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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION I
J.F. KENNEDY FEDERAL BUILDING, BOSTON, MASSACHUSETTS 02203-2211

March 10, 1993

Deborah Stockdale, RPM
U.S. Department of the Navy
Northern Division
10 Industrial Highway
Code 1823, Mail Stop 82
Lester, PA 19113-2090

RE: US Navy's Response to EPA Comments on the Draft Phase II Remedial Investigation, Naval Submarine Base - New London, dated November 1992.

Dear Ms Stockdale:

Attached you will find EPA's evaluation of the Navy's response to comments on the Phase II RI workplan and copy of the most current "Drinking Water Regulations and Health Advisories, November 1992". EPA's evaluation follows, whenever possible, the number assignment from the original set of comments. The first section of this evaluation addresses Attachment I from the Navy's response to comments, while the remaining sections of this letter consist of EPA's original comment and an evaluation of the Navy's response.

The Navy should review the outstanding issues identified in this letter, revise the Phase II remedial investigation workplan to be consistent with these attached comments and submit to EPA.

If there are any questions with these comments, you should feel free to call me at 617/573-9614.

Sincerely,

Andrew F. Miniuks

Andrew F. Miniuks, Remedial Project Manager
Federal Facilities Superfund Section

cc. Jack Harvanek, EPA
Jui-Yu Hsieh, EPA
Charles Porfert, EPA
Patti Lynne Tyler, EPA
Dale Weiss, TRC
Paul Jameson, CTDEP

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General Comments

Human Health Risk Assessment

Comments on Table 4-34/4-35 of Attachment I from the Navy's Response to Comments, date received by EPA February 17, 1993.

EPA's Comment on Navy Response

1. Some of the ARAR values listed in these tables have been updated. Attachment 1 is a table of the updated drinking water regulations and health advisories.

2. Ambient Water Quality Criteria are set for surface waters, and therefore, should not be referenced as "To Be Considered" values.

3. The final Maximum Concentration Limits (MCLs) for bis (2-ethylhexyl) phthalate and PCBs have been set at 6 ppb and 0.5 ppb respectively.

4. SMCLs are set for aesthetic rather than health reasons. Therefore, these values should be referenced as "To Be Considered" values.

5. The following are updated promulgated MCLs for the respective inorganic constituents:

- antimony	6	ppb
- barium	2000	ppb
- beryllium	4	ppb
- chromium	100	ppb
- copper	13000	ppb
- selenium	50	ppb
- thallium	2	ppb
- cyanide	200	ppb
- Gross Alpha	15	pCi/L
- Gross Beta	4	mRem

Revise these tables to reflect the updated and promulgated MCLs.

6. The MCL for silver has been deleted from the list of Drinking Water Standards and Health Advisories. Revise the tables accordingly.

7. Zinc has a lifetime Health Advisory (HA) of 2000 ppb. Revise the tables accordingly.

Phase II Remedial Investigation Workplan

General Comments

Original EPA Comment

6. Based on the information presented in the Draft Work Plan, air pathway analyses for pollutants, in addition to VOCs, are required. EPA suggests that the US Navy revise the workplan to include, at a minimum, the monitoring of the air pathways for lead, polychlorinated biphenols (PCBs), DDT, and other semi-volatiles.

   The US Navy should develop an air monitoring plan for the site investigation. For reference, the US Navy should review the four volume Air/Superfund National Technical Guidance Study (NTGS) Series, as well as the attached Air Sampling Plan guidance (see Attachment A).

EPA's Comment on Navy Response

A review of the Navy's response to the need to conduct routine air monitoring, and the statement by the Navy of de minimis risk associated with inhalation pathway exposure via fugitive dust, EPA agrees that at this time, routine monitoring of air exposure is not required. However, during invasive remedial activities, additional monitoring of the inhalation pathway exposure, via fugitive dust, may be required.

The Navy states that a Standard Operating Procedure (SOP) for air sampling will be provided, however, this has not yet been submitted for review. It has been EPA's experience that the submitted SOP's are often deficient. Therefore, the Navy should consider submitting, and receive approval for, an air monitoring SOP prior to the initiation of sampling activities.

Original EPA Comment

7. The draft workplan includes only brief references to the previously detected contamination, resulting in inadequate justification to support the proposed sampling locations. Additional figures which depict the extent of contamination are necessary to support the proposed sampling plan.

   Provide maps which show the aerial and vertical extent of contamination which has been previously detected at the Step II Sites.

EPA's Comment on Navy Response

Modify the tables in Section 7.0 to include a columns of "Data Gaps" which will provide additional support for the various sampling efforts.

Original EPA Comment

17. Modify the workplan to ensure that the ecological risk assessment include the analysis of full TAL and TCL Volatile Organic Compounds (VOCs), Semi-Volatile Organic Compounds (SVOCs), pesticides and PCBs for all surface water and sediment samples, as well as Total Organic Carbon (TOC) and grain size analyses in sediments. Fresh water samples also require the analysis of hardness.

EPA's Comment on Navy Response

It is agreed that sampling in the Area A wetlands has been extensive, and the full TAL/TCL analysis is not necessary. Since previous sampling efforts in the Area A Downstream/OBDA have been sparse, additional sampling requires the full TAL/TCL analysis.

Therefore, modify the workplan to include, at a minimum, full TAL and TCL analysis at proposed sampling locations 2DSD24, 2DSD25, and 2DSD27.

In the OBDA area, previous analytical results, specifically at sampling location 3SD4, showed elevated levels of arsenic (39.9 ppm), cadmium (30.1 ppm), copper (105 ppm), lead (189 ppm), selenium (3.2 ppm), and zinc (416 ppm). Elevated levels of PAHs were also noted. This would indicate that proposed additional samples would require the analysis of the full TAL and TCL.

In order to confirm the extent of contamination, revise the workplan to include full TAL and TCL analysis for additional samples taken at five additional locations 2DSD24 through 2DSD29.

Original EPA Comment

18. EPA suggests that the US Navy consider the Connecticut Arboretum across the Thames River in New London as one of the possible sources of surface water, soil and sediment background data. Although this area is separated from the base by the river, it is possible that it may resemble background conditions of the area.

EPA's Comment on Navy Response

The Navy has decided that sediment and surface water samples will be collected upstream for background determination. In order to evaluate the entire sampling plan, it is essential to know the specific proposed locations for background samples for surface water and sediment.

On page 101 of the workplan, the Navy stated that prior to initiating the quantitative benthic survey, approval for the reference locations will be sought from BTAG. These locations have not been approved by the BTAG to this date.

In order to avoid any delays with the proposed field work, the approval process should be initiated shortly. Identify the specific reference locations to be used for the quantitative benthic survey and incorporate these into the workplan to avoid any delays at a later date.

Specific Comments

Original EPA Comment

2. Section 1.0 - Introduction (Page 4)

Modify this figure to include the location of the former incinerator, Pier 33, Berth 16/Former Incinerator, the fuel farm, and the Area "A" Downstream zone of investigation. Include in the workplan modification a brief discussion of the known and suspected contamination at these sites.

EPA's Comment on Navy Response

Modify the workplan to include a map of all potential sources areas. Since many of the non-IRP sites are located up-gradient or adjacent to sites being investigated under the IRP, it is important to identify the location of other potential sources of contamination. Sufficient sampling locations should be positioned to separate groundwater and surface water contamination from adjacent sites.

Original EPA Comment

26. Section 4.4.1. Toxicity Assessment for Non-carcinogenic Effects (Page 82 ¶4)

The lead uptake/biokinetics model is developed for evaluation of lead exposure in children, and therefore should not be used for evaluation of adult population.

Revise the workplan to delete the reference to the use of the lead uptake/biokinetics model for the adult population.

EPA's Comment on Navy Response

If the Navy would like to submit, for EPA review, the proposed modifications to the IU/BK Model of lead in an adult, then this would be acceptable. At this time however, the IU/BK model can not be modified to simulate lead exposures in adults and therefore, the use of this model should be limited to the section defining uncertainty.

In addition, it should be noted that children under the age of six years, rather than adults, are the subpopulation of concern due to the nature of the adverse health effects of very low blood lead levels for this age group.

Original EPA Comment

27. Section 4.4.1. Toxicity Assessment for Non-carcinogenic Effects (Page 83 ¶1)

Revise the workplan to cite the Dermal Exposure Assessment Guidance for the dermal exposure pathway. Include in this revision the use of the absorption factors for a few chemicals in soil and the recommended permeability constants for surface water.

EPA's Comment on Navy Response

EPA - Region I has previously recommended the use of the upper-bound of percent absorbed for polychlorinated compounds (e.g., 3% for polychlorinated dibenzo-p-dioxins and polychlorinated dibenzofurans, 6% for all polychlorinated biphenols and aroclors). Other compounds, such as TCCD, TCB and cadmium, should be assessed qualitatively in the uncertainty section.

Original EPA Comment

28. Section 4.4.1. Toxicity Assessment for Non-carcinogenic Effects (Page 83 ¶2)

Revise the workplan to incorporate the oral cancer potency factor for benzo(a)pyrene. The standard is 7.3 per mg/kg/day (as opposed to 5.8 per mg/kg/day recommended earlier; the change is due to the detection of a mathematical error) which is currently on IRIS.

Since the relative toxicity equivalent factor approach has not been finalized by EPA, it should not be presented in this workplan. Revise the workplan to reflect the status of the toxicity factor and delete references to other regions' approaches to risk assessment.

EPA's Comment on Navy Response

Although two sets of Toxicity Equivalent Factor (TEF) values have been listed in the 1991 Drinking Water Criteria for Polynuclear Aromatic Hydrocarbons (PAHs), the document does not recommend the use of the TEF approach before EPA has completed a critical review and analysis of the approach.

Furthermore, according to Part III, the Navy should evaluate the appropriateness of using the proposed surrogate RfDs issued by ECAO. More specifically, on page 3 of the risk assessment issues paper for the status of PAHs, ECAO also recommends that the use of the TEF approach at this time would be inappropriate. Thus, it is the interim policy of EPA - Headquarters, not Region I, which prohibits the acceptance of the TEF approach.

Original EPA Comment

30. Section 5.3.2.4. In-field Earthworm Bioassays Using Sediment (Page 100, ¶2)

The text proposes to use terrestrial (as opposed to aquatic) worms in bioassay chambers placed at the pond bank. There are several concerns with this approach:

- The method proposes to use terrestrial earthworms to assess the toxicity of an aquatic substrate.
- The sediments for the test will be relocated from within the pond to the pond bank, where the sediments are not truly "in-situ."

Provide further justification for this approach including references which describe previous studies where terrestrial earthworms have been used to assess aquatic sediment toxicity.

Clarify the methodology proposed for performing in-field bioassays, in particular, explain why standard ASTM laboratory sediment toxicity tests are not being performed.

EPA's Comment on Navy Response

There is still some question as to the validity of using earthworms for sediment bioaccumulation assays. The response cited the need for sufficient tissue mass for chemical analysis. While that need is recognized, it is questionable as to whether earthworms are appropriate surrogates for benthic invertebrates. It is felt that assessment of the benthic environment may better be served through the use of actual benthic inhabitants.

Since the required tissue mass for DDT analysis is only approximately 1 gram dry weight, other species more suited to the benthic environment may serve the purpose.

As an example, bioassays have been performed using Chironomus tentans larvae, placed in Nytex envelopes, submerged in the sediments for the duration of the test period. Sufficient numbers of larvae could produce the tissue mass required for analysis.

Although it is recommended that Lumbricus terrestris not be used, the following suggestions on it's use are made based on a conversation with Clarence Callahan (EPA) on March 5, 1993.

Although L. terrestris may survive in a submerged situation, they will be stressed, and such a test will not reflect their normal metabolism. The organisms may actually accumulate additional contaminants due to absorbing and excreting large quantities of water.

Reference: Novak, M.A., Riley, A.A., Bush, B., and Shane, L., In situ determination of PCB congener specific first-order absorption/desorption rate constants using Chironomus tentans larvae, Water Research, Vol. 24, No. 3, pp. 321-327.

The removal of sediments to the banks of the wetland cannot be correctly called an in situ test. This is not simply a problem of semantics. The sediments may compact and dry once out of the water, forming an impermeable mass that the earthworms can't penetrate. This test could be performed better in a laboratory setting where better monitoring of the test could be done. In either setting, consideration should be given to mixing in 50/50 ratio of sample and reference sediment to prevent hardening of the sediment, depending upon the expected DDTR concentrations. In addition, it is suggested that the containers be opened at 24 hours, and every 7 days to ensure that the worms are in fact burrowing into the sediment.

Therefore, if in situ tests are to be performed the test species used should be Chironomus tentans. However, if laboratory tests are performed, another species of Lumbricus should be used, not terrestris.

Original EPA Comment

54. Section 7.2.3. Goss Cove (Page 148, ¶4)

Revise the workplan to clearly state the specific criteria which will be employed in determining how the results from the field screening will be used to determine if additional borings are required.

Composited samples may be used to generally characterize the nature of the fill material as a potential source of any contaminants detected in the area of the landfill. However, composited samples will not "properly characterize the nature, extent and degree of contamination." Composited samples would potentially result in the dilution of contaminants and therefore, would be an inappropriate representation of the degree of contamination.

Revise the workplan to ensure that all subsurface soil samples (especially samples for VOC analysis) will be collected as discrete grab samples.

EPA's Comment on Navy Response

Revise the workplan to state that samples will not be composited. Samples should be collected based on visual observation and field screening measurements. Compositing of samples for parameters, other than Volatile Organic Compounds (VOCs), may be acceptable only if insufficient volume is available for all of the analyses.

Original EPA Comment

56. Figure 7-5 Field Sampling Plan Goss Cove Landfill (Page 154)

The US Navy should consider gathering an additional sample along the bank of the Thames River north and upstream of the pier, yet south and downstream of the storm drain outfall. It is recommended that the sample analysis include CLP TAL and TCL, TPH, TOC and a grain size determination.

Revise the workplan to include, as a water quality parameter, the measurement of water hardness for surface water samples.

Navy Response

A sample location is already proposed just north of this location and as this area is subject to tidal currents, significant differences between adjacent sample locations are not expected. If this particular location is of concern, the plan will be revised to show the proposed Goss Cove sample location at this location.

EPA's Comment on Navy Response

No sample location is visible on the Goss Cove map (Figure 7-5, p. 154 in the Field Sampling Plan) in the Thames River immediately north of the proposed location. This specific sampling location (north and upstream of the pier, yet south and downstream of the storm drain outfall) is of concern to EPA, as this area is suspected of potential discharges.

Original EPA Comment

60. Table 7-19, Chemical Investigation, Surface Water North Lake (Page 164)

This statement states that surface water will be taken "during non-summer months and/or when the lake is drained." Revise the workplan to ensure that the surface water samples will be collected prior to the actual draining of the lake.

The same logic would apply to the collection of sediment samples from the North Lake. Revise the workplan to ensure that the sediment samples will be collected prior to the actual draining of the lake.

EPA's Comment on Navy Response

For clarification purposes, the workplan should state that surface water and sediment samples will be taken at proposed sampling locations prior to the actual draining of the lake.

Original EPA Comment

65. Section 7.3.3. Lower Sub Base (Page 177 ¶3)

The US Navy has previously reported that VOCs such as vinyl chloride, benzene and floating product layers have been detected in groundwater.

Revise the workplan to include the determination of the extent of VOC contamination in groundwater as one of the goals of the Phase II RI.

67. Table 7-25 Lower Sub Base (Page 181)

Revise the workplan to include the installation of additional groundwater monitoring wells in the area of 13MW5 and the tanks in order to determine the extent of the floating layer observed at this location.

Revise the Remedial Investigation Objectives of the workplan to include determining the extent of VOC contamination in groundwater.

EPA's Comment on Navy Response

The should review the proposed sampling approach for the area surrounding the former power house tanks and suggest an approach which will allow adequate characterization of the subsurface. Suggested investigative techniques include microwells, angle borings and geophysical methods.

PROPOSED FIELD SAMPLING PLAN

Specific Comments

6. Section 4.1.4.1. Monitoring Well Construction (Page 20 ¶3)

Revise the workplan to ensure that the maximum well screen length will be no greater than 10 feet.

Revise the workplan to indicate that the mud rotary drilling method will only be used as a last resort if no other well installation methods are successful.

EPA's Comment on Navy Response

No well screens shall be longer than ten (10) feet. If the thickness of the saturated overburden is such that longer well screens are desired, then additional wells should be installed.

Revise the workplan to state that mud rotary drilling will only be used after all other methods have failed. EPA - Region I only authorizes the use of mud rotary drilling in extremely deep wells (typically over 200 feet).

11. Section 4.2.2.4. Spent Acid Storage and Disposal Area (Page 47 ¶5)

Revise the workplan to include the collection of a complete round of monthly water level measurements for all monitoring wells on the base to produce a series of groundwater elevation maps. These groundwater maps would depict the groundwater flow directions and flow divides.

EPA's Comment on Navy Response

A subset of 20-30 well clusters should be identified as candidates for monthly water level measurements. The objectives of the water level measurements are to determine: seasonal changes in vertical gradients; annual variation in water levels; hydraulic connection between the Thames River, overburden and bedrock; response of water levels to precipitation events.

In addition to aiding the characterization of the subsurface hydrogeology, this data will be required at any of the sites where capping or groundwater treatment will be considered as a remedial alternative.

The list of proposed wells should be included in the revised workplan or submitted to EPA separately for review.

Quality Assurance/Quality Control &
Data Management Plan

Specific Comments

Original EPA Comment

14. Section 9.1 Laboratory Data Management (Page 24 ¶4)

Revise the workplan to include a description of the format in which laboratory data will be presented in the Phase II RI Report. This description should include the sample identification, the analysis method, the laboratory sample identification and date sampled.

The Phase I RI Report provided summaries of results only for those analytes detected at least once in the samples listed. No detection limits for undetected analytes were provided. This type of presentation is insufficient.

The Phase II RI Report should have, available upon EPA request, an appendix containing the complete validated analytical results for all parameters analyzed. The appendix should be formatted and cross-referenced such that specific analysis results can be located for review.

Revise the workplan to ensure that all of the analytical information is available to EPA for review.

EPA's Comment on Navy Response

The response to the comment is answered by reference to Attachment 1 - Data Format Examples. These examples do not address all of EPA's concerns.

Modify the data format examples to include: the identification of the analytical methods (e.g., gross alpha, boron, CLP SOW identification); identify the detection limits; and identify the sample collection and analysis dates.

DRINKING WATER REGULATIONS

AND HEALTH ADVISORIES

by

Office of Water
U.S. Environmental Protection Agency
Washington, D.C.
202-260-7571

SAFE DRINKING WATER HOTLINE
1-800-426-4791
Monday thru Friday, 8:30 AM to 5:00 PM EST

November 1992

LEGEND

Abbreviations column descriptions are:

MCLG - Maximum Contaminant Level Goal. A non-enforceable concentration of a drinking water contaminant that is protective of adverse human health effects and allows an adequate margin of safety.

MCL - Maximum Contaminant Level. Maximum permissible level of a contaminant in water which is delivered to any user of a public water system.

RfD - Reference Dose. An estimate of a daily exposure to the human population that is likely to be without appreciable risk of deleterious effects over a lifetime.

DWEL - Drinking Water Equivalent Level. A lifetime exposure concentration protective of adverse, non-cancer health effects, that assumes all of the exposure to a contaminant is from a drinking water source.

(*) The codes for the Status Reg and Status HA columns are as follows:

F - final
D - draft
L - listed for regulation
P - proposed (Phase II and V proposals)
T - tentative

Other codes found in the table include the following:

NA - not applicable
PS - performance standard 0.5 NTU - 1.0 NTU
TT - treatment technique

** - No more than 5% of the samples per month may be positive. For systems collecting fewer than 40 samples/month, no more than 1 sample per month may be positive.

*** - guidance

- Large discrepancies between Lifetime and Longer-term HA values may occur because of the Agency's conservative policies, especially with regard to carcinogenicity, relative source contribution, and less than lifetime exposures in chronic toxicity testing. These factors can result in a cumulative UF (uncertainty factor) of 10 to 1000 when calculating a Lifetime HA.

Drinking Water Standards and Health Advisories

Chemicals	Standards			Status HA*	Health Advisories								Cancer Group
					10-kg Child			70-kg Adult					
	Status Reg.*	MCLG (mg/l)	MCL (mg/l)		One-day (mg/l)	Ten-day (mg/l)	Longer-term (mg/l)	Longer-term (mg/l)	RfD (mg/kg/day)	DWEL (mg/l)	Lifetime (mg/l)	mg/l at 10^{-4} Cancer Risk	
ORGANICS													
Acenaphthene	-	-	-	-	-	-	-	-	0.06	-	-	-	-
Acifluorfen	-	-	-	F	2	2	0.1	0.4	0.013	0.4	-	0.1	B2
Acrylamide	F	zero	TT	F	1.5	0.3	0.02	0.07	0.0002	0.007	-	0.001	B2
Acrylonitrile	L	-	-	D	-	-	-	-	-	-	-	***0.006***	B1*
Adipates (diethylhexyl)	P	0.5	0.5	-	-	-	-	-	0.7	20	0.5	-	C
Alachlor	F	zero	0.002	F	0.1	0.1	-	-	0.01	0.4	-	0.04	B2
Aldicarb	F	0.001	0.003	F	-	-	-	-	0.0002	***0.007***	0.001	-	D*
Aldicarb sulfone	F	0.001	0.002	F	-	-	-	-	0.0002	***0.007***	0.001	-	D*
Aldicarb sulfoxide	F	0.001	0.004	F	-	-	-	-	0.0002	***0.007***	0.001	-	D*
Aldrin	-	-	-	D	0.0003	0.0003	0.0003	0.0003	0.00003	0.001	-	0.0002	B2
Ametryn	-	-	-	F	9	9	0.9	3	0.009	0.3	0.06	-	D
Ammonium sulfamate	-	-	-	F	20	20	20	80	0.28	8	2	-	D
Anthracene (PAH)	-	-	-	-	-	-	-	-	0.3	-	-	-	D
Atrazine	F	0.003	0.003	F	0.1	0.1	0.05	0.2	0.005	0.2	0.003	-	C
Baygon	-	-	-	F	0.04	0.04	0.04	0.1	0.004	0.1	0.003	-	C
Bentazon	L	-	-	F	0.3	0.3	0.3	0.9	0.0025	0.09	0.02	-	D
Benz(a)anthracene (PAH)	P	zero	0.0001	-	-	-	-	-	-	-	-	-	B2
Benzene	F	zero	0.005	F	0.2	0.2	-	-	-	-	-	0.1	A
Benzo(a)pyrene (PAH)	F R	zero	0.0002	-	-	-	-	-	-	-	-	-	B2*
Benzo(b)fluoranthene (PAH)	P	zero	0.0002	-	-	-	-	-	-	-	-	-	B2
Benzo(g,h,i)perylene (PAH)	-	-	-	-	-	-	-	-	-	-	-	-	D
Benzo(k)fluoranthene (PAH)	P	zero	0.0002	-	-	-	-	-	-	-	-	-	B2
bis-2-Chloroisopropyl ether	-	-	-	F	4	4	4	13	0.04	1	0.3	-	D
Bromacil	L	-	-	F	5	5	3	9	0.13	5	0.09	-	C
Bromobenzene	L	-	-	D	-	-	-	-	-	-	-	-	-

* Under review.

NOTE: Anthracene and Benzo(g,h,i)perylene — not proposed in Phase V.

NOTE: Changes from the last version are noted in Italic and Bold Face print.

Drinking Water Standards and Health Advisories

Chemicals	Standards			Status HA*	Health Advisories								Cancer Group
					10-kg Child			70-kg Adult					
	Status Reg.*	MCLG (mg/l)	MCL (mg/l)		One-day (mg/l)	Ten-day (mg/l)	Longer-term (mg/l)	Longer-term (mg/l)	RfD (mg/kg/day)	DWEL (mg/l)	Lifetime (mg/l)	mg/l at 10^{-4} Cancer Risk	
Bromochloroacetonitrile	L	-	-	D	-	-	-	-	-	-	-	-	-
Bromochloromethane	-	-	-	F	60	1	1	5	0.013	0.5	0.09	-	-
Bromodichloromethane (THM)	L	-	0.1	D	7	7	4	13	0.02	0.7	-	*0.06*	B2
Bromoform (THM)	L	-	0.1	D	5	2	2	6	0.02	0.7	-	0.4	B2
Bromomethane	L	-	-	F	0.1	0.1	0.1	0.5	0.001	0.05	0.01	-	D
Butyl benzyl phthalate (PAE)	P	zero	0.1	-	-	-	-	-	0.2	6	-	-	C
Butylate	-	-	-	F	2	2	1	4	0.05	2	0.35	-	D
Butylbenzene n-	-	-	-	D	-	-	-	-	-	-	-	-	-
Butylbenzene sec-	-	-	-	D	-	-	-	-	-	-	-	-	-
Butylbenzene tert-	-	-	-	D	-	-	-	-	-	-	-	-	-
Carbaryl	-	-	-	F	1	1	1	1	0.1	4	0.7	-	D
Carbofuran	F	0.04	0.04	F	0.05	0.05	0.05	0.2	0.005	0.2	0.04	-	E
Carbon tetrachloride	F	zero	0.005	F	4	0.2	0.07	0.3	0.0007	0.03	-	0.03	B2
Carboxin	-	-	-	F	1	1	1	4	0.1	4	0.7	-	D
Chloral hydrate	L	-	-	D	7	1.4	*0.2*	*0.6*	*0.0002*	*0.07*	*0.06*	-	*C*
Chloramben	-	-	-	F	3	3	0.2	0.5	0.015	0.5	0.1	-	D
Chlordane	F	zero	0.002	F	0.06	0.06	-	-	0.00006	0.002	-	0.003	B2
Chlorodibromomethane (THM)	L	-	0.1	D	7	7	2	8	0.02	0.7	0.06	-	C
Chloroethane	L	-	-	D	-	-	-	-	-	-	-	-	-
Chloroform (THM)	L	-	0.1	D	4	4	0.1	0.4	0.01	0.4	-	0.6	B2
Chloromethane	L	-	-	F	9	0.4	0.4	1	0.004	0.1	0.003	-	C
Chlorophenol (2-)	-	-	-	D	0.05	0.05	0.05	0.2	0.005	0.2	0.04	-	D
p-Chlorophenyl methyl sulfide/sulfone/sulfoxide	-	-	-	**	-	-	-	-	-	-	-	-	D
Chloropicrin	L	-	-	-	-	-	-	-	-	-	-	-	-
Chlorothalonil	-	-	-	F	0.2	0.2	0.2	0.5	0.015	0.5	-	0.15	B2
Chlorotoluene o-	L	-	-	F	2	2	2	7	0.02	0.7	0.1	-	D
Chlorotoluene p-	L	-	-	F	2	2	2	7	0.02	0.7	0.1	-	D
Chlorpyrifos	-	-	-	D	0.03	0.03	0.03	0.1	0.003	0.1	0.02	-	D
Chrysene (PAH)	P	zero	0.0002	-	-	-	-	-	-	-	-	-	B2
Cyanazine	L	-	-	F	0.1	0.1	0.02	0.07	*0.002*	*0.07*	0.001	-	C

*** A HA will not be developed due to insufficient data; a "Database Deficiency Report has been published.*

NOTE: Chrysene was proposed in second option.

Drinking Water Standards and Health Advisories

Chemicals	Standards			Status HA*	Health Advisories								Cancer Group
					10-kg Child			70-kg Adult					
	Status Reg.*	MCLG (mg/l)	MCL (mg/l)		One-day (mg/l)	Ten-day (mg/l)	Longer-term (mg/l)	Longer-term (mg/l)	RfD (mg/kg/day)	DWEL (mg/l)	Lifetime (mg/l)	mg/l at 10^{-4} Cancer Risk	
Cyanogen chloride	L	-	-	-	-	-	-	-	-	-	-	-	-
Cymene p-	-	-	-	D	-	-	-	-	-	-	-	-	-
2,4-D	F	0.07	0.07	F	1	0.3	0.1	0.4	0.01	0.4	0.07	-	D
DCPA (Dacthal)	L	-	-	F	80	80	5	20	0.5	20	4	-	D
Dalapon	F R	0.2	0.2	F	3	3	0.3	0.9	0.026	0.9	0.2	-	D
Di(2-ethylhexyl)adipate	F R	0.4	0.4	-	20	20	20	60	0.6	20	0.4	3	C
Diazinon	-	-	-	F	0.02	0.02	0.005	0.02	0.00009	0.003	0.0006	-	E
Dibenz(a,h)anthracene (PAH)	P	zero	0.0003	-	-	-	-	-	-	-	-	-	B2
Dibromoacetonitrile	L	-	-	D	2	2	2	8	0.02	0.8	0.02	-	C
Dibromochloropropane (DBCP)	F	zero	0.0002	F	0.2	0.05	-	-	-	-	-	0.003	B2
Dibromomethane	L	-	-	-	-	-	-	-	-	-	-	-	D
Dibutyl phthalate (PAE)	-	-	-	-	-	-	-	-	0.1	4	-	-	D
Dicamba	L	-	-	F	0.3	0.3	0.3	1	0.03	1	0.2	-	D
Dichloroacetaldehyde	L	-	-	D	-	-	-	-	-	-	-	-	-
Dichloroacetic acid	L	-	-	D	-	*50*	*5*	*20*	*0.008*	*0.3*	-	-	*B2*
Dichloroacetonitrile	L	-	-	D	1	1	0.8	3	0.008	0.3	0.006	-	C
Dichlorobenzene o-	F	0.6	0.6	F	9	9	9	30	*0.09*	3	0.6	-	D
Dichlorobenzene m- *	F	0.6	0.6	F	9	9	9	30	*0.09*	3	0.6	-	D
Dichlorobenzene p-	F	0.075	0.075	F	10	10	10	40	0.1	4	0.075	-	C
Dichlorodifluoromethane	L	-	-	F	40	40	9	30	0.2	5	1	-	D
Dichloroethane (1,1-)	L	-	-	D	-	-	-	-	-	-	-	-	-
Dichloroethane (1,2-)	F	zero	0.005	F	0.7	0.7	0.7	2.6	-	-	-	0.04	B2
Dichloroethylene (1,1-)	F	0.007	0.007	F	2	1	1	4	0.009	0.4	0.007	-	C
Dichloroethylene (cis-1,2-)	F	0.07	0.07	F	4	3	3	11	0.01	0.4	0.07	-	D
Dichloroethylene (trans-1,2-)	F	0.1	0.1	F	20	2	2	6	0.02	0.6	0.1	-	D
Dichloromethane (methylene chloride)	F R	zero	0.005	F	10	2	-	-	0.06	2	-	0.5	B2
Dichlorophenol (2,4-)	-	-	-	D	0.03	0.03	0.03	0.1	0.003	0.1	0.02	-	D
Dichloropropane (1,1-)	-	-	-	D	-	-	-	-	-	-	-	-	-
Dichloropropane (1,2-)	F	zero	0.005	F	-	0.09	-	-	-	-	-	0.05	B2
Dichloropropane (1,3-)	L	-	-	D	-	-	-	-	-	-	-	-	-

* The values for m-dichlorobenzene are based on data for o-dichlorobenzene.

Drinking Water Standards and Health Advisories

Chemicals	Standards			Status HA*	Health Advisories								Cancer Group
					10-kg Child			70-kg Adult					
	Status Reg.*	MCLG (mg/l)	MCL (mg/l)		One-day (mg/l)	Ten-day (mg/l)	Longer-term (mg/l)	Longer-term (mg/l)	RfD (mg/kg/day)	DWEL (mg/l)	Lifetime (mg/l)	mg/l at 10^{-4} Cancer Risk	
Dichloropropane (2,2-)	L	-	-	D	-	-	-	-	-	-	-	-	-
Dichloropropene (1,1-)	L	-	-	D	-	-	-	-	-	-	-	-	-
Dichloropropene (1,3-)	L	-	-	F	0.03	0.03	0.03	0.1	0.0003	0.01	-	0.02	B2
Dieldrin	-	-	-	F	0.0005	0.0005	0.0005	0.002	0.00005	0.002	-	0.0002	B2
Diethyl phthalate (PAE)	-	-	-	D	-	-	-	-	0.8	30	5	-	D
Diethylene glycol dinitrate	-	-	-	**	-	-	-	-	-	-	-	-	-
Diethylhexyl phthalate (PAE)	F R	zero	0.006	D	-	-	-	-	0.02	0.7	-	0.3	B2*
Diisopropyl methylphosphonate	-	-	-	F	8	8	8	30	0.08	3	0.6	-	D
Dimethrin	-	-	-	F	10	10	10	40	0.3	10	2	-	D
Dimethyl methylphosphonate	-	-	-	*F*	*2*	*2*	*2*	*6*	0.2	*7*	*0.1*	*0.7*	C
Dimethyl phthalate (PAE)	-	-	-	-	-	-	-	-	-	-	-	-	D
1,3-Dinitrobenzene	-	-	-	F	0.04	0.04	0.04	0.14	0.0001	0.005	0.001	-	D
Dinitrotoluene (2,4-)	L	-	-	F	0.50	0.50	0.30	1	0.002	0.1	-	*0.005*	B2
Dinitrotoluene (2,6-)	L	-	-	F	0.40	0.40	0.40	1	0.001	0.04	-	*0.005*	B2
Dinoseb	F R	0.007	0.007	F	0.3	0.3	0.01	0.04	0.001	0.04	0.007	-	D
Dioxane p-	-	-	-	F	4	0.4	-	-	-	-	-	0.7	B2
Diphenamid	-	-	-	F	0.3	0.3	0.3	1	0.03	1	0.2	-	D
Diphenylamine	-	-	-	*F*	*1*	*1*	*0.3*	*1*	*0.03*	*1*	*0.2*		*D*
Diquat	F R	0.02	0.02	-	-	-	-	-	0.0022	0.08	0.02	-	D
Disulfoton	-	-	-	F	0.01	0.01	0.003	0.009	0.00004	0.001	0.0003	-	E
Dithiane (1,4-)	-	-	-	*F*	*0.4*	*0.4*	*0.4*	*1*	*0.01*	*0.4*	*0.08*	-	D
Diuron	-	-	-	F	1	1	0.3	0.9	0.002	0.07	0.01	-	D
Endothall	F R	0.1	0.1	F	0.8	0.8	0.2	0.2	0.02	0.7	0.1	-	D
Endrin	F R	0.002	0.002	F	0.02	0.02	0.003	0.01	0.0003	0.01	0.002	-	D
Epichlorohydrin	F	zero	TT	F	0.1	0.1	0.07	0.07	0.002	0.07	-	0.4	B2
Ethylbenzene	F	0.7	0.7	F	30	3	1	3	0.1	3	0.7	-	D
Ethylene dibromide (EDB)	F	zero	0.00005	F	0.008	0.008	-	-	-	-	-	0.00004	B2
Ethylene glycol	-	-	-	F	20	6	6	20	2	40	7	-	D
ETU	L	-	-	F	0.3	0.3	0.1	0.4	0.00008	0.003	-	*0.03*	B2
Fenamiphos	-	-	-	F	0.009	0.009	0.005	0.02	0.00025	0.009	0.002	-	D
Fluometuron	-	-	-	F	2	2	2	5	0.013	0.4	0.09	-	D

* Under review. ** *A HA will not be developed due to insufficient data; a "Database Deficiency Report" has been published.*

Drinking Water Standards and Health Advisories

Chemicals	Standards			Status HA*	Health Advisories								Cancer Group
					10-kg Child			70-kg Adult					
	Status Reg.*	MCLG (mg/l)	MCL (mg/l)		One-day (mg/l)	Ten-day (mg/l)	Longer-term (mg/l)	Longer-term (mg/l)	RfD (mg/kg/day)	DWEL (mg/l)	Lifetime (mg/l)	mg/l at 10^{-4} Cancer Risk	
Fluorene (PAH)	-	-	-	-	-	-	-	-	0.04	-	-	-	D
Fluorotrichloromethane	L	-	-	F	7	7	3	10	0.3	10	2	-	D
Fog Oil	-	-	-	D	-	-	-	-	-	-	-	-	-
Fonofos	-	-	-	F	0.02	0.02	0.02	0.07	0.002	0.07	0.01	-	D
Formaldehyde	-	-	-	D	10	5	5	20	0.15	5	1	-	B1
Gasoline, unleaded (benzene)	-	-	-	D	-	-	-	-	-	-	0.005	-	-
Glyphosate	F R	0.7	0.7	F	20	20	1	1	0.1	4	0.7	-	D
Heptachlor	F	zero	0.0004	F	0.01	0.01	0.005	0.005	0.0005	0.02	-	0.0008	B2
Heptachlor epoxide	F	zero	0.0002	F	0.01	-	0.0001	0.0001	1.3E-0.5	0.0004	-	0.0004	B2
Hexachlorobenzene	F R	zero	0.001	F	0.05	0.05	0.05	0.2	0.0008	0.03	-	0.002	B2
Hexachlorobutadiene	L	-	-	F	0.3	0.3	0.1	0.4	0.002	0.07	0.001	-	C
Hexachlorocyclopentadiene	F R	0.05	0.05	-	-	-	-	-	0.007	0.2	-	-	D
Hexachloroethane	L	-	-	F	5	5	0.1	0.5	0.001	0.04	0.001	-	C
Hexane (n-)	-	-	-	F	10	4	4	10	-	-	-	-	D
Hexazinone	-	-	-	F	3	3	3	9	0.033	1	0.2	-	D
HMX	-	-	-	F	5	5	5	20	0.05	2	0.4	-	D
Hypochlorite	L	-	-	-	-	-	-	-	-	-	-	-	-
Hypochlorous acid	-	-	-	-	-	-	-	-	-	-	-	-	-
Indeno(1,2,3,-c,d)pyrene (PAH)	P	zero	0.0004	D	-	-	-	-	-	-	-	-	B2
Isophorone	L	-	-	F	15	15	15	15	0.2	7	0.1	4	C
Isopropyl methylphosphonate	-	-	-	D	30	30	30	100	0.1	4.0	0.7	-	D
Isopropylbenzene	-	-	-	D	-	-	-	-	-	-	-	-	-
Lindane	F	0.0002	0.0002	F	1	1	0.03	0.1	0.0003	0.01	0.0002	-	C
Malathion	-	-	-	D	0.2	0.2	0.2	0.8	0.02	0.8	0.2	-	D
Maleic hydrazide	-	-	-	F	10	10	5	20	0.5	20	4	-	D
MCPA	-	-	-	F	0.1	0.1	0.1	0.4	0.0015	0.05	0.01	-	E
Methomyl	L	-	-	F	0.3	0.3	0.3	0.3	0.025	0.9	0.2	-	D
Methoxychlor	F	0.04	0.04	F	0.05	0.05	0.05	0.2	0.005	0.2	0.04	-	D
Methyl ethyl ketone	-	-	-	-	-	-	-	-	-	-	-	-	*
Methyl parathion	-	-	-	F	0.3	0.3	0.03	0.1	0.00025	0.009	0.002	-	D

* Under review.

Drinking Water Standards and Health Advisories

Chemicals	Standards			Status HA*	Health Advisories								Cancer Group
					10-kg Child			70-kg Adult					
	Status Reg.*	MCLG (mg/l)	MCL (mg/l)		One-day (mg/l)	Ten-day (mg/l)	Longer-term (mg/l)	Longer-term (mg/l)	RfD (mg/kg/day)	DWEL (mg/l)	Lifetime (mg/l)	mg/l at 10^{-4} Cancer Risk	
Methyl tert butyl ether	L	-	-	D	3	3	0.5	2	0.005	0.2	0.04	-	D
Metolachlor	L	-	-	F	2	2	2	5	0.15	5	0.1	-	C
Metribuzin	L	-	-	F	5	5	0.3	0.9	0.025	0.9	0.2	-	D
Monochloroacetic acid	L	-	-	D	-	-	-	-	-	-	-	-	-
Monochlorobenzene	F	0.1	0.1	F	2	2	2	7	0.02	0.7	0.1	-	D
Naphthalene	-	-	-	F	0.5	0.5	0.4	1	0.004	0.1	0.02	-	D
Nitrocellulose (non-toxic)	-	-	-	F	-	-	-	-	-	-	-	-	-
Nitroguanidine	-	-	-	F	10	10	10	40	0.1	4	0.7	-	D
Nitrophenols p-	-	-	-	D	0.8	0.8	0.8	3	0.008	0.3	0.06	-	D
Oxamyl (Vydate)	F R	0.2	0.2	F	0.2	0.2	0.2	0.9	0.025	0.9	0.2	-	E
Ozone by-products	L	-	-	-	-	-	-	-	-	-	-	-	-
Paraquat	-	-	-	F	0.1	0.1	0.05	0.2	0.0045	0.2	0.03	-	E
Pentachloroethane	-	-	-	D	-	-	-	-	-	-	-	-	-
Pentachlorophenol	F	zero	0.001	F	1	0.3	0.3	1	0.03	1	-	0.03	B2
Phenanthrene (PAH)	-	-	-	-	-	-	-	-	-	-	-	-	-
Phenol	-	-	-	D	6	6	6	20	0.6	20	4	-	D
Picloram	F R	0.5	0.5	F	20	20	0.7	2	0.07	2	0.5	-	D
Polychlorinated biphenyls (PCBs)	F	zero	0.0005	P	-	-	-	-	-	-	-	0.0005	B2
Prometon	L	-	-	F	0.2	0.2	0.2	0.5	0.015*	0.5*	0.1*	-	D
Pronamide	-	-	-	F	0.8	0.8	0.8	3	0.075	3	0.05	-	C
Propachlor	-	-	-	F	0.5	0.5	0.1	0.5	0.013	0.5	0.09	-	D
Propazine	-	-	-	F	1	1	0.5	2	0.02	0.7	0.01	-	C
Propham	-	-	-	F	5	5	5	20	0.02	0.6	0.1	-	D
Propylbenzene n-	-	-	-	D	-	-	-	-	-	-	-	-	-
Pyrene (PAH)	-	-	-	-	-	-	-	-	0.03	-	-	-	D
RDX	-	-	-	F	0.1	0.1	0.1	0.4	0.003	0.1	0.002	0.03	C
Simazine	F R	0.004	0.004	F	0.07	0.07	0.07	0.07	0.005	0.2	0.004	-	C
Styrene	F	0.1	0.1	F	20	2	2	7	0.2	7	0.1	-	C
2,4,5-T	L	-	-	F	0.8	0.8	0.8	1	0.01	0.35	0.07	-	D
2,3,7,8-TCDD (Dioxin)	F R	zero	3E-08	F	1E-06	1E-07	1E-08	4E-08	1E-09	4E-08	-	2E-08	B2

* Under review. NOTE: Phenanthrene — not proposed.

Drinking Water Standards and Health Advisories

Chemicals	Standards			Status HA*	Health Advisories								Cancer Group
					10-kg Child			70-kg Adult					
	Status Reg.*	MCLG (mg/l)	MCL (mg/l)		One-day (mg/l)	Ten-day (mg/l)	Longer-term (mg/l)	Longer-term (mg/l)	RfD (mg/kg/day)	DWEL (mg/l)	Lifetime (mg/l)	mg/l at 10^{-4} Cancer Risk	
Tebuthiuron	-	-	-	F	3	3	0.7	2	0.07	2	0.5	-	D
Terbacil	-	-	-	F	0.3	0.3	0.3	0.9	0.013	0.4	0.09	-	E
Terbufos	-	-	-	F	0.005	0.005	0.001	0.005	0.00013	0.005	0.0009	-	D
Tetrachloroethane (1,1,1,2-)	L	-	-	F	2	2	0.9	3	0.03	1	0.07	0.1	C
Tetrachloroethane (1,1,2,2-)	L	-	-	D	-	-	-	-	-	-	-	-	-
Tetrachloroethylene	F	zero	0.005	F	2	2	1	5	0.01	0.5	-	0.07	-
Tetranitromethane	-	-	-	**	-	-	-	-	-	-	-	-	-
Toluene	F	1	1	F	20	2	2	7	0.2	7	1	-	D
Toxaphene	F	zero	0.003	F	0.5	0.04	-	-	0.1	0.0035	-	0.003	B2
2,4,5-TP	F	0.05	0.05	F	0.2	0.2	0.07	0.3	0.0075	0.3	0.05	-	D
1,1,2-Trichloro-1,2,2-trifluoroethane	-	-	-	-	-	-	-	-	-	-	-	-	-
Trichloroacetic acid	L	-	-	D	-	2	4	13	0.04	1.3	1	-	C
Trichloroactonitrile	L	-	-	D	0.05	0.05	-	-	-	-	-	-	-
Trichlorobenzene (1,2,4-)	F R	0.07	0.07	F	0.1	0.1	0.1	0.5	0.01	0.4	0.07	-	D
Trichlorobenzene (1,3,5-)	-	-	-	F	0.6	0.6	0.6	2	0.006	0.2	0.04	-	D
Trichloroethane (1,1,1-)	F	0.2	0.2	F	100	40	40	100	0.035	1	0.2	-	D
Trichloroethane (1,1,2-)	F R	0.003	0.005	F	0.6	0.4	0.4	1	0.004	0.1	0.003	-	C
Trichloroethanol (2,2,2-)	L	-	-	-	-	-	-	-	-	-	-	-	-
Trichloroethylene	F	zero	0.005	F	-	-	-	-	-	0.3	-	0.3	B2
Trichlorophenol (2,4,6-)	L	-	-	D	-	-	-	-	-	-	-	0.3	B2
Trichloropropane (1,1,1-)	-	-	-	D	-	-	-	-	-	-	-	-	-
Trichloropropane (1,2,3-)	L	-	-	F	0.6	0.6	0.6	2	0.006	0.2	0.04	-	B2
Trifluralin	L	-	-	F	0.08	0.08	0.08	0.3	0.0075	0.3	0.005	-	C
Trimethylbenzene (1,2,4-)	-	-	-	D	-	-	-	-	-	-	-	-	-
Trimethylbenzene (1,3,5-)	-	-	-	D	-	-	-	-	-	-	-	-	-
Trinitroglycerol	-	-	-	F	0.005	0.005	0.005	0.005	-	-	0.005	-	-
Trinitrotoluene	-	-	-	F	0.02	0.02	0.02	0.02	0.0005	0.02	0.002	0.1	C
Vinyl chloride	F	zero	0.002	F	3	3	0.01	0.05	-	-	-	0.0015	A
White phosphorus	-	-	-	F	-	-	-	-	0.00002	0.0005	0.0001	-	D
Xylenes	F	10	10	F	40	40	40	100	2	60	10	-	D

** *A HA will not be developed due to insufficient data; a "Database Deficiency Report" has been published.*

Drinking Water Standards and Health Advisories

Chemicals	Standards			Status HA*	Health Advisories								Cancer Group
					10-kg Child			70-kg Adult					
	Status Reg.*	MCLG (mg/l)	MCL (mg/l)		One-day (mg/l)	Ten-day (mg/l)	Longer-term (mg/l)	Longer-term (mg/l)	RfD (mg/kg/day)	DWEL (mg/l)	Lifetime (mg/l)	mg/l at 10^{-4} Cancer Risk	
INORGANICS													
Aluminum	L	-	-	D	-	-	-	-	-	-	-	-	-
Ammonia	-	-	-	D	-	-	-	-	-	-	30	-	D
Antimony	F ~~P~~	0.006	*0.006*	*F*	0.015	0.015	0.015	0.015	0.0004	0.015	0.003	-	D
Arsenic	*	-	0.05	D	-	-	-	-	-	-	-	0.002	A
Asbestos (fibers/l >10μm length)	F	7 MFL	7 MFL	-	-	-	-	-	-	-	-	700 MFL	A
Barium	F	2	2	F	-	-	-	-	0.07	2	2	-	D
Beryllium	F ~~P~~	.004 ~~zero~~	0.004	D	30	30	4	20	0.005	0.2	-	0.0008	B2
Boron	L	-	-	D	4	0.9	0.9	3	0.09	3	0.6	-	D
Cadmium	F	0.005	0.005	F	0.04	0.04	0.005	0.02	0.0005	0.02	0.005	-	D
Chloramine	L	-	-	D	1	1	1	1	0.1	3.3	2.6	-	-
Chlorate	L	-	-	D	-	-	-	-	-	-	-	-	-
Chlorine	L	-	-	D	-	-	-	-	-	-	-	-	-
Chlorine dioxide	L	-	-	D	-	-	-	-	-	-	-	-	-
Chlorite	L	-	-	D	-	-	-	-	-	-	-	-	-
Chromium (total)	F	0.1	0.1	F	1	1	0.2	0.8	0.005	0.2	0.1	-	D
Copper	*F*	1.3	TT**	-	-	-	-	-	-	-	-	-	D
Cyanide	F ~~R~~	0.2	0.2	F	0.2	0.2	0.2	0.8	0.022	0.8	0.2	-	D
Fluoride*	F	4	4	-	-	-	-	-	0.12	-	-	-	-
Lead (at tap)	F	zero	TT**	-	-	-	-	-	-	-	-	-	B2
Manganese	*L*	*0.2*	-	D	-	-	-	-	*0.14/ 0.005*	-	-	-	-
Mercury (inorganic)	F	0.002	0.002	F	-	-	-	0.002	0.0003	0.01	0.002	-	D
Molybdenum	L	-	-	*F*	-	*0.08*	*0.01*	*0.05*	0.005	*0.2*	*0.04*	-	D
Nickel	P	0.1	0.1	F	1	1	0.5	1.7	0.02	0.6	0.1	-	D
Nitrate (as N)	F	10	10	F	-	10*	-	-	1.6	-	-	-	*
Nitrite (as N)	F	1	1	F	-	1*	-	-	0.16*	-	-	-	*

* Under review.

** Copper — action level 1.3 mg/L
Lead — action level 0.015 mg/L

Drinking Water Standards and Health Advisories

Chemicals	Standards			Status HA*	Health Advisories								Cancer Group
					10-kg Child			70-kg Adult					
	Status Reg.*	MCLG (mg/l)	MCL (mg/l)		One-day (mg/l)	Ten-day (mg/l)	Longer-term (mg/l)	Longer-term (mg/l)	RfD (mg/kg/day)	DWEL (mg/l)	Lifetime (mg/l)	mg/l at 10^{-4} Cancer Risk	
Nitrate + Nitrite (both as N)	F	10	10	F	-	-	-	-	-	-	-	-	*
Selenium	F	0.05	0.05	-	-	-	-	-	0.005	-	-	-	-
Silver	-	-	-	D	0.2	0.2	0.2	0.2	0.005	0.2	0.1	-	D
Sodium	-	-	-	D	-	-	-	-	-	20***	-	-	-
Strontium	L	-	-	D	25	25	25	90	2.5	90	17	-	D
Sulfate	P	400/500	400/500	-	-	-	-	-	-	-	-	-	-
Thallium	F	0.0005	0.002	F	0.007	0.007	0.007	0.02	0.00007	0.002	0.0004	-	-
Vanadium	L	-	-	D	0.08	0.08	0.03	0.11	0.003	0.11	0.02	-	D
Zinc	L	-	-	F	6	6	3	12	0.3	11	2	-	D
Zinc chloride (measured as Zinc)	L	-	-	F	6	6	3	12	0.3	11	2	-	D
RADIONUCLIDES													
Beta particle and photon activity (formerly man-made radionuclides)	F	zero	4 mrem	-	-	-	-	-	-	-	-	4 mrem/y	A
Gross alpha particle activity	F	zero	15 pCi/L	-	-	-	-	-	-	-	-	-	A
Radium 226/228	P	zero	5 pCi/L	-	-	-	-	-	-	-	-	22/26 pCi/L	A
Radon	P	zero	300 pCi/L	-	-	-	-	-	-	-	-	2/0 pCi/L	A
Uranium	P	zero	20 µg/L	-	-	-	-	-	-	-	-	170 pCi/L	A

deferred

* Under review.

*** Guidance.

Secondary Maximum Contaminant Levels

Chemicals	Status	SMCLs (mg/L)
Aluminum	F	0.05 to 0.2
Chloride	F	250
Color	F	15 color units
Copper	F	1
Corrosivity	F	non-corrosive
Fluoride*	F	2
Foaming agents	F	0.5
Hexachlorocyclopentadiene	P	0.008
Iron	F	0.3
Manganese	F	0.05
Odor	F	3 threshold odor numbers
pH	F	6.5 — 8.5
Silver	F	0.10
Sulfate	F	250
Total dissolved solids (TDS)	F	500
Zinc	F	5

Status Codes: P — proposed, F — final

* Under review.

Microbiology

	Status	MCLG	MCL
Cryptosporidium	L	-	-
Giardia lamblia	F	zero	TT
Legionella	F[#]	zero	TT
Standard Plate Count	F[#]	NA	TT
Total Coliforms (after 12/31/90)	F	zero	**
Turbidity (after 12/31/90)	F	NA	PS
Viruses	F[#]	zero	TT

Key: PS, TT, F, defined as previously stated.

[#] Final for systems using surface water; also being considered for regulation under groundwater disinfection rule.