

A RESOLUTION to amend the Comprehensive Plan, Water Code and Administrative Manual – Part III Water Quality Regulations to update the Commission’s stream quality objectives for toxic pollutants for the Delaware River Estuary and extend these objectives to Delaware Bay.

WHEREAS, the waters of Water Quality Management Zones 2 through 6 of the Delaware River, comprising the Delaware River Estuary and Delaware Bay, border the states of Delaware and New Jersey and the Commonwealth of Pennsylvania; and

WHEREAS, by Resolution 96-12 in 1996 the Commission established stream quality objectives (also referred to as “water quality criteria”) for toxic pollutants for Water Quality Zones 2 through 5 of the Delaware River as part of a strategy to establish uniform water quality standards to control loadings of toxic pollutants from point and non-point sources and to protect designated uses of these shared interstate waters, including the propagation and maintenance of resident and anadromous fish and other aquatic life; the consumption of fish and other aquatic life; and in Zones 2 and 3, the use of these waters as a source for drinking water supplies; and

WHEREAS, the water quality regulations of the states of Delaware, New Jersey and Pennsylvania all either specifically defer to the stream quality objectives and implementing regulations of the Commission (Delaware and New Jersey) or require the use of the more stringent of the state’s or the Commission’s regulations (Pennsylvania); and

WHEREAS, since 1996 the signatory parties have updated their regulations related to water quality criteria several times in accordance with the Clean Water Act; and

WHEREAS, in 2007 the Commission’s Toxics Advisory Committee (TAC) charged its Toxics Criteria Subcommittee with evaluating recent data and methodologies for establishing stream quality objectives and developing recommended revisions to the Commission’s existing Water Quality Regulations; and

WHEREAS, the extension of the toxics criteria to Delaware Bay (DRBC Water Quality Management Zone 6) will provide a uniform set of criteria for toxic pollutants throughout the tidal Delaware River and facilitate the development and revision of TMDLs where the criteria are exceeded; and

WHEREAS, the proposed regulations were published in state registers and the *Federal Register* between July 15, 2010 and August 2, 2010, written comment was accepted on the draft regulations through October 1, 2010, and a public hearing took place on September 23, 2010 (although no oral testimony was offered); and

WHEREAS, two sets of written comments were received on the proposed amendments – one from the Delaware Estuary TMDL Coalition (a group of municipal and industrial dischargers) and one from the State of Delaware; and

WHEREAS, after reviewing the comments, the TAC recommended that certain minor revisions be made, which are set forth in a Response to Comments document prepared by staff; and

WHEREAS, the Commission has considered the comments received and concurs in the recommendations set forth in the Response to Comments document prepared by staff; and

WHEREAS, the proposed amendments provide a current and uniform set of water quality standards regulations for measuring and managing the ecological health of interstate waters and the tidal portions of tributaries to the Delaware Estuary and Bay and for protecting the health of people who use these shared waters; now therefore,

BE IT RESOLVED by the Delaware River Basin Commission:

- A. Amendments to Article 3 of the Water Code and Administrative Manual - Part III Water Quality Regulations, 18 CFR 410, are set forth in the Attachment to this Resolution.
- B. These amendments shall become effective upon both publication in the *Federal Register* and filing with the Commission's members, provided that the effective date may be postponed at the discretion of a member state and the Commission as to i) any applications pending before the Commission and signatory parties on the date of adoption set forth below; and ii) any approval previously issued by an agency of a signatory party or by the Commission that has not expired by the date of adoption set forth below.

/s/ Katherine E. Bunting-Howarth  
Katherine E. Bunting-Howarth, Chairwoman *pro tem*

/s/ Pamela M. Bush  
Pamela M. Bush, Esquire, Commission Secretary

ADOPTED: December 8, 2010

Additions to the Water Code and Water Quality Regulations are printed in **BOLD FACE** and deletions are printed in **[BOLD FACE ENCLOSED IN BRACKETS]**. **BOLD FACE UNDERSCORE** indicates changes made in response to comments received during the public comment period. Asterisks indicate ellipsis of rule text retained without changes. [Editor's instructions appear in normal text in brackets.]

### Section 3.10.3 Stream Quality Objectives

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C. Aquatic Life Objectives for Toxic Pollutants. It is the policy of the Commission to designate numerical stream quality objectives for the protection of aquatic life for the Delaware River Estuary **and Bay (Zones 2 through 6 [5])** which correspond to the designated uses of each zone. Aquatic life objectives for the protection from both acute and chronic effects are herein established on a pollutant-specific basis for:

\* \* \* \* \*

D. Human Health Objectives for Toxic Pollutants. It is the policy of the Commission to designate numerical stream quality objectives for the protection of human health for the Delaware River Estuary **and Bay (Zones 2 through 6 [5])** which correspond to the designated uses of each zone. Stream quality objectives for protection from both carcinogenic and systemic effects are herein established on a pollutant-specific basis for:

\* \* \* \* \*

3.10.3.D.6. A rate of ingestion of water of 2.0 liters per day is assumed in calculating objectives for river zones where the designated uses include public water supplies after reasonable treatment. A rate of ingestion of fish of **[6.5] 17.5** grams per day (equivalent to consuming a ½ pound portion every **[35] 13** days) is assumed in calculating freshwater **and marine** stream quality objectives for **the protection of** human health. **[A rate of ingestion of fish of 37 grams per day (equivalent to consuming a ½ pound portion every 6 days) is assumed in calculating marine stream quality objectives for human health.]**

3.10.3.D.8. Numerical criteria for toxic pollutants to protect the taste and odor of ingested water and fish shall be applied as stream quality objectives in **[the Estuary] Zones 2 - 6** if these criteria are more stringent than the calculated human health objectives for carcinogens or systemic toxicants.

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Section 3.30 Interstate Streams – Tidal.

\* \* \* \* \*

3.30.2 Zone 2.

\* \* \* \* \*

[Amend Tables 3, 5, 6 and 7 following subsection 3.30.2 as indicated to update current criteria: remove and add compounds.]

TABLE 3: MAXIMUM CONTAMINANT LEVELS TO BE APPLIED AS HUMAN HEALTH STREAM QUALITY OBJECTIVES IN ZONES 2 AND 3 OF THE DELAWARE RIVER ESTUARY.

Parameter	Maximum Contaminant Level (µg/l)
<b>Metals</b>	
<b>[Antimony]</b>	<b>[6]</b>
Arsenic	<b>[50] 10</b>
Barium	<b>[2.0 mg/l] 2000</b>
<b>Beryllium</b>	<b>4</b>
<b>[Cadmium]</b>	<b>[5]</b>
Chromium (trivalent) [(total)]	100
<b>Copper</b>	<b>1300</b>
<b>[Nickel]</b>	<b>[100]</b>
<b>Lead</b>	<b>15</b>
Selenium	50
<b>Pesticides/PCBs</b>	
<b>alpha-BHC</b>	<b>0.2</b>
<b>beta-BHC</b>	<b>0.2</b>

gamma - BHC (Lindane)	[0.2] 2
2,4-Dichloro-phenoxyacetic acid (2,4-D)	70
Methoxychlor	40
Toxaphene	3
Dioxin (2,3,7,8-TCDD)	0.00003
2,4,5 Trichloro-phenoxypropionic acid (2,4,5-TP-Silvex)	50
<b>Volatile Organic Compounds (VOCs)</b>	
Benzene	5
Carbon Tetrachloride	5
1,2-Dichloroethane	5
1,1-Dichloroethylene	7
[1,2 - trans - Dichloroethene] 1,2 - trans - Dichloroethylene	100
Dichloromethane (methylene chloride)	5
[1,2 - Dichloropropane]	[5]
[Ethylbenzene]	[700]
Tetrachloroethylene (PCE)	5
Toluene	1000
Total Trihalomethanes	[100] 80
[1,2,4 - Trichlorobenzene]	[70]
1,1,1-Trichloroethane	200
1,1,2-Trichloroethane	5
Trichloroethylene	5
Vinyl Chloride	2
<b>Polycyclic Aromatic Hydrocarbons (PAHs)</b>	
Benzo(a)Pyrene	0.2
<b>Other Compounds</b>	
Asbestos	7 million fibers/L
Bis(2-Ethylhexyl) Phthalate	6
Fluoride	4,000
Nitrate	10,000
Pentachlorophenol	1
Dioxin (2,3,7,8-TCDD)	0.00003

\* \* \* \* \*

TABLE 5: STREAM QUALITY OBJECTIVES FOR TOXIC POLLUTANTS FOR THE PROTECTION OF AQUATIC LIFE IN THE DELAWARE RIVER ESTUARY **AND BAY**.

Parameter	Freshwater Objectives (µg/l)		Marine Objectives (µg/l)	
	Acute	Chronic	Acute	Chronic
<b>Metals [(Values indicated are total recoverable; See Section 3.10.3.C.2. for form of metal)]</b>				
Aluminum <sup>a,b</sup>	750	87	<b>[-] NA</b>	<b>[-] NA</b>
Arsenic (trivalent) <sup>c</sup>	<b>[360] 340</b>	<b>[190] 150</b>	69	36
Cadmium <sup>c</sup>	$[e^{(1.128*LN(Hardness)-3.828)}]$ <b>0.651*EXP(1.0166*</b> <b>LN(hardness)-3.924)</b>	$[e^{(0.7852*LN(Hardness)-3.49)}]$ <b>0.651*EXP(0.7409*</b> <b>LN(hardness)-4.719)</b>	<b>[43] 40</b>	<b>[9.3] 8.8</b>
Chromium (trivalent) <sup>c</sup>	$[e^{(0.8190*LN(Hardness)+3.688)}]$ <b>0.277*EXP(0.819*</b> <b>LN(hardness)+3.7256)</b>	$[e^{(0.8190*LN(Hardness)+1.561)}]$ <b>0.277*EXP(0.819*</b> <b>LN(hardness)+0.6848)</b>	<b>[-] NA</b>	<b>[-] NA</b>
Chromium (hexavalent) <sup>c</sup>	16	11	1,100	50
Copper <sup>c</sup>	$[e^{(0.9422*LN(Hardness)-1.464)}]$ <b>0.908*EXP(0.9422*</b> <b>LN(hardness)-1.7)</b>	$[e^{(0.8545*LN(Hardness)-1.465)}]$ <b>0.908*EXP(0.8545*</b> <b>LN(hardness)-1.702)</b>	<b>[5.3] 4.8</b>	<b>[3.4] 3.1</b>
Lead <sup>c</sup>	<b>[48] 38</b>	<b>[16] 5.4</b>	<b>[220] 210</b>	<b>[8.5] 8.1</b>
Mercury <sup>c</sup>	<b>[2.4] 1.4</b>	<b>[0.012] 0.77</b>	<b>[2.1] 1.8</b>	<b>[0.025] 0.94</b>
Nickel <sup>c</sup>	$[e^{(0.846*LN(Hardness)+3.3612)}]$ <b>0.846*EXP(0.846*</b> <b>LN(hardness)+2.255)</b>	$[e^{(0.846*LN(Hardness)+1.1645)}]$ <b>0.846*EXP(0.846*</b> <b>LN(hardness)+0.0584)</b>	<b>[75] 64</b>	<b>[8.3] 22</b>
Selenium <sup>a</sup>	20	5.0	<b>[300] 290</b>	<b>71</b>
Silver <sup>c</sup>	$[e^{(1.72*LN(Hardness)-6.52)}]$ <b>0.85*EXP(1.72*</b> <b>LN(hardness)-6.59)</b>	<b>[-] NA</b>	<b>[2.3] 1.9</b>	<b>[-] NA</b>
Zinc <sup>c</sup>	$[e^{(0.8473*LN(Hardness)+0.8604)}]$ <b>0.95*EXP(0.8473*</b> <b>LN(hardness)+0.884)</b>	$[e^{(0.8473*LN(Hardness)+0.7614)}]$ <b>0.95*EXP(0.8473*</b> <b>LN(hardness)+0.884)</b>	<b>[95] 90</b>	<b>[86] 81</b>
<b>Pesticides/PCBs</b>				
Aldrin	<b>[1.5] 3</b>	<b>[-] NA</b>	<b>[0.65] 1.3</b>	<b>[-] NA</b>
gamma - BHC (Lindane)	<b>[1.0] 0.95</b>	<b>[0.08] NA</b>	<b>[0.08] 0.16</b>	<b>[-] NA</b>
Chlordane	<b>[1.2] 2.4</b>	0.0043	<b>[0.045] 0.09</b>	0.004
Chlorpyrifos (Dursban)	0.083	0.041	0.011	0.0056
DDT and metabolites (DDE & DDD) <sup>d</sup>	<b>[0.55] 1.1</b>	0.001	<b>[0.065] 0.13</b>	0.001
Dieldrin	<b>[1.25] 0.24</b>	<b>[0.0019] 0.056</b>	<b>[0.355] 0.71</b>	0.0019
Endosulfan <sup>e</sup>	<b>[0.11] 0.22</b>	0.056	<b>[0.017] 0.034</b>	0.0087
Endrin	<b>[0.09] 0.086</b>	<b>[0.0023] 0.036</b>	<b>[0.019] 0.037</b>	<b>0.0023</b>
Heptachlor	<b>[0.26] 0.52</b>	0.0038	<b>[0.027] 0.053</b>	0.0036

Parameter	Freshwater Objectives (µg/l)		Marine Objectives (µg/l)	
	Acute	Chronic	Acute	Chronic
<b>Heptachlor Epoxide</b>	<b>0.52</b>	<b>0.0038</b>	<b>0.053</b>	<b>0.0036</b>
Parathion	0.065	0.013	<b>[-] NA</b>	<b>[-] NA</b>
PCBs (Total)	1.0	0.014	5.0	0.03
Toxaphene	0.73	0.0002	0.21	0.0002
<b>Other Compounds</b>				
Cyanide (free) [(total)]	22	5.2	<b>[1.0] [2.7] 1</b>	<b>[-] 1</b>
Pentachlorophenol	$e^{(1.005 \cdot \text{pH} - 4.83)}$	$e^{(1.005 \cdot \text{pH} - 5.29)}$	13	7.9
<b>Indicator Parameters</b>				
Whole Effluent Toxicity	0.3 Toxic Units <sub>acute</sub>	1.0 Toxic Units <sub>chronic</sub>	0.3 TU <sub>a</sub>	1.0 TU <sub>c</sub>

**Footnotes to Table 5:**

<sup>a</sup> **Total recoverable criteria**

<sup>b</sup> **Aluminum criteria listed are restricted to waters with pH between 6.5 and 9.0.**

<sup>c</sup> **Dissolved criteria**

<sup>d</sup> **Criteria apply to DDT and its metabolites (i.e., the total concentration of DDT and its metabolites should not exceed this value).**

<sup>e</sup> **Values were derived from data for endosulfan and are most appropriately applied to the sum of alpha-endosulfan and beta-endosulfan.**

**Criteria for cadmium, chromium (trivalent), copper, nickel, silver and zinc are hardness-dependent and are expressed as the dissolved form (see Section 3.10.3.C.2. on form of metal).**

TABLE 6: STREAM QUALITY OBJECTIVES FOR CARCINOGENS FOR THE DELAWARE RIVER ESTUARY **AND BAY**.

PARAMETER	[EPA class]	FRESHWATER OBJECTIVES (µg/l)		MARINE OBJECTIVES (µg/l)
		FISH & WATER INGESTION	FISH INGESTION ONLY	FISH INGESTION ONLY
<b>Metals</b>				
<b>Arsenic</b>		<b>* [0.017]</b>	<b>NA</b>	<b>NA</b>
<b>[Beryllium]</b>		<b>[0.00767]</b>	<b>[0.132]</b>	<b>[0.0232]</b>
<b>Pesticides/PCBs</b>				
<b>Aldrin</b>	<b>[B2]</b>	<b>[0.00189] 0.000049</b>	<b>[0.0226] 0.000050</b>	<b>[0.00397] 0.000050</b>

Alpha – BHC	[B2]	[0.00391] 0.0026	[0.0132] 0.0049	[0.00231] 0.0049
<b>beta – BHC</b>	[C]	0.0091	0.017	0.017
Chlordane	[B2]	[0.000575] 0.00080	[0.000588] 0.00081	[0.000104] 0.00081
DDD	[B2]	[0.00423] 0.00031	[0.00436] 0.00031	[0.000765] 0.00031
DDE	[B2]	[0.00554] 0.00022	[0.00585] 0.00022	[0.00103] 0.00022
DDT	[B2]	[0.000588] 0.00022	[0.000591] 0.00022	[0.000104] 0.00022
Dieldrin	[B2]	[0.000135] 0.000052	[0.000144] 0.000054	[0.0000253] 0.000054
Heptachlor	[B2]	[0.000208] 0.000079	[0.000214] 0.000079	[0.0000375] 0.000079
Heptachlor Epoxide	[B2]	[0.000198] 0.000039	[0.000208] 0.000039	[0.0000366] 0.000039
PCBs (Total)	[B2]	0.0000444	0.0000448	0.0000079
Toxaphene	[B2]	[0.000730] 0.00028	[0.000747] 0.00028	[0.000131] 0.00028
<b>Volatile Organic Compounds (VOCs)</b>				
Acrylonitrile	[B1]	[0.0591] 0.051	[0.665] 0.25	[0.117] 0.25
Benzene	[A]	[1.19] 0.61	[71.3] 14	[12.5] 14
Benzidine	[A]	[0.000118] 0.000086	[0.000535] 0.00020	[0.000094] 0.00020
Bromoform	[B2]	[4.31] 4.3	[164.0] 140	[28.9] 140
Bromodichloromethane	[B2]	[0.559] 0.55	[55.7] 17	[9.78] 17
Carbon Tetrachloride	[B2]	[0.254] 0.23	[4.42] 1.6	[0.776] 1.6
Chlorodibromomethane	[C]	[0.411] 0.40	[27.8] 13	[4.88] 13
Chloroform	[B2]	[5.67] 5.7	[471.0] 470	[82.7] 470
3,3 - Dichlorobenzidine	[B2]	[0.0386] 0.021	[0.0767] 0.028	[0.0135] 0.028
1,2 - Dichloroethane	[B2]	[0.383] 0.38	[98.6] 37	[17.3] 37
<b>[1,1 – Dichloroethene]</b>	[C]	[0.0573]	[3.20]	[0.562]
<b>1,2 - Dichloropropane</b>	[B2]	0.50	15	15
1,3 - Dichloropropene	[B2]	[87.0] 0.34	[14.1] 21	[2.48] 21
<b>Dichloromethane (Methylene chloride)</b>	[B2]	[4.65] *	[1,580] 590	[277] 590
<b>[Tetrachloroethene] Tetrachloroethylene</b>	[B2]	[0.80] 0.69	[8.85] 3.3	[1.55] 3.3
<b>[1,1,1,2 – Tetrachloroethane]</b>	[C]	[1.29]	[29.3]	[5.15]

1,1,2,2 - Tetrachloroethane	[C]	[0.172] 0.17	[10.8] 4.0	[1.89] 4.0
1,1,2 - Trichloroethane	[C]	[0.605] 0.59	[41.6] 16	[7.31] 16
<b>[Trichloroethene] Trichloroethylene</b>	[B2]	[2.70] 2.5	[80.7] 30	[14.2] 30
Vinyl Chloride	[A]	[2.00] 0.025	[525.0] 2.4	[92.9] 2.4
<b>Polycyclic Aromatic Hydrocarbons (PAHs)</b>				
Benz[a]anthracene	[B2]	[0.00171] 0.0038	[0.00177] 0.18	[0.00031] 0.18
Benzo[b]fluoranthene	[B2]	[0.000455] 0.038	[0.000460] 0.18	[0.000081]0.18
Benzo[k]fluoranthene	[B2]	[0.000280] 0.38	[0.000282] 1.8	[0.000049] 1.8
Benzo[a]pyrene	[B2]	[0.0000644] 0.0038	[0.0000653] 0.018	[0.0000115] 0.018
Chrysene	[B2]	[0.0214] 3.8	[0.0224] 18	[0.00394] 18
Dibenz[a,h]anthracene	[B2]	[0.0000552] 0.0038	[0.0000559] 0.018	[0.0000098] 0.018
Indeno[1,2,3-cd]pyrene	[B2]	[0.0000576] 0.038	[0.0000576] 0.18	[0.0000101] 0.18
<b>Other Compounds</b>				
Bis (2-chloroethyl) ether	[B2]	[0.0311] 0.03	[1.42] 0.53	[0.249] 0.53
Bis (2-ethylhexyl) phthalate	[B2]	[1.76] 1.2	[5.92] 2.2	[1.04] 2.2
<b>[Dinitrotoluene mixture (2,4 &amp; 2,6)] 2,4 - Dinitrotoluene</b>	[B2]	[17.3] 0.11	[1420] 3.4	[249] 3.4
1,2 - Diphenylhydrazine	[B2]	[0.0405] 0.036	[0.541] 0.2	[0.095] 0.2
Hexachlorobenzene	[B2]	[0.000748] 0.00028	[0.000775] 0.00029	[0.000136] 0.00029
<b>Hexachlorobutadiene</b>	[C]	[0.445] 0.44	[49.7] 18	[8.72] 18
Hexachloroethane	[C]	[1.95] 1.4	[8.85] 3.3	[1.56] 3.3
Isophorone	[B2]	[36.3] 35	[2590] 960	[455] 960
<b>N-Nitrosodi-N-butylamine</b>	[B2]	0.0063	14	14
N-Nitrosodi-N-methylamine	[B2]	[0.000686] 0.00069	[8.12] 3.0	[1.43] 3.0
<b>N-Nitrosodiethylamine</b>	[B2]	0.0008	1.24	1.24
N-Nitrosodi-N-phenylamine	[B2]	[4.95] 3.3	[16.2] 6	[2.84] 6
N-Nitrosodi-N-propylamine	[B2]	[0.00498] 0.0050	[1.51] 0.51	[0.265] 0.51
<b>N-Nitrosopyrrolidine</b>	[B2]	0.016	34	34
Pentachlorophenol	[B2]	[0.282] 0.27	[8.16] 3.0	[1.43] 3.0

Dioxin (2,3,7,8 – TCDD)	[NA]	[1.3 x 10 <sup>-8</sup> ] 0.000000005	[1.4 x 10 <sup>-8</sup> ] 0.0000000051	[2.4 x 10 <sup>-9</sup> ] 0.0000000051
2,4,6 - Trichlorophenol	[B2]	[2.14] 1.4	[6.53] 2.4	[1.15] 2.4

\* The MCL for this compound applies in Zones 2 and 3 and is listed in Table 3.

TABLE 7: STREAM QUALITY OBJECTIVES FOR SYSTEMIC TOXICANTS FOR THE DELAWARE RIVER ESTUARY **AND BAY**

PARAMETER	[EPA Class]	FRESHWATER OBJECTIVES (µg/l)		MARINE OBJECTIVES (µg/l)
		FISH & WATER INGESTION	FISH INGESTION ONLY	FISH INGESTION ONLY
<b>Metals</b>				
Antimony		[14.0] 5.6	[4,310] 640	[757] 640
Arsenic	[A]	[9.19] *	[73.4] NA	[12.9] NA
Beryllium	[B2]	[165] *	[2,830] [42] 420	[498] [42] 420
Cadmium		[14.5] 3.4	[84.1] 16	[14.8] 16
Chromium (trivalent)		[33,000] *	[673,000] 380,000	[118,000] 380,000
[Hexavalent] Chromium (hexavalent)	[A]	[166] 92	[3,370] NA	[591] NA
<b>Chromium (Total)</b>		NA	750	750
Mercury		[0.144] 0.050	[0.144] 0.051	[0.144] 0.051
<b>Methylmercury</b>		0.3 mg/kg fish tissue	0.3 mg/kg fish tissue	0.3 mg/kg fish tissue
Nickel		[607] 500	[4,580] 1,700	[805] 1,700
Selenium		[100] 170	[2,020] 4,200	[355] 4,200
Silver		[175] 170	[108,000] 40,000	[18,900] 40,000
Thallium		[1.70] 0.24	[6.20] 0.47	[1.10] 0.47
Zinc		[9110] 7,400	[68700] 26,000	[12100] 26,000
<b>Pesticides/PCBs</b>				
Aldrin	[B2]	[0.96] 0.025	[11.5] 0.025	[2.03] 0.025
gamma - BHC (Lindane)		[7.38] 0.98	[24.9] 1.8	[4.37] 1.8
Chlordane	[B2]	[0.0448] 0.14	[0.0458] 0.14	[0.00805] 0.14
<b>DDT and Metabolites (DDD and DDE)</b>	[B2]	[0.100] 0.037	[0.100] 0.037	[0.0176] 0.037
Dieldrin	[B2]	[0.108] 0.041	[0.115] 0.043	[0.020] 0.043

<b>[Endosulfan]</b>		<b>[111]</b>	<b>[239]</b>	<b>[42.0]</b>
<b>alpha -Endosulfan</b>		<b>62</b>	<b>89</b>	<b>89</b>
<b>beta- Endosulfan</b>		<b>62</b>	<b>89</b>	<b>89</b>
<b>Endosulfan Sulfate</b>		<b>62</b>	<b>89</b>	<b>89</b>
Endrin	<b>[D]</b>	<b>[0.755] 0.059</b>	<b>[0.814] 0.060</b>	<b>[0.143] 0.060</b>
<b>Endrin Aldehyde</b>		<b>0.29</b>	<b>0.30</b>	<b>0.30</b>
Heptachlor	<b>[B2]</b>	<b>[0.337] 0.18</b>	<b>[0.344] 0.18</b>	<b>[0.060] 0.18</b>
Heptachlor Epoxide	<b>[B2]</b>	<b>[0.0234] 0.0046</b>	<b>[0.0246] 0.0046</b>	<b>[0.00433] 0.0046</b>
Total PCBs	<b>[B2]</b>	0.00839	0.00849	0.00149
<b>Volatile Organic Compounds (VOCs)</b>				
Acrolein		<b>[320] 6.1</b>	<b>[780] 9.3</b>	<b>[137] 9.3</b>
<b>Benzene</b>		<b>*</b>	<b>3,100</b>	<b>3,100</b>
Bromoform	<b>[B2]</b>	<b>[682] 650</b>	<b>[25,900] 9,600</b>	<b>[4,560] 9,600</b>
Bromodichloromethane	<b>[B2]</b>	<b>[693] 680</b>	<b>[69,000] NA</b>	<b>[12,100] NA</b>
Dibromochloromethane	<b>[C]</b>	<b>[690] 680</b>	<b>[46,600] 21,000</b>	<b>[8,190] 21,000</b>
Carbon Tetrachloride	<b>[B2]</b>	<b>[23.1] *</b>	<b>[402] 150</b>	<b>[70.6] 150</b>
Chloroform	<b>[B2]</b>	<b>[346] 68</b>	<b>[28,700] 2,100</b>	<b>[5,050] 2,100</b>
Chlorobenzene	<b>[D]</b>	<b>[677] 130</b>	<b>[20,900] 1,600</b>	<b>[3,670] 1,600</b>
<b>[1,1 – Dichloroethene]</b> <b>1,1 - Dichloroethylene</b>	<b>[C]</b>	<b>[309] *</b>	<b>[17,300] 7,100</b>	<b>[3,040] 7,100</b>
<b>[1,2 - trans – Dichloroethene]</b> <b>1,2 - trans - Dichloroethylene</b>		<b>[696] 140</b>	<b>[136,000] 10,000</b>	<b>[23,900] 10,000</b>
1,3 - Dichloropropene	<b>[B2]</b>	<b>[10.4] 1,000</b>	<b>[1,690] 63,000</b>	<b>[297] 63,000</b>
Ethylbenzene		<b>[3,120] 530</b>	<b>[28,700] 2,100</b>	<b>[5,050] 2,100</b>
Methyl Bromide		<b>[49.0] 47</b>	<b>[N/A] 1,500</b>	<b>[N/A] 1,500</b>
Methylene Chloride	<b>[B2]</b>	<b>[2,090] *</b>	<b>[710,000] 260,000</b>	<b>[125,000] 260,000</b>
1,1,2 – Trichloroethane	<b>[C]</b>	<b>[138] *</b>	<b>[9,490] 3,600</b>	<b>[1,670] 3,600</b>
<b>[Tetrachloroethene]</b> <b>Tetrachloroethylene</b>		<b>[318] *</b>	<b>[3,520] 1,300</b>	<b>[618] 1,300</b>
<b>[1,1,1,2 – Tetrachloroethane]</b>	<b>[C]</b>	<b>[1,000]</b>	<b>[22,400]</b>	<b>[3,940]</b>
Toluene		<b>[6,760] 1,300</b>	<b>[201,000] 15,000</b>	<b>[35,400] 15,000</b>

<b>Polycyclic Aromatic Hydrocarbons (PAHs)</b>				
Anthracene	[D]	[4,110] 8,300	[6,760] 40,000	[1,190] 40,000
Fluoranthene		[296] 130	[375] 140	[65.8] 140
Fluorene	[D]	[730] 1,100	[1,530] 5,300	[268] 5,300
Pyrene	[D]	[228] 830	[291] 4,000	[51.1] 4,000
<b>Other Compounds</b>				
Acenaphthene		[1,180] 670	[2,670] 990	[469] 990
Benzidine	[A]	[81.8] 59	[369] 140	[64.9] 140
Bis (2-chloroisopropyl) ether		[1,390] 1,400	[174,000] 65,000	[30,600] 65,000
Bis (2-ethylhexyl) phthalate	[B2]	[492] *	[1,660] 620	[291] 620
Butylbenzyl phthalate	[C]	[298] 1,500	[520] 1,900	[91.4] 1,900
<b>2 - Chloronaphthalene</b>		1,000	1,600	1,600
2 - Chlorophenol		[122] 81	[402] 150	[70.6] 150
<b>Cyanide</b>		140	140	140
Dibutyl Phthalate	[D]	[2,710] 2,000	[12,100] 4,500	[2,130] 4,500
1,2 - Dichlorobenzene	[D]	[2,670] 420	[17,400] 1,300	[3,060] 1,300
1,3 - Dichlorobenzene	[D]	[414] 420	[3,510] 1,300	[617] 1,300
1,4 - Dichlorobenzene		[419] 63	[3,870] 190	[677] 190
2,4 - Dichlorophenol		[92.7] 77	[794] 290	[139] 290
Diethyl Phthalate	[D]	[22,600] 17,000	[118,000] 44,000	[20,700] 44,000
Dimethyl Phthalate	[D]	[313,000] 270,000	[2,990,000] 1,100,000	[526,000] 1,100,000
2,4 - Dimethylphenol		[536] 380	[2,300] 850	[403] 850
2,4 - Dinitrophenol		[70] 69	[14,300] 5,300	[2,500] 5,300
2,4 - Dinitrotoluene		[69.2] 68	[5670] 2,100	[996] 2,100
Hexachlorobenzene	[B2]	[0.958] 0.35	[0.991] 0.36	[0.174] 0.36
<b>[Hexachlorobutadiene]</b>	[C]	[69.4]	[7,750]	[1,360]
Hexachlorocyclopentadiene		[242] 40	[17,400] 1,100	[3,050] 1,100
Hexachloroethane	[C]	[27.3] 20	[124] 46	[21.7] 46
Isophorone	[C]	[6,900] 6,700	[492,000] 180,000	[86,400] 180,000
<b>2-Methyl-4,6-dinitrophenol</b>		13	280	280
Nitrobenzene	[D]	[17.3] 17	[1,860] 690	[327] 690
<b>Pentachlorobenzene</b>		1.4	1.5	1.5
Pentachlorophenol		[1,010] *	[29,400] 11,000	[5,160] 11,000

Phenol		[20,900] 10,000	[4,620,000] 860,000	[811,000] 860,000
<b>1,2,4,5-Tetrachlorobenzene</b>		<b>0.97</b>	<b>1.1</b>	<b>1.1</b>
1,2,4 - Trichlorobenzene	[D]	[255] 35	[945] 70	[166] 70
<b>2,4,5-Trichlorophenol</b>		<b>1,800</b>	<b>3,600</b>	<b>3,600</b>
<b>Vinyl Chloride</b>		*	<b>10,000</b>	<b>10,000</b>

\* The MCL for this compound applies in Zones 2 and 3 and is listed in Table 3.

\* \* \* \* \*

3.30.6 Zone 6.

\* \* \* \* \*

[Add the following text immediately following sub-section 3.30.6 C.10. and preceding sub-section 3.30.6 D.]

**11. Toxic Pollutants.**

- a. Applicable criteria to protect the taste and odor of ingested water and fish are presented in Table 4.**
- b. Applicable marine stream quality objectives for the protection of aquatic life are presented in Table 5.**
- c. Applicable marine stream quality objectives for the protection of human health are presented in Tables 6 and 7.**