Preliminary Draft Negotiated Rule (Draft No. 1)
Docket No. 58-0102-1201, Dated August 5, 2015

Written comment deadline for this draft – August 21, 2015

IDAPA 58
TITLE 01
CHAPTER 02

58.01.02 - WATER QUALITY STANDARDS

010. DEFINITIONS.
For the purpose of the rules contained in IDAPA 58.01.02, "Water Quality Standards," the following definitions apply: (4-11-06)

46. Harmonic Mean ~~Flow~~. The number of daily ~~flow~~ measurements divided by the sum of the reciprocals of the ~~flows~~ measurements (i.e., the reciprocal of the mean of reciprocals). ~~(8-24-94)~~

(Break in Continuity of Sections)

061. -- 069. (RESERVED)

070. APPLICATION OF STANDARDS.

01. Multiple Criteria. In the application of the use designation, the most stringent criterion of a multiple criteria applies. (4-5-00)

02. Application of Standards to Nonpoint Source Activities. The application of water quality standards to nonpoint source activities shall be in accordance with Section 350. (7-1-93)

03. Application of Standards to Point Source Discharges. The application of water quality standards to point source discharges shall be in accordance with Sections 400 and 401. (4-11-06)

04. Applicability of Gas Supersaturation Standard. The application of gas supersaturation standard shall be in accordance with Section 300. (4-5-00)

05. Mixing Zones. The application of water quality standards to mixing zones shall be in accordance with Section 060. (7-1-93)

06. Application of Standards to Intermittent Waters. Numeric water quality standards only apply to intermittent waters during optimum flow periods sufficient to support the uses for which the water body is designated. For recreation, optimum flow is equal to or greater than five (5) cubic feet per second (cfs). For aquatic life uses, optimum flow is equal to or greater than one (1) cfs. (3-30-01)

07. Temperature Criteria. In the application of temperature criteria, the Director may, at his discretion, waive or raise the temperature criteria as they pertain to a specific water body. Any such determination shall be made consistent with 40 CFR 131.11 and shall be based on a finding that the designated aquatic life use is not an existing use in such water body or would be fully supported at a higher temperature criteria. For any determination, the Director shall, prior to making a determination, provide for public notice and comment on the proposed determination. For any such proposed determination, the Director shall prepare and make available to the public a technical support document addressing the proposed modification. (4-5-00)

08. Protection of Downstream Water Quality. All waters shall maintain a level of water quality at their pour point into downstream waters that provides for the attainment and maintenance of the water quality standards of those waters, including waters of another state.

(Break in Continuity of Sections)

201. -- 209. (RESERVED)

210. NUMERIC CRITERIA FOR TOXIC SUBSTANCES FOR WATERS DESIGNATED FOR AQUATIC LIFE, RECREATION, OR DOMESTIC WATER SUPPLY USE.

01. Criteria for Toxic Substances. The criteria of Section 210 apply to surface waters of the state as follows. (5-3-03)

a. Columns B1, and B2~~, and C2~~ of the following table apply to waters designated for aquatic life use. ~~(5-3-03)~~

b. Column C2 of the following table applies to waters designated for primary or secondary contact recreation use. ~~(5-3-03)~~

c. Column C1 of the following table applies to waters designated for domestic water supply use.

Note: In 2006, Idaho updated 167 human health criteria for 88 chemicals. On May 10, 2012, EPA disapproved Idaho's 2006 update of 167 human health criteria for toxic substances and the use of 17.5 g/day fish consumption rate for human health criteria (see IDAPA 58.01.02.210.05.b.i). This action was based on EPA's judgment that the fish consumption rate used in criteria derivation was not adequately protective. As a result of this action, the human health criteria published in the 2005 version of IDAPA 58.01.02.210.01 continue to apply and are effective for federal Clean Water Act purposes. These criteria are summarized in "Numeric Criteria for Toxic Substances (2005)" located at http://www.deq.idaho.gov/media/451725-human_health_criteria.pdf.
For more information regarding this EPA disapproval, go to
http://www.deq.idaho.gov/epa-actions-on-proposed-standards.

A			B Aquatic life		C Human health for consumption of:		
(Number) Compound		[a]CAS Number	[b]CMC (µg/L) B1	[b]CCC (µg/L) B2	Carcinogen?	Water & ~~organisms~~fish (µg/L) C1	~~Organisms~~Fish only (µg/L) C2
1	Antimony	7440360				5.6 c	640 c
2	Arsenic	7440382	340 e	150 e	Y	10 df	10 df
3	Beryllium	7440417				h	h
4	Cadmium	7440439	1.3 i	0.6 i		h	h
5a	Chromium III	16065831	570 i	74 i		h	h
5b	Chromium VI	18540299	16 e	11 e		h	h

6	Copper	7440508	17	i	11	i		1300	xx	
7	Lead	7439921	65	i	2.5	i			h	h
8a	Mercury	7439976		g		g				

Note: In 2005, Idaho adopted EPA's recommended methylmercury fish tissue criterion for protection of human health. The decision was made to remove the old tissue-based aquatic life criteria and rely on the fish tissue criterion to provide protection for aquatic life as well as human health. Thus, current Idaho water quality standards do not have mercury water column criteria for the protection of aquatic life. While EPA approved Idaho's adoption of the fish tissue criterion in September 2005, it had withheld judgment on Idaho's removal of aquatic life criteria. On December 12, 2008, EPA disapproved Idaho's removal of the old aquatic life criteria. The water column criteria for total recoverable mercury effective for federal Clean Water Act purposes are located at http://www.deq.idaho.gov/epa-actions-on-proposed-standards.

8b	Methylmercury	22967926							0.3 mg/kg	p
9	Nickel	7440020	470	i	52	i		610	c	4600	c
10	Selenium	7782492	20	f	5	f		~~170~~ 20	xx	~~4200~~ 1400	xx
11	Silver	7440224	3.4	i							
12	Thallium	7440280						~~0.24~~ 0.038	~~c~~xx	~~0.47~~ 0.13	~~c~~xx
13	Zinc	7440666	120	i	120	i		7400		26000	
14	Cyanide	57125	22	j	5.2	j		~~140~~ 2.4	~~c~~xx	140	~~c~~xx
15	Asbestos	1332214						7,000,000 fibers/L	k		
16	2, 3, 7, 8-TCDD Dioxin	1746016					Y	0.000000005	l	0.0000000051	l
17	Acrolein	107028						~~190~~ 2	xx	290	
18	Acrylonitrile	107131					Y	~~0.051~~ 0.036	~~c~~xxl	0.25	cl
19	Benzene	71432					Y	~~2.2~~ 0.35	~~c~~xxl	~~51~~ 29	~~c~~xxl
20	Bromoform	75252					Y	~~4.3~~ 4.1	~~c~~xxl	140	cl
21	Carbon Tetrachloride	56235					Y	0.23	cl	1.6	cl
22	Chlorobenzene	108907						~~130~~ 72	~~c~~xx	~~1600~~ 1500	~~c~~xx
23	Chlorodibromomethane	124481					Y	0.40	cl	13	cl
24	Chloroethane	75003									
25	2-Chloroethylvinyl Ether	110758									
26	Chloroform	67663						5.7	l	470	l

27	Dichlorobromomethane	75274			Y	0.55	cl	17	cl
28	1,1-Dichloroethane	75343							
29	1,2-Dichloroethane	107062			Y	0.38	cl	37	cl
30	1,1-Dichloroethylene	75354				~~330~~ 200	xxl	7100	l
31	1,2-Dichloropropane	78875			Y	0.50	cl	15	cl
32	1,3-Dichloropropene	542756			Y	~~0.34~~ 0.17	xx	21	
33	Ethylbenzene	100414				~~530~~ 70	~~c~~xx	~~2100~~ 230	~~c~~xx
34	Methyl Bromide	74839				47	c	1500	c
35	Methyl Chloride	74873					h		h
36	Methylene Chloride	75092			Y	4.6	cl	590	cl
37	1,1,2,2-Tetrachloroethane	79345			Y	0.17	cl	4.0	cl
38	Tetrachloroethylene	127184			Y	0.69	l	3.3	l
39	Toluene	108883				~~1300~~ 36	~~c~~xx	~~15000~~ 970	~~c~~xx
40	1,2-Trans-Dichloroethylene	156605				~~140~~ 79	~~c~~xx	~~10000~~ 6700	~~c~~xx
41	1,1,1-Trichloroethane	71556					h		h
42	1,1,2-Trichloroethane	79005			Y	~~0.59~~ 0.33	~~c~~xxl	16	cl
43	Trichloroethylene	79016			Y	~~2.5~~ 0.37	xxl	~~30~~ 12	xxl
44	Vinyl Chloride	75014			Y	~~0.025~~ 0.013	xxl	2.4	xxl
45	2-Chlorophenol	95578				~~81~~ 20	~~c~~xx	150	~~c~~xx
46	2,4-Dichlorophenol	120832				~~77~~ 11	~~c~~xx	~~290~~ 100	~~c~~xx
47	2,4-Dimethylphenol	105679				380	c	850	c
48	2-Methyl-4,6-Dinitrophenol	534521				~~13~~ 1.1	xx	~~280~~ 47	xx
49	2,4-Dinitrophenol	51285				~~69~~ 8	~~c~~xx	~~5300~~ 600	~~c~~xx
50	2-Nitrophenol	88755							
51	4-Nitrophenol	100027							
52	3-Methyl-4-Chlorophenol	59507							

53	Pentachlorophenol	87865	20 m	13 m	Y	~~0.27~~ 0.033 ~~c~~xxl	~~3.0~~ 0.067 ~~c~~xxl
54	Phenol	108952				21000 c	~~1700000~~ 470000 ~~c~~xx
55	2,4,6-Trichlorophenol	88062			Y	1.4 cl	2.4 cl
56	Acenaphthene	83329				~~670~~ 110 ~~c~~xx	~~990~~ 160 ~~c~~xx
57	Acenaphthylene	208968					
58	Anthracene	120127				~~8300~~ 520 ~~c~~xx	~~40000~~ 660 ~~c~~xx
59	Benzidine	92875			Y	0.000086 cl	0.00020 cl
60	Benzo(a)Anthracene	56553			Y	~~0.0038~~ 0.0023 ~~c~~xxl	~~0.018~~ 0.0024 ~~c~~xxl
61	Benzo(a)Pyrene	50328			Y	~~0.0038~~ 0.00023 ~~c~~xxl	~~0.018~~ 0.00024 ~~c~~xxl
62	Benzo(b)Fluoranthene	205992			Y	~~0.0038~~ 0.0023 ~~c~~xxl	~~0.018~~ 0.0024 ~~c~~xxl
63	Benzo(ghi)Perylene	191242					
64	Benzo(k)Fluoranthene	207089			Y	0.0038 cl	0.018 cl
65	Bis(2-Chloroethoxy) Methane	111911					
66	Bis(2-Chloroethyl)Ether	111444			Y	~~0.030~~ 0.018 ~~c~~xxl	0.53 cl
67	Bis(2-Chloroisopropyl) Ether	108601				1400 c	~~65000~~ 6500 ~~c~~xx
68	Bis(2-Ethylhexyl) Phthalate	117817			Y	~~1.2~~ 0.55 ~~c~~xxl	~~2.2~~ 0.7 ~~c~~xxl
69	4-Bromophenyl Phenyl Ether	101553					
70	Butylbenzyl Phthalate	85687				~~1500~~ 0.18 ~~c~~xx	~~1900~~ 0.19 ~~c~~xx
71	2-Chloronaphthalene	91587				~~1000~~ 900 ~~c~~xx	1600 c
72	4-Chlorophenyl Phenyl Ether	7005723					
73	Chrysene	218019			Y	0.0038 cl	0.018 cl
74	Dibenzo (a,h) Anthracene	53703			Y	~~0.0038~~ 0.00022 ~~c~~xxl	~~0.018~~ 0.00024 ~~c~~xxl
75	1,2-Dichlorobenzene	95501				420 c	1300 c
76	1,3-Dichlorobenzene	541731				~~320~~ 7 xx	~~960~~ 27 xx
77	1,4-Dichlorobenzene	106467				63	190

78	3,3'-Dichlorobenzidine	91941			Y	0.021	cl	0.028	cl
79	Diethyl Phthalate	84662				~~17000~~ 1000	~~c~~xx	~~44000~~ 1200	~~c~~xx
80	Dimethyl Phthalate	131113				~~270000~~ 3100	xx	~~1100000~~ 3400	xx
81	Di-n-Butyl Phthalate	84742				~~2000~~ 45	~~c~~xx	~~4500~~ 46	~~c~~xx
82	2,4-Dinitrotoluene	121142			Y	0.11	l	~~3.4~~ 3	xxl
83	2,6-Dinitrotoluene	606202							
84	Di-n-Octyl Phthalate	117840							
85	1,2-Diphenylhydrazine	122667			Y	~~0.036~~ 0.023	~~c~~xxl	0.20	cl
86	Fluoranthene	206440				~~130~~ 32	~~c~~xx	~~140~~ 35	~~c~~xx
87	Fluorene	86737				~~1100~~ 81	~~c~~xx	~~5300~~ 120	~~c~~xx
88	Hexachlorobenzene	118741			Y	~~0.00028~~ 0.00014	~~c~~xx	~~0.00029~~ 0.00014	~~c~~xx
89	Hexachlorobutadiene	87683			Y	0.44	cl	~~18~~ 0.017	~~c~~xx
90	Hexachloro-cyclopentadiene	77474				~~40~~ 6.6	xx	~~1100~~ 7.3	xx
91	Hexachloroethane	67721			Y	~~1.4~~ 0.19	~~c~~xxl	~~3.3~~ 0.24	~~c~~xxl
92	Ideno (1,2,3-cd) Pyrene	193395			Y	~~0.0038~~ 0.0022	~~c~~xxl	~~0.018~~ 0.0022	~~c~~xxl
93	Isophorone	78591			Y	~~35~~ 22	~~c~~xxl	960	cl
94	Naphthalene	91203							
95	Nitrobenzene	98953				17	c	690	c
96	N-Nitrosodimethylamine	62759			Y	0.00069	cl	3.0	cl
97	N-Nitrosodi-n-Propylamine	621647			Y	~~0.0050~~ 0.003	~~c~~xxl	0.51	cl
98	N-Nitrosodiphenylamine	86306			Y	~~3.3~~ 3.2	~~c~~xxl	6.0	cl
99	Phenanthrene	85018							
100	Pyrene	129000				~~830~~ 40	~~c~~xx	~~4000~~ 47	~~c~~xx
101	1,2,4-Trichlorobenzene	120821				~~35~~ 0.13	xx	~~70~~ 0.13	xx
102	Aldrin	309002	3		Y	~~0.000049~~ 0.0000014	~~c~~xxl	~~0.000050~~ 0.0000014	~~c~~xxl
103	alpha-BHC	319846			Y	~~0.0026~~	~~c~~xxl	~~0.0049~~	~~c~~xxl

					0.00067		0.0007	
104 beta-BHC	319857			Y	~~0.0091~~ 0.009	~~c~~xxl	0.017	cl
105 gamma-BHC (Lindane)	58899	2	0.08		0.98	l	1.8	l
106 delta-BHC	319868							
107 Chlordane	57749	2.4	0.0043	Y	~~0.00080~~ 0.00055	~~c~~xxl	~~0.00081~~ 0.00056	~~c~~xxl
108 4,4'-DDT	50293	1.1	0.001	Y	~~0.00022~~ 0.000053	~~c~~xxl	~~0.00022~~ 0.000056	~~c~~xxl
109 4,4'-DDE	72559			Y	~~0.00022~~ 0.00003	~~c~~xxl	~~0.00022~~ 0.000032	~~c~~xxl
110 4,4'-DDD	72548			Y	~~0.00031~~ 0.00023	~~c~~xxl	~~0.00031~~ 0.00024	~~c~~xxl
111 Dieldrin	60571	2.5	0.0019	Y	~~0.000052~~ 0.0000023	~~c~~xxl	~~0.000054~~ 0.0000023	~~c~~xxl
112 alpha-Endosulfan	959988	0.22	0.056		~~62~~ 18	~~c~~xx	~~89~~ 46	~~c~~xx
113 beta-Endosulfan	33213659	0.22	0.056		~~62~~ 21	~~c~~xx	~~89~~ 80	~~c~~xx
114 Endosulfan Sulfate	1031078				~~62~~ 20	~~c~~xx	~~89~~ 74	~~c~~xx
115 Endrin	72208	0.18	0.0023		0.059	c	0.060	c
116 Endrin Aldehyde	7421934				0.29	c	0.30	c
117 Heptachlor	76448	0.52	0.0038	Y	~~0.000079~~ 0.000011	~~c~~xxl	~~0.000079~~ 0.000011	~~c~~xxl
118 Heptachlor Epoxide	1024573	0.52	0.0038	Y	0.000039	cl	0.000039	cl
119 Polychlorinated Biphenyls PCBs:	n		0.014 n	Y	0.000064	clo	0.000064	clo
120 Toxaphene	8001352	0.73	0.0002	Y	0.00028	cl	0.00028	cl
121 Chlorine		19 k	11 k					

Table Footnotes

a. Chemical Abstracts Service (CAS) registry numbers which provide a unique identification for each chemical.

b. See definitions of Acute Criteria (CMC) and Chronic Criteria (CCC), Section 010 of these rules.

c. This criterion has been revised to reflect The Environmental Protection Agency'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.

xx. This criterion is based on inputs values to human health criteria calculation specified in Idaho's Technical Support Document for Human Health Criteria Calculations – 2015.
d. Inorganic forms only.
e. Criteria for these metals are expressed as a function of the water effect ratio, WER, as defined in Subsection 210.03.c.iii. CMC = column B1 value X WER. CCC = column B2 value X WER.
f. Criterion expressed as total recoverable (unfiltered) concentrations.
g. No aquatic life criterion is adopted for inorganic mercury. However, the narrative criteria for toxics in Section 200 of these rules applies. The Department believes application of the human health criterion for methylmercury will be protective of aquatic life in most situations.
h. No numeric human health criteria has been established for this contaminant. However, permit authorities should address this contaminant in NPDES permit actions using the narrative criteria for toxics from Section 200 of these rules.
i. Aquatic life criteria for these metals are a function of total hardness (mg/L as calcium carbonate), the pollutant's water effect ratio (WER) as defined in Subsection 210.03.c.iii. and multiplied by an appropriate dissolved conversion factor as defined in Subsection 210.02. For comparative purposes only, the example values displayed in this table are shown as dissolved metal and correspond to a total hardness of one hundred (100) mg/L and a water effect ratio of one (1.0).
j. Criteria are expressed as weak acid dissociable (WAD) cyanide.
k. Total chlorine residual concentrations.
l. EPA guidance allows states to choose ~~a risk factor~~ from a range of 10^{-4} to 10^{-6} for the incremental increase in cancer risk used in human health criteria calculation. Idaho has chosen to base this criterion on carcinogenicity of 10^{-6} risk.
m. Aquatic life criteria for pentachlorophenol are expressed as a function of pH, and are calculated as follows. Values displayed above in the table correspond to a pH of seven and eight tenths (7.8). CMC = exp(1.005(pH)-4.830) CCC = exp(1.005(pH)-5.290)
n. PCBs are a class of chemicals which include Aroclors, 1242, 1254, 1221, 1232, 1248, 1260, and 1016, CAS numbers 53469219, 11097691, 11104282, 11141165, 12672296, 11096825 and 12674112 respectively. The aquatic life criteria apply to this set of PCBs.
o. This criterion applies to total PCBs, (e.g. the sum of all congener, isomer, or Aroclor analyses).
p. This fish tissue residue criterion (TRC) for methylmercury is based on a human health reference dose (RfD) of 0.0001 mg/kg body weight-day; a relative source contribution (RSC) estimated to be 27% of the RfD; a human body weight (BW) of 70 kg (for adults); and a total fish consumption rate of 0.0175 kg/day for the general population, summed from trophic level (TL) breakdown of TL2 = 0.0038 kg fish/day + TL3 = 0.0080 kg fish/day + TL4 = 0.0057 kg fish/day. This is a criterion that is protective of the general population. A site-specific criterion or a criterion for a particular subpopulation may be calculated by using local or regional data, rather than the above default values, in the formula: TRC = [BW x {RfD – (RSCxRfD)}] / Σ TL. In waters inhabited by species listed as threatened or endangered under the Endangered Species Act or designated as their critical habitat, the Department will apply the human health fish tissue residue criterion for methylmercury to the highest trophic level available for sampling and analysis.

~~(3-29-10)~~

02. Factors for Calculating Hardness Dependent Metals Criteria. Hardness dependent metals criteria are calculated using values from the following table in the equations: (5-3-03)

a. CMC=WER exp{mA[ln(hardness)]+bA} X Acute Conversion Factor. (5-3-03)

b. CCC=WER exp{mc[ln(hardness)]+bc} X Chronic Conversion Factor.

Metal	mA	bA	mc	bc	aAcute Conversion Factor	aChronic Conversion Factor
Arsenic	b	b	b	b	1.0	1.0
Cadmium	0.8367	-3.560	0.6247	-3.344	0.944 see footnote a	0.909
Chromium (III)	0.819	3.7256	0.8190	0.6848	0.316	0.860
Chromium (VI)	b	b	b	b	0.982	0.962
Copper	0.9422	-1.464	0.8545	-1.465	0.960	0.960
Lead	1.273	-1.460	1.273	-4.705	0.791	0.791
Mercury	b	b	b	b	0.85	0.85
Nickel	0.846	2.255	0.8460	0.0584	0.998	0.997
Silver	1.72	-6.52	c	c	0.85	c
Zinc	0.8473	0.884	0.8473	0.884	0.978	0.986

Note to table: The term "exp" represents the base e exponential function.

Footnotes to table:

a. Conversion factors (CF) are from "Stephan, C. E. 1995. Derivation of conversion factors for the calculation of dissolved freshwater aquatic life criteria for metals. U.S. Environmental Protection Agency, Environmental Research Laboratory – Duluth." The conversion factors for cadmium and lead are hardness-dependent and can be calculated for any hardness (see limitations in Subsection 210.03.b.i.) using the following equations. For comparative purposes, the conversion factors for a total hardness of one hundred (100) mg/L are shown in the table. The conversion factor shall not exceed one (1).

Cadmium

Acute: CF=1.136672–[(ln hardness)(0.041838)] NOTE: The cadmium acute criterion equation was derived from dissolved metals toxicity data and thus requires no conversion; this conversion factor may be used to back calculate an equivalent total recoverable concentration.

Chronic: CF=1.101672–[(ln hardness)(0.041838)]

Lead (Acute and Chronic): CF=1.46203–[(ln hardness)(0.145712)

b. Not applicable

c. No chronic criteria are available for silver.

(3-29-10)

03. Applicability. The criteria established in Section 210 are subject to the general rules of applicability in the same way and to the same extent as are the other numeric chemical criteria when applied to the same use classification ~~including mixing zones, and low flow design discharge conditions below which numeric standards can be exceeded in flowing waters.~~ Mixing zones may be applied to toxic substance criteria subject to the limitations set

out below. ~~(5-3-03)~~

a. For all waters for which the Department has determined mixing zones to be applicable, the toxic substance criteria apply at ~~the appropriate locations specified within or at~~ the boundary of the mixing zone(s) and beyond. ~~; otherwise the~~ Absent an authorized mixing zone, the toxic substance criteria apply throughout the waterbody including at the end of any discharge pipe, canal or other discharge point. ~~(4-11-06)~~

b. Low flow design ~~discharge~~ conditions. Water quality-based effluent limits and mixing zones for toxic substances shall be based on the following low flows in perennial receiving streams. Numeric chemical ~~standards~~ criteria ~~can only~~ may be exceeded in perennial streams ~~permitted discharges~~ outside any applicable mixing zone only when flows are less than these ~~following~~ these values:

Aquatic Life		Human Health	
CMC ("acute" criteria)	1Q10 or 1B3	Non-carcinogens	30Q5
CCC ("chronic" criteria)	7Q10 or 4B3	Carcinogens	Harmonic mean flow

~~(4-11-06)~~

i. Where "1Q10" is the lowest one-day flow with an average recurrence frequency of once in ten (10) years determined hydrologically; (5-3-03)

ii. Where "1B3" is biologically based and indicates an allowable exceedance of once every three (3) years. It may be determined by EPA's computerized method (DFLOW model); (5-3-03)

iii. Where "7Q10" is the lowest average seven (7) consecutive day low flow with an average recurrence frequency of once in ten (10) years determined hydrologically; (5-3-03)

iv. Where "4B3" is biologically based and indicates an allowable exceedance for four (4) consecutive days once every three (3) years. It may be determined by EPA's computerized method (DFLOW model); (5-3-03)

v. Where "30Q5" is the lowest average thirty (30) consecutive day low flow with an average recurrence frequency of once in five (5) years determined hydrologically; and (5-3-03)

vi. Where the harmonic mean flow is a long term mean flow value calculated by dividing the number of daily flows analyzed by the sum of the reciprocals of those daily flows. (5-3-03)

c. Application of aquatic life metals criteria. ~~(5-3-03)~~

i. For metals other than cadmium, for purposes of calculating hardness dependent aquatic life criteria from the equations in Subsection 210.02, the minimum hardness allowed for use in those equations shall not be less than twenty-five (25) mg/l, as calcium carbonate, even if the actual ambient hardness is less than twenty-five (25) mg/l as calcium carbonate. For cadmium, the minimum hardness for use in those equations shall not be less than ten (10) mg/l, as calcium carbonate. The maximum hardness allowed for use in those equations shall not be greater than four hundred (400) mg/l, as calcium carbonate, except as specified in Subsections 210.03.c.ii. and 210.03.c.iii., even if the actual ambient hardness is greater than four hundred (400) mg/l as calcium carbonate. (3-29-10)

ii. The hardness values used for calculating aquatic life criteria for metals at design discharge conditions shall be representative of the ambient hardnesses for a receiving water that occur at the design discharge conditions given in Subsection 210.03.b. (5-3-03)

iii. Except as otherwise noted, the aquatic life criteria for metals (compounds #1 through #13 in the criteria table of Subsection 210.02) are expressed as dissolved metal concentrations. Unless otherwise specified by the Department, dissolved concentrations are considered to be concentrations recovered from a sample which has passed through a forty-five hundredths (0.45) micron filter. For the purposes of calculating aquatic life criteria for metals

from the equations in footnotes e. and i. in the criteria table in Subsection 210.01, the water effect ratio is computed as a specific pollutant's acute or chronic toxicity values measured in water from the site covered by the standard, divided by the respective acute or chronic toxicity value in laboratory dilution water. The water-effect ratio shall be assigned a value of one (1.0), except where the Department assigns a different value that protects the designated uses of the water body from the toxic effects of the pollutant, and is derived from suitable tests on sampled water representative of conditions in the affected water body, consistent with the design discharge conditions established in Subsection 210.03.b. For purposes of calculating water effects ratios, the term acute toxicity value is the toxicity test results, such as the concentration lethal one-half (1/2) of the test organisms (i.e., LC5O) after ninety-six (96) hours of exposure (e.g., fish toxicity tests) or the effect concentration to one-half of the test organisms, (i.e., EC5O) after forty-eight (48) hours of exposure (e.g., daphnia toxicity tests). For purposes of calculating water effects ratios, the term chronic value is the result from appropriate hypothesis testing or regression analysis of measurements of growth, reproduction, or survival from life cycle, partial life cycle, or early life stage tests. The determination of acute and chronic values shall be according to current standard protocols (e.g., those published by the American Society for Testing and Materials (ASTM)) or other comparable methods. For calculation of criteria using site-specific values for both the hardness and the water effect ratio, the hardness used in the equations in Subsection 210.02 shall be as required in Subsection 210.03.c.ii. Water hardness shall be calculated from the measured calcium and magnesium ions present, and the ratio of calcium to magnesium shall be approximately the same in laboratory toxicity testing water as in the site water, or be similar to average ratios of laboratory waters used to derive the criteria. (4-6-05)

iv. Implementation Guidance for the Idaho Mercury Water Quality Criteria. (4-6-05)

(1) The "Implementation Guidance for the Idaho Mercury Water Quality Criteria" describes in detail suggested methods for discharge related monitoring requirements, calculation of reasonable potential to exceed (RPTE) water quality criteria in determining need for mercury effluent limits, and use of fish tissue mercury data in calculating mercury load reductions. This guidance, or its updates, will provide assistance to the Department and the public when implementing the methylmercury criterion. The "Implementation Guidance for the Idaho Mercury Water Quality Criteria" also provides basic background information on mercury in the environment, the novelty of a fish tissue criterion for water quality, the connection between human health and aquatic life protection, and the relation of environmental programs outside of Clean Water Act programs to reducing mercury contamination of the environment. The "Implementation Guidance for the Idaho Mercury Water Quality Criteria" is available at the Department of Environmental Quality, 1410 N. Hilton, Boise, Idaho 83706, and on the DEQ website at http://www.deq.idaho.gov/media/639808-idaho_mercury_wq_guidance.pdf. (4-6-05)

(2) The implementation of a fish tissue criterion in NPDES permits and TMDLs requires a non-traditional approach, as the basic criterion is not a concentration in water. In applying the methylmercury fish tissue criterion in the context of NPDES effluent limits and TMDL load reductions, the Department will assume change in fish tissue concentrations of methylmercury are proportional to change in water body loading of total mercury. Reasonable potential to exceed (RPTE) the fish tissue criterion for existing NPDES sources will be based on measured fish tissue concentrations potentially affected by the discharge exceeding a specified threshold value, based on uncertainty due to measurement variability. This threshold value is also used for TMDL decisions. Because measured fish tissue concentrations do not reflect the effect of proposed new or increased discharge of mercury, RPTE in these cases will be based upon an estimated fish tissue methylmercury concentration, using projected changes in waterbody loading of total mercury and a proportional response in fish tissue mercury. For the above purposes, mercury will be measured in the skinless filets of sport fish using techniques capable of detecting tissue concentrations down to point zero five (0.05) mg/kg. Total mercury analysis may be used, but will be assumed to be all methylmercury for purposes of implementing the criterion. (4-6-05)

v. Frequency and duration for toxics criteria. Column B1 criteria are concentrations not to be exceeded for a one-hour average more than once in three (3) years. Column B2 criteria are concentrations not to be exceeded for a four-day average more than once in three (3) years. Columns C1 and C2 criteria that are based on carcinogenicity are not to be exceeded based on an annual harmonic mean, while those based on non-carcinogenic effects are not to be exceeded for a thirty (30) day average more than once in five (5) years. ~~(4-11-06)~~

04. National Pollutant Discharge Elimination System Permitting. For the purposes of NPDES permitting, interpretation and implementation of metals criteria listed in Subsection 210.02 should be governed by the following standards, that are hereby incorporated by reference, in addition to other scientifically defensible methods

deemed appropriate by the Department; provided, however, any identified conversion factors within these documents are not incorporated by reference. Metals criteria conversion factors are identified in Subsection 210.02 of this rule. (5-3-03)

a. "Guidance Document on Dissolved Criteria -- Expression of Aquatic Life Criteria," EPA, October 1993, http://www.deq.idaho.gov/media/827413-epa-guidance-dissolved-criteria-1093.pdf. (4-5-00)

b. "Guidance Document on Dynamic Modeling and Translators," EPA, August 1993, http://www.deq.idaho.gov/media/827417-epa-guidance-dynamic-modeling-translators-0893.pdf. (4-5-00)

c. "Guidance Document on Clean Analytical Techniques and Monitoring," EPA, October 1993, http://www.deq.idaho.gov/media/827421-epa-guidance-analytical-techniques-1093.pdf. (4-5-00)

d. "Interim Guidance on Determination and Use of Water-Effect Ratios for Metals," EPA, February 1994, http://www.deq.idaho.gov/media/827409-epa-guidance-water-effect-ratios-for-metals-0294.pdf. (4-5-00)

e. "Technical Support Document for Water Quality-Based Toxics Control." EPA, March 1991.

05. Development of Toxic Substance Criteria. (4-5-00)

a. Aquatic Life Communities Criteria. Numeric criteria for the protection of aquatic life uses not identified in these rules for toxic substances, may be derived by the Department from the following information: (4-5-00)

i. Site-specific criteria developed pursuant to Section 275; (4-5-00)

ii. Effluent biomonitoring, toxicity testing and whole-effluent toxicity determinations; (4-5-00)

iii. The most recent recommended criteria defined in EPA's ~~Aquatic Toxicity Information Retrieval (ACQUIRE)~~ ECOTOX database. When using EPA recommended criteria to derive water quality criteria to protect aquatic life uses, the lowest observed effect concentrations (LOECs) shall be considered; or ~~(4-5-00)~~

iv. Scientific studies including, but not limited to, instream benthic assessment or rapid bioassessment. (4-5-00)

b. Human Health Criteria. (4-5-00)

i. When numeric criteria for the protection of human health are not identified in these rules for toxic substances, quantifiable criteria may be derived by the Department ~~from the most recent recommended criteria~~ using best available science on toxicity thresholds (i.e. reference dose or cancer slope factor), such as defined in EPA's Integrated Risk Information System (IRIS) or other peer-reviewed source acceptable to the Department.

ii. When using ~~EPA recommended criteria~~ toxicity thresholds to derive water quality criteria to protect human health, a fish consumption rate ~~of seventeen point five (17.5) grams/day, a~~ representative of the population to be protected, a mean adult body weight, an adult 90th percentile water ingestion rate ~~of two (2) liters/day~~, a trophic level weighted BAF or BCF, and a hazard quotient of 1 for non-carcinogens or a cancer risk level of 10^{-6} for carcinogens shall be utilized. ~~(4-11-06)~~

Note: In 2006, Idaho updated 167 human health criteria for 88 chemicals. On May 10, 2012, EPA disapproved Idaho's 2006 update of 167 human health criteria for toxic substances (see IDAPA 58.01.02.210.01) and the use of 17.5 g/day fish consumption rate for human health criteria. This action was based on EPA's judgment that the fish consumption rate used in criteria derivation was not adequately protective. As a result of this action, the fish consumption rate of 6.5 g/day published in the 2005 version of IDAPA 58.01.02.210.05.b.i. continues to apply and is effective for federal Clean Water Act purposes. For more information regarding this EPA disapproval, go to http://www.deq.idaho.gov/epa-actions-on-proposed-standards.

211. -- 249. (RESERVED)

(Break in Continuity of Sections)

284. SOUTH FORK COEUR D'ALENE SUBBASIN, SUBSECTION 110.09, HUC 17010302, AQUATIC LIFE CRITERIA FOR CADMIUM, LEAD AND ZINC.

The following criteria are to be met dependent upon the hardness, expressed as mg/l of calcium carbonate, of the water. Criterion maximum concentrations (CMC), one (1) hour average concentrations, and criterion continuous concentrations (CCC), four (4) day average concentrations, of the dissolved metals (in µg/l) are not to exceed, more than once every three (3) years, the values calculated using the following equations: (3-15-02)

01. Cadmium. (3-15-02)

a. $CMC = 0.973 \times e^{[(1.0166 \times \ln(hardness)) - 3.924]}$ (3-15-02)

b. $CCC = [1.101672 - (\ln(hardness) \times 0.041838] \times e^{[(0.7852 \times \ln(hardness)) - 3.490]}$ (3-15-02)

02. Lead. (3-15-02)

a. $CMC = e^{[(0.9402 \times \ln(hardness)) + 1.1834]}$ (3-15-02)

b. $CCC = e^{[(0.9402 \times \ln(hardness)) - 0.9875]}$ (3-15-02)

03. Zinc. (3-15-02)

a. $CMC = e^{[(0.6624 \times \ln(hardness)) + 2.2235]}$ (3-15-02)

b. $CCC = e^{[(0.6624 \times \ln(hardness)) + 2.2235]}$ (3-15-02)

04. Application. (3-15-02)

a. The maximum hardness allowed for use in the equations in Section 284 shall not be greater than four hundred (400) mg/l even if the actual ambient hardness is greater than four hundred (400) mg/l. (3-15-02)

b. The criteria described in Section 284 apply to ~~the South Fork Coeur d'Alene River subbasin, units P-11 and P-13.~~ ~~(3-15-02)~~

~~**c.** In addition to the waters listed in subsection 284.04.b, the criteria described in Section 284 apply to~~ all surface waters within the subbasin, except for natural lakes, for which the statewide criteria given in Section 210 apply. ~~(3-15-02)~~

(Break in Continuity of Sections)

400. RULES GOVERNING POINT SOURCE DISCHARGES.

01. Implementation Policy. (7-1-93)

a. As provided for in Subsection 080.01, and Sections 200, 210, 250, 251, 252, 253, 275, and 400 for point source discharges, failure to meet general or specific water quality criteria is a violation of the water quality standards. (4-5-00)

b. No unauthorized discharge from a point source shall occur to waters of the state. (4-11-06)

02. Limitations to Point Source Restrictions. So long as a point source discharge or wastewater treatment facility is regulated by the terms and conditions of an authorization pursuant to Subsection 080.02, a Board order, decree or compliance schedule, or a valid NPDES permit issued by the EPA, the discharge or facility will not be subject to additional restrictions or conditions based on Subsection 080.01and Sections 200, 210, 250, 251, 252, and 253. (3-29-12)

03. Compliance Schedules for Water Quality-Based Effluent Limitations. Discharge permits for point sources may incorporate compliance schedules which allow a discharger to phase in, over time, compliance with water quality-based effluent limitations when new limitations are in the permit for the first time. (3-15-02)

04. Wetlands Used for Wastewater Treatment. (8-24-94)

a. Waters contained within wetlands intentionally created from non-wetland sites for the purpose of wastewater or stormwater treatment, and operated in compliance with NPDES permit conditions, shall not be subject to the application of general water quality-based or site-specific criteria and standards. (8-24-94)

b. Waters contained within wetlands intentionally created from non-wetland sites for the purpose of treatment of nonpoint sources of pollution, and operated in compliance with best management practices, shall not be subject to the application of general water quality-based or site specific criteria and standards. (8-24-94)

c. Discharges from treatment systems described in Sections 400.04.a. and 400.04.b. to waters of the state are subject to all applicable rules and requirements governing such discharges. (8-24-94)

05. Flow Tiered NPDES Permit Limitations. Discharge permits for point sources discharging to waters exhibiting unidirectional flow may incorporate tiered limitations for conventional and toxic constituents at the discretion of the department. (8-24-94)

06. Intake Credits for Water Quality-Based Effluent Limitations. Discharge permits for point sources may incorporate intake credits for water quality-based effluent limits. These credits are subject to the limitations specified in the Rules Regulating the Idaho Pollutant Discharge Elimination System Program in IDAPA 58.01.25.