ADOPTED REGULATION OF THE

STATE ENVIRONMENTAL COMMISSION

LCB File No. R158-06

Effective September 18, 2006

EXPLANATION – Matter in ***italics*** is new; matter in brackets **[**~~omitted material~~**]** is material to be omitted.

AUTHORITY: §1, NRS 445A.425 and 445A.520.

A REGULATION relating to water controls; revising the standards for toxic materials applicable to designated waters; and providing other matters properly relating thereto.

Section 1. NAC 445A.144 is hereby amended to read as follows:

445A.144 ***1.*** Except as otherwise provided in this section, the **[**~~following~~**]** standards for toxic materials ***prescribed in subsection 2*** are applicable to the waters specified in NAC 445A.123 to 445A.127, inclusive, and 445A.145 to 445A.225, inclusive. ***The following criteria apply to this section:***

(a) If the standards are exceeded at a site and are not economically controllable, the Commission will review and ***may*** adjust the standards for the site.

(b) If a standard does not exist for each designated beneficial use, a person who plans to discharge waste must demonstrate that no adverse effect will occur to a designated beneficial use. If the discharge of a substance will lower the quality of the water, a person who plans to discharge waste must meet the requirements of NRS 445A.565.

(c) If a criterion is less than the detection limit of a method that is acceptable to the Division, laboratory results which show that the substance was not detected shall be deemed to

show compliance with the standard unless other information indicates that the substance may be present.

2. The standards for toxic materials are:

Chemical	Municipal or Domestic Supply[1] (µg/l)	Aquatic Life[1,2] (µg/l)	Irrigation[1] (µg/l)	Watering of Livestock[1] (µg/l)
INORGANIC CHEMICALS[3]				
Antimony	146[a]	-	-	-
Arsenic	50[b]	-	100[c]	200[d]
~~[Arsenic (III)~~	~~-~~	~~-~~	~~-~~	~~-]~~
1-hour average	-	~~[342[a,g]]~~ ***340 [g,h]***	-	-
96-hour average	-	~~[180 [a,g]]~~ ***150 [g,h]***	-	-
Barium	2,000[b]	-	-	-
Beryllium	0[a]	-	100[c]	-
hardness <75 mg/l	-	-	-	-
hardness >= 75 mg/l	-	-	-	-
Boron	-	-	750[a]	5,000[d]
Cadmium	5[b]	-	10[d]	50[d]
1-hour average	-	~~[0.85exp{1.128 ln(H) 3.828}[a,g]]~~ ***(1.136672-{ln(hardness)(0.041838)})* e [(1.0166{ln(hardness)} - 3.924) g,h]***	-	-
96-hour average	-	~~[0.85exp{0.7852 ln(H) 3.490}[a,g]]~~ ***(1.101672-{ln(hardness)(0.041838)})* e [(0.7409{ln(hardness)} - 4.719) g,h]***	-	-
Chromium (total)	100[b]	-	100[d]	1,000[d]
Chromium (VI)	-	-	-	-
1-hour average	-	~~[15[a,g]]~~ ***16 [g,h]***	-	-
96-hour average	-	~~[10[a,g]]~~ ***11 [g,h]***	-	-

Chemical	Municipal or Domestic Supply[(1)] (µg/l)	Aquatic Life[(1,2)] (µg/l)	Irrigation[(1)] (µg/l)	Watering of Livestock[(1)] (µg/l)
Chromium (III)	-	-	-	-
1-hour average	-	~~[0.85exp{0.8190 ln(H)+3.688}[a,g]]~~ ***(0.316) * e [(0.8190{ln(hardness)} + 3.7256) g,h***	-	-
96-hour average	-	~~[0.85exp{0.8190 ln(H)+1.561}[a,g]]~~ ***(0.860) * e [(0.8190{ln(hardness)} + 0.6848) g,h***	-	-
Copper	-	-	200[d]	500[d]
1-hour average	-	~~[0.85exp{0.9422 ln(H)-1.464}[a,g]]~~ ***(0.960) * e [(0.9422{ln(hardness)} - 1.700) g,h***	-	-
96-hour average	-	~~[0.85exp{0.8545 ln(H)-1.465}[a,g]]~~ ***(0.960) * e [(0.8545{ln(hardness)} - 1.702) g,h***	-	-
Cyanide	200[a]	-	-	-
1-hour average	-	22~~[a]~~ ***h***	-	-
96-hour average	-	5.2~~[a]~~ ***h***	-	-
Fluoride	-	-	1,000[d]	2,000[d]
Iron	~~[~~	~~1,000[a]~~	~~5,000[d]~~	~~]~~
96-hour average	***-***	***1,000[h]***	***5,000[d]***	***-***
Lead	50[a,b]	-	5,000[d]	100[d]
1-hour average	-	~~[0.50exp{1.273 ln(H)-1.460}[a,g]]~~ ***(1.46203-{ln(hardness)(0.145712)})* e [(1.273{ln(hardness)} - 1.460) g,h***	-	-
96-hour average	-	~~[0.25exp{1.273 ln(H)-4.705}a[g]]~~ ***(1.46203-{ln(hardness)(0.145712)})* e [(1.273{ln(hardness)} - 4.705) g,h***	-	-
Manganese	-	-	200[d]	-
Mercury	2[b]	-	-	10[d]

Chemical	Municipal or Domestic Supply[(1)] (µg/l)	Aquatic Life[(1,2)] (µg/l)	Irrigation[(1)] (µg/l)	Watering of Livestock[(1)] (µg/l)
1-hour average	-	~~[2.0[a,g]]~~ ***1.4 [g,h]***	-	-
96-hour average	-	~~[0.012[a]]~~ ***0.77 [g,h]***	-	-
Molybdenum	-	19[e]	-	-
Nickel	13.4[a]	-	200[d]	-
1-hour average	-	~~[0.85exp{0.8460 ln(H)+3.3612}[a,g]]~~ ***(0.998) * e [(0.8460{ln(hardness)} + 2.255) g,h]***	-	-
96-hour average	-	~~[0.85exp{0.8460 ln(H)+1.1645}[a,g]]~~ ***(0.997) * e [(0.8460{ln(hardness)} + 0.0584) g,h]***	-	-
Selenium	50[b]	-	20[d]	50[d]
1-hour average	-	20[a]	-	-
96-hour average	-	5.0~~[a]~~ ***[h]***	-	-
Silver	~~[-~~	~~0.85exp{1.72 ln(H) 6.52}[a,g]~~	~~-~~	~~-]~~
1-hour average	-	***(0.85) * e [(1.72{ln(hardness)} - 6.59) g,h]***	-	-
Sulfide ***(*** undissociated hydrogen sulfide ***)***	~~[-~~	~~2[a]~~	~~-~~	~~-]~~
96-hour average	-	***2.0[h]***	-	-
Thallium	13[a]	-	-	-
Zinc	-	-	2,000[d]	25,000[d]
1-hour average	-	~~[0.85exp{0.8473 ln(H)+0.8604}[a,g]]~~ ***(0.978) * e [(0.8473{ln(hardness)} + 0.884) g,h]***	-	-
96-hour average	-	~~[0.85exp{0.8473 ln(H)+0.7614}[a,g]]~~ ***(0.986) * e [(0.8473{ln(hardness)} + 0.884) g,h]***	-	-
ORGANIC CHEMICALS				
Acrolein	320[a]	-	-	-

Chemical	Municipal or Domestic Supply[(1)] (µg/l)	Aquatic Life[(1,2)] (µg/l)	Irrigation[(1)] (µg/l)	Watering of Livestock[(1)] (µg/l)
Aldrin	0[a]	3[a]	-	-
Chlordane	0[a]	2.4[a]	-	-
24-hour average	-	0.0043[a]	-	-
2,4-D	100[a,b]	-	-	-
DDT & metabolites	0[a]	1.1[a]	-	-
24-hour average	-	0.0010[a]	-	-
Demeton	-	0.1[a]	-	-
Dieldrin	0[a]	2.5[a]	-	-
24-hour average	-	0.0019[a]	-	-
Endosulfan	75[a]	0.22[a]	-	-
24-hour average	-	0.056[a]	-	-
Endrin	0.2[b]	0.18[a]	-	-
24-hour average	-	0.0023[a]	-	-
Guthion	-	0.01[a]	-	-
Heptachlor	-	0.52[a]	-	-
24-hour average	-	0.0038[a]	-	-
Lindane	4[b]	2.0[a]	-	-
24-hour average	-	0.080[a]	-	-
Malathion	-	0.1[a]	-	-
Methoxychlor	100[a,b]	0.03[a]	-	-
Mirex	0[a]	0.001[a]	-	-
Parathion	-	-	-	-
1-hour average	-	0.065[a]	-	-
96-hour average	-	0.013[a]	-	-
Silvex (2,4,5-TP)	10[a,b]	-	-	-
Toxaphene	5[b]	-	-	-

Chemical	Municipal or Domestic Supply[(1)] (µg/l)	Aquatic Life[(1,2)] (µg/l)	Irrigation[(1)] (µg/l)	Watering of Livestock[(1)] (µg/l)
1-hour average	-	0.73[a]	-	-
96-hour average	-	0.0002[a]	-	-
Benzene	5[b]	-	-	-
Monochlorobenzene	488[a]	-	-	-
m-dichlorobenzene	400[a]	-	-	-
o-dichlorobenzene	400[a]	-	-	-
p-dichlorobenzene	75[b]	-	-	-
Ethylbenzene	1,400[a]	-	-	-
Nitrobenzene	19,800[a]	-	-	-
1,2-dichloroethane	5[b]	-	-	-
1,1,1-trichloroethane (TCA)	200[b]	-	-	-
Bis (2-chloroisopropyl) ether	34.7[a]	-	-	-
Chloroethylene (vinyl chloride)	2[b]	-	-	-
1,1-dichloroethylene	7[b]	-	-	-
Trichloroethylene (TCE)	5[b]	-	-	-
Hexachlorocyclopentadiene	206[a]	-	-	-
Isophorone	5,200[a]	-	-	-
Trihalomethanes (total)[f]	100[b]	-	-	-
Tetrachloromethane (carbon tetrachloride)	5[b]	-	-	-
Phenol	3,500[a]	-	-	-
2,4-dichlorophenol	3,090[a]	-	-	-
Pentachlorophenol	1,010[a]	-	-	-
1-hour average	-	exp{1.005 (pH)-4.830}[a]	-	-
96-hour average	-	exp{1.005 (pH)-5.290}[a]	-	-

Chemical	Municipal or Domestic Supply[(1)] (µg/l)	Aquatic Life[(1,2)] (µg/l)	Irrigation[(1)] (µg/l)	Watering of Livestock[(1)] (µg/l)
Dinitrophenols	70[a]	-	-	-
4,6-dinitro-2-methylphenol	13.4[a]	-	-	-
Dibutyl phthalate	34,000[a]	-	-	-
Diethyl phthalate	350,000[a]	-	-	-
Dimethyl phthalate	313,000[a]	-	-	-
Di-2-ethylhexyl phthalate	15,000[a]	-	-	-
Polychlorinated biphenyls				
(PCBs)	0[a]	-	-	-
24-hour average	-	0.014[a]	-	-
Fluoranthene	42[a]	-	-	-
(polynuclear aromatic hydrocarbon)				
Dichloropropenes	87[a]	-	-	-
Toluene	14,300[a]	-	-	-

Footnotes *:* ~~[and References]~~

(1) Single concentration limits and 24-hour average concentration limits must not be exceeded. One-hour average and 96-hour average concentration limits may be exceeded only once every 3 years. See reference a.

(2) ~~[Hardness (H) is expressed as mg/1 CaCO3.]~~

~~[(3) If a criterion is less than the detection limit of a method that is acceptable to the Division, laboratory results which show that the substance was not detected will be deemed to show compliance with the standard unless other information indicates that the substance may be present.~~

~~(4) If a standard does not exist for each designated beneficial use, a person who plans to discharge waste must demonstrate that no adverse effect will occur to a designated beneficial use. If the discharge of a substance will lower the quality of the water, a person who plans to discharge waste must meet the requirements of NRS 445A.565.~~

~~(5)]~~ ***Aquatic life standards apply to surface waters only; "hardness" is expressed as mg/L $CaCO_3$; and "e" refers to the base of the natural logarithm whose value is 2.718.***

(3) The standards for metals are expressed as total recoverable, unless otherwise noted.

References:

a. U.S. Environmental Protection Agency, Pub. No. EPA 440/5-86-001, *Quality Criteria for Water* (Gold Book) (1986).

b. Federal Maximum Contaminant Level (MCL), 40 C.F.R. §§ 141.11, 141.12, 141.61 and 141.62 (1992).

c. U.S. Environmental Protection Agency, Pub. No. EPA 440/9-76-023, *Quality Criteria for Water* (Red Book) (1976).

d. National Academy of Sciences, *Water Quality Criteria* (Blue Book) (1972).

e. California State Water Resources Control Board, Regulation of Agricultural Drainage to the San Joaquin River: Appendix D, Water Quality Criteria (March 1988 revision).

f. The criteria for trihalomethanes (total) is the sum of the concentrations of bromodichloromethane, dibromochloromethane, tribromomethane (bromoform) and trichloromethane (chloroform). See reference b.

g. This standard applies to the dissolved fraction.

h. U.S. Environmental Protection Agency, National Recommended Water Quality Criteria, May 2005.

NOTICE OF ADOPTION OF PROPOSED REGULATION
LCB File No. R158-06

The State Environmental Commission adopted regulations assigned LCB File No. R158-06 which pertain to chapter 445A of the Nevada Administrative Code on September 6, 2006.

Notice date: 8/7/2006
Hearing date: 9/6/2006
Date of adoption by agency: 9/6/2006
Filing date: 9/18/2006

INFORMATIONAL STATEMENT

This regulation proposes certain revisions to the water quality standards related to the aquatic life beneficial use for the inorganic chemicals contained in NAC 445A.144, "Standards for Toxic Materials Applicable to Designated Waters". Water quality standards contained in NAC 445A.144, which are referred to as the Toxics Standards, were last amended in 1995. This regulation presents the proposed revisions to update only the aquatic life water quality standards for just the inorganic chemicals prescribed in NAC 445A.144. These proposed revisions are based on new or revised water quality criteria that have been recommended by the U.S. Environmental Protection Agency (EPA) for protection of aquatic life.

1. A description of how <u>public comment</u> was solicited, a summary of public response, and an explanation how other interested persons may obtain a copy of the summary.

The Nevada Division of Environmental Protection (NDEP) held 3 workshops on the above referenced regulation. The purpose of the workshops was to inform the public and regulated community about the proposed regulatory changes and solicit comments from interested persons. Time and location of the workshop are noted below.

Carson City	**Las Vegas**	**Elko**
May 23, 2006 2:00 p.m. – 4:00 p.m. Department of Conservation & Natural Resources Richard H. Bryan State Office Building 901 South Stewart Street Multi-Purpose Conference Room, 1st Floor Carson City, Nevada 89701-5249	May 25, 2006 1:00 p.m. – 3:00 p.m. Division of Environmental Protection Las Vegas Office 1771 East Flamingo Road, Suite 121-A Las Vegas, Nevada 89119-0837	June 1, 2006 10:00 a.m. – 12:00 p.m. Elko Convention Center Cedar Room 700 Moren Way Elko, Nevada 89801

In response to the workshops, comments were received from the following entities:

- City of Las Vegas letters dated June 14, 2006 and June 28, 2006
- City of Henderson letters dated June 15, 2006 and June 29, 2006
- Truckee Meadows Water Reclamation Facility letter dated June 16, 2006
- Humboldt River Basin Water Authority letter dated June 16, 2006
- Southern Nevada Water Authority letter dated June 16, 2006
- Nevada Mining Association letter dated June 16, 2006
- AngloGold Ashanti (Nevada) Corporation letter dated June 19, 2006
- Clark County Water Reclamation District letter dated June 23, 2006
- Southern Nevada Water System letter dated July 5, 2006

The draft regulation was subsequently changes to reflect comments submitted by these organizations. A formal comment / response document was prepared and is posted on the SEC website at: http://www.sec.nv.gov/docs/p2006-14_rationale.pdf

In addition to the workshops noted above, the State Environmental Commission (SEC) held a public hearing to consider this regulation on September 06, 2006 at the at the Nevada Department of Wildlife's Conference Room A, 1100 Valley Road, Reno, Nevada.

2. The number persons who attended the SEC Regulatory Hearing:

(a) Attended SEC hearing on (month / date); 70
(b) Testified on this Petition at the hearing: 1 (NDEP Staff)
(c) Submitted to the agency written comments: 9 formal comment letters, see http://www.sec.nv.gov/docs/p2006-14_rationale.pdf

3. A description of how comment was solicited from affected businesses, a summary of their response, and an explanation how other interested persons may obtain a copy of the summary.

Comments were solicited from affected businesses as indicated in number 1 above. Comments were also solicited by State Environmental Commission (SEC) in the SEC notice in the newspapers, by direct mail to interested persons subscribing to the SEC electronic and ground-based mailing list. Regarding the regulatory hearing, the regulation was noticed by the State Environmental Commission (SEC) in the Las Vegas Review Journal (LVRJ) and Reno Gazette Journal (RGJ) newspapers on the following dates: Monday, August 15, 2006, Monday, August 22, 2006 and Monday, August 29, 2006

The public notice for the referenced SEC meeting was also sent to county libraries throughout the state and the proposed regulation was made available for public inspection at the State Library in Carson City, and at the offices of the Nevada Division of Environmental Protection in Carson City and Las Vegas. The workshop notice, the proposed regulation, the SEC public notice and the SEC meeting agenda were also made available on SEC Website at: http://www.sec.nv.gov/main/hearing_0906.htm

4. If the regulation was adopted without changing any part of the proposed regulation, a summary of the reasons for adopting the regulation without change.

No changes were proposed at the State Environmental Commission Hearing, either by NDEP staff, the public or the Commission. Consensus on the proposed changes was obtained prior to the Hearing, during the drafting and public workshop process.

5. The estimated economic effect of the adopted regulation on the business, which it is to regulate, and on the public.

No anticipated economic effects will result from adoption of this regulation

6. The estimated cost to the agency for enforcement of the adopted regulation.

There will be no additional costs to the Nevada Division of Environmental Protection for implementing this regulation.

7. A description of any regulations of other state or government agencies which the proposed regulation overlaps or duplicates and a statement explaining why the duplication or overlapping is necessary. If the regulation overlaps or duplicates a federal regulation, the name of the regulating federal agency.

The regulation does not overlap or duplicate any regulations of other state, federal or local agencies. In fact, the federal government has delegated the responsibility of establishing water quality standards to the state; therefore, there is no federal regulation for proposed water quality standards revisions. Revisions of the standards will be submitted to the EPA Regional Administration for review and approval.

8. If the regulation includes provisions which are more stringent than a federal regulation, which regulates the same activity, a summary of such provisions.

The regulation is no more stringent than what is established by federal law.

9. If the regulation provides a new fee or increases an existing fee, the total annual amount the agency expects to collect and the manner in which the money will be used.

This regulation does not address fees changes.