendment	Revised Filing	No	Yes	<a href="#">173-13-03</a>	Valid reasons for accessing confidential personal information.
Amendment	Revised Filing	No	Yes	<a href="#">173-13-04</a>	Confidentiality statutes and rules.
Rescission	Revised Filing	No	Yes	<a href="#">173-13-05</a>	Restricting and logging access to confidential personal information in computerized personal information systems.
New Rule	Revised Filing	No	No	<a href="#">173-13-05</a>	Confidential personal information: restricting and logging access to CPI in computerized personal information systems.

**12 Department of Developmental Disabilities •**

Total Rules: 1      Original Filing Date: 7/2/2020      Date of Refiled Filing: 8/7/2020      Jurisdiction Ends: 9/6/2020      Public Hearing: 8/6/2020

<u>Rule Type</u>	<u>Action</u>	<u>CSI</u>	<u>FYR</u>	<u>Rule Number</u>	<u>Rule Title</u>
New Rule	Refiled Filing	Yes	No	<a href="#">5123-7-28</a>	Intermediate care facilities for individuals with intellectual disabilities - intensive behavioral support rate add-on.

**13 Department of Developmental Disabilities •**

Total Rules: 1      Original Filing Date: 3/2/2020      Date of Refiled Filing: 8/7/2020      Jurisdiction Ends: 9/6/2020      Public Hearing: 4/10/2020

<u>Rule Type</u>	<u>Action</u>	<u>CSI</u>	<u>FYR</u>	<u>Rule Number</u>	<u>Rule Title</u>
New Rule	Refiled Filing	No	No	<a href="#">5123-12-01</a>	Conducting meetings of the Ohio developmental disabilities council via interactive video conference or teleconference.

**14 Department of Developmental Disabilities •**

Total Rules: 1      Original Filing Date: 7/17/2020      Jurisdiction Ends: 9/20/2020      Public Hearing: 8/17/2020

<u>Rule Type</u>	<u>Action</u>	<u>CSI</u>	<u>FYR</u>	<u>Rule Number</u>	<u>Rule Title</u>
New Rule	Original Filing	Yes	No	<a href="#">5123-1-04</a>	Community capital assistance funds - development of licensed residential facilities.

Click on the rule number in blue above to view the rule in its entirety on the *Register of Ohio* website.

**15 Department of Developmental Disabilities • Fiscal Administration and State-Operated Services and Supports**

Total Rules: 1      Original Filing Date: 7/17/2020      Jurisdiction Ends: 9/20/2020      Public Hearing: 8/17/2020

<u>Rule Type</u>	<u>Action</u>	<u>CSI</u>	<u>FYR</u>	<u>Rule Number</u>	<u>Rule Title</u>
Rescission	Original Filing	Yes	Yes	<a href="#">5123:1-1-04</a>	Community capital assistance funds for the development of licensed residential facilities.

**16 Department of Job and Family Services • Apprenticeship Council**

Total Rules: 13      Original Filing Date: 7/6/2020      Jurisdiction Ends: 9/9/2020      Public Hearing: 8/12/2020

<u>Rule Type</u>	<u>Action</u>	<u>CSI</u>	<u>FYR</u>	<u>Rule Number</u>	<u>Rule Title</u>
Amendment	Original Filing	No	Yes	<a href="#">5101:11-1-01</a>	Definitions.
Amendment	Original Filing	No	Yes	<a href="#">5101:11-2-01</a>	Ohio state apprenticeship council and the council office.
Amendment	Original Filing	No	Yes	<a href="#">5101:11-2-02</a>	Procedure for notice of public meetings.
Amendment	Original Filing	Yes	Yes	<a href="#">5101:11-3-01</a>	Procedures for program registration and subsequent program changes.
Amendment	Original Filing	Yes	Yes	<a href="#">5101:11-3-02</a>	Program requirements.
Amendment	Original Filing	Yes	Yes	<a href="#">5101:11-3-03</a>	Reciprocity agreement.
New Rule	Original Filing	Yes	No	<a href="#">5101:11-3-04</a>	De-registration of programs.
Amendment	Original Filing	Yes	Yes	<a href="#">5101:11-4-01</a>	Selection of apprentices.
Amendment	Original Filing	No	Yes	<a href="#">5101:11-4-02</a>	Apprentice registration.
Amendment	Original Filing	No	Yes	<a href="#">5101:11-4-03</a>	Apprenticeship agreement contents.
New Rule	Original Filing	No	No	<a href="#">5101:11-8-02</a>	Hearings.
New Rule	Original Filing	Yes	No	<a href="#">5101:11-8-03</a>	Reinstatement of program registration.
New Rule	Original Filing	No	No	<a href="#">5101:11-9-01</a>	Exemptions.

**17 Department of Job and Family Services • Apprenticeship Council**

Total Rules: 18      Original Filing Date: 7/6/2020      Jurisdiction Ends: 9/9/2020      Public Hearing: 8/12/2020

<u>Rule Type</u>	<u>Action</u>	<u>CSI</u>	<u>FYR</u>	<u>Rule Number</u>	<u>Rule Title</u>
Rescission	Original Filing	Yes	Yes	<a href="#">5101:11-5-01</a>	Equal opportunity requirements.
New Rule	Original Filing	Yes	No	<a href="#">5101:11-5-01</a>	Equal opportunity policy.
Rescission	Original Filing	Yes	Yes	<a href="#">5101:11-5-02</a>	Affirmative action plan.
New Rule	Original Filing	Yes	No	<a href="#">5101:11-5-02</a>	Steps to ensure equal opportunity.
Rescission	Original Filing	Yes	Yes	<a href="#">5101:11-6-01</a>	Compliance reviews.
New Rule	Original Filing	Yes	No	<a href="#">5101:11-6-01</a>	Affirmative action obligations.
Rescission	Original Filing	Yes	Yes	<a href="#">5101:11-6-02</a>	Complaint process.

Click on the rule number in blue above to view the rule in its entirety on the *Register of Ohio* website.

New Rule	Original Filing	Yes	No	<a href="#">5101:11-6-02</a>	Planning requirements.
Rescission	Original Filing	No	Yes	<a href="#">5101:11-6-03</a>	Determinations of non-compliance.
New Rule	Original Filing	Yes	No	<a href="#">5101:11-6-03</a>	Program activities.
Rescission	Original Filing	Yes	Yes	<a href="#">5101:11-7-01</a>	De-registration of programs.
New Rule	Original Filing	Yes	No	<a href="#">5101:11-7-01</a>	Compliance reviews.
Rescission	Original Filing	No	Yes	<a href="#">5101:11-7-02</a>	Hearings.
New Rule	Original Filing	Yes	No	<a href="#">5101:11-7-02</a>	Complaint process.
Rescission	Original Filing	No	Yes	<a href="#">5101:11-7-03</a>	Reinstatement of program registration.
New Rule	Original Filing	Yes	No	<a href="#">5101:11-7-03</a>	Compliance findings.
Rescission	Original Filing	No	Yes	<a href="#">5101:11-8-01</a>	Exemptions.
New Rule	Original Filing	Yes	No	<a href="#">5101:11-8-01</a>	Response to findings of non-compliance.

**18 Department of Job and Family Services • Division of Food Stamps**

Total Rules: 1      Original Filing Date: 6/24/2020      Jurisdiction Ends: 8/28/2020      Public Hearing:

<u>Rule Type</u>	<u>Action</u>	<u>CSI</u>	<u>FYR</u>	<u>Rule Number</u>	<u>Rule Title</u>
Amendment	Original Filing	No	Yes	<a href="#">5101:4-5-03</a>	Food assistance: establishing certification periods.

**19 Department of Job and Family Services • Division of Food Stamps**

Total Rules: 1      Original Filing Date: 7/17/2020      Jurisdiction Ends: 9/20/2020      Public Hearing:

<u>Rule Type</u>	<u>Action</u>	<u>CSI</u>	<u>FYR</u>	<u>Rule Number</u>	<u>Rule Title</u>
Amendment	Original Filing	No	Yes	<a href="#">5101:4-1-05</a>	Food assistance: personnel standards, bilingual staff and materials, records and reports.

**20 Department of Job and Family Services • Division of Food Stamps**

Total Rules: 1      Original Filing Date: 7/17/2020      Jurisdiction Ends: 9/20/2020      Public Hearing: 8/18/2020

<u>Rule Type</u>	<u>Action</u>	<u>CSI</u>	<u>FYR</u>	<u>Rule Number</u>	<u>Rule Title</u>
Amendment	Original Filing	No	Yes	<a href="#">5101:4-3-34.1</a>	Food assistance: work experience program overpayments.

**21 Department of Job and Family Services • Division of Public Assistance**

Total Rules: 1      Original Filing Date: 6/25/2020      Jurisdiction Ends: 8/29/2020      Public Hearing: 7/29/2020

<u>Rule Type</u>	<u>Action</u>	<u>CSI</u>	<u>FYR</u>	<u>Rule Number</u>	<u>Rule Title</u>
Amendment	Original Filing	No	Yes	<a href="#">5101:1-2-20</a>	Ohio works first, and refugee cash assistance: verification and reporting requirements.

**22 Department of Job and Family Services • Division of Social Services**

Total Rules: 1      Original Filing Date: 6/26/2020      Jurisdiction Ends: 8/30/2020      Public Hearing: 7/29/2020

Click on the rule number in blue above to view the rule in its entirety on the *Register of Ohio* website.

<u>Rule Type</u>	<u>Action</u>	<u>CSI</u>	<u>FYR</u>	<u>Rule Number</u>	<u>Rule Title</u>
Amendment	Original Filing	No	Yes	<a href="#">5101:2-33-02</a>	PCSA requirement to participate in child protection oversight and evaluation.

**23 Department of Job and Family Services • Division of Social Services**

Total Rules: 1      Original Filing Date: 7/14/2020      Jurisdiction Ends: 9/17/2020      Public Hearing: 8/18/2020

<u>Rule Type</u>	<u>Action</u>	<u>CSI</u>	<u>FYR</u>	<u>Rule Number</u>	<u>Rule Title</u>
New Rule	Original Filing	Yes	No	<a href="#">5101:2-9-42</a>	Qualified Residential Treatment Program (QRTP).
Total Rules: 1		Original Filing Date: 7/14/2020		Date of Revised Filing: 8/5/2020	Jurisdiction Ends: 9/17/2020      Public Hearing: 8/18/2020

<u>Rule Type</u>	<u>Action</u>	<u>CSI</u>	<u>FYR</u>	<u>Rule Number</u>	<u>Rule Title</u>
New Rule	Revised Filing	Yes	No	<a href="#">5101:2-9-42</a>	Qualified residential treatment program (QRTP).

**24 Department of Job and Family Services • Division of Social Services**

Total Rules: 1      Original Filing Date: 7/14/2020      Jurisdiction Ends: 9/17/2020      Public Hearing: 8/18/2020

<u>Rule Type</u>	<u>Action</u>	<u>CSI</u>	<u>FYR</u>	<u>Rule Number</u>	<u>Rule Title</u>
New Rule	Original Filing	Yes	No	<a href="#">5101:2-40-10</a>	The Ohio kinship and adoption navigator (OhioKAN) program.

**25 Department of Mental Health and Addiction Services •**

Total Rules: 3      Original Filing Date: 7/14/2020      Jurisdiction Ends: 9/17/2020      Public Hearing: 8/18/2020

<u>Rule Type</u>	<u>Action</u>	<u>CSI</u>	<u>FYR</u>	<u>Rule Number</u>	<u>Rule Title</u>
New Rule	Original Filing	Yes	No	<a href="#">5122-29-09.1</a>	Substance use disorder qualified residential treatment program (QRTP) for youth.
Amendment	Original Filing	Yes	No	<a href="#">5122-30-31</a>	Background investigations for employment.
New Rule	Original Filing	Yes	No	<a href="#">5122-30-32</a>	Qualified residential treatment program (QRTP).

**26 Department of Public Safety • Private Investigator Security Guard Services**

Total Rules: 17      Original Filing Date: 6/26/2020      Jurisdiction Ends: 8/30/2020      Public Hearing: 7/28/2020

<u>Rule Type</u>	<u>Action</u>	<u>CSI</u>	<u>FYR</u>	<u>Rule Number</u>	<u>Rule Title</u>
Amendment	Original Filing	Yes	Yes	<a href="#">4501:7-1-02</a>	Reputation for integrity.
Amendment	Original Filing	Yes	Yes	<a href="#">4501:7-1-03</a>	Requirement of new license.
Amendment	Original Filing	Yes	Yes	<a href="#">4501:7-1-04</a>	License applications.
Amendment	Original Filing	Yes	Yes	<a href="#">4501:7-1-07</a>	Examinations.
Amendment	Original Filing	Yes	Yes	<a href="#">4501:7-1-08</a>	License.
Amendment	Original Filing	Yes	Yes	<a href="#">4501:7-1-09</a>	Registration of employees.
Amendment	Original Filing	Yes	Yes	<a href="#">4501:7-1-10</a>	Issuance of I.D. card to registrant.
Rescission	Original Filing	Yes	Yes	<a href="#">4501:7-1-13</a>	Publication and vehicle marking restrictions.

Rescission	Original Filing	Yes	Yes	<a href="#">4501:7-1-14</a>	Advertisement identification.
Amendment	Original Filing	Yes	Yes	<a href="#">4501:7-1-15</a>	Notice of renewals.
Amendment	Original Filing	Yes	Yes	<a href="#">4501:7-1-16</a>	Renewal of registrations.
Amendment	Original Filing	Yes	Yes	<a href="#">4501:7-1-17</a>	Fees.
Amendment	Original Filing	Yes	Yes	<a href="#">4501:7-1-18</a>	Retained applicant fingerprint database enrollment.
Amendment	Original Filing	No	Yes	<a href="#">4501:7-1-19</a>	Disqualifying offenses.
Amendment	Original Filing	Yes	Yes	<a href="#">4501:7-1-21</a>	Process for veteran applications.
Amendment	Original Filing	Yes	Yes	<a href="#">4501:7-1-22</a>	Firearm bearer notation issuance and renewal.
Amendment	Original Filing	Yes	Yes	<a href="#">4501:7-1-23</a>	Firearm bearer prohibitions and disciplinary actions.
Total Rules: 1	Original Filing Date: 6/26/2020			Date of Revised Filing: 6/29/2020	Jurisdiction Ends: 8/30/2020 Public Hearing: 7/28/2020
<u>Rule Type</u>	<u>Action</u>	<u>CSI</u>	<u>FYR</u>	<u>Rule Number</u>	<u>Rule Title</u>
Amendment	Revised Filing	Yes	Yes	<a href="#">4501:7-1-01</a>	Definitions.
Total Rules: 1	Original Filing Date: 6/26/2020			Date of Revised Filing: 7/28/2020	Jurisdiction Ends: 8/30/2020 Public Hearing: 7/28/2020
<u>Rule Type</u>	<u>Action</u>	<u>CSI</u>	<u>FYR</u>	<u>Rule Number</u>	<u>Rule Title</u>
Amendment	Revised Filing	Yes	Yes	<a href="#">4501:7-1-20</a>	Notice of meeting.

**27 Department of Taxation •**

Total Rules: 9	Original Filing Date: 6/26/2020				Jurisdiction Ends: 8/30/2020 Public Hearing:
<u>Rule Type</u>	<u>Action</u>	<u>CSI</u>	<u>FYR</u>	<u>Rule Number</u>	<u>Rule Title</u>
Amendment	Original Filing	No	No	<a href="#">5703-7-02</a>	Applications for personal income tax refunds.
New Rule	Original Filing	No	No	<a href="#">5703-7-03</a>	Documentation to Support a Taxpayer's Joint Filing and Residency Credits.
Rescission	Original Filing	No	Yes	<a href="#">5703-7-04</a>	Option to filing of declaration of estimated income tax returns by farmers and fishermen.
New Rule	Original Filing	No	No	<a href="#">5703-7-04</a>	Option to filing of declaration of estimated income tax returns by farmers and fishermen.
Rescission	Original Filing	No	Yes	<a href="#">5703-7-06</a>	Personal income tax form required for withholding purposes.
New Rule	Original Filing	No	No	<a href="#">5703-7-06</a>	Personal income tax form required for withholding purposes.
Amendment	Original Filing	No	Yes	<a href="#">5703-7-07</a>	Requirements for requesting inspection of income tax returns.
Rescission	Original Filing	No	Yes	<a href="#">5703-7-08</a>	Deduction of disability and survivorship benefits.
New Rule	Original Filing	No	No	<a href="#">5703-7-08</a>	Deduction of disability and survivorship benefits.

**28 Department of Taxation •**

Total Rules: 1	Original Filing Date: 7/2/2020				Jurisdiction Ends: 9/5/2020 Public Hearing:
<u>Rule Type</u>	<u>Action</u>	<u>CSI</u>	<u>FYR</u>	<u>Rule Number</u>	<u>Rule Title</u>

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<p><b>29</b> <u><b>Ohio Casino Control Commission •</b></u></p> <p>Total Rules: 1      Original Filing Date: 6/19/2020</p> <p><u>Rule Type</u>    <u>Action</u>                    <u>CSI</u>   <u>FYR</u>                    <u>Rule Number</u>                    <u>Rule Title</u></p> <p>Amendment   Original Filing        Yes   No                    <a href="#">3772-50-08</a>                    Type-C skill-based amusement machine location licensure.</p>	<p><a href="#">5703-7-01</a>                    Determination of NAICS Codes for the Ohio Business Income Deduction.</p> <p>Jurisdiction Ends: 8/23/2020      Public Hearing: 7/23/2020</p>
<p><b>30</b> <u><b>Ohio Casino Control Commission •</b></u></p> <p>Total Rules: 1      Original Filing Date: 6/19/2020</p> <p><u>Rule Type</u>    <u>Action</u>                    <u>CSI</u>   <u>FYR</u>                    <u>Rule Number</u>                    <u>Rule Title</u></p> <p>Amendment   Original Filing        No    Yes                    <a href="#">3772-1-06</a>                    Minimum licensure requirements.</p>	<p>Jurisdiction Ends: 8/23/2020      Public Hearing: 7/23/2020</p>
<p><b>31</b> <u><b>Ohio Department of Medicaid •</b></u></p> <p>Total Rules: 1      Original Filing Date: 7/13/2020</p> <p><u>Rule Type</u>    <u>Action</u>                    <u>CSI</u>   <u>FYR</u>                    <u>Rule Number</u>                    <u>Rule Title</u></p> <p>Amendment   Original Filing        Yes   Yes                    <a href="#">5160-3-58</a>                    Nursing facilities (NFs): quality indicators and quality payment rate.</p>	<p>Jurisdiction Ends: 9/16/2020      Public Hearing: 8/13/2020</p>
<p><b>32</b> <u><b>Ohio Environmental Protection Agency •</b></u></p> <p>Total Rules: 3      Original Filing Date: 10/30/2019      Date of Refiled Filing: 8/4/2020</p> <p><u>Rule Type</u>    <u>Action</u>                    <u>CSI</u>   <u>FYR</u>                    <u>Rule Number</u>                    <u>Rule Title</u></p> <p>Amendment   Refiled Filing            Yes   Yes                    <a href="#">3745-1-32</a>                    Ohio river standards.</p> <p>Amendment   Refiled Filing            Yes   Yes                    <a href="#">3745-1-33</a>                    Water quality criteria for water supply use designations.</p> <p>Amendment   Refiled Filing            Yes   Yes                    <a href="#">3745-1-34</a>                    Water quality criteria for the protection of human health [fish consumption].</p>	<p>Jurisdiction Ends: 9/3/2020      Public Hearing: 12/4/2019</p>
<p><b>33</b> <u><b>Ohio Environmental Protection Agency •</b></u></p> <p>Total Rules: 6      Original Filing Date: 7/6/2020</p> <p><u>Rule Type</u>    <u>Action</u>                    <u>CSI</u>   <u>FYR</u>                    <u>Rule Number</u>                    <u>Rule Title</u></p> <p>Amendment   Original Filing            Yes   Yes                    <a href="#">3745-27-02</a>                    Permit to install.</p> <p>Amendment   Original Filing            Yes   Yes                    <a href="#">3745-27-06</a>                    Sanitary landfill facility permit to install application.</p> <p>Amendment   Original Filing            Yes   Yes                    <a href="#">3745-27-07</a>                    Additional criteria for approval of sanitary landfill facility permit to install applications.</p> <p>Amendment   Original Filing            Yes   Yes                    <a href="#">3745-27-09</a>                    Sanitary landfill facility operating record.</p> <p>Amendment   Original Filing            Yes   Yes                    <a href="#">3745-27-11</a>                    Final closure of a sanitary landfill facility.</p> <p>Amendment   Original Filing            Yes   Yes                    <a href="#">3745-27-14</a>                    Post-closure care of sanitary landfill facilities.</p>	<p>Jurisdiction Ends: 9/9/2020      Public Hearing: 8/12/2020</p> <p>Date of Revised Filing: 7/16/2020      Jurisdiction Ends: 9/9/2020      Public Hearing: 8/12/2020</p>

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<u>Rule Type</u>	<u>Action</u>	<u>CSI</u>	<u>FYR</u>	<u>Rule Number</u>	<u>Rule Title</u>	
Amendment	Revised Filing	Yes	Yes	<a href="#">3745-27-05</a>	Applicability and relation to other laws.	
Total Rules: 1	Original Filing Date: 7/6/2020		Date of Revised Filing: 8/10/2020		Jurisdiction Ends: 9/9/2020	Public Hearing: 8/12/2020

<u>Rule Type</u>	<u>Action</u>	<u>CSI</u>	<u>FYR</u>	<u>Rule Number</u>	<u>Rule Title</u>
Amendment	Revised Filing	Yes	Yes	<a href="#">3745-27-08</a>	Sanitary landfill facility construction.

**34 Ohio Environmental Protection Agency •**

Total Rules: 18      Original Filing Date: 7/13/2020      Jurisdiction Ends: 9/16/2020      Public Hearing: 8/17/2020

<u>Rule Type</u>	<u>Action</u>	<u>CSI</u>	<u>FYR</u>	<u>Rule Number</u>	<u>Rule Title</u>
Rescission	Original Filing	Yes	Yes	<a href="#">3745-51-05</a>	Special requirements for hazardous waste generated by conditionally exempt small quantity generators.
Rescission	Original Filing	Yes	Yes	<a href="#">3745-52-10</a>	Applicability- generator standards.
Rescission	Original Filing	Yes	Yes	<a href="#">3745-52-11</a>	Hazardous waste determination.
Rescission	Original Filing	Yes	Yes	<a href="#">3745-52-12</a>	Generator identification numbers.
Rescission	Original Filing	Yes	Yes	<a href="#">3745-52-34</a>	Accumulation time of hazardous waste.
Rescission	Original Filing	Yes	Yes	<a href="#">3745-52-41</a>	Biennial report- generator standards.
Rescission	Original Filing	Yes	Yes	<a href="#">3745-52-44</a>	Recordkeeping and reporting requirements for generators of between one hundred and one thousand kilograms per month.
Rescission	Original Filing	Yes	Yes	<a href="#">3745-52-50</a>	Applicability- exports of hazardous waste to a foreign country.
Rescission	Original Filing	Yes	Yes	<a href="#">3745-52-60</a>	Imports of hazardous waste from a foreign country.
Rescission	Original Filing	Yes	Yes	<a href="#">3745-53-12</a>	Transfer facility requirements.
Rescission	Original Filing	Yes	Yes	<a href="#">3745-53-20</a>	Acceptance and handling of hazardous waste and the manifest system.
Rescission	Original Filing	Yes	Yes	<a href="#">3745-54-12</a>	Required notices.
Rescission	Original Filing	Yes	Yes	<a href="#">3745-54-71</a>	Use of manifest system.
Rescission	Original Filing	Yes	Yes	<a href="#">3745-54-75</a>	Biennial report.
Rescission	Original Filing	Yes	Yes	<a href="#">3745-65-12</a>	Required notices.
Rescission	Original Filing	Yes	Yes	<a href="#">3745-65-71</a>	Use of manifest system.
Rescission	Original Filing	Yes	Yes	<a href="#">3745-65-75</a>	Biennial report.
Rescission	Original Filing	Yes	Yes	<a href="#">3745-66-101</a>	Special requirements for generators of between one hundred and one thousand kilograms per month that accumulate hazardous waste in tanks.

**35 Ohio Environmental Protection Agency •**

Total Rules: 7      Original Filing Date: 7/13/2020      Jurisdiction Ends: 9/16/2020      Public Hearing: 8/17/2020

<u>Rule Type</u>	<u>Action</u>	<u>CSI</u>	<u>FYR</u>	<u>Rule Number</u>	<u>Rule Title</u>
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**JOINT COMMITTEE ON AGENCY RULE REVIEW**

**8/17/2020 - 1:30 P.M.**

**Senate Finance Hearing Room (Finan Hearing Room)**

**FINAL AGENDA**

**FINAL AGENDA**

New Rule	Original Filing	Yes	No	<a href="#">3745-50-02</a>	Business confidentiality - hazardous waste management.
New Rule	Original Filing	Yes	Exempt	<a href="#">3745-50-04</a>	Manifest copy submittal requirements for certain interstate waste shipments.
New Rule	Original Filing	Yes	Exempt	<a href="#">3745-50-05</a>	Applicability- electronic manifest system and user fee requirements to facilities that receive state-only regulated waste shipments.
Amendment	Original Filing	Yes	Yes	<a href="#">3745-50-10</a>	Definitions and computation of time.
Amendment	Original Filing	Yes	Yes	<a href="#">3745-50-11</a>	Incorporated by reference.
Amendment	Original Filing	Yes	Yes	<a href="#">3745-50-28</a>	Procedures for case-by-case regulation of hazardous waste recycling activities.
Amendment	Original Filing	Yes	Yes	<a href="#">3745-50-45</a>	Special inclusions and exclusions for hazardous waste permits.

**36 Ohio Environmental Protection Agency •**

Total Rules: 8      Original Filing Date: 7/13/2020      Jurisdiction Ends: 9/16/2020      Public Hearing: 8/17/2020

<u>Rule Type</u>	<u>Action</u>	<u>CSI</u>	<u>FYR</u>	<u>Rule Number</u>	<u>Rule Title</u>
Amendment	Original Filing	Yes	Yes	<a href="#">3745-51-01</a>	Purpose and scope of Chapter 3745-51 of the Administrative Code.
Amendment	Original Filing	Yes	Yes	<a href="#">3745-51-04</a>	Exclusions.
Amendment	Original Filing	Yes	Yes	<a href="#">3745-51-06</a>	Requirements for recyclable materials.
Amendment	Original Filing	Yes	Yes	<a href="#">3745-51-07</a>	Residues of hazardous waste in empty containers.
Amendment	Original Filing	Yes	Exempt	<a href="#">3745-51-11</a>	Criteria for listing hazardous waste.
Amendment	Original Filing	Yes	Exempt	<a href="#">3745-51-30</a>	Lists of hazardous wastes - general.
Amendment	Original Filing	Yes	Exempt	<a href="#">3745-51-33</a>	Discarded commercial chemical products, off-specification species, container residues, and spill residues thereof.
Amendment	Original Filing	Yes	Exempt	<a href="#">3745-51-39</a>	Conditional exclusion for used, broken CRTs and processed CRT glass undergoing recycling.

**37 Ohio Environmental Protection Agency •**

Total Rules: 24      Original Filing Date: 7/13/2020      Jurisdiction Ends: 9/16/2020      Public Hearing: 8/17/2020

<u>Rule Type</u>	<u>Action</u>	<u>CSI</u>	<u>FYR</u>	<u>Rule Number</u>	<u>Rule Title</u>
New Rule	Original Filing	Yes	No	<a href="#">3745-52-01</a>	Definitions - generator standards.
New Rule	Original Filing	Yes	No	<a href="#">3745-52-11</a>	Hazardous waste determination and recordkeeping.
New Rule	Original Filing	Yes	Exempt	<a href="#">3745-52-13</a>	Generator category determinations.
New Rule	Original Filing	Yes	No	<a href="#">3745-52-14</a>	Conditions for exemption for very small quantity generators.
New Rule	Original Filing	Yes	No	<a href="#">3745-52-15</a>	Satellite accumulation area requirements for small quantity generators and large quantity generators.
New Rule	Original Filing	Yes	No	<a href="#">3745-52-16</a>	Conditions for exemption for small quantity generators that accumulate hazardous waste.

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**JOINT COMMITTEE ON AGENCY RULE REVIEW**

**8/17/2020 - 1:30 P.M.**

**Senate Finance Hearing Room (Finan Hearing Room)**

**FINAL AGENDA**

**FINAL AGENDA**

New Rule	Original Filing	Yes	No	<a href="#">3745-52-17</a>	Conditions for exemption for large quantity generators that accumulate hazardous waste.	
New Rule	Original Filing	Yes	Exempt	<a href="#">3745-52-18</a>	U.S. EPA identification numbers and re-notification for small quantity generators and large quantity generators.	
Amendment	Original Filing	Yes	Exempt	<a href="#">3745-52-20</a>	Manifest - general requirements.	
New Rule	Original Filing	Yes	Exempt	<a href="#">3745-52-24</a>	Use of the electronic manifest.	
New Rule	Original Filing	Yes	Exempt	<a href="#">3745-52-25</a>	Electronic manifest signatures.	
Amendment	Original Filing	Yes	Exempt	<a href="#">3745-52-32</a>	Marking.	
New Rule	Original Filing	Yes	Exempt	<a href="#">3745-52-35</a>	Liquids in landfills prohibition.	
Amendment	Original Filing	Yes	Exempt	<a href="#">3745-52-40</a>	Recordkeeping.	
New Rule	Original Filing	Yes	No	<a href="#">3745-52-41</a>	Biennial report for large quantity generators.	
New Rule	Original Filing	Yes	Exempt	<a href="#">3745-52-44</a>	Recordkeeping for small quantity generators.	
New Rule	Original Filing	Yes	Exempt	<a href="#">3745-52-80</a>	Applicability - transboundary movement of hazardous waste for recovery or disposal.	
Amendment	Original Filing	Yes	Exempt	<a href="#">3745-52-200</a>	Definitions- university labs.	
Amendment	Original Filing	Yes	Exempt	<a href="#">3745-52-201</a>	Applicability- university labs.	
Amendment	Original Filing	Yes	Exempt	<a href="#">3745-52-202</a>	Use of the university lab rules is an option.	
Amendment	Original Filing	Yes	Exempt	<a href="#">3745-52-203</a>	How an eligible academic entity indicates it will be subject to the university lab rules.	
Amendment	Original Filing	Yes	Exempt	<a href="#">3745-52-204</a>	How an eligible academic entity indicates it will withdraw from the university lab rules.	
Amendment	Original Filing	Yes	Exempt	<a href="#">3745-52-207</a>	Training.	
Amendment	Original Filing	Yes	Exempt	<a href="#">3745-52-208</a>	Removing containers of unwanted material from the laboratory.	
Total Rules: 1		Original Filing Date: 7/13/2020		Date of Revised Filing: 7/29/2020	Jurisdiction Ends: 9/16/2020	Public Hearing: 8/17/2020

<u>Rule Type</u>	<u>Action</u>	<u>CSI</u>	<u>FYR</u>	<u>Rule Number</u>	<u>Rule Title</u>
New Rule	Revised Filing	Yes	No	<a href="#">3745-52-17</a>	Conditions for exemption for large quantity generators that accumulate hazardous waste.

**38 Ohio Environmental Protection Agency •**

Total Rules: 24		Original Filing Date: 7/13/2020		Jurisdiction Ends: 9/16/2020		Public Hearing: 8/17/2020
<u>Rule Type</u>	<u>Action</u>	<u>CSI</u>	<u>FYR</u>	<u>Rule Number</u>	<u>Rule Title</u>	
Amendment	Original Filing	Yes	Exempt	<a href="#">3745-52-209</a>	Where and when to make the hazardous waste determination and where to send containers of unwanted material upon removal from the laboratory.	
Amendment	Original Filing	Yes	Exempt	<a href="#">3745-52-210</a>	Making the hazardous waste determination in the laboratory before the unwanted material is removed from the laboratory.	

Click on the rule number in blue above to view the rule in its entirety on the *Register of Ohio* website.

**JOINT COMMITTEE ON AGENCY RULE REVIEW**

**8/17/2020 - 1:30 P.M.**

**Senate Finance Hearing Room (Finan Hearing Room)**

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Amendment	Original Filing	Yes	Exempt	<a href="#">3745-52-211</a>	Making the hazardous waste determination at an on-site central accumulation area.
Amendment	Original Filing	Yes	Exempt	<a href="#">3745-52-212</a>	Making the hazardous waste determination at an on-site interim or permitted treatment, storage, or disposal facility.
Amendment	Original Filing	Yes	Exempt	<a href="#">3745-52-213</a>	Laboratory clean-outs.
Amendment	Original Filing	Yes	Exempt	<a href="#">3745-52-214</a>	Laboratory management plan.
Amendment	Original Filing	Yes	Exempt	<a href="#">3745-52-216</a>	Non-laboratory hazardous waste generated at an eligible academic entity.
New Rule	Original Filing	Yes	Exempt	<a href="#">3745-52-230</a>	Applicability - alternative standards for episodic generation.
New Rule	Original Filing	Yes	Exempt	<a href="#">3745-52-231</a>	Definitions - alternative standards for episodic generation.
New Rule	Original Filing	Yes	No	<a href="#">3745-52-232</a>	Conditions for generators that manage hazardous waste from an episodic event.
New Rule	Original Filing	Yes	Exempt	<a href="#">3745-52-233</a>	Petition to manage one additional episodic event per calendar year.
New Rule	Original Filing	Yes	Exempt	<a href="#">3745-52-250</a>	Applicability - preparedness, prevention, and emergency procedures for large quantity generators.
New Rule	Original Filing	Yes	Exempt	<a href="#">3745-52-251</a>	Maintenance and operation of facility - preparedness, prevention, and emergency procedures for large quantity generators.
New Rule	Original Filing	Yes	Exempt	<a href="#">3745-52-252</a>	Required equipment - preparedness, prevention, and emergency procedures for large quantity generators.
New Rule	Original Filing	Yes	Exempt	<a href="#">3745-52-253</a>	Testing and maintenance of equipment - preparedness, prevention, and emergency procedures for large quantity generators.
New Rule	Original Filing	Yes	Exempt	<a href="#">3745-52-254</a>	Access to communications or alarm system - preparedness, prevention, and emergency procedures for large quantity generators.
New Rule	Original Filing	Yes	Exempt	<a href="#">3745-52-255</a>	Required aisle space - preparedness, prevention, and emergency procedures for large quantity generators.
New Rule	Original Filing	Yes	Exempt	<a href="#">3745-52-256</a>	Arrangements with local authorities - preparedness, prevention, and emergency procedures for large quantity generators.
New Rule	Original Filing	Yes	Exempt	<a href="#">3745-52-260</a>	Purpose and implementation of contingency plan - preparedness, prevention, and emergency procedures for large quantity generators.
New Rule	Original Filing	Yes	Exempt	<a href="#">3745-52-261</a>	Content of contingency plan - preparedness, prevention, and emergency procedures for large quantity generators.
New Rule	Original Filing	Yes	Exempt	<a href="#">3745-52-262</a>	Copies of contingency plan - preparedness, prevention, and emergency procedures for large quantity generators.
New Rule	Original Filing	Yes	Exempt	<a href="#">3745-52-263</a>	Amendment of contingency plan - preparedness, prevention, and emergency procedures for large quantity generators.
New Rule	Original Filing	Yes	Exempt	<a href="#">3745-52-264</a>	Emergency coordinator - preparedness, prevention, and emergency procedures for large quantity generators.
New Rule	Original Filing	Yes	Exempt	<a href="#">3745-52-265</a>	Emergency procedures - preparedness, prevention, and emergency procedures for large quantity generators.

**39 Ohio Environmental Protection Agency •**

Click on the rule number in blue above to view the rule in its entirety on the *Register of Ohio* website.

**JOINT COMMITTEE ON AGENCY RULE REVIEW**

**8/17/2020 - 1:30 P.M.**

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Total Rules: 19      Original Filing Date: 7/13/2020

Jurisdiction Ends: 9/16/2020      Public Hearing: 8/17/2020

<u>Rule Type</u>	<u>Action</u>	<u>CSI</u>	<u>FYR</u>	<u>Rule Number</u>	<u>Rule Title</u>
Amendment	Original Filing	Yes	Exempt	<a href="#">3745-53-10</a>	Applicability- transporter standards.
Amendment	Original Filing	Yes	Exempt	<a href="#">3745-53-11</a>	U.S. EPA identification number- transporters.
New Rule	Original Filing	Yes	No	<a href="#">3745-53-12</a>	Transfer facility requirements.
New Rule	Original Filing	Yes	Exempt	<a href="#">3745-53-20</a>	The manifest system and acceptance and handling of hazardous waste.
Amendment	Original Filing	Yes	Exempt	<a href="#">3745-53-21</a>	Compliance with the manifest.
New Rule	Original Filing	Yes	Exempt	<a href="#">3745-53-25</a>	Electronic manifest signatures.
Amendment	Original Filing	Yes	Yes	<a href="#">3745-54-01</a>	Purpose, scope, and applicability of Chapters 3745-54 to 3745-57 and 3745-205 of the Administrative Code.
New Rule	Original Filing	Yes	Exempt	<a href="#">3745-54-12</a>	Required notices.
Amendment	Original Filing	Yes	Yes	<a href="#">3745-54-15</a>	General inspection requirements.
New Rule	Original Filing	Yes	Exempt	<a href="#">3745-54-71</a>	Use of manifest system.
New Rule	Original Filing	Yes	Exempt	<a href="#">3745-54-75</a>	Biennial report.
Amendment	Original Filing	Yes	Exempt	<a href="#">3745-55-70</a>	Applicability - use and management of containers.
Amendment	Original Filing	Yes	Exempt	<a href="#">3745-55-74</a>	Inspections- containers.
Amendment	Original Filing	Yes	Exempt	<a href="#">3745-55-91</a>	Assessment of existing tank systems integrity.
Amendment	Original Filing	Yes	Yes	<a href="#">3745-65-01</a>	Purpose, scope, and applicability of Chapters 3745-65 to 3745-69 and 3745-256 of the Administrative Code.
New Rule	Original Filing	Yes	Exempt	<a href="#">3745-65-12</a>	Required notices.
Amendment	Original Filing	Yes	Yes	<a href="#">3745-65-15</a>	General inspection requirements.
New Rule	Original Filing	Yes	Exempt	<a href="#">3745-65-71</a>	Use of manifest system.
New Rule	Original Filing	Yes	Exempt	<a href="#">3745-65-75</a>	Biennial report.

**40 Ohio Environmental Protection Agency •**

Total Rules: 21      Original Filing Date: 7/13/2020

Jurisdiction Ends: 9/16/2020      Public Hearing: 8/17/2020

<u>Rule Type</u>	<u>Action</u>	<u>CSI</u>	<u>FYR</u>	<u>Rule Number</u>	<u>Rule Title</u>
Amendment	Original Filing	Yes	Yes	<a href="#">3745-66-74</a>	Inspections- containers.
Amendment	Original Filing	Yes	Exempt	<a href="#">3745-66-90</a>	Applicability- tanks.
Amendment	Original Filing	Yes	Yes	<a href="#">3745-66-93</a>	Containment and detection of releases- tanks.
Amendment	Original Filing	Yes	Exempt	<a href="#">3745-69-01</a>	General operating requirements and applicability- chemical, physical, and biological treatment.
Amendment	Original Filing	Yes	Exempt	<a href="#">3745-256-200</a>	Applicability- military munitions.

Click on the rule number in blue above to view the rule in its entirety on the *Register of Ohio* website.

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Amendment	Original Filing	Yes	Yes	<a href="#">3745-266-70</a>	Applicability and requirements- recyclable materials utilized for precious metal recovery.
Amendment	Original Filing	Yes	Yes	<a href="#">3745-266-80</a>	Applicability and requirements- spent lead-acid batteries being reclaimed.
Amendment	Original Filing	Yes	Exempt	<a href="#">3745-266-108</a>	Small quantity on-site burner exemption.
Amendment	Original Filing	Yes	Yes	<a href="#">3745-266-111</a>	Standards for direct transfer.
Amendment	Original Filing	Yes	Exempt	<a href="#">3745-266-255</a>	Re-entry of LLMW into regulation as a hazardous waste.
New Rule	Original Filing	Yes	Exempt	<a href="#">3745-266-500</a>	Definitions - hazardous waste pharmaceuticals.
New Rule	Original Filing	Yes	No	<a href="#">3745-266-501</a>	Applicability - hazardous waste pharmaceuticals.
New Rule	Original Filing	Yes	Exempt	<a href="#">3745-266-502</a>	Standards for healthcare facilities that manage non-creditable hazardous waste pharmaceuticals.
New Rule	Original Filing	Yes	Exempt	<a href="#">3745-266-503</a>	Standards for healthcare facilities that manage potentially creditable hazardous waste pharmaceuticals.
New Rule	Original Filing	Yes	Exempt	<a href="#">3745-266-504</a>	Healthcare facilities that are very small quantity generators for both hazardous waste pharmaceuticals and non-pharmaceutical hazardous waste.
New Rule	Original Filing	Yes	Exempt	<a href="#">3745-266-505</a>	Prohibition of sewerage hazardous waste pharmaceuticals.
New Rule	Original Filing	Yes	No	<a href="#">3745-266-506</a>	Conditional exemptions for hazardous waste pharmaceuticals that are also controlled substances and household waste pharmaceuticals collected in a take-back event or program.
New Rule	Original Filing	Yes	Exempt	<a href="#">3745-266-507</a>	Residues of hazardous waste pharmaceuticals in empty containers.
New Rule	Original Filing	Yes	Exempt	<a href="#">3745-266-508</a>	Shipping non-creditable hazardous waste pharmaceuticals from a healthcare facility or evaluated hazardous waste pharmaceuticals from a reverse distributor.
New Rule	Original Filing	Yes	Exempt	<a href="#">3745-266-509</a>	Shipping potentially creditable hazardous waste pharmaceuticals from a healthcare facility or a reverse distributor to a reverse distributor.
New Rule	Original Filing	Yes	No	<a href="#">3745-266-510</a>	Standards for the management of potentially creditable hazardous waste pharmaceuticals and evaluated hazardous waste pharmaceuticals at reverse distributors.

**41 Ohio Environmental Protection Agency •**

Total Rules: 10      Original Filing Date: 7/13/2020

Jurisdiction Ends: 9/16/2020      Public Hearing: 8/17/2020

<u>Rule Type</u>	<u>Action</u>	<u>CSI</u>	<u>FYR</u>	<u>Rule Number</u>	<u>Rule Title</u>
Amendment	Original Filing	Yes	Yes	<a href="#">3745-270-01</a>	Purpose, scope, and applicability - land disposal restrictions.
Amendment	Original Filing	Yes	Exempt	<a href="#">3745-270-07</a>	Testing, tracking, and recordkeeping requirements for generators, treaters, and disposal facilities.
Amendment	Original Filing	Yes	Exempt	<a href="#">3745-270-50</a>	Prohibitions on storage of restricted wastes.
Amendment	Original Filing	Yes	Exempt	<a href="#">3745-273-08</a>	Applicability- household and conditionally exempt small quantity generator waste.
Amendment	Original Filing	Yes	Yes	<a href="#">3745-273-13</a>	Waste management - standards for small quantity handlers of universal waste.

Click on the rule number in blue above to view the rule in its entirety on the *Register of Ohio* website.

**JOINT COMMITTEE ON AGENCY RULE REVIEW**

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Amendment	Original Filing	Yes	Yes	<a href="#">3745-273-33</a>	Waste management - standards for large quantity handlers of universal waste.
Amendment	Original Filing	Yes	Yes	<a href="#">3745-273-39</a>	Tracking universal waste shipments- standards for large quantity handlers of universal waste.
Amendment	Original Filing	Yes	Yes	<a href="#">3745-273-62</a>	Tracking universal waste shipments- standards for destination facilities.
Amendment	Original Filing	Yes	Exempt	<a href="#">3745-273-81</a>	Factors that the director will evaluate regarding petitions to include other wastes under Chapter 3745-273 of the Administrative Code.
Amendment	Original Filing	Yes	Exempt	<a href="#">3745-279-10</a>	Applicability - recycled used oil management standards.

**42 Ohio Environmental Protection Agency •**

Total Rules: 2      Original Filing Date: 6/17/2020      Jurisdiction Ends: 8/21/2020      Public Hearing: 7/22/2020

<u>Rule Type</u>	<u>Action</u>	<u>CSI</u>	<u>FYR</u>	<u>Rule Number</u>	<u>Rule Title</u>
Amendment	Original Filing	Yes	Yes	<a href="#">3745-88-01</a>	Definitions.
Amendment	Original Filing	Yes	Yes	<a href="#">3745-88-02</a>	Disadvantaged community loans.

**43 Ohio Environmental Protection Agency •**

Total Rules: 2      Original Filing Date: 7/8/2020      Jurisdiction Ends: 9/11/2020      Public Hearing: 8/13/2020

<u>Rule Type</u>	<u>Action</u>	<u>CSI</u>	<u>FYR</u>	<u>Rule Number</u>	<u>Rule Title</u>
Rescission	Original Filing	Yes	Yes	<a href="#">3745-27-90</a>	Standards for solid waste management districts.
New Rule	Original Filing	Yes	No	<a href="#">3745-27-90</a>	Standards for solid waste management districts.

**44 Ohio Environmental Protection Agency •**

Total Rules: 1      Original Filing Date: 6/25/2020      Jurisdiction Ends: 8/29/2020      Public Hearing: 7/30/2020

<u>Rule Type</u>	<u>Action</u>	<u>CSI</u>	<u>FYR</u>	<u>Rule Number</u>	<u>Rule Title</u>
Amendment	Original Filing	Yes	Yes	<a href="#">3745-27-99</a>	Requirements for professional engineer certification of plans, specifications, and information.

**45 Ohio Legislative Service Commission •**

Total Rules: 2      Original Filing Date: 6/29/2020      Jurisdiction Ends: 9/2/2020      Public Hearing:

<u>Rule Type</u>	<u>Action</u>	<u>CSI</u>	<u>FYR</u>	<u>Rule Number</u>	<u>Rule Title</u>
Rescission	Original Filing	No	Yes	<a href="#">103-1-05</a>	Distribution of rule drafting manual.
Amendment	Original Filing	No	Yes	<a href="#">103-3-01</a>	Duties of LSC director concerning codification of rules.

**46 Ohio Occupational Therapy, Physical Therapy, and Athletic Trainers Board •**

Total Rules: 40      Original Filing Date: 7/15/2020      Jurisdiction Ends: 9/18/2020      Public Hearing: 8/19/2020

<u>Rule Type</u>	<u>Action</u>	<u>CSI</u>	<u>FYR</u>	<u>Rule Number</u>	<u>Rule Title</u>
New Rule	Original Filing	Yes	No	<a href="#">4755-61-01</a>	Notice of meetings.

Click on the rule number in blue above to view the rule in its entirety on the *Register of Ohio* website.

**JOINT COMMITTEE ON AGENCY RULE REVIEW**

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New Rule	Original Filing	Yes	No	<a href="#">4755-61-02</a>	Method of public notice in adopting, amending, or rescinding rules.
New Rule	Original Filing	Yes	No	<a href="#">4755-61-03</a>	Definitions governing access to confidential personal information.
New Rule	Original Filing	Yes	No	<a href="#">4755-61-04</a>	Procedures for accessing confidential personal information.
New Rule	Original Filing	Yes	No	<a href="#">4755-61-05</a>	Valid reasons for accessing confidential personal information.
New Rule	Original Filing	Yes	No	<a href="#">4755-61-06</a>	Confidentiality statutes.
New Rule	Original Filing	Yes	No	<a href="#">4755-61-07</a>	Restricting and logging access to confidential personal information in computerized personal information systems.
New Rule	Original Filing	Yes	No	<a href="#">4755-62-01</a>	Definition of terms.
New Rule	Original Filing	Yes	No	<a href="#">4755-62-02</a>	Device-related and scope of practice definitions.
New Rule	Original Filing	Yes	No	<a href="#">4755-63-01</a>	Applications for initial licensure by examination.
New Rule	Original Filing	Yes	No	<a href="#">4755-63-02</a>	Licensure by endorsement.
New Rule	Original Filing	Yes	No	<a href="#">4755-63-03</a>	Educational programs.
New Rule	Original Filing	Yes	No	<a href="#">4755-63-04</a>	Certificate program requirements.
New Rule	Original Filing	Yes	No	<a href="#">4755-63-05</a>	Examinations.
New Rule	Original Filing	Yes	No	<a href="#">4755-63-06</a>	Temporary license application procedure.
New Rule	Original Filing	Yes	No	<a href="#">4755-63-07</a>	Certificate of license; display.
New Rule	Original Filing	Yes	No	<a href="#">4755-63-08</a>	Biennial renewal of license.
New Rule	Original Filing	Yes	No	<a href="#">4755-63-09</a>	Reinstatement of licensure.
New Rule	Original Filing	Yes	No	<a href="#">4755-63-10</a>	Reinstatement or reconsideration of denied/revoked license.
New Rule	Original Filing	Yes	No	<a href="#">4755-63-11</a>	Verification of licensure.
New Rule	Original Filing	Yes	No	<a href="#">4755-63-12</a>	Criminal records check.
New Rule	Original Filing	Yes	No	<a href="#">4755-63-14</a>	Foreign education licensure.
New Rule	Original Filing	Yes	No	<a href="#">4755-64-01</a>	Ethical and professional conduct.
New Rule	Original Filing	Yes	No	<a href="#">4755-64-02</a>	Proper use of credentials.
New Rule	Original Filing	Yes	No	<a href="#">4755-64-03</a>	Investigations.
New Rule	Original Filing	Yes	No	<a href="#">4755-64-04</a>	Denial and disciplinary action procedures.
New Rule	Original Filing	Yes	No	<a href="#">4755-64-05</a>	Notice of change of name, place of employment, e-mail, and mailing address.
New Rule	Original Filing	Yes	No	<a href="#">4755-65-01</a>	Continuing education requirements and reporting.
New Rule	Original Filing	Yes	No	<a href="#">4755-65-02</a>	Waivers for continuing education.
New Rule	Original Filing	Yes	No	<a href="#">4755-66-01</a>	Initial license fee.
New Rule	Original Filing	Yes	No	<a href="#">4755-66-02</a>	Temporary license fee.
New Rule	Original Filing	Yes	No	<a href="#">4755-66-03</a>	Reinstatement fee.

Click on the rule number in blue above to view the rule in its entirety on the *Register of Ohio* website.

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New Rule	Original Filing	Yes	No	<a href="#">4755-66-04</a>	License renewal fee.
New Rule	Original Filing	Yes	No	<a href="#">4755-66-05</a>	Fee to upgrade from temporary to full license.
New Rule	Original Filing	Yes	No	<a href="#">4755-66-06</a>	Fee to consolidate a license.
New Rule	Original Filing	Yes	No	<a href="#">4755-66-07</a>	License verification fee.
New Rule	Original Filing	Yes	No	<a href="#">4755-66-08</a>	Duplicate wall certificate fee.
New Rule	Original Filing	Yes	No	<a href="#">4755-66-09</a>	Fee for mailing lists.
New Rule	Original Filing	Yes	No	<a href="#">4755-66-10</a>	Fee for continuing education review.
New Rule	Original Filing	Yes	No	<a href="#">4755-66-11</a>	Waiver of fees.
Total Rules: 1	Original Filing Date: 7/15/2020			Date of Revised Filing: 7/29/2020	Jurisdiction Ends: 9/18/2020    Public Hearing: 8/19/2020

<u>Rule Type</u>	<u>Action</u>	<u>CSI</u>	<u>FYR</u>	<u>Rule Number</u>	<u>Rule Title</u>
New Rule	Revised Filing	Yes	No	<a href="#">4755-62-01</a>	Definition of terms.

**47 Ohio Police and Fire Pension Fund •**

Total Rules: 4	Original Filing Date: 6/25/2020				Jurisdiction Ends: 8/29/2020    Public Hearing:
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<u>Rule Type</u>	<u>Action</u>	<u>CSI</u>	<u>FYR</u>	<u>Rule Number</u>	<u>Rule Title</u>
Amendment	Original Filing	No	No	<a href="#">742-3-02</a>	Definition and usage of terminal pay and salary in benefit and pension calculations.
Rescission	Original Filing	No	Yes	<a href="#">742-5-03</a>	Contributing service credit.
New Rule	Original Filing	No	No	<a href="#">742-5-03</a>	Contributing Service Credit.
Amendment	Original Filing	No	No	<a href="#">742-5-07</a>	Service credit purchases and transfers.

**48 Ohio Public Defender Commission •**

Total Rules: 2	Original Filing Date: 6/30/2020				Jurisdiction Ends: 9/3/2020    Public Hearing:
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<u>Rule Type</u>	<u>Action</u>	<u>CSI</u>	<u>FYR</u>	<u>Rule Number</u>	<u>Rule Title</u>
Amendment	Original Filing	No	No	<a href="#">120-1-09</a>	Contracts with municipal corporations or villages.
Amendment	Original Filing	No	No	<a href="#">120-1-10</a>	Appointment systems and attorney qualifications.

**49 Ohio Respiratory Care Board •**

Total Rules: 8	Original Filing Date: 6/19/2020				Jurisdiction Ends: 8/23/2020    Public Hearing: 7/23/2020
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<u>Rule Type</u>	<u>Action</u>	<u>CSI</u>	<u>FYR</u>	<u>Rule Number</u>	<u>Rule Title</u>
Amendment	Original Filing	Yes	Yes	<a href="#">4761-5-01</a>	Waiver of licensing requirements pursuant to division (B) of section 4761.04 of the Revised Code.
Amendment	Original Filing	Yes	Yes	<a href="#">4761-5-04</a>	License application procedure.
Amendment	Original Filing	Yes	No	<a href="#">4761-6-01</a>	Limited permit application procedure.
Amendment	Original Filing	Yes	Yes	<a href="#">4761-7-04</a>	Supervision.

Click on the rule number in blue above to view the rule in its entirety on the *Register of Ohio* website.



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Amendment	Original Filing	Yes	No	<a href="#">4761-9-01</a>	Definition of respiratory care continuing education.
Amendment	Original Filing	Yes	No	<a href="#">4761-9-05</a>	Approved sources of RCCE.
Amendment	Original Filing	Yes	Yes	<a href="#">4761-9-07</a>	Auditing for compliance with RCCE requirements.
Amendment	Original Filing	Yes	Yes	<a href="#">4761-10-03</a>	Providing information to the board.

**50 State Board of Orthotics, Prosthetics, and Pedorthics •**

Total Rules: 28      Original Filing Date: 7/15/2020

Jurisdiction Ends: 9/18/2020      Public Hearing: 8/19/2020

<u>Rule Type</u>	<u>Action</u>	<u>CSI</u>	<u>FYR</u>	<u>Rule Number</u>	<u>Rule Title</u>
Rescission	Original Filing	Yes	Yes	<a href="#">4779-1-01</a>	Public hearings on adoption, amendment, or rescission of rules: methods of public notice.
Rescission	Original Filing	Yes	Yes	<a href="#">4779-1-02</a>	Notice of board meetings.
Rescission	Original Filing	Yes	Yes	<a href="#">4779-2-01</a>	Board organization.
Rescission	Original Filing	Yes	Yes	<a href="#">4779-2-02</a>	Personnel.
Rescission	Original Filing	Yes	Yes	<a href="#">4779-2-03</a>	Board records.
Rescission	Original Filing	Yes	Yes	<a href="#">4779-3-01</a>	Definition of terms.
Rescission	Original Filing	Yes	Yes	<a href="#">4779-3-02</a>	Device-related and scope of practice definitions.
Rescission	Original Filing	Yes	Yes	<a href="#">4779-4-01</a>	Approval of educational programs.
Rescission	Original Filing	Yes	Yes	<a href="#">4779-5-01</a>	The examinations.
Rescission	Original Filing	Yes	Yes	<a href="#">4779-5-02</a>	Admission to the examination.
Rescission	Original Filing	Yes	Yes	<a href="#">4779-5-03</a>	License application procedure.
Rescission	Original Filing	Yes	Yes	<a href="#">4779-5-04</a>	Limited reciprocity.
Rescission	Original Filing	Yes	Yes	<a href="#">4779-5-05</a>	Consideration of military experience, education, training and term of service.
Rescission	Original Filing	Yes	Yes	<a href="#">4779-6-01</a>	Temporary license application procedure.
Rescission	Original Filing	Yes	Yes	<a href="#">4779-7-01</a>	Original license documents.
Rescission	Original Filing	Yes	Yes	<a href="#">4779-8-01</a>	Renewal of license.
Rescission	Original Filing	Yes	Yes	<a href="#">4779-9-01</a>	Continuing education requirements and reporting (OPPCE).
Rescission	Original Filing	Yes	Yes	<a href="#">4779-9-02</a>	Activities which meet the OPPCE requirements.
Rescission	Original Filing	Yes	Yes	<a href="#">4779-9-03</a>	OPPCE accrual deficiency and remediation.
Rescission	Original Filing	Yes	Yes	<a href="#">4779-9-04</a>	Extension of OPPCE reporting period for licensee called to active duty military.
Rescission	Original Filing	Yes	Yes	<a href="#">4779-10-01</a>	Ethical and professional conduct.
Rescission	Original Filing	Yes	Yes	<a href="#">4779-10-02</a>	Proper use of credentials.
Rescission	Original Filing	Yes	Yes	<a href="#">4779-12-01</a>	Fees.

Click on the rule number in blue above to view the rule in its entirety on the *Register of Ohio* website.

Rescission	Original Filing	Yes	Yes	<a href="#">4779-13-01</a>	Definitions for language in rules governing access to confidential personal information.
Rescission	Original Filing	Yes	Yes	<a href="#">4779-13-02</a>	Procedures for accessing confidential personal information.
Rescission	Original Filing	Yes	Yes	<a href="#">4779-13-03</a>	Valid reasons for accessing confidential personal information.
Rescission	Original Filing	Yes	Yes	<a href="#">4779-13-04</a>	Confidentiality statutes.
Rescission	Original Filing	Yes	Yes	<a href="#">4779-13-05</a>	Restricting and logging access to confidential personal information in computerized personal information systems.

**51 State Board of Pharmacy • Terminal Distributors of Dangerous Drugs**

Total Rules: 2	Original Filing Date: 5/8/2020	Date of Refiled Filing: 7/24/2020	Jurisdiction Ends: 8/23/2020	Public Hearing: 6/11/2020	
<u>Rule Type</u>	<u>Action</u>	<u>CSI</u>	<u>FYR</u>	<u>Rule Number</u>	<u>Rule Title</u>
New Rule	Refiled Filing	Yes	No	<a href="#">4729:5-5-20</a>	Remote Outpatient Prescription Processing.
New Rule	Refiled Filing	Yes	No	<a href="#">4729:5-9-02.14</a>	Remote medication order processing.

**52 State Board of Pharmacy • Terminal Distributors of Dangerous Drugs**

Total Rules: 3	Original Filing Date: 7/8/2020	Jurisdiction Ends: 9/11/2020	Public Hearing: 8/12/2020		
<u>Rule Type</u>	<u>Action</u>	<u>CSI</u>	<u>FYR</u>	<u>Rule Number</u>	<u>Rule Title</u>
Amendment	Original Filing	Yes	No	<a href="#">4729:5-8-02</a>	Licensure.
Rescission	Original Filing	Yes	Yes	<a href="#">4729:5-8-03</a>	Compliance.
New Rule	Original Filing	Yes	No	<a href="#">4729:5-8-03</a>	Compliance.

**53 State Chiropractic Board •**

Total Rules: 6	Original Filing Date: 7/10/2020	Jurisdiction Ends: 9/13/2020	Public Hearing: 8/17/2020		
<u>Rule Type</u>	<u>Action</u>	<u>CSI</u>	<u>FYR</u>	<u>Rule Number</u>	<u>Rule Title</u>
Rescission	Original Filing	No	Yes	<a href="#">4734-3-01</a>	Personal information systems definitions.
New Rule	Original Filing	No	No	<a href="#">4734-3-01</a>	Confidential personal information.
Rescission	Original Filing	No	Yes	<a href="#">4734-3-02</a>	Procedures for accessing confidential personal information.
Rescission	Original Filing	No	Yes	<a href="#">4734-3-03</a>	Valid reasons for accessing confidential personal information.
Rescission	Original Filing	No	Yes	<a href="#">4734-3-04</a>	Confidentiality laws.
Rescission	Original Filing	No	Yes	<a href="#">4734-3-05</a>	Restricting and logging access to confidential personal information in computerized personal information systems.

**54 State Medical Board •**

Total Rules: 2	Original Filing Date: 6/19/2020	Jurisdiction Ends: 8/23/2020	Public Hearing: 7/23/2020		
<u>Rule Type</u>	<u>Action</u>	<u>CSI</u>	<u>FYR</u>	<u>Rule Number</u>	<u>Rule Title</u>

Click on the rule number in blue above to view the rule in its entirety on the *Register of Ohio* website.

New Rule	Original Filing	Yes	No	<a href="#">4731-35-01</a>	Consult Agreements.	
New Rule	Original Filing	Yes	No	<a href="#">4731-35-02</a>	Standards for managing drug therapy.	
Total Rules: 2	Original Filing Date: 6/19/2020			Date of Refiled Filing: 8/14/2020	Jurisdiction Ends: 9/13/2020	Public Hearing: 7/23/2020
<u>Rule Type</u>	<u>Action</u>	<u>CSI</u>	<u>FYR</u>	<u>Rule Number</u>	<u>Rule Title</u>	
New Rule	Refiled Filing	Yes	No	<a href="#">4731-35-01</a>	Consult Agreements.	
New Rule	Refiled Filing	Yes	No	<a href="#">4731-35-02</a>	Standards for managing drug therapy.	

**55 State Medical Board •**

Total Rules: 2	Original Filing Date: 6/19/2020				Jurisdiction Ends: 8/23/2020	Public Hearing: 7/23/2020
<u>Rule Type</u>	<u>Action</u>	<u>CSI</u>	<u>FYR</u>	<u>Rule Number</u>	<u>Rule Title</u>	
Amendment	Original Filing	Yes	No	<a href="#">4731-33-01</a>	Definitions.	
New Rule	Original Filing	Yes	No	<a href="#">4731-33-02</a>	Standards and procedures for withdrawal management for drug or alcohol addiction.	
Total Rules: 1	Original Filing Date: 6/19/2020			Date of Refiled Filing: 8/14/2020	Jurisdiction Ends: 9/13/2020	Public Hearing: 7/23/2020
<u>Rule Type</u>	<u>Action</u>	<u>CSI</u>	<u>FYR</u>	<u>Rule Number</u>	<u>Rule Title</u>	
New Rule	Refiled Filing	Yes	No	<a href="#">4731-33-02</a>	Standards and procedures for withdrawal management for drug or alcohol addiction.	

**56 State Medical Board •**

Total Rules: 2	Original Filing Date: 6/19/2020			Date of Revised Filing: 7/16/2020	Jurisdiction Ends: 8/23/2020	Public Hearing: 7/23/2020
<u>Rule Type</u>	<u>Action</u>	<u>CSI</u>	<u>FYR</u>	<u>Rule Number</u>	<u>Rule Title</u>	
Amendment	Revised Filing	Yes	Yes	<a href="#">4731-11-01</a>	Definitions.	
Amendment	Revised Filing	Yes	No	<a href="#">4731-11-14</a>	Prescribing for subacute and chronic pain.	
Total Rules: 1	Original Filing Date: 6/19/2020			Date of Refiled Filing: 8/14/2020	Jurisdiction Ends: 9/13/2020	Public Hearing: 7/23/2020
<u>Rule Type</u>	<u>Action</u>	<u>CSI</u>	<u>FYR</u>	<u>Rule Number</u>	<u>Rule Title</u>	
Amendment	Refiled Filing	Yes	Yes	<a href="#">4731-11-01</a>	Definitions.	

**57 State Medical Board - Physician Assistant Licensing •**

Total Rules: 8	Original Filing Date: 6/19/2020				Jurisdiction Ends: 8/23/2020	Public Hearing: 7/23/2020
<u>Rule Type</u>	<u>Action</u>	<u>CSI</u>	<u>FYR</u>	<u>Rule Number</u>	<u>Rule Title</u>	
Amendment	Original Filing	Yes	No	<a href="#">4730-1-06</a>	Licensure as a physician assistant.	
Amendment	Original Filing	Yes	No	<a href="#">4730-1-07</a>	Miscellaneous provisions.	
Rescission	Original Filing	Yes	Yes	<a href="#">4730-1-08</a>	Physician assistant delegation of medical tasks and administration of drugs.	
Amendment	Original Filing	Yes	No	<a href="#">4730-2-04</a>	Period of on-site supervision of physician-delegated prescriptive authority.	

Click on the rule number in blue above to view the rule in its entirety on the *Register of Ohio* website.

Amendment	Original Filing	Yes	No	<a href="#">4730-2-05</a>	Addition of valid prescriber number after initial licensure.
Rescission	Original Filing	Yes	Yes	<a href="#">4730-2-06</a>	Physician assistant formulary.
Amendment	Original Filing	Yes	Yes	<a href="#">4730-2-07</a>	Standards for prescribing.
Amendment	Original Filing	Yes	No	<a href="#">4730-2-10</a>	Standards and procedures for review of "Ohio Automated Rx Reporting System" (OARRS).

**58 State Medical Board - Physician Assistant Licensing •**

Total Rules: 2      Original Filing Date: 6/19/2020      Jurisdiction Ends: 8/23/2020      Public Hearing: 7/23/2020

<u>Rule Type</u>	<u>Action</u>	<u>CSI</u>	<u>FYR</u>	<u>Rule Number</u>	<u>Rule Title</u>
Amendment	Original Filing	Yes	No	<a href="#">4730-4-01</a>	Definitions.
New Rule	Original Filing	Yes	No	<a href="#">4730-4-02</a>	Standards and procedures for withdrawal management for drug or alcohol addiction.

Total Rules: 1      Original Filing Date: 6/19/2020      Date of Refiled Filing: 8/14/2020      Jurisdiction Ends: 9/13/2020      Public Hearing: 7/23/2020

<u>Rule Type</u>	<u>Action</u>	<u>CSI</u>	<u>FYR</u>	<u>Rule Number</u>	<u>Rule Title</u>
New Rule	Refiled Filing	Yes	No	<a href="#">4730-4-02</a>	Standards and procedures for withdrawal management for drug or alcohol addiction.

**59 Unemployment Compensation Review Commission •**

Total Rules: 1      Original Filing Date: 5/22/2020      Date of Refiled Filing: 7/31/2020      Jurisdiction Ends: 8/30/2020      Public Hearing: 7/1/2020

<u>Rule Type</u>	<u>Action</u>	<u>CSI</u>	<u>FYR</u>	<u>Rule Number</u>	<u>Rule Title</u>
Amendment	Refiled Filing	No	Yes	<a href="#">4146-5-08</a>	Documents to be considered in telephone hearings.

**To Be Refiled**

**60 Department of Aging •**

Total Rules: 1      Original Filing Date: 6/29/2020      Date of To Be Refiled: 8/13/2020      Jurisdiction Ends:      Public Hearing: 8/4/2020

<u>Rule Type</u>	<u>Action</u>	<u>CSI</u>	<u>FYR</u>	<u>Rule Number</u>	<u>Rule Title</u>
Amendment	To Be Refiled	Yes	Yes	<a href="#">173-39-04</a>	ODA provider certification: structural compliance reviews.

**61 Department of Public Safety • Private Investigator Security Guard Services**

Total Rules: 4      Original Filing Date: 6/26/2020      Jurisdiction Ends: 8/30/2020      Public Hearing: 7/28/2020

<u>Rule Type</u>	<u>Action</u>	<u>CSI</u>	<u>FYR</u>	<u>Rule Number</u>	<u>Rule Title</u>
Amendment	Original Filing	Yes	Yes	<a href="#">4501:7-1-06</a>	Required experience.
Rescission	Original Filing	Yes	Yes	<a href="#">4501:7-1-11</a>	Records.

Rescission	Original Filing	Yes	Yes	<a href="#">4501:7-1-12</a>	Uniforms.	
New Rule	Original Filing	Yes	No	<a href="#">4501:7-1-12</a>	Uniforms, vehicles, and publications.	
Total Rules: 1	Original Filing Date: 6/26/2020			Date of Revised Filing: 7/27/2020	Jurisdiction Ends: 8/30/2020	Public Hearing: 7/28/2020

<u>Rule Type</u>	<u>Action</u>	<u>CSI</u>	<u>FYR</u>	<u>Rule Number</u>	<u>Rule Title</u>
New Rule	Revised Filing	Yes	No	<a href="#">4501:7-1-11</a>	Records.

**62 Ohio Occupational Therapy, Physical Therapy, and Athletic Trainers Board •**

Total Rules: 2	Original Filing Date: 7/15/2020			Date of To Be Refiled: 7/20/2020	Jurisdiction Ends:	Public Hearing: 8/19/2020
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<u>Rule Type</u>	<u>Action</u>	<u>CSI</u>	<u>FYR</u>	<u>Rule Number</u>	<u>Rule Title</u>
New Rule	To Be Refiled	Yes	No	<a href="#">4755-62-01</a>	Definition of terms.
New Rule	To Be Refiled	Yes	No	<a href="#">4755-62-02</a>	Device-related and scope of practice definitions.

**63 Power Siting Board •**

Total Rules: 2	Original Filing Date: 6/17/2020			Date of To Be Refiled: 7/20/2020	Jurisdiction Ends:	Public Hearing:
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<u>Rule Type</u>	<u>Action</u>	<u>CSI</u>	<u>FYR</u>	<u>Rule Number</u>	<u>Rule Title</u>
Amendment	To Be Refiled	Yes	No	<a href="#">4906-4-09</a>	Regulations associated with wind farms.
New Rule	To Be Refiled	Yes	No	<a href="#">4906-4-10</a>	Notice and reports of incidents involving wind farm facilities.

## Withdrawn

**64 Department of Administrative Services • Division of EEO for Construction**

Total Rules: 15	Original Filing Date: 7/10/2020			Date of Withdrawn Filing: 7/22/2020	Jurisdiction Ends:	Public Hearing: 8/10/2020
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<u>Rule Type</u>	<u>Action</u>	<u>CSI</u>	<u>FYR</u>	<u>Rule Number</u>	<u>Rule Title</u>
New Rule	Withdrawn Filing	Yes	No	<a href="#">123:2-14-01</a>	Definitions.
New Rule	Withdrawn Filing	Yes	No	<a href="#">123:2-14-02</a>	Certification criteria.
New Rule	Withdrawn Filing	Yes	No	<a href="#">123:2-14-03</a>	Recertification.
New Rule	Withdrawn Filing	Yes	No	<a href="#">123:2-14-04</a>	Expedited certification.
New Rule	Withdrawn Filing	Yes	No	<a href="#">123:2-14-05</a>	Joint venture.
New Rule	Withdrawn Filing	Yes	No	<a href="#">123:2-14-06</a>	Commercially useful function.
New Rule	Withdrawn Filing	Yes	No	<a href="#">123:2-14-07</a>	Revocation.
New Rule	Withdrawn Filing	Yes	No	<a href="#">123:2-14-08</a>	Adjudication hearings.
New Rule	Withdrawn Filing	No	No	<a href="#">123:2-14-09</a>	EDGE procurement goals.

New Rule	Withdrawn Filing	Yes	No	<a href="#">123:2-14-10</a>	Demonstration of good faith effort to include EDGE business participation.
New Rule	Withdrawn Filing	No	No	<a href="#">123:2-14-11</a>	Annual expenditure projection report.
New Rule	Withdrawn Filing	No	No	<a href="#">123:2-14-12</a>	Quarterly expenditure report.
New Rule	Withdrawn Filing	No	No	<a href="#">123:2-14-13</a>	EDGE participation goals in solicitations and contracts.
New Rule	Withdrawn Filing	No	No	<a href="#">123:2-14-14</a>	EDGE data collection.
New Rule	Withdrawn Filing	No	No	<a href="#">123:2-14-15</a>	Monitoring waiver compliance.

**65 Department of Administrative Services • Division of EEO for Construction**

Total Rules: 22      Original Filing Date: 7/10/2020      Date of Withdrawn Filing: 7/22/2020      Jurisdiction Ends:      Public Hearing: 8/10/2020

<u>Rule Type</u>	<u>Action</u>	<u>CSI</u>	<u>FYR</u>	<u>Rule Number</u>	<u>Rule Title</u>
Rescission	Withdrawn Filing	Yes	Yes	<a href="#">123:2-15-01</a>	Application for certification as a minority business enterprise.
Rescission	Withdrawn Filing	Yes	Yes	<a href="#">123:2-15-02</a>	Bid notifications and specifications concerning minority business enterprises.
Rescission	Withdrawn Filing	Yes	Yes	<a href="#">123:2-15-03</a>	Minority set aside review board established.
Rescission	Withdrawn Filing	Yes	Yes	<a href="#">123:2-15-04</a>	Application to the minority set aside review board.
Rescission	Withdrawn Filing	Yes	Yes	<a href="#">123:2-15-05</a>	Minority set aside review board procedures for emergency contracts.
Rescission	Withdrawn Filing	Yes	Yes	<a href="#">123:2-15-06</a>	Minority set aside review board notice of meetings.
Rescission	Withdrawn Filing	Yes	Yes	<a href="#">123:2-16-01</a>	Definitions.
Rescission	Withdrawn Filing	Yes	Yes	<a href="#">123:2-16-02</a>	Certification criteria.
Rescission	Withdrawn Filing	Yes	Yes	<a href="#">123:2-16-03</a>	Certification of business structure.
Rescission	Withdrawn Filing	Yes	Yes	<a href="#">123:2-16-04</a>	Expedited certification.
Rescission	Withdrawn Filing	Yes	Yes	<a href="#">123:2-16-05</a>	Recertification.
Rescission	Withdrawn Filing	Yes	Yes	<a href="#">123:2-16-06</a>	Decertification and revocation.
Rescission	Withdrawn Filing	Yes	Yes	<a href="#">123:2-16-07</a>	Adjudication hearings.
Rescission	Withdrawn Filing	No	Yes	<a href="#">123:2-16-08</a>	Edge participation goals.
Rescission	Withdrawn Filing	Yes	Yes	<a href="#">123:2-16-09</a>	Demonstration of good faith effort to include EDGE business participation.
Rescission	Withdrawn Filing	No	Yes	<a href="#">123:2-16-10</a>	Annual expenditure projection report.
Rescission	Withdrawn Filing	No	Yes	<a href="#">123:2-16-11</a>	Quarterly expenditure report.
Rescission	Withdrawn Filing	No	Yes	<a href="#">123:2-16-12</a>	Proposals.
Rescission	Withdrawn Filing	No	Yes	<a href="#">123:2-16-13</a>	EDGE data collection.
Rescission	Withdrawn Filing	Yes	Yes	<a href="#">123:2-16-14</a>	Joint venture.
Rescission	Withdrawn Filing	Yes	Yes	<a href="#">123:2-16-15</a>	Commercially useful function.
Rescission	Withdrawn Filing	No	Yes	<a href="#">123:2-16-16</a>	Monitoring waiver compliance.

Click on the rule number in blue above to view the rule in its entirety on the *Register of Ohio* website.

JOINT COMMITTEE ON AGENCY RULE REVIEW  
8/17/2020 - 1:30 P.M.  
Senate Finance Hearing Room (Finan Hearing Room)

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66 Ohio Respiratory Care Board •

Total Rules: 1      Original Filing Date: 6/19/2020      Date of Withdrawn Filing: 8/5/2020      Jurisdiction Ends:      Public Hearing: 7/23/2020

<u>Rule Type</u>	<u>Action</u>	<u>CSI</u>	<u>FYR</u>	<u>Rule Number</u>	<u>Rule Title</u>
Amendment	Withdrawn Filing	Yes	No	<a href="#">4761-9-04</a>	Ohio respiratory care law and professional ethics course criteria.