

Minnesota Attorney General: Administrative Rules Proceedings

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Version 3
August 20, 2018

Our File No. 794

3/24 P Bouchard requested to send mailing list cert. rec'd 3/25.

RULE REVIEW CHECKLIST

DATE RULE RECEIVED 3-18-82
DATE FOR REVIEW 3-27-82
DATE DUE 4-1-82

Adopted w/a hearing _____
Adopted w/o hearing ✓
Temporary rule _____

Approved 4-1-82 Disapproved _____ Returned to Agency 4-2-82

Resubmitted _____ Due _____
Approved _____ Disapproved _____ Returned to Agency _____

Date filed w/Secretary of State 4-1-82 Revisor approved 3/24/82 disapproved _____

_____ Rule as Adopted

_✓_ Rule as Proposed

_✓_ Order Adopting 2.25.82 Date

_✓_ Notice of Intent to Solicit Outside Opinion 6.8.81

_✓_ Order for rulemaking
N/A. date of Hearing

N/A Certificate of Board's Authorizing Resolution

_✓_ Notice of rulemaking
✓ Sufficiency

_✓_ Affidavit of Mailing Notice or rulemaking
✓ 9.10.81 At least 30 days prior to ~~hearing/~~adoption

_✓_ Mailing list Certificate

_✓_ Publication in State Register
9.14.81 At least 30/[redacted] days prior to h[redacted]g/adoption

N/A Hearing Examiner's Report

_✓_ Chief Hearing Examiner's Report(s)
_____ Approving H.E.'s Report
_____ Approving agency action

_✓_ Agency's Findings of Fact

N/A LCRAR Report or agency Affidavit

_✓_ Certificate of Board's Resolution Adopting Rules

_✓_ Order Approving Incorporation by Reference

_✓_ Statement of Need and Reasonableness

N/A Petition for Adoption of a Rule

_✓_ Record (includes transcript or tape, exhibits, comments received by agency, requests for a hearing, and other relevant materials)

_✓_ Certificate of Compliance w/Rulemaking Procedures

_✓_ Affidavit of Mailing Notice of Submission to Attorney General

_✓_ Notice of Submission to the Attorney General

SF-00006-02

DEPARTMENT ATTORNEY GENERAL

STATE OF MINNESOTA
Office Memorandum

TO : GEORGE R. PETTERSEN, M.D.
Commissioner of Health

DATE: 4/1/82

ATTN: PAUL G. ZERBY, Spec. Ass't. Atty. Gen.

FROM : LARRY D. STARNS
Special Assistant
Attorney General

PHONE: 297-3493

SUBJECT: In the Matter of the Proposed Adoption of Amendments to Rules of the State Commissioner of Health Governing Public Water Supplies

Enclosed herewith are the rules you have submitted for approval. These rules have been approved by this office and filed with the Secretary of State. Please note that they have not been filed with the State Register. This must be done promptly by your agency.

In reviewing these rules, I note one change which might promote consistency. At 7 MCAR § 1.146.A.2.b.(1) the rules state that "[t]he supplier shall report to the State . . . " (emphasis added). To promote consistency, perhaps such report should be made to the "commissioner" as he is the authority referred to throughout these rules.

Upon receipt and before transmittal to your agency, however, it is important that you recheck these rules as to:

1. Affixation of stamps of the Attorney General and Secretary of State to the last page of the rules;

2. Coverage by these stamps of all rules submitted; and

3. Inclusion of all pages to the rules in the approved set.

If you have any questions in this regard, please contact me.

LDS:drw

Encs.

cc: Ms. Kathy Burek
Mr. Duane Harves

SF-00006-02

STATE OF MINNESOTA

DEPARTMENT HEALTH

Office Memorandum

RECEIVED
MAR 25 1982
ATTORNEY GENERAL
ADMINISTRATIVE AGENCIES

TO : Mr. Jerry Anderson
Special Assistant Attorney General
Department of Administration
Administration, Rm 204

DATE: March 22, 1982

FROM : Pauline M. Bouchard, J.D.
Assistant to the Director
Division of Environmental Health

PHONE: 6-5331

SUBJECT: Amendments to Public Water Supply Rules

In the rules package which Paul Zerby recently forwarded to you for review on our behalf, I may not have included an attachment which was referred to in the Findings and Conclusions at page 6.

One of the enclosed copies of Rules as Proposed (Revisor's draft) should be attached to each copy of the Findings, in order to complete the record.

Don't hesitate to call me if you have any questions regarding these amendments.

PMB:bjp
Encl.

SF-00006-02

STATE OF MINNESOTA

DEPARTMENT ATTORNEY GENERAL - Health

Office Memorandum

TO : Jerry Anderson
Special Assistant
Attorney General
Administration, Room ~~G 25~~ 204

DATE: March 17, 1982

FROM : Paul G. Zerby
Special Assistant
Attorney General

PHONE: 341-7272

SUBJECT: In the Matter of the Proposed Adoption of Amendments to Rules of the State Commissioner of Health Governing Public Water Supplies

As per our telephone conversation today, I enclose Statement of Compliance with Rulemaking Procedures together with all documents required by 1 MCAR § 1.203 regarding the above.

As we discussed, the correction of the number 0.95 to 0.05 shown on line 8 of page 9 of the Rules as Adopted is simply to correct a typographical error made by the revisor in the Rules as Proposed as published in the State Register. The correction puts the number back both as it was in the Proposed Rule, as it was originally furnished to the revisor by the department, and as it is in the rule currently in effect.

Thank you for your assistance in this matter.

PGZ:lb

Enclosures

cc: Pauline Bouchard

Copy 2

RECEIVED
MAR 17 1982
Health Division

Department of Health
Environmental Health Division

Adopted Rules Relating to Public Water Supplies

Rules as Adopted

7 MCAR S 1.145 General information and definitions.

A. [Unchanged.]

B. Definitions. The following definitions apply to 7 MCAR SS 1.145-1.149, unless the context indicates otherwise.

1. Commissioner. "Commissioner" means the commissioner of health, or his or her authorized representative.

2. Disinfectant. "Disinfectant" means any oxidant, including but not limited to chlorine, chlorine dioxide, chloramines, and ozone added to water in any part of the treatment or distribution process, that is intended to kill or inactivate pathogenic micro-organisms.

3. Dose equivalent. "Dose equivalent" means the product of the absorbed dose from ionizing radiation and such factors as account for differences in biological effectiveness due to the type of radiation and its distribution in the body as specified by the International Commission on Radiological Units and Measurements (ICRU).

4. Exemption. "Exemption" means a waiver which may be granted by the commissioner to a supply which is in operation on June 24, 1977:

a. When a maximum contaminant level or required treatment cannot be complied with because of economic or other compelling factors; and

b. If granting the waiver will not result in an unreasonable risk to health.

Such an exemption must be conditioned upon a schedule for compliance with these rules by the dates specified in 7 MCAR S 1.148 B.8. and 9.

5. Federal act. "Federal act" means the Safe Drinking

Water Act of 1974, P.L. 93-523, 42 U.S.C. 300 f, and amendments thereto.

6. Federal regulations. "Federal regulations" means regulations dealing with public water supplies and drinking water quality, promulgated by the Administrator of the United States Environmental Protection Agency pursuant to the federal act.

7. Gross alpha particle activity. "Gross alpha particle activity" means the total radioactivity due to alpha particle emission as inferred from measurements on a dry sample.

8. Gross beta particle activity. "Gross beta particle activity" means the total radioactivity due to beta particle emission as inferred from measurements on a dry sample.

9. Halogen. "Halogen" means one of the chemical elements chlorine, bromine, or iodine.

10. Man-made beta particle and photon emitters. "Man-made beta particle and photon emitters" means all radionuclides emitting beta particles or photons listed in Maximum Permissible Body Burdens and Maximum Permissible Concentration of Radionuclides in Air or Water for Occupational Exposure, NBS Handbook 69, except the daughter products of thorium-232, uranium-235 and uranium-238.

11. Maximum contaminant level. "Maximum contaminant level" means the maximum permissible level of a contaminant (any physical, chemical, biological, or radiological substance or matter) in water which is delivered to the free flowing outlet of the ultimate user of a public water supply; except in the case of turbidity where the maximum permissible level is measured at the point of entry to the distribution system. Contaminants added to the water under circumstances controlled by the user, except for those resulting from corrosion of piping and plumbing caused by water quality are excluded from this definition.

12. Maximum total trihalomethane potential. "Maximum total trihalomethane potential" means the maximum concentration of total trihalomethanes produced in a given water containing a

disinfectant residual after seven days at a temperature of 25 degrees Celsius or above.

13. Person. "Person" means an individual, partnership, copartnership, cooperative, public or private association or corporation, public subdivision, agency of the state or federal government or any other legal entity or its legal representative, agent or assigns.

14. Picocurie. "Picocurie (pCi)" means that quantity of radioactive material producing 2.22 nuclear transformations per minute.

15. Public water supply. "Public water supply" or "supply" means a system providing piped water for human consumption, and either containing a minimum of 15 service connections or 15 living units, or serving at least 25 persons daily for 60 days of the year. Such term includes:

a. Any collection, treatment, storage, and distribution facilities under control of the operator of the supply and used primarily in connection with the supply; and

b. Any collection or pre-treatment storage facilities used primarily in connection with the supply but not under control of the operator. A public water supply is either a community or a non-community water supply.

(1) "Community water supply" means a public water supply or system which serves at least 15 service connections or living units used by year-round residents, or regularly serves at least 25 year-round residents.

(2) "Non-community water supply" means any public water supply that is not a community water supply. The following are given as examples of non-community water supplies and are in no way meant to be an exhaustive list: seasonal facilities such as children's camps, recreational camping areas, resorts, or year-round facilities which serve at least 25 persons who are not residents thereof, such as churches, entertainment facilities, factories, gasoline service stations, marinas, migrant labor camps, office buildings, parks, restaurants, schools.

16. Rem. "Rem" means the unit of dose equivalent from ionizing radiation to the total body or any internal organ or organ system. A "millirem (mrem)" is 1/1000 of a rem.

17. Sanitary survey. "Sanitary survey" means an on-site review of the water source, facilities, equipment, operation and maintenance of a public water supply for the purpose of evaluating the adequacy of the source, facilities, equipment, operation and maintenance for producing and distributing safe drinking water.

18. Standard sample. "Standard sample" means the aliquot of finished drinking water that is examined for the presence of coliform bacteria.

19. Supplier. "Supplier" means any person who owns, manages, or operates a public water supply, whether or not he is an operator certified pursuant to Minn. Stat. SS 115.71-115.82.

20. Total trihalomethanes. "Total trihalomethanes" means the sum of the concentration in milligrams per liter of the trihalomethane compounds of trichloromethane (chloroform), dibromochloromethane, bromodichloromethane and tribromomethane (bromoform), rounded to two significant figures.

21. Trihalomethane. "Trihalomethane" means one of the family of organic compounds named as derivatives of methane, wherein three of the four hydrogen atoms in methane are each substituted by a halogen atom in the molecular structure.

22. Turbidity unit. "Turbidity unit" means an amount of turbidity equivalent to that in a solution composed of .000125 percent hydrazine sulfate and .00125 percent hexamethylenetetramine in distilled and filtered (100 ~~m~~ μ pore size membrane) water, as measured by a nephelometric turbidimeter.

23. Variance. "Variance" means a waiver which may be granted by the commissioner to a supply:

a. Which, due to the raw water quality reasonably available, cannot comply with a maximum contaminant level, despite application of the best known and available technology for treatment or other means; and

b. If granting the waiver will not result in an unreasonable risk to health.

Such a variance must be conditioned upon a schedule for implementation of control measures, and may specify an indefinite time period for compliance with the maximum contaminant level or required treatment.

24. Year-round resident. "Year-round resident" means a person who resides in the area served by the public water supply for more than six months of the year.

C. Scope and coverage.

1. These rules prescribe standards for water supply siting and construction, set maximum contaminant levels for turbidity, microbiological constituents, organic and inorganic chemicals, and radioactivity, prescribe a frequency for monitoring the levels of these constituents and sodium and corrosivity, and prescribe the procedures for reporting results, notifying the public and for maintaining records.

2. The standards and procedures adopted in 7 MCAR SS 1.145-1.149 inclusive shall apply to all public drinking water supplies, pursuant to authority granted by existing statutes and amendments thereto, notwithstanding any other water quality standards or regulations.

3. [Unchanged.]

7 MCAR S 1.146 Maximum contaminant levels. The following levels shall be the enforceable maximum contaminant levels for all public water supplies in the state.

A. Microbiological. The maximum contaminant levels for coliform bacteria, applicable to both community and non-community water supplies, are as follows:

1. When the membrane filter technique pursuant to 7 MCAR S 1.147 B.1.a. is used, the number of coliform bacteria shall not exceed any of the following:

a. One per 100 milliliters as the arithmetic mean of all samples examined per compliance period pursuant to 7 MCAR S 1.147 B.2. or 7 MCAR S 1.147 B.3., except that systems required to take ten or fewer samples per month may exclude one positive

routine sample per month from the monthly calculation if:

(1) The commissioner determines and indicates in writing to the public water supply that no unreasonable risk to health existed, after having considered the following factors:

(a) The system provided and had maintained an active disinfectant residual in the distribution system;

(b) The potential for contamination as indicated by a sanitary survey; and

(c) The history of the water quality at the public water supply;

(2) The supplier initiates a check sample on each of two consecutive days from the same sampling point within 24 hours after notification that the routine sample is positive, and each of these check samples is negative; and

(3) The original positive routine sample is reported and recorded by the supplier pursuant to 7 MCAR S 1.149 A. and B.

The supplier shall report to the commissioner its compliance with the conditions specified in 1.a. and a summary of the corrective action taken to resolve the prior positive sample result. If a positive routine sample is not used for the monthly calculation, another routine sample must be analyzed for compliance purposes. This provision may be used only once during two consecutive compliance periods.

b. [Unchanged.]

c. [Unchanged.]

2. a. When the fermentation tube method and 10 milliliter standard portions pursuant to 7 MCAR S 1.147 B.1.b. are used, coliform bacteria shall not be present in any of the following:

(1) More than 10 percent of the portions in any month pursuant to 7 MCAR S 1.147 B.2. or 7 MCAR S 1.147 B.3., except that systems required to take ten or fewer samples per month may exclude one positive routine sample resulting in one or more positive tubes per month from the monthly calculation if:

(a) The commissioner determines that the supply maintains an active disinfectant residual in the distribution system, or the commissioner determines in writing to the public

water system that no unreasonable risk to health existed under the circumstances;

(b) The supplier initiates a check sample on each of two consecutive days from the sampling point within 24 hours after notification that the routine sample is positive, and each of these check samples is negative; and

(c) The original positive routine sample is reported and recorded by the supplier pursuant to 7 MCAR S 1.149 A. and B.

The supplier shall report to the commissioner its compliance with the conditions specified in 2.a.(1) and a summary of the action taken to resolve the prior positive sample result. If a positive routine sample is not used for the monthly calculation, another routine sample must be analyzed for compliance purposes. This provision may be used only once during two consecutive compliance periods.

(2) Three or more portions in more than one sample when less than 20 samples are examined per month; or

(3) Three or more portions in more than five percent of the samples when 20 or more samples are examined per month.

b. When the fermentation tube method and 100 milliliter standard portions pursuant to 7 MCAR S 1.147 B.1.b. are used, coliform bacteria shall not be present in any of the following:

(1) More than 60 percent of the portions in any month pursuant to 7 MCAR S 1.147 B.2. or 7 MCAR S 1.147 B.3.; except that systems required to take ten or fewer samples per month may exclude one positive routine sample resulting in one or more positive tubes per month from the monthly calculation if:

(a) The commissioner determines that the supplier maintains an active disinfectant residual in the distribution system, or the commissioner determines in writing to the public water system that no unreasonable risk to health existed under the circumstances;

(b) The supplier initiates two consecutive daily check samples from the same sampling point within 24 hours after

notification that the routine sample is positive, and each of these check samples is negative; and

(c) The original positive routine sample is reported and recorded by the supplier pursuant to 7 MCAR S 1.149 A. and B.

The supplier shall report to the state its compliance with the conditions specified in 2.b.(1) and a summary of the corrective action taken to resolve the prior positive sample result. If a positive routine sample is not used for the monthly calculation, another routine sample must be analyzed for compliance purposes. This provision may be used only once during two consecutive compliance periods.

(2) Five portions in more than one sample when less than five samples are examined per month; or,

(3) Five portions in more than 20 percent of the samples when five or more samples are examined per month.

3. For community or non-community supplies that are required to sample at a rate of less than four per month, compliance with 1. or 2. shall be based upon sampling during a three-month period, except that, at the discretion of the commissioner compliance may be based upon sampling during a one-month period.

4. If an average maximum contaminant level violation is caused by a single sample maximum contaminant level violation, then the case shall be treated as one violation with respect to the public notification requirements of 7 MCAR S 1.149 D.

B. [Unchanged.]

C. Inorganics.

1. The following are the maximum contaminant levels for inorganic chemicals applicable to community water supplies:

Contaminant	Level, milligrams per liter
Arsenic	0.05
Barium	1.

Cadmium	0.010
Chromium	0.05
Fluoride	2.2
Lead	0.05
Mercury	0.002
Nitrate (as N)	10.
Selenium	0.01
Silver	~~0.95~~ 0.05

2. Compliance with maximum contaminant levels for inorganic chemicals shall be calculated in accordance with 7 MCAR S 1.147 D.3.-6.

3. The maximum contaminant level for nitrate listed in 1. also applies to non-community water supplies, except that a nitrate level not in excess of 20 milligrams per liter may be allowed in a non-community water supply if the supplier demonstrates to the satisfaction of the commissioner that:

a. The water will not be available to children under six months of age;

b. There will be continuous posting of the fact that nitrate levels exceed 10 milligrams per liter and the potential health effects of exposure;

c. Local public health authorities and the commissioner will be notified annually of nitrate levels that exceed 10 milligrams per liter; and

d. No adverse health effects shall result.

D. Organics. The following are the maximum contaminant levels for organic chemicals. They apply only to community water supplies. Compliance with maximum contaminant levels for organic chemicals is calculated pursuant to 7 MCAR S 1.147 E.2., 3., and 4.

1. [Unchanged.]

2. [Unchanged.]

3. The maximum contaminant level for total trihalomethane is 0.10 milligrams per liter. This maximum contaminant level applies only to public water supplies which serve a population of 10,000 or more persons, and which add a disinfectant

(oxidant) to the water in any part of the drinking water treatment process. Compliance with the maximum contaminant level for total trihalomethane shall be calculated in accordance with 7 MCAR S 1.147 E.5.

E. [Unchanged.]

7 MCAR S 1.147 Monitoring and analytical requirements.

A. In general.

1. It shall be the responsibility of the supplier of water to monitor the quality of the water in his supply, according to the sampling schedules and testing procedures prescribed in this rule. Where a supplier has the capability for on-site testing for turbidity and/or maintains a laboratory approved to test for coliform bacteria, such supplier shall follow the relevant procedures in the appropriate parts of this rule. If an approved on-site laboratory is not available, the supplier of water shall send his water samples to an appropriate approved testing laboratory, according to procedures prescribed by the commissioner. Such procedures shall be prescribed for each supplier, and shall include a description of the type of container to be used, the manner in which the container shall be handled and delivered to the laboratory, and the date by which a sample must be sent to the approved laboratory for testing.

2. The following terms, which are used in B.-L., shall have the meanings given them. The department will make available to the public any analytical method referenced in this rule if the method is not available for lending from a public library.

a. "EPA Chemical" means "Methods of Chemical Analysis of Water and Wastes," United States Environmental Protection Agency, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio 45268 (EPA-600/4-79-020), March 1979, available from ORD Publications, CERI, Environmental Protection Agency, Cincinnati, Ohio 45268. For approved analytical procedures for metals, the technique applicable to total metals must be used.

b. "Standard Methods" means "Standard Methods for the Examination of Water and Wastewater," 14th Edition, American

Public Health Association, 1015 15th Street N.W., Washington, D.C. 20005.

c. "USGS 1979" means "Techniques of Water Resources Investigation of the United States Geological Survey," Chapter A-1, "Methods for Determination of Inorganic Substances in Water and Fluvial Sediments," Book 5, 1979, (Stock #024-001-03177-9, available from Superintendent of Documents, United States Government Printing Office, Washington, D.C. 20402).

d. "ASTM" means "Annual Book of ASTM Standards," Part 31 Water, 1979, American Society for Testing and Materials, 1916 Race Street, Philadelphia, Pennsylvania 19103.

e. "USGS 1972" means "Techniques of Water Resources Investigation of the United States Geological Survey," Chapter A-3, "Methods of Analysis of Organic Substances in Water," Book 5, 1972 (Stock #2401-1227, available from Superintendent of Documents, United States Government Printing Office, Washington, D.C. 20402).

f. "EPA Microbiological" means "Microbiological Methods for Monitoring the Environment, Water and Wastes," United States Environmental Protection Agency, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio, 45268--EPA--600/8-78-017, December 1978 (available from ORD Publications, CERI, United States Environmental Protection Agency, Cincinnati, Ohio 45268).

g. "EPA Organochlorine Methods" means "Methods for Organochlorine Pesticides and Chlorophenoxy Acid Herbicides in Drinking Water and Raw Source Water," (available from ORD Publications, CERI, United States Environmental Protection Agency, Cincinnati, Ohio 45268).

B. Microbiological contaminant sampling and analytical requirements.

1. Analyses for coliform bacteria shall be made for the purpose of determining compliance with 7 MCAR S 1.146 A. Analyses shall be conducted in accordance with the analytical recommendations set forth in Standard Methods, Method 908A, Paragraphs 1, 2 and 3; or Method 908D, Table 908:I; or Method

909A; or EPA Microbiological Methods Part III, Section B 1.0 to 2.6.2, 2.7 to 2.7.2(c); or Part III, Section B 4.0 to 4.6.4(c), except that a standard sample size as referred to in a. and b. shall be employed. See A.2.b. and f. for complete title of reference sources.

a. [Unchanged.]

b. [Unchanged.]

2. [Unchanged.]

3. The supplier of water for a non-community water supply shall sample for coliform bacteria at least once in each calendar quarter during which the supply provides water to the public. Such sampling shall begin before June 24, 1979. If the commissioner determines, on the basis of a sanitary survey which includes a determination of compliance with the Minnesota Water Well Construction Code, 7 MCAR SS 1.210-~~1.255~~ 1.224, that it is more appropriate for the supply to sample on a frequency other than quarterly, the commissioner shall impose a special sampling frequency. Such special frequency shall then be the frequency required under these rules and shall be confirmed or changed on the basis of subsequent surveys.

4. [Unchanged.]

5. [Unchanged.]

6. [Unchanged.]

7. [Unchanged.]

8. [Unchanged.]

9. [Unchanged.]

C. Turbidity sampling and analytical requirements.

1. a. All public water supplies, whether community or non-community, which use water obtained in whole or in part from surface sources must be sampled for turbidity. Such samples shall be taken by suppliers at representative points of entry into the water distribution system at least once per day, for the purpose of making turbidity measurements to determine compliance with 7 MCAR S 1.146 B.

b. The commissioner may reduce the sampling frequency for a non-community water supply if he determines that this

reduced sampling frequency will not pose a risk to the public health and notifies the non-community water supply of this determination in writing. Such a reduction may be granted only if the non-community water supply practices disinfection and maintains an active disinfectant residual in the distribution system.

c. The measurement shall be made by the Nephelometric Method in accordance with the recommendations set forth in Standard Methods or EPA Chemical, Nephelometric Method, 180.1.1., as further described in A.2.a. and b.

d. Sampling by community water supplies ~~that~~ shall begin before the effective date of these rules. Sampling by non-community water supplies shall begin before June 24, 1979.

2. [Unchanged.]

D. Inorganic chemical contaminant sampling and analytical requirements.

1. [Unchanged.]

2. [Unchanged.]

3. Analyses conducted to determine compliance with 7 MCAR S 1.146 C. shall be made in accordance with a.-j. See A.2. for complete title of reference sources.

a. Arsenic: EPA Chemical, Method 206.2, or Method 206.3, or Method 206.4; or Standard Methods, Method 404-A and 404-B(4), or Method 301.A VII; or USGS 1979, Method I-1062-78; or ASTM, Method D-2972-78A, or D-2972-78B.

b. Barium: EPA Chemical, Method 208.1, or 208.2; or Standard Methods, Method 301-A IV.

c. Cadmium: EPA Chemical, Method 213.1, or 213.2; or Standard Methods, Method 301-A II or III; or ASTM, Method 3447-78A.

d. Chromium: EPA Chemical, Method 218.1, or 218.2; or Standard Methods, Method 301-A II or III; or ASTM, Method D-1687-77D.

e. Fluoride: EPA Chemical, Method 340.1 or 340.2, or 340.3; or Standard Methods, Method 414-A, or 414-B, or 414-C, or 603; or USGS 1979, Method I-3325-78; or ASTM, Method D-1179-72A,

or D-1179-72B; or Industrial Method #129-71W, "Fluoride in Water and Wastewater," ~~Technicion~~ Technicon Industrial Systems, Tarrytown, New York 10591, December 1972; or Industrial Method #380-75WE, Automated Electrode Method, "Fluoride in Water and Wastewater," Technicon Industrial Systems, Tarrytown, New York, February 1976.

f. Lead: EPA Chemical, Method 239.1 or 239.2; or Standard Methods, Method 301-A II or III; or ASTM, Method D-3559-79A or B.

g. Mercury: EPA Chemical, Method 245.1 or 245.2; or Standard Methods, Method 301-A VI; or ASTM, Method D-3223-79.

h. Nitrate: EPA Chemical, Method 352.1, or 353.1 or 353.2 or 353.3; or Standard Methods, Method 419-D, or 419-C, or 605; or ASTM, Method D-992-71, or D-3867-79A or D-3867-79B.

i. Selenium: EPA Chemical, Method 270.2 or 270.3; or Standard Methods, Method 301-A VII; or USGS 1979, Method I-1667-78; or ASTM, Method D-3859-79.

j. Silver: EPA Chemical, Method 272.1 or 272.2; or Standard Methods, Method 301-A II.

4. [Unchanged.]

5. [Unchanged.]

6. [Unchanged.]

E. Organic chemical contaminant sampling and analytical requirements.

1. [Unchanged.]

2. Analytical requirements for compliance with 7 MCAR S 1.146 D.1. and 7 MCAR S 1.146 D.2. shall be as described in a. and b.

a. Analyses made to determine compliance with 7 MCAR S 1.146 D.1. shall be made in accordance with EPA Organochlorine Methods; or Standard Methods, Method 509-A; or ASTM, Method D-3086-79; or USGS 1972, "Gas Chromatographic Methods for Analysis of Organic Substances in Water," Chapter A-3. See 7 MCAR S 1.147 A.2. for complete title of reference sources.

b. Analyses made to determine compliance with 7 MCAR S 1.146 D.2. shall be conducted in accordance with EPA

Organochlorine Methods; or Standard Methods, Method 509-B; or ASTM, Method D-3478-79; or USGS 1979, "Gas Chromatographic Methods for Analysis of Organic Substances in Water," Chapter A-3. See 7 MCAR S 1.147 A.2. for complete title of reference sources.

3. [Unchanged.]

4. [Unchanged.]

5. Total trihalomethanes sampling, analytical and other requirements shall be as described in a.-i.

a. Community water supplies which serve a population of 10,000 or more individuals and which ~~did~~ add a disinfectant (oxidant) to the water in any part of the drinking water treatment process shall analyze for total trihalomethanes in accordance with this section. For systems serving 75,000 or more individuals, sampling and analyses shall begin not later than ~~January 1, 1982~~ the effective date of this rule. For systems serving 10,000 to 74,999 individuals, sampling and analyses shall begin not later than January 1, 1983. For the purpose of this section, the minimum number of samples required to be taken by the system shall be based on the number of treatment plants used by the system, except that multiple wells drawing raw water from a single aquifer are considered one treatment plant for determining the minimum number of samples. All samples taken within an established frequency shall be collected within a 24-hour period.

b. For all community water supplies utilizing surface water sources in whole or in part, and for all community water supplies utilizing only ground water sources that have not been determined by the commissioner to qualify for the monitoring requirements of e. and f., analyses for total trihalomethanes shall be performed at quarterly intervals on at least four water samples for each treatment plant used by the supply. At least 25 percent of the samples shall be taken at locations within the distribution system reflecting the maximum residence time of the water in the system. The remaining 75 percent shall be taken at representative locations in the distribution system, taking into

account number of persons served, different sources of water and different treatment methods employed. The results of all analyses per quarter shall be arithmetically averaged and reported to the commissioner within 30 days of the supply's receipt of such results. All samples collected shall be used in the computation of the average, unless the analytical results are invalidated for technical reasons. Sampling and analyses shall be conducted in accordance with the methods listed in h.

c. Upon the written request of a community water system, the monitoring frequency required by b. may be reduced by the commissioner to a minimum of one sample analyzed for total trihalomethanes per quarter taken at a point in the distribution system reflecting the maximum residence time of the water in the system, upon a written determination by the commissioner that the data from at least one year of monitoring in accordance with b. and local conditions demonstrate that total trihalomethane concentrations will be consistently below the maximum contaminant level.

d. If at any time during which the reduced monitoring frequency prescribed under c. applies, the results from any analysis exceed 0.10 milligrams per liter of total trihalomethanes and such results are confirmed by at least one check sample taken promptly after such results are received, or if the supply makes any significant change to its source of water or treatment program, the supply shall immediately begin monitoring in accordance with the requirements of b. and shall continue that monitoring for at least one year before the frequency may be reduced again.

e. Upon written request to the commissioner, a community water supply utilizing only ground water sources may seek to have the monitoring frequency required by b. reduced to a minimum of one sample for maximum total trihalomethane potential per year for each treatment plant used by the supply taken at a point in the distribution system reflecting maximum residence time of the water in the system. The supply shall submit to the commissioner the results of at least one sample

analyzed for maximum total trihalomethane potential for each treatment plant used by the supply taken at a point in the distribution system reflecting the maximum residence time of the water in the system. The supply's monitoring frequency may only be reduced upon a written determination by the commissioner that, based upon the data submitted by the supply, the supply has a maximum total trihalomethane potential of less than 0.10 milligrams per liter and that, based upon an assessment of the local conditions of the supply, the supply is not likely to approach or exceed the maximum contaminant level for total trihalomethanes. All samples collected shall be used for determining whether the supply must comply with the monitoring requirements of b.-d., unless the analytical results are invalidated for technical reasons. Sampling and analyses shall be conducted in accordance with the methods listed in h.

f. If at any time during which the reduced monitoring frequency prescribed under e. applies, the results from any analysis taken by the supply for maximum total trihalomethane potential are equal to or greater than 0.10 milligrams per liter, and those results are confirmed by at least one check sample taken promptly after such results are received, the supply shall immediately begin monitoring in accordance with the requirements of b.-d. The monitoring shall continue for at least one year before the frequency may be reduced again. In the event of any significant change to the supply's raw water or treatment program, the supply shall immediately analyze an additional sample for maximum total trihalomethane potential taken at a point in the distribution system reflecting maximum residence time of the water in the system for the purpose of determining whether the supply must comply with the monitoring requirements of b.-d.

g. Compliance with 7 MCAR S 1.146 D.3. shall be determined based on a running annual average of quarterly samples collected by the supply as prescribed in b. and c. If the average of samples covering any 12-month period exceeds the maximum contaminant level prescribed in 7 MCAR S 1.146 D.3., the

supplier of water shall report to the state pursuant to 7 MCAR S 1.149 B. and notify the public pursuant to 7 MCAR S 1.149 D. Monitoring after public notification shall be at a frequency designated by the commissioner and shall continue until a monitoring schedule as a condition to a variance, exemption or enforcement action shall become effective.

h. Sampling and analyses made pursuant to this section shall be conducted by one of the following methods:

(1) "The Analysis of Trihalomethanes in Finished Waters by the Purge and Trap Method," Method 501.1, Environmental Monitoring and Support Laboratory, United States Environmental Protection Agency, Cincinnati, Ohio 45268.

(2) "The Analysis of Trihalomethanes in Drinking Water by Liquid/Liquid Extraction," Method 501.2, Environmental Monitoring and Support Laboratory, United States Environmental Protection Agency, Cincinnati, Ohio 45268.

Samples for total trihalomethane shall be dechlorinated upon collection to prevent further production of trihalomethanes, according to the procedures described in (1) and (2). Samples for maximum total trihalomethane potential should not be dechlorinated, and should be held for seven days at 25 degrees Celsius prior to analysis, according to the procedures described in (1) and (2).

i. Before a community water supply makes any significant modifications to its existing treatment process for the purposes of achieving compliance with 7 MCAR S 1.146 C.3., such supply must submit to the commissioner and obtain the commissioner's approval of a detailed plan setting forth its proposed modification and those safeguards that it will implement to ensure that the bacteriological quality of the drinking water served by such supply will not be adversely affected by such modification. Each supply shall comply with the provisions set forth in the plan as approved. At a minimum, an approved plan shall require the system modifying its disinfection practice to:

(1) Evaluate the water supply for sanitary defects

and evaluate the source water for biological quality;

(2) Evaluate its existing treatment practices and consider improvements that will minimize disinfectant demand and optimize finished water quality throughout the distribution system;

(3) Provide baseline water quality survey data of the distribution system. Such data shall include the results from monitoring for coliform and fecal coliform bacteria, standard plate counts at 35 degrees Celsius and 20 degrees Celsius, phosphate, ammonia nitrogen and total organic carbon;

(4) Conduct additional monitoring to assure continued maintenance of optimal biological quality in finished water, for example, when chloramines are introduced as disinfectants or when pre-chlorination is being discontinued; and

(5) Demonstrate an active disinfectant residual throughout the distribution system at all times during and after the modification.

F. [Unchanged.]

G. [Unchanged.]

H. Approved laboratories. For the purpose of determining compliance with A.-F., samples may be considered only if they have been analyzed by a laboratory approved by the commissioner, except that measurements for temperature, pH, turbidity, and free chlorine residual may be performed by any person acceptable to the commissioner.

I. [Unchanged.]

J. [Unchanged.]

K. Special monitoring for sodium.

1. Community public water supplies shall collect and analyze one sample per treatment plant at the entry point of the distribution system for the determination of sodium concentration levels. Samples must be collected and analyzed annually for supplies utilizing surface water sources in whole or in part, and at least every three years for supplies utilizing solely ground water sources. The minimum number of

samples required to be taken by the supply shall be based on the number of treatment plants used by the supply, except that multiple wells drawing raw water from a single aquifer will be considered one treatment plant for determining the minimum number of samples.

2. The supplier of water shall report the results of the analyses for sodium within the first ten days of the month following the month in which the sample results were received or within the first ten days following the end of the required monitoring period as stipulated by the commissioner whichever of these is first. If more than annual sampling is required, the supplier shall report the average sodium concentration within ten days of the month following the month in which the analytical results of the last sample used for the annual average ~~was~~ were received.

3. Analyses for sodium shall be performed by the flame photometric method in accordance with the procedures described in Standard Methods, Method 320A; or EPA Chemical, Method 273.1 or 273.2; or ASTM, Method D-1428-64A. See 7 MCAR S 1.147 A.2. for complete title of reference sources.

L. Special monitoring for corrosivity characteristics.

1. Community public water supplies shall collect samples from a representative entry point to the water distribution system for the purpose of analysis to determine the corrosivity characteristics of the water.

a. The supplier shall collect for analysis for each treatment plant using surface water sources in whole or in part, one sample during mid-winter and one sample during mid-summer. The supplier of the water shall collect for analysis one sample per treatment plant for each treatment plant using ground water sources. The minimum number of samples required to be taken by the supply shall be based on the number of treatment plants used by the supply, except that multiple wells drawing raw water from a single aquifer may be considered one treatment plant for determining the minimum number of samples.

b. Determination of the corrosivity characteristics of

the water shall include measurement of pH, calcium hardness, alkalinity, temperature, total dissolved solids or total filterable residue, and calculation of the Langelier Index in accordance with 3. The determination of corrosivity characteristics shall only include one round of sampling. One round of sampling consists of two samples per treatment plant for surface water and one sample per treatment plant for ground water sources.

2. The supplier of ~~wate~~ water shall report the results of the analyses for the corrosivity characteristics within the first ten days of the month following the month in which the sample results were received. If more frequent sampling is required the supplier can accumulate the data and report each value within ten days of the month following the month in which the analytical results of the last sample were received.

3. Analyses conducted to determine the corrosivity of the water shall be made in accordance to the methods described in a.-f. See 7 MCAR S 1.147 A.2. for complete title of reference sources.

a. Langelier Index--Standard Methods, Method 203.

b. Total Filterable Residue--Standard Methods, Method 208B; or EPA Chemical, Method 160.1.

c. Temperature--Standard Methods, Method 212.

d. Calcium--Standard Methods, Method 306C; or ASTM, Method D-1126-67B.

e. Alkalinity--Standard Methods, Method 403; or ASTM, Method D-1067-70B; or EPA Chemical, Method 310.1.

f. pH--Standard Methods, Method 424; or EPA Chemical, Method 150.1; or ASTM, Method D-1293-78 A or B.

4. Community water supplies shall identify whether the following construction materials are present in their distribution system and report to the commissioner the existence of any of the following materials:

a. Lead from piping, solder, caulking, interior lining of distribution mains, alloys, and home plumbing;

b. Copper from piping and alloys, service lines, and

home plumbing;

c. Galvanized piping, service lines, and home plumbing;

d. Ferrous piping materials such as cast iron and steel;

e. Asbestos cement pipe;

f. Vinyl-lined asbestos cement pipe; or

g. Coal tar lined pipes and tanks.

7 MCAR S 1.149 Record maintenance; reporting; public notification.

A. [Unchanged.]

B. 1. [Unchanged.]

2. Except when a shorter reporting period is specified, all results of tests, analyses or measurements shall be submitted on prescribed reporting forms to the commissioner within the time period specified in a. or b., whichever is shorter:

a. The first ten days following the month in which the result is received by the supplier; or

b. The first ten days following the end of the required monitoring period as stipulated by the commissioner.

3. [Unchanged.]

4. [Unchanged.]

5. [Unchanged.]

C. [Unchanged.]

D. [Unchanged.]

APPROVED AS TO LEGALITY
April 1, 1982
WARREN SPANNAUS, ATTORNEY GENERAL
BY Tony D. Thom
SPECIAL ASSISTANT ATTORNEY GENERAL

STATE OF MINNESOTA
DEPARTMENT OF STATE
FILED
APR 1 1982
Joan Anderson Growe
Secretary of State

3:55 P.M.

DEPARTMENT OF HEALTH

DIVISION OF ENVIRONMENTAL HEALTH

Amendment to Rules Relating to Public Water Supplies Proposed for Adoption Without Public Hearing

Rules as Proposed

7 MCAR S 1.145 General information and definitions.

A. [Unchanged.]

B. Definitions. The following definitions apply to 7 MCAR SS 1.145-1.149, unless the context indicates otherwise.

1. Commissioner. "Commissioner" means the commissioner of health, or his or her authorized representative.

2. Disinfectant. "Disinfectant" means any oxidant, including but not limited to chlorine, chlorine dioxide, chloramines, and ozone added to water in any part of the treatment or distribution process, that is intended to kill or inactivate pathogenic micro-organisms.

3. Dose equivalent. "Dose equivalent" means the product of the absorbed dose from ionizing radiation and such factors as account for differences in biological effectiveness due to the type of radiation and its distribution in the body as specified by the International Commission on Radiological Units and Measurements (ICRU).

3. 4. Exemption. "Exemption" means a waiver which may be granted by the commissioner to a supply which is in operation on June 24, 1977:

a. When a maximum contaminant level or required treatment cannot be complied with because of economic or other

compelling factors; and

b. If granting the waiver will not result in an unreasonable risk to health.

Such an exemption must be conditioned upon a schedule for compliance with these rules by the dates specified in 7 MCAR S 1.148 B.8. and 9.

4. 5. Federal act. "Federal act" means the Safe Drinking Water Act of 1974, P.L. 93-523, 42 U.S.C. 300 f, and amendments thereto.

5. 6. Federal regulations. "Federal regulations" means regulations dealing with public water supplies and drinking water quality, promulgated by the Administrator of the United States Environmental Protection Agency pursuant to the federal act.

6. 7. Gross alpha particle activity. "Gross alpha particle activity" means the total radioactivity due to alpha particle emission as inferred from measurements on a dry sample.

7. 8. Gross beta particle activity. "Gross beta particle activity" means the total radioactivity due to beta particle emission as inferred from measurements on a dry sample.

9. Halogen. "Halogen" means one of the chemical elements chlorine, bromine, or iodine.

8. 10. Man-made beta particle and photon emitters. "Man-made beta particle and photon emitters" means all radionuclides emitting beta particles and/or photons listed in Maximum Permissible Body Burdens and Maximum Permissible Concentration of Radionuclides in Air or Water for Occupational Exposure, NBS Handbook 69, except the daughter products of thorium-232, uranium-235 and uranium-238.

9. 11. Maximum contaminant level. "Maximum contaminant level" means the maximum permissible level of a contaminant (any physical, chemical, biological, or radiological substance or matter) in water which is delivered to the free flowing outlet of the ultimate user of a public water supply; except in the case of turbidity where the maximum permissible level is measured at the point of entry to the distribution system.

Contaminants added to the water under circumstances controlled by the user, except for those resulting from corrosion of piping and plumbing caused by water quality are excluded from this definition.

12. Maximum total trihalomethane potential. "Maximum total trihalomethane potential" means the maximum concentration of total trihalomethanes produced in a given water containing a disinfectant residual after seven days at a temperature of 25 degrees Celsius or above.

~~10.~~ 13. Person. "Person" means an individual, partnership, copartnership, cooperative, public or private association or corporation, public subdivision, agency of the state or federal government or any other legal entity or its legal representative, agent or assigns.

~~11.~~ 14. Picocurie. "Picocurie (pCi)" means that quantity of radioactive material producing 2.22 nuclear transformations per minute.

~~12.~~ 15. Public water supply. "Public water supply" ~~(supply)~~ or "supply" means a system providing piped water for human consumption, and either containing a minimum of 15 service connections or 15 living units, or serving at least 25 persons daily for 60 days of the year. Such term includes:

~~(A)~~ a. Any collection, treatment, storage, and distribution facilities under control of the operator of the supply and used primarily in connection with the supply; and

~~(B)~~ b. Any collection or pre-treatment storage facilities used primarily in connection with the supply but not under control of the operator. A public water supply is either a community or a non-community water supply.

~~a.~~ (1) "Community water supply" means a public water supply or system which serves at least 15 service connections or living units used by year-round residents, or regularly serves at least 25 year-round residents.

~~b.~~ (2) "Non-community water supply" means any public water supply that is not a community water supply. The following are given as examples of non-community water supplies

and are in no way meant to be an exhaustive list: seasonal facilities such as children's camps, recreational camping areas, resorts, or year-round facilities which serve at least 25 persons who are not residents thereof, such as churches, entertainment facilities, factories, gasoline service stations, marinas, migrant labor camps, office buildings, parks, restaurants, schools.

~~13.~~ 16. Rem. "Rem" means the unit of dose equivalent from ionizing radiation to the total body or any internal organ or organ system. A "millirem (mrem)" is 1/1000 of a rem.

~~14.~~ 17. Sanitary survey. "Sanitary survey" means an on-site review of the water source, facilities, equipment, operation and maintenance of a public water supply for the purpose of evaluating the adequacy of the source, facilities, equipment, operation and maintenance for producing and distributing safe drinking water.

~~15.~~ 18. Standard sample. "Standard sample" means the aliquot of finished drinking water that is examined for the presence of coliform bacteria.

~~16.~~ 19. Supplier. "Supplier" means any person who owns, manages, or operates a public water supply, whether or not he is an operator certified pursuant to Minn. Stat. S 115.71, et. seq. ~~(1976)~~, 115.82.

20. Total trihalomethanes. "Total trihalomethanes" means the sum of the concentration in milligrams per liter of the trihalomethane compounds: trichloromethane (chloroform), dibromochloromethane, bromodichloromethane and tribromomethane (bromoform), rounded to two significant figures.

21. Trihalomethane. "Trihalomethane" means one of the family of organic compounds named as derivatives of methane, wherein three of the four hydrogen atoms in methane are each substituted by a halogen atom in the molecular structure.

~~17.~~ 22. Turbidity unit. "Turbidity unit" means an amount of turbidity equivalent to that in a solution composed of .000125 % percent hydrazine sulfate and .00125 % percent hexamethylenetetramine in distilled and filtered (100 µ. pore

size membrane) water, as measured by a nephelometric turbidimeter.

~~18.~~ 23. Variance. "Variance" means a waiver which may be granted by the commissioner to a supply:

a. Which, due to the raw water quality reasonably available, cannot comply with a maximum contaminant level, despite application of the best known and available technology for treatment or other means; and

b. If granting the waiver will not result in an unreasonable risk to health.

Such a variance must be conditioned upon a schedule for implementation of control measures, and may specify an indefinite time period for compliance with the maximum contaminant level or required treatment.

~~19.~~ 24. Year-round resident. "Year-round resident" means a person who resides in the area served by the public water supply for more than six months of the year.

C. Scope and coverage.

1. These rules prescribe standards for water supply siting and construction, set maximum contaminant levels for turbidity, microbiological constituents, organic and inorganic chemicals, and radioactivity, prescribe a frequency for monitoring the levels of these constituents and sodium and corrosivity, and prescribe the procedures for reporting results, notifying the public and for maintaining records.

2. The standards and procedures adopted in 7 MCAR SS 1.145-1.149 inclusive shall apply to all public drinking water supplies, pursuant to authority granted by existing statutes and amendments thereto, notwithstanding any other water quality standards or regulations~~, except that these rules shall not be enforced against any federal facility in the state~~.

3. [Unchanged.]

7 MCAR S 1.146 Maximum contaminant levels. The following levels ~~stated below~~ shall be the enforceable maximum contaminant levels for all public water supplies in the state~~, from the date on~~

~~which these rules take effect~~.

A. Microbiological. The maximum contaminant levels for coliform bacteria, applicable to both community and non-community water supplies, are as follows:

1. When the membrane filter technique pursuant to 7 MCAR S 1.147 B.1.a. is used, the number of coliform bacteria shall not exceed any of the following:

a. One per 100 milliliters as the arithmetic mean of all samples examined per ~~month~~ compliance period pursuant to 7 MCAR S 1.147 B.2. or 7 MCAR S 1.147 B.3., except that systems required to take ten or fewer samples per month may exclude one positive routine sample per month from the monthly calculation if:

(1) The commissioner determines and indicates in writing to the public water supply that no unreasonable risk to health existed, after having considered the following factors:

(a) The system provided and had maintained an active disinfectant residual in the distribution system;

(b) The potential for contamination as indicated by a sanitary survey; and

(c) The history of the water quality at the public water supply;

(2) The supplier initiates a check sample on each of two consecutive days from the same sampling point within 24 hours after notification that the routine sample is positive, and each of these check samples is negative; and

(3) The original positive routine sample is reported and recorded by the supplier pursuant to 7 MCAR S 1.149 A. and B.

The supplier shall report to the commissioner its compliance with the conditions specified in 1.a. and a summary of the corrective action taken to resolve the prior positive sample result. If a positive routine sample is not used for the monthly calculation, another routine sample must be analyzed for compliance purposes. This provision may be used only once during two consecutive compliance periods.

b. [Unchanged.]

c. [Unchanged.]

2. a. When the fermentation tube method and 10 milliliter standard portions pursuant to 7 MCAR S 1.147 B.1.b. are used, coliform bacteria shall not be present in any of the following:

(1) More than 10 percent of the portions in any month pursuant to 7 MCAR S 1.147 B.2. or 7 MCAR S 1.147 B.3., except that systems required to take ten or fewer samples per month may exclude one positive routine sample resulting in one or more positive tubes per month from the monthly calculation if:

(a) The commissioner determines that the supply maintains an active disinfectant residual in the distribution system, or the commissioner determines in writing to the public water system that no unreasonable risk to health existed under the circumstances;

(b) The supplier initiates a check sample on each of two consecutive days from the sampling point within 24 hours after notification that the routine sample is positive, and each of these check samples is negative; and

(c) The original positive routine sample is reported and recorded by the supplier pursuant to 7 MCAR S 1.149 A. and B.

The supplier shall report to the commissioner its compliance with the conditions specified in 2.a.(1) and a summary of the action taken to resolve the prior positive sample result. If a positive routine sample is not used for the monthly calculation, another routine sample must be analyzed for compliance purposes. This provision may be used only once during two consecutive compliance periods.

(2) Three or more portions in more than one sample when less than 20 samples are examined per month; or

(3) Three or more portions in more than five percent of the samples when 20 or more samples are examined per month.

b. When the fermentation tube method and 100 milliliter standard portions pursuant to 7 MCAR S 1.147 B.1.b. are used, coliform bacteria shall not be present in any of the following:

(1) More than 60 percent of the portions in any month pursuant to 7 MCAR S 1.147 B.2. or 7 MCAR S 1.147 B.3.; except that systems required to take ten or fewer samples per month may exclude one positive routine sample resulting in one or more positive tubes per month from the monthly calculation if:

(a) The commissioner determines that the supplier maintains an active disinfectant residual in the distribution system, or the commissioner determines in writing to the public water system that no unreasonable risk to health existed under the circumstances;

(b) The supplier initiates two consecutive daily check samples from the same sampling point within 24 hours after notification that the routine sample is positive, and each of these check samples is negative; and

(c) The original positive routine sample is reported and recorded by the supplier pursuant to 7 MCAR S 1.149 A. and B.

The supplier shall report to the state its compliance with the conditions specified in 2.b.(1) and a summary of the corrective action taken to resolve the prior positive sample result. If a positive routine sample is not used for the monthly calculation, another routine sample must be analyzed for compliance purposes. This provision may be used only once during two consecutive compliance periods.

(2) Five portions in more than one sample when less than five samples are examined per month; or,

(3) Five portions in more than 20 percent of the samples when five or more samples are examined per month.

3. For community or non-community supplies that are required to sample at a rate of less than 4 four per month, compliance with ~~paragraphs~~ 1. or 2. ~~of part A of this rule~~ shall be based upon sampling during a ~~3~~ three-month period, except that, at the discretion of the commissioner compliance may be based upon sampling during a one-month period.

4. If an average maximum contaminant level violation is caused by a single sample maximum contaminant level violation,

then the case shall be treated as one violation with respect to the public notification requirements of 7 MCAR S 1.149 D.

B. [Unchanged.]

C. Inorganics. ~~The maximum contaminant level for nitrate applies to both community and non-community water supplies. The levels for the other inorganic chemicals apply only to community water supplies. Compliance with maximum contaminant levels for inorganic chemicals is calculated pursuant to 7 MCAR S 1.147 D. 3., 4., 5., and 6.~~

1. The following are the maximum contaminant levels for inorganic chemicals applicable to community water supplies:

Contaminant	Level, milligrams per liter
Arsenic	0.05
Barium	1.
Cadmium	0.010
Chromium	0.05
Fluoride	~~2.4~~ 2.2
Lead	0.05
Mercury	0.002
Nitrate (as N)	10.
Selenium	0.01
Silver	0.05

2. Compliance with maximum contaminant levels for inorganic chemicals shall be calculated in accordance with 7 MCAR S 1.147 D.3.-6.

3. The maximum contaminant level for nitrate listed in 1. also applies to non-community water supplies, except that a nitrate level not in excess of 20 milligrams per liter may be allowed in a non-community water supply if the supplier demonstrates to the satisfaction of the commissioner that:

a. The water will not be available to children under six months of age;

b. There will be continuous posting of the fact that

nitrate levels exceed 10 milligrams per liter and the potential health effects of exposure;

c. Local public health authorities and the commissioner will be notified annually of nitrate levels that exceed 10 milligrams per liter; and

d. No adverse health effects shall result.

D. Organics. The following are the maximum contaminant levels for organic chemicals. They apply only to community water supplies. Compliance with maximum contaminant levels for organic chemicals is calculated pursuant to 7 MCAR S 1.147 E.2., 3., and 4.

1. [Unchanged.]

2. [Unchanged.]

3. The maximum contaminant level for total trihalomethane is 0.10 milligrams per liter. This maximum contaminant level applies only to public water supplies which serve a population of 10,000 or more persons, and which add a disinfectant (oxidant) to the water in any part of the drinking water treatment process. Compliance with the maximum contaminant level for total trihalomethane shall be calculated in accordance with 7 MCAR S 1.147 E.5.

E. [Unchanged.]

7 MCAR S 1.147 Monitoring and analytical requirements.

A. In general.

1. It shall be the responsibility of the supplier of water to monitor the quality of the water in his supply, according to the sampling schedules and testing procedures prescribed in this rule. Where a supplier has the capability for on-site testing for turbidity and/or maintains a laboratory approved to test for coliform bacteria, such supplier shall follow the relevant procedures in the appropriate parts of this rule. If an approved on-site laboratory is not available, the supplier of water shall send his water samples to an appropriate approved testing laboratory, according to procedures prescribed by the commissioner. Such procedures shall be prescribed for

each supplier, and shall include a description of the type of container to be used, the manner in which the container shall be handled and delivered to the laboratory, and the date by which a sample must be sent to the approved laboratory for testing.

2. The following terms, which are used in B.-L., shall have the meanings given them.

a. "EPA Chemical" means "Methods of Chemical Analysis of Water and Wastes," United States Environmental Protection Agency, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio 45268 (EPA-600/4-79-020) March 1979, available from ORD Publications, CERI, Environmental Protection Agency, Cincinnati, Ohio 45268. For approved analytical procedures for metals, the technique applicable to total metals must be used.

b. "Standard Methods" means "Standard Methods for the Examination of Water and Wastewater," 14th Edition, American Public Health Association, 1015 15th Street N.W., Washington, D.C. 20005.

c. "USGS 1979" means "Techniques of Water Resources Investigation of the United States Geological Survey." Chapter A-1, "Methods for Determination of Inorganic Substances in Water and Fluvial Sediments," Book 5, 1979, (Stock #024-001-03177-9, available from Superintendent of Documents, United States Government Printing Office, Washington, D.C. 20402).

d. "ASTM" means Annual Book of ASTM Standards, Part 31 Water, 1979, American Society for Testing and Materials, 1916 Race Street, Philadelphia, Pennsylvania 19103.

e. "USGS 1972" means "Techniques of Water Resources Investigation of the United States Geological Survey," Chapter A-3, "Methods of Analysis of Organic Substances in Water," Book 5, 1972 (Stock #2401-1227, available from Superintendent of Documents, United States Government Printing Office, Washington, D.C. 20402).

f. "EPA Microbiological" means "Microbiological Methods for Monitoring the Environment, Water and Wastes" United States Environmental Protection Agency, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio,

45268--EPA--600/8-78-017, December 1978 (available from ORD Publications, CERI, United States Environmental Protection Agency, Cincinnati, Ohio 45268).

g. "EPA Organochlorine Methods" means "Methods for Organochlorine Pesticides and Chlorophenoxy Acid Herbicides in Drinking Water and Raw Source Water," (available from ORD Publications, CERI, United States Environmental Protection Agency, Cincinnati, Ohio 45268).

B. Microbiological contaminant sampling and analytical requirements.

1. Analyses for coliform bacteria shall be made for the purpose of determining compliance with 7 MCAR S 1.146 A. Analyses shall be conducted in accordance with the analytical recommendations set forth in "Standard Methods ~~for the Examination of Water and Wastewater,~~" ~~American Public Health Association, 13th Edition, pp.~~ 662-688, Method 908A, Paragraphs 1, 2 and 3; or Method 908D, Table 908:I; or Method 909A; or EPA Microbiological Methods Part III, Section B 1.0 to 2.6.2, 2.7 to 2.7.2(c); or Part III, Section B 4.0 to 4.6.4(c), except that a standard sample size as referred to ~~below~~ in a. and b. shall be employed. See A.2.b. and f. for complete title of reference sources.

a. [Unchanged.]

b. [Unchanged.]

2. [Unchanged.]

3. The supplier of water for a non-community water supply shall sample for coliform bacteria at least once in each calendar quarter during which the supply provides water to the public. Such sampling shall begin before June 24, 1979. If the commissioner determines, on the basis of a sanitary survey which includes a determination of compliance with the Minnesota Water Well Construction Code, 7 MCAR SS 1.210-1.224, that it is more appropriate for the supply to sample on a frequency other than quarterly, the commissioner shall impose a special sampling frequency. Such special frequency shall then be the frequency required under these rules, ~~except that in no case shall~~

sampling be reduced to less than once per year. Such a special sampling frequency and shall be confirmed or changed on the basis of subsequent surveys.

4. [Unchanged.]

5. [Unchanged.]

6. [Unchanged.]

7. [Unchanged.]

8. [Unchanged.]

9. [Unchanged.]

C. Turbidity sampling and analytical requirements.

1. a. All public water supplies, whether community or non-community, which use water obtained in whole or in part from surface sources must be sampled for turbidity. Such samples shall be taken by suppliers at representative points of entry into the water distribution system at least once per day, for the purpose of making turbidity measurements to determine compliance with 7 MCAR S 1.146 B.

b. The commissioner may reduce the sampling frequency for a non-community water supply if he determines that this reduced sampling frequency will not pose a risk to the public health and notifies the non-community water supply of this determination in writing. Such a reduction may be granted only if the non-community water supply practices disinfection and maintains an active disinfectant residual in the distribution system.

c. The measurement shall be made by the Nephelometric Method in accordance with the recommendations set forth in "Standard Methods for the Examination of Water and Wastewater," American Public Health Association, 13th Edition, pp. 350-353, or "Methods for Chemical Analysis of Water and Wastes," pp. 295-298, Environmental Protection Agency, Office of Technology Transfer, Washington, D.C. 20460, 1974 or EPA Chemical, Nephelometric Method, 180.1.1., as further described in A.2.a. and b.

d. Sampling by community water supplies shall begin before the effective date of these rules. Sampling by non-community water supplies shall begin before June 24, 1979.

2. [Unchanged.]

D. Inorganic chemical contaminant sampling and analytical requirements.

1. [Unchanged.]

2. [Unchanged.]

3. Analyses conducted to determine compliance with 7 MCAR S 1.146 C. shall be made in accordance with the following methods: a.-j. See A.2. for complete title of reference sources.

a. Arsenic - Atomic Absorption Method, "Methods for Chemical Analysis of Water and Wastes," pp. 95-96, Environmental Protection Agency, Office of Technology Transfer, Washington, D.C. 20460, 1974: EPA Chemical Method 206.2, or Method 206.3, or Method 206.4; or Standard Methods, Method 404-A and 404-B(4), or Method 301.A VII; or USGS 1979, Method I-1062-78; or ASTM, Method D-2972-78A, D-2972-78B.

b. Barium - Atomic Absorption Method, "Standard Methods for the Examination of Water and Wastewater," 13th Edition, pp. 210-215, or "Methods for Chemical Analysis of Water and Wastes," pp. 97-98, Environmental Protection Agency, Office of Technology Transfer, Washington, D.C. 20460, 1974: EPA Chemical Method 208.1, or 208.2; or Standard Methods, Method 301-A IV.

c. Cadmium - Atomic Absorption Method, "Standard Methods for the Examination of Water and Wastewater," 13th Edition, pp. 210-215, or "Methods for Chemical Analysis of Water and Wastes," pp. 101-103, Environmental Protection Agency, Office of Technology Transfer, Washington, D.C. 20460, 1974: EPA Chemical, Method 213.1, or 213.2; or Standard Methods, Method 301-A II or III; or ASTM, Method 3447-78A.

d. Chromium - Atomic Absorption Method, "Standard Methods for the Examination of Water and Wastewater," 13th Edition, pp. 210-215, or "Methods for Chemical Analysis of Water and Wastes," pp. 105-106, Environmental Protection Agency, Office of Technology Transfer, Washington, D.C. 20460, 1974: EPA

Chemical, Method 218.1, or 218.2; or Standard Methods, Method 301-A II or III; or ASTM, Method D-1687-77D.

e. Fluoride: EPA Chemical, Method 340.1 or 340.2, or 340.3; or Standard Methods, Method 414-A, or 414-B, or 414-C, or 603; or USGS 1979, Method I-3325-78; or ASTM, Method D-1179-72A, or D-1179-72B; or Industrial Method #129-71W, Fluoride in Water and Wastewater, Technicon Industrial Systems, Tarrytown, New York 10591, December 1972; or Industrial Method #380-75WE, Automated Electrode Method, Fluoride in Water and Wastewater, Technicon Industrial Systems, Tarrytown, New York, February 1976.

~~f. Lead - Atomic Absorption Method, "Standard Methods for the Examination of Water and Wastewater," 13th Edition, pp. 210-215, or "Methods for Chemical Analysis of Water and Wastes," pp. 112-113, Environmental Protection Agency, Office of Technology Transfer, Washington, D.C. 20460, 1974: EPA Chemical, Method 239.1 or 239.2; or Standard Methods, Method 301-A II or III; or ASTM, Method D-3559-79A or B.~~

~~f.~~ g. Mercury - Flameless Atomic Absorption Method, "Methods for Chemical Analysis of Water and Wastes," pp. 118-126, Environmental Protection Agency, Office of Technology Transfer, Washington, D.C. 20460, 1974: EPA Chemical, Method 245.1 or 245.2; or Standard Methods, Method 301-A VI; or ASTM, Method D-3223-79.

~~g.~~ h. Nitrate - Brucine Colorimetric Method, "Methods for the Examination of Water and Wastewater," 13th Edition, pp. 461-464, or Cadmium Reduction Method, "Methods for Chemical Analysis of Water and Wastes," pp. 201-206, Environmental Protection Agency, Office of Technology Transfer, Washington, D.C. 20460, 1974: EPA Chemical, Method 352.1, or 353.1 or 353.2 or 353.3; or Standard Methods, Method 419-D, or 419-C, or 605; or ASTM, Method D-992-71, or D-3867-79A or D-3867-79B.

~~h.~~ i. Selenium - Atomic Absorption Method, "Methods for Chemical Analysis of Water and Wastes," p. 145, Environmental Protection Agency, Office of Technology Transfer, Washington, D.C. 20460, 1974: EPA Chemical, Method 270.2 or 270.3; or Standard Methods, Method 301-A VII; or USGS 1979,

Method I-1667-78; or ASTM, Method D-3859-79.

~~i.~~ j. Silver - Atomic Absorption Method, "Standard Methods for the Examination of Water and Wastewater," 13th Edition, pp. 210-215, or "Methods for Chemical Analysis of Water and Wastes," p. 146, Environmental Protection Agency, Office of Technology Transfer, Washington, D.C. 20460, 1974: EPA Chemical, Method 272.1 or 272.2; or Standard Methods, Method 301-A II.

~~j.~~ Fluoride - Electrode Method, "Standard Methods for the Examination of Water and Wastewater," 13th Edition, pp. 172-174 or "Methods for Chemical Analysis of Water and Wastes," pp. 65-67, Environmental Protection Agency, Office of Technology Transfer, Washington, D.C. 20460, 1974, or Colorimetric Method with Preliminary Distillation, "Standard Methods for the Examination of Water and Wastewater," 13th Edition, pp. 171-172 and 174-176, or "Methods for Chemical Analysis of Water and Wastes," pp. 59-60, Environmental Protection Agency, Office of Technology Transfer, Washington, D.C. 20460, 1974.

4. [Unchanged.]

5. [Unchanged.]

6. [Unchanged.]

E. Organic chemical contaminant sampling and analytical requirements.

1. [Unchanged.]

2. Analytical requirements for compliance with 7 MCAR S 1.146 D.1. and 7 MCAR S 1.146 D.2. shall be as described in a. and b.

a. Analyses made to determine compliance with 7 MCAR S 1.146 D.1. shall be made in accordance with "Method for Organochlorine Pesticides in Industrial Effluents," MDQARL, Environmental Protection Agency, Cincinnati, Ohio, November 28, 1973 EPA Organochlorine Methods; or Standard Methods, Method 509-A; or ASTM, Method D-3086-79; or USGS 1972, Gas Chromatographic Methods for Analysis of Organic Substances in Water, Chapter A-3. See 7 MCAR S 1.147 A.2. for complete title of reference sources.

b. Analyses made to determine compliance with 7 MCAR S 1.146 D.2. shall be conducted in accordance with ~~"Methods for Chlorinated Phenoxy Acid Herbicides in Industrial Effluents," MDGARL, Environmental Protection Agency, Cincinnati, Ohio, November 28, 1973~~ EPA Organochlorine Methods; or Standard Methods, Method 509-B; or ASTM, Method D-3478-79; or USGS 1979, Gas Chromatographic Methods for Analysis of Organic Substances in Water, Chapter A-3. See 7 MCAR S 1.147 A.2. for complete title of reference sources.

3. [Unchanged.]

4. [Unchanged.]

5. Total trihalomethanes sampling, analytical and other requirements shall be as described in a.-i.

a. Community water supplies which serve a population of 10,000 or more individuals and which add a disinfectant (oxidant) to the water in any part of the drinking water treatment process shall analyze for total trihalomethanes in accordance with this section. For systems serving 75,000 or more individuals, sampling and analyses shall begin not later than the effective date of this rule. For systems serving 10,000 to 74,999 individuals, sampling and analyses shall begin not later than January 1, 1983. For the purpose of this section, the minimum number of samples required to be taken by the system shall be based on the number of treatment plants used by the system, except that multiple wells drawing raw water from a single aquifer are considered one treatment plant for determining the minimum number of samples. All samples taken within an established frequency shall be collected within a 24-hour period.

b. For all community water supplies utilizing surface water sources in whole or in part, and for all community water supplies utilizing only ground water sources that have not been determined by the commissioner to qualify for the monitoring requirements of e. and f., analyses for total trihalomethanes shall be performed at quarterly intervals on at least four water samples for each treatment plant used by the supply. At least 25 percent of the samples shall be taken at locations within the

distribution system reflecting the maximum residence time of the water in the system. The remaining 75 percent shall be taken at representative locations in the distribution system, taking into account number of persons served, different sources of water and different treatment methods employed. The results of all analyses per quarter shall be arithmetically averaged and reported to the commissioner within 30 days of the supply's receipt of such results. All samples collected shall be used in the computation of the average, unless the analytical results are invalidated for technical reasons. Sampling and analyses shall be conducted in accordance with the methods listed in h.

c. Upon the written request of a community water system, the monitoring frequency required by b. may be reduced by the commissioner to a minimum of one sample analyzed for total trihalomethanes per quarter taken at a point in the distribution system reflecting the maximum residence time of the water in the system, upon a written determination by the commissioner that the data from at least one year of monitoring in accordance with b. and local conditions demonstrate that total trihalomethane concentrations will be consistently below the maximum contaminant level.

d. If at any time during which the reduced monitoring frequency prescribed under c. applies, the results from any analysis exceed 0.10 milligrams per liter of total trihalomethanes and such results are confirmed by at least one check sample taken promptly after such results are received, or if the supply makes any significant change to its source of water or treatment program, the supply shall immediately begin monitoring in accordance with the requirements of b. and shall continue that monitoring for at least one year before the frequency may be reduced again.

e. Upon written request to the commissioner, a community water supply utilizing only ground water sources may seek to have the monitoring frequency required by b. reduced to a minimum of one sample for maximum total trihalomethane potential per year for each treatment plant used by the supply

taken at a point in the distribution system reflecting maximum residence time of the water in the system. The supply shall submit to the commissioner the results of at least one sample analyzed for maximum total trihalomethane potential for each treatment plant used by the supply taken at a point in the distribution system reflecting the maximum residence time of the water in the system. The supply's monitoring frequency may only be reduced upon a written determination by the commissioner that, based upon the data submitted by the supply, the supply has a maximum total trihalomethane potential of less than 0.10 milligrams per liter and that, based upon an assessment of the local conditions of the supply, the supply is not likely to approach or exceed the maximum contaminant level for total trihalomethanes. All samples collected shall be used for determining whether the supply must comply with the monitoring requirements of b.-d., unless the analytical results are invalidated for technical reasons. Sampling and analyses shall be conducted in accordance with the methods listed in h.

f. If at any time during which the reduced monitoring frequency prescribed under e. applies, the results from any analysis taken by the supply for maximum total trihalomethane potential are equal to or greater than 0.10 milligrams per liter, and those results are confirmed by at least one check sample taken promptly after such results are received, the supply shall immediately begin monitoring in accordance with the requirements of b.-d. The monitoring shall continue for at least one year before the frequency may be reduced again. In the event of any significant change to the supply's raw water or treatment program, the supply shall immediately analyze an additional sample for maximum total trihalomethane potential taken at a point in the distribution system reflecting maximum residence time of the water in the system for the purpose of determining whether the supply must comply with the monitoring requirements of b.-d.

g. Compliance with 7 MCAR S 1.146 D.3. shall be determined based on a running annual average of quarterly

samples collected by the supply as prescribed in b. and c. If the average of samples covering any 12-month period exceeds the maximum contaminant level prescribed in 7 MCAR S 1.146 D.3., the supplier of water shall report to the state pursuant to 7 MCAR S 1.149 B. and notify the public pursuant to 7 MCAR S 1.149 D. Monitoring after public notification shall be at a frequency designated by the commissioner and shall continue until a monitoring schedule as a condition to a variance, exemption or enforcement action shall become effective.

h. Sampling and analyses made pursuant to this section shall be conducted by one of the following methods:

(1) "The Analysis of Trihalomethanes in Finished Waters by the Purge and Trap Method," Method 501.1, Environmental Monitoring and Support Laboratory, United States Environmental Protection Agency, Cincinnati, Ohio 45268.

(2) "The Analysis of Trihalomethanes in Drinking Water by Liquid/Liquid Extraction," Method 501.2, Environmental Monitoring and Support Laboratory, United States Environmental Protection Agency, Cincinnati, Ohio 45268.

Samples for total trihalomethane shall be dechlorinated upon collection to prevent further production of trihalomethanes, according to the procedures described in (1) and (2). Samples for maximum total trihalomethane potential should not be dechlorinated, and should be held for seven days at 25 degrees Celsius prior to analysis, according to the procedures described in (1) and (2).

i. Before a community water supply makes any significant modifications to its existing treatment process for the purposes of achieving compliance with 7 MCAR S 1.146 C.3., such supply must submit to the commissioner and obtain the commissioner's approval of a detailed plan setting forth its proposed modification and those safeguards that it will implement to ensure that the bacteriological quality of the drinking water served by such supply will not be adversely affected by such modification. Each supply shall comply with the provisions set forth in the plan as approved. At a minimum,

an approved plan shall require the system modifying its disinfection practice to:

(1) Evaluate the water supply for sanitary defects and evaluate the source water for biological quality;

(2) Evaluate its existing treatment practices and consider improvements that will minimize disinfectant demand and optimize finished water quality throughout the distribution system;

(3) Provide baseline water quality survey data of the distribution system. Such data shall include the results from monitoring for coliform and fecal coliform bacteria, standard plate counts at 35 degrees Celsius and 20 degrees Celsius, phosphate, ammonia nitrogen and total organic carbon;

(4) Conduct additional monitoring to assure continued maintenance of optimal biological quality in finished water, for example, when chloramines are introduced as disinfectants or when pre-chlorination is being discontinued; and

(5) Demonstrate an active disinfectant residual throughout the distribution system at all times during and after the modification.

F. [Unchanged.]

G. [Unchanged.]

H. Approved laboratories. For the purpose of determining compliance with ~~parts A through F of this rule~~ A.-F., samples may be considered only if they have been analyzed by a laboratory approved by the commissioner, except that measurements for temperature, pH, turbidity, and free chlorine residual may be performed by any person acceptable to the commissioner.

I. [Unchanged.]

J. [Unchanged.]

K. Special monitoring for sodium.

1. Community public water supplies shall collect and analyze one sample per treatment plant at the entry point of the distribution system for the determination of sodium

concentration levels. Samples must be collected and analyzed annually for supplies utilizing surface water sources in whole or in part, and at least every three years for supplies utilizing solely ground water sources. The minimum number of samples required to be taken by the supply shall be based on the number of treatment plants used by the supply, except that multiple wells drawing raw water from a single aquifer will be considered one treatment plant for determining the minimum number of samples.

2. The supplier of water shall report the results of the analyses for sodium within the first ten days of the month following the month in which the sample results were received or within the first ten days following the end of the required monitoring period as stipulated by the commissioner whichever of these is first. If more than annual sampling is required the supplier shall report the average sodium concentration within ten days of the month following the month in which the analytical results of the last sample used for the annual average was received.

3. Analyses for sodium shall be performed by the flame photometric method in accordance with the procedures described in Standard Methods, Method 320A; or EPA Chemical, Method 273.1 or 273.2; or ASTM, Method D-1428-64A. See 7 MCAR S 1.147 A.2. for complete title of reference sources.

L. Special monitoring for corrosivity characteristics.

1. Community public water supplies shall collect samples from a representative entry point to the water distribution system for the purpose of analysis to determine the corrosivity characteristics of the water.

a. The supplier shall collect for analysis for each treatment plant using surface water sources in whole or in part, one sample during mid-winter and one sample during mid-summer. The supplier of the water shall collect for analysis one sample per treatment plant for each treatment plant using ground water sources. The minimum number of samples required to be taken by the supply shall be based on the number of treatment plants used

by the supply, except that multiple wells drawing raw water from a single aquifer may be considered one treatment plant for determining the minimum number of samples.

b. Determination of the corrosivity characteristics of the water shall include measurement of pH, calcium hardness, alkalinity, temperature, total dissolved solids or total filterable residue, and calculation of the Langelier Index in accordance with 3. The determination of corrosivity characteristics shall only include one round of sampling. One round of sampling consists of two samples per treatment plant for surface water and one sample per treatment plant for ground water sources.

2. The supplier of water shall report the results of the analyses for the corrosivity characteristics within the first ten days of the month following the month in which the sample results were received. If more frequent sampling is required the supplier can accumulate the data and report each value within ten days of the month following the month in which the analytical results of the last sample were received.

3. Analyses conducted to determine the corrosivity of the water shall be made in accordance to the methods described in a.-f. See 7 MCAR S 1.147 A.2. for complete title of reference sources.

a. Langelier Index--Standard Methods, Method 203.

b. Total Filterable Residue--Standard Methods, Method 208B; or EPA Chemical, Method 160.1.

c. Temperature--Standard Methods, Method 212.

d. Calcium--Standard Methods, Method 306C; or ASTM, Method D-1126-67B.

e. Alkalinity--Standard Methods, Method 403; or ASTM, Method D-1067-70B; or EPA Chemical, Method 310.1.

f. pH--Standard Methods, Method 424; or EPA Chemical, Method 150.1; or ASTM, Method D-1293-78 A or B.

4. Community water supplies shall identify whether the following construction materials are present in their distribution system and report to the commissioner the existence

of any of the following materials:

a. Lead from piping, solder, caulking, interior lining of distribution mains, alloys, and home plumbing;

b. Copper from piping and alloys, service lines, and home plumbing;

c. Galvanized piping, service lines, and home plumbing;

d. Ferrous piping materials such as cast iron and steel;

e. Asbestos cement pipe;

f. Vinyl-lined asbestos cement pipe; or

g. Coal tar lined pipes and tanks.

7 MCAR S 1.149 Record maintenance; reporting; public notification.

A. [Unchanged.]

B. 1. [Unchanged.]

2. Except where when a shorter reporting period is specified, all results of tests, analyses or measurements shall be submitted on prescribed reporting forms to the commissioner within ~~40 days~~ the time period specified in a. or b., whichever is shorter:

a. The first ten days following the month in which the result is received by the supplier; or

b. The first ten days following the end of the required monitoring period as stipulated by the commissioner.

3. [Unchanged.]

4. [Unchanged.]

5. [Unchanged.]

C. [Unchanged.]

D. [Unchanged.]

MAR 17 1982
Health Division

STATE OF MINNESOTA
DEPARTMENT OF HEALTH

In the Matter of the Proposed
Adoption of Amendments to Rules
of the State Commissioner of Health
Governing Public Water Supplies

ORDER ADOPTING
RULES

Notice of the Commissioner's intent to adopt the above-entitled rules without a public hearing was published in the State Register on September 14, 1981 and was sent by the United States mail to all persons on the list maintained by the agency pursuant to Minnesota Statutes section 15.0412, subdivision 4 on September 10, 1981. After affording interested and affected persons an opportunity to submit comments for 30 days after Notice, receiving fewer than seven written requests for a public hearing within the 30-day comment period, reviewing and considering the comments, and determining the need for and reasonableness of the above-captioned rules,

NOW, THEREFORE, IT IS ORDERED that the amendments to rules identified as 7MCAR § 1.145 - § 1.149 are adopted this 25 day of February, 1982 pursuant to authority vested in me by Minnesota Statutes section 144.383(e)(1980).

STATE OF MINNESOTA

George R. Petersen M.D.

COMMISSIONER OF HEALTH

RECEIVED
JUN 11 1981
Minn. Dept. of Health
Div. of Env. Health

Department of Health
Environmental Health Division

MAR 17 1982
Health Division

Notice of Intent to Solicit Outside Opinion on Rules Relating to Public Water Supplies, Swimming Pools, Water Conditioning Contractors' Bond, Children's Camps, Migrant Labor Camps, Formaldehyde, Registration of Engineers, Monitoring Wells and Groundwater Thermal Exchange Devices

Notice is hereby given, pursuant to the provisions of Minn. Stat. § 15.0412, subd. 6 (1980) that the Commissioner of Health is considering the proposal of amendments to existing rules and adoption of new rules relating to the subject matters listed below.

All interested or affected persons may submit information on these subjects. All statements of information and comment received will be introduced into the record of any rules' promulgation proceedings held relating to these subjects. Written comments regarding any of the subjects listed should be addressed to the appropriate persons named below.

Public Water Supplies: considering amendments to 7 MCAR §§ 1.141-1.145 to incorporate recent Federal safe drinking water standards.

Swimming Pools: considering amendments to 7 MCAR § 1.141.

Water Conditioning Contractors: considering amendments to 7 MCAR § 1.135 prescribing the amount of the bond to be filed with the State pursuant to Minn. Stat. § 326.601 (1980).

For comments regarding public water supplies, swimming pools or the water conditioners' bond, contact:

Richard D. Clark
Section of Water Supply and General Engineering
Minnesota Department of Health
717 S.E. Delaware Street
Minneapolis, Minnesota 55440

Children's Camps: considering amendments to 7 MCAR § 1.201 regarding the requirement for a physical examination prior to attendance.

Migrant Labor Camps: considering amendments to 7 MCAR § 1.204 regarding inspections and permits.

For comments regarding children's camps and migrant labor camps, contact:

Charles B. Schneider, Chief
Section of Environmental Field Services
Minnesota Department of Health
717 S.E. Delaware Street
Minneapolis, Minnesota 55440

Formaldehyde: considering proposal of a new rule setting a maximum permissible ambient level for formaldehyde in newly constructed residential units, contact:

Laura Oatman
Section of Health Risk Assessment
Minnesota Department of Health
717 S.E. Delaware Street
Minneapolis, Minnesota 55440

Registration of Civil Engineers: considering adoption of a new rule for engineers who drill monitoring wells.

Monitoring Wells and Groundwater Thermal Exchange Devices: considering amendments to the water well construction code, 7 MCAR §§ 1.210-1.225.

For comments regarding registration of civil engineers, monitoring wells and groundwater thermal exchange devices, contact:

Edwin Ross
Section of Water Supply and General Engineering
Minnesota Department of Health
717 S.E. Delaware Street
Minneapolis, Minnesota 55440

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RECEIVED
MAR 17 1982
Health Division

STATE OF MINNESOTA
DEPARTMENT OF HEALTH

In the Matter of the Proposed Adoption of Amendments to Rules Relating to Public Water Supplies

ORDER FOR NOTICE OF INTENT TO ADOPT RULES WITHOUT PUBLIC HEARING

IT IS ORDERED this 31st day of August, 1981 that Notice of Intent to Adopt Rules Without Public Hearing in the above-entitled matter be given to all persons who have registered their names with the Minnesota Department of Health for that purpose and be published in the State Register.

STATE OF MINNESOTA

George R. Pettersen, M.D.
Commissioner of Health

NOTICE AS MAILED

DEPARTMENT OF HEALTH

DIVISION OF ENVIRONMENTAL HEALTH

MAR 17 1982
Health Division

Proposed Amendments to Rules Relating to Public Water Supplies

Notice of Intent to Adopt Rules Without a Public Hearing

Notice is hereby given that the Commissioner of Health proposes to amend the above-entitled rules without a public hearing. The Commissioner has determined that the proposed adoption of these rules will be noncontroversial in nature and has elected to follow the procedures set forth in Minnesota Statutes § 15.0412, subdivision 4h(1980).

The amendments are being proposed in order to make the state rules conform to changes made in the corresponding federal rules. In particular, the amendments will require that public water supplies monitor for and comply with maximum contaminant levels for trihalomethanes and that water supplies monitor for sodium and corrosivity. Other changes allow for less frequent monitoring where a water supply has demonstrated compliance with the state well code. These amendments are authorized by Minn. Stat. § 15.0412, subd. 3(1980) and Minn. Stat. § 144.383(e)(1980).

Persons interested in these rules shall have until 4:30 p.m., Friday, October 16, 1981, to submit comments on the proposed rules. The proposed rules may be modified if the modifications are supported by the data and views submitted to the agency and do not result in a substantial change in the proposed language.

Unless seven or more persons submit written requests for a public hearing on any one or all of the proposed rules within the 30-day comment period, a public hearing will not be held. In the event a public hearing is required for any one or all of the proposed rules, the agency will proceed according to the provisions of Minn. Stat. § 15.0412, subd. 4-4f(1980).

Persons who wish to submit comments or a written request for a public hearing on a particular rule or rules should submit such comments or request(s) to:

Mr. Richard D. Clark, P.E., Supervisor
Engineering Unit
Minnesota Department of Health
Division of Environmental Health
717 Delaware Street S.E.
Minneapolis, Minnesota 55440
612/296-5227

A Statement of Need and Reasonableness that describes the need for and reasonableness of each provision of the proposed rules and identifies the data and information relied upon to support the proposed rules has been prepared and is available from Mr. Clark upon request.

Upon adoption of the final rules without a public hearing, the proposed rules, this notice, and the Statement of Need and Reasonableness, all written comments received, and the final rules as adopted will be delivered to the Attorney General for review as to form and legality, including the issue of substantial change. Persons who wish to be advised of the submission of this material to the Attorney General, or who wish to receive a copy of the final rules as proposed for adoption, should submit a written statement of such request to Mr. Clark.

Copies of this notice and the proposed rules are available and may be obtained by contacting Mr. Clark at the above address and number.

STATE OF MINNESOTA)
)ss.
COUNTY OF HENNEPIN)

MAR 17 1982
Health Division

In the Matter of Proposed
Amendments to Rules Relating
to Public Water Supplies

AFFIDAVIT
OF MAILING

Marilyn Scruton, being first duly sworn, deposes and says:

That on the 10th day of September, 1981, at the City of Minneapolis, County of Hennepin, State of Minnesota, she served the attached Notice of Hearing by depositing in the United States mail at said City of Minneapolis, a true and correct copy thereof, properly enveloped, with postage prepaid, to all persons and associations at the addresses listed on the Certificate attached and made a part hereof as Exhibit A, as well as to all members of the Minnesota Legislature as of the date of mailing. Notice was also mailed to all public water supplies listed in Exhibit B.

Marilyn Scruton
Marilyn Scruton

Subscribed and sworn to before
me this 10th day of September, 1981.

Louise K. Kaniuk

LOUISE K. KANIUK
NOTARY PUBLIC-MINNESOTA
HENNEPIN COUNTY
My Comm. Expires Feb. 23, 1984

STATE OF MINNESOTA

COUNTY OF HENNEPIN

In the Matter of Proposed Amendments
to Rules Relating to Public Water
Supplies

CERTIFICATE

I hereby certify that the list of persons, associations, and other interested groups who have requested, pursuant to Minn. Stat. §15.0412, subd. 4, that their names be placed on file with and maintained by the State Department of Health for the purpose of receiving notice of public hearing on proposed rules and amendments thereto on the subject captioned above, is accurate and complete as of 9:00 A.M., this 10th day of September, 1981.

Lora Erickson
Executive I

By Lora L Erickson

Exhibit A

Michael J. Ahern
Moss, Flaherty, Clarkson & Fletcher
2350 IDS Center
Minneapolis, Minnesota 55402

Albert Lea Health Department
221 E. Clark
Albert Lea, Minnesota 56007

MAR 17 1982
Health Division

Sue Aldean-Linder, Exec. Dir.
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John H. Allers
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Alternatives for Autistic People, Inc.
3725 - 47th Ave. So.
Minneapolis, Minnesota 55406

American Lung Association
Barbara L. Hughes
1822 Portland Ave. S.
Minneapolis, Minnesota 55404

Anderson Drilling, Inc.
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Alice Anderson
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Curtis Anderson, Supervising San.
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Executive Director
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Association of Residences for
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Saint Joseph's Hospital
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Appliance Parts, Inc.
964 Rice Street
St. Paul, Mn. 55117

Water Operator
Co-Operative Plating Co.
1605 Iglehart Avenue
St. Paul, Mn. 55104

Water Operator
Lane Bryant
25 E. 7th Street
St. Paul, Mn. 55101

Water Operator
Univac
1902 W. Minnehaha Avenue
St. Paul, Mn. 55104

Water Operator
Murphy's
1568 University Avenue
St. Paul, Mn. 55104

Water Operator
Northern States Power Co.
76 W. Kellogg
St. Paul, Mn. 55102

Water Operator
Mutual Service Ins. Co.
1925 University Avenue
St. Paul, Mn. 55104

~~Water Operator~~
~~Booth Coca-Cola Storage~~
~~40 W. Kellogg~~
~~St. Paul, Mn. 55102~~

Water Operator
Northwestern Bell Telephone
59 W. Kellogg
St. Paul, Mn. 55102

Water Operator
[illegible] Company
550 [illegible] Seeler
St. Paul, Mn. 55104

Water Operator
Nordic Pride Meats Inc.
344 So. Robert Street
St. Paul, MN 55107

Water Operator
Rayette Building
261 E. 5th Street
St. Paul, Mn. 55101

Water Operator
Fleming, Inc.
888 N. Prior
St. Paul, Mn. 55104

Water Operator
Finch Building
355 Wacouta
St. Paul, Mn. 55101

Water Operator
St. Paul, Civic Center
143 W. 4th Street
St. Paul, Mn. 55102

Water Operator
St. Paul Ramsey Hospital
640 Jackson
St. Paul, Mn. 55101

Water Operator
Nalpak Building
333 Sibley
St. Paul, Mn. 55101

Water Operator
Snyder Drug Store
375 Wabasha
St. Paul, Mn. 55114

Water Operator
Grandview Theater
1830 Grand Avenue
St. Paul, Mn. 55105

Water Operator
N.S.P. Plant (Highbridge)
501 Shepard Road
St. Paul, Mn. 55102

Water Operator
West Side Auto Parts
591 Concord
St. Paul, Mn. 55107

~~Water Operator~~
~~Commodore Hotel~~
~~75 N. Western~~
~~St. Paul, Mn. 55102~~

~~Water Operator~~
~~St. Clair Theater~~
~~1560 St. Clair Avenue~~
~~St. Paul, Mn. 55105~~

Water Operator
Roger's Auto Parts
645 E. Belvidere
St. Paul, Mn. 55107

Water Operator
Christian Science Church
739 Summit Avenue
St. Paul, Mn. 55105

Water Operator
St. Paul Harley Davidson, Inc.
1209 W. 7th Street
St. Paul, Mn. 55102

Water Operator
Display Fixtures
1960 Benson
St. Paul, Mn. 55116

~~Water Operator~~
~~Uptown Theater~~
~~1053 Grand Avenue~~
~~St. Paul, Mn. 55105~~

Water Operator
Kessler-McGuire Funeral Home
640 W. 7th Street
St. Paul, Mn. 55102

Water Operator
Plaza Liquors
2431 W. 7th Street
St. Paul, Mn. 55116

Water Operator
St. Paul Archdiocese
224 Summit Avenue
St. Paul, Mn. 55102

Water Operator
Highland Shopping Center
790 S. Cleveland
St. Paul, Mn. 55116

Water Operator
Webb Publishing Company
1999 Shepard Road
St. Paul, Mn. 55116

Water Operator
Marigold Foods, Inc.
226 N. Smith Avenue
St. Paul, Mn. 55102

Water Operator
Highland Theater
760 S. Cleveland
St. Paul, Mn. 55116

Water Operator
State Fish Hatchery
1200 Warner Road
St. Paul, Mn. 55106

Water Operator
Astor Theater
108 Concord
St. Paul, Mn. 55107

Water Operator
Pearson Candy Company
2140 W. 7th Street
St. Paul, Mn. 55116

Water Operator
Totem Town
398 Totem Road
St. Paul, Mn. 55119

Water Operator
Bartusch Packing Co.
567 No. Cleveland
St. Paul, Mn. 55114

Water Operator
Sanitary Ice Company
601 N. Prior
St. Paul, Mn. 55104

Water Operator
Rental Equipment & Sales
1690 Hudson Road
St. Paul, Mn. 55106

Water Operator
Coca Cola Warehouse
84 S. Wabasha
St. Paul, Mn. 55107

Water Operator
Northwest Publications -
St. Paul Pioneer Press
55 E. 4th Street
St. Paul, Mn. 55101

Water Operator
Hubbard Broadcasting Com
3415 University Avenue
St. Paul, Mn. 55114

Water Operator
F.O.K, Plant
106 W. Filmore
St. Paul, Mn. 55107

Water Operator
Greif Bros. Corp.
551 Concord
St. Paul, Mn. 55107

Water Operator
Hillcrest Country Club,
2200 E. Larpenteur
St. Paul, Mn. 55109

ater Operator
owers
110 Ford Parkway
t. Paul, Mn. 55116

ater Operator
erchen's Pre-Mix concrete
058 Wasota
t. Paul, Mn. 55108

ater Operator
own & Country Club
279 Marshall Avenue
t. Paul, Mn. 55104

ater Operator
idway Hospital
700 University Avenue
t. Paul, Mn. 55104

ater Operator
ron Center
190 University Avenue
t. Paul, Mn. 55104

ater Operator
.S.R. Building
60 Wabasha
t. Paul, Mn. 55114

ater Operator
t. Luke's Hospital
00 Pleasant Avenue
t. Paul, Mn. 55102

ater Operator
t. [redacted]'s Hospital
9 W. Exchange
t. Paul, Mn. 55102

ater Operator
iller Hospital
25 W. College
t. Paul, Mn. 55102

ater Operator
entennial Bldg.
58 Cedar Street
t. Paul,Mn. 55101

Water Operator
State Highway Building
John Ireland Blvd.
St. Paul, Mn.

Water Operator
W. T. Grant - Vacant
41 E. 7th Street
St. Paul, Mn. 55101

Water Operator
Northwestern Natl. Bank
55 E. 5th Street
St. Paul, Mn. 55101

Water Operator
American Natl. Bank
5th & Minnesota
St. Paul, Mn.

Water Operator
Degree of Honor Bldg.
325 Cedar
St. Paul, Mn. 55101

Water Operator
Farm Credit Bank Bldg.
375 Jackson
St. Paul, Mn. 55101

Water Operator
Como Park Golf Course
1260 N. Lexington
St. Paul, Mn. 55103

Water Operator
Keys Well Drilling Co.
413 N. Lexington
St. Paul, Mn. 55104

Water Operator
"Vacant Plant"
668 Jenks
St. Paul, Mn. 55106

Water Operator
St. Paul Athletic Club
340 Cedar Street
St. Paul, Mn. 55101

Water Operator
Bethesda Hospital
559 Capitol Blvd.
St. Paul, Mn. 55103

Water Operator
Whirlpool Corp.
850 Arcade
St. Paul, Mn. 55106

Water Operator
Burlington-Northern
Dale at Minnehaha
St. Paul, Mn.

Water Operator
Minnesota Mining & Mfg. Co. #3
791 Forest
St. Paul, Mn. 55106

Water Operator
Northern Malleable Iron
867 Forest
St. Paul, Mn. 55106

Water Operator
Kopper's Gas & Coke
1000 N. Hamline
St. Paul, Mn. 55104

Water Operator
Burlington-Northern
901 Jackson
St. Paul, Mn. 55117

Water Operator
Court House
15 W. Kellogg
St. Paul, Mn. 55102

Water Operator
West Publishing Company
50 W. Kellogg
St. Paul, Mn. 55102

Water Operator
Y.W.C.A.
65 E. Kellogg
St. Paul, Mn. 55101

Water Operator
St. John's Hospital
403 Maria Avenue
St. Paul, Mn. 55106

Water Operator
Montcalm Estates
515-545 S. Lexington
St. Paul, Mn. 55116

Water Operator
Jack Frost (Baits)
854 Rice Street
St. Paul, Mn. 55117

Water Operator
Richard J. Gimpl (Baits)
1239 Rice Street
St. Paul, Mn. 55117

Water Operator - Plant #2
Metropolitan Waste Control Plant
2500 Childs Road
St. Paul, Mn. 55101

Water Operator - Plant #2
Metropolitan Waste Control Plant
2500 Childs Road
St. Paul, Mn. 55101

Water Operator - Plant #2
Metropolitan Waste Control Plant
2500 Childs Road
St. Paul, Mn. 55101

Water Operator
Hillcrest Shopping Center
1532 N. White Bear Avenue
St. Paul, Mn. 55106

Water Operator
Hamm's Brewery (Olympia)
821 Greenbrier
St. Paul, Mn. 55106

Water Operator
Hamm's Brewery (Olympia)
655 E. Minnehaha
St. Paul, Mn. 55101

Water Operator
Hamm's Brewery (Olympia)
686 Reaney
St. Paul, Mn. 55101

Water Operator
Hamm's Brewery (Olympia)
741 Walsh
St. Paul, Mn. 55106

Water Operator
Hamm's Brewery (Olympia)
741 Walsh
St. Paul, Mn. 55106

Water Operator
Hamm's Brewery (Olympia)
660 E. Minnehaha
St. Paul, Mn. 55101

Water Operator
N. S. P.
76 W. Kellogg
St. Paul, Mn. 55102

Water Operator
N.S.P.
76 W. Kellogg
St. Paul, Mn. 55102

Water Operator
N. S. P.
76 W. Kellogg
St. Paul, Mn. 55102

Water Operator
Schmidt Brewery
882 W. 7th Street
St. Paul, Mn. 55102

Water Operator
Schmidt Brewery
882 W. 7th Street
St. Paul, Mn. 55102

Water Operator
Donaldson's (Well #2)
95 E. 7th Street
St. Paul, Mn. 55101

Water Operator
Whirlpool Corporation
850 Arcade
St. Paul, Mn. 55106

Water Operator
Whirlpool Corporation
850 Arcade
St. Paul, Mn. 55106

Water Operator
Whirlpool Corporation
850 Arcade
St. Paul, Mn. 55106

Water Operator
Minnesota Mining & Mfg. Bl
791 Forest
St. Paul, Mn. 55106

Water Operator
Minnesota Mining & Mfg. Bl
791 Forest
St. Paul, Mn. 55106

Water Operator
Minnesota Mining & Mfg. Bl
791 Forest
St. Paul, Mn. 55106

Water Operator
Hoerner-Waldorf
2250 Wabash
St. Paul, Mn. 55114

Water Operator
Hoerner-Waldorf
2250 Wabash
St. Paul, Mn. 55114

Water Operator
Hoerner-Waldorf
2250 Wabash
St. Paul, Mn. 55114

Water Operator
Hoerner-Waldorf
2250 Wabash
St. Paul, Mn. 55114

Water Operator
American Center Bldg.
160 E. Kellogg
St. Paul, Mn. 55101

Water Operator
American Linen Supply Co.
382 Main Street
St. Paul, Mn. 55102

Water Operator
Hamms Brewery
700 E. Minnehaha
St. Paul, Mn. 55106

Water Operator
I.B.E.W. Local 23
922 Payne Avenue
St. Paul, Mn. 55101

Water Operator
Drake Marble Company
60 Pleto Blvd.
St. Paul, Mn. 55107

Water Operator
St. Catherines College
2004 Randolph
St. Paul, Mn. 55105

Water Operator
St. Paul Hotel
363 St. Peter
St. Paul, Mn. 55102

Water Operator
Penn Bldg.
40 St. Peter
St. Paul, Mn. 55102

Water Operator
American Hoist & Derrick
63 S. Robert
St. Paul, Mn. 55107

Water Operator
J.L. Shiely
1101 N. Snelling
St. Paul, Mn. 55108

Water Operator
Brown & Bigelow
1286 University Avenue
St. Paul, Mn. 55104

Water Operator
Montgomery Ward
1400 University Avenue
St. Paul, Mn. 55104

Water Operator
Hoerner-Waldorf
2250 Wabash
St. Paul, Mn. 55114

Water Operator
Osborne Bldg.
370 Wabasha
St. Paul, Mn. 55114

Water Operator
Wabasha Court
415 Wabasha
St. Paul, Mn. 55114

Water Operator
Las Vegas Theater
479 Wabasha
St. Paul, Mn. 55114
not deliverable

Water Operator
Lowery Medical Center
25 W. 4th Street
St. Paul, Mn. 55102

Water Operator
Minnesota Building
46 E. 4th Street
St. Paul, Mn. 55101

Water Operator
Burlington-Northern Building
176 E. 5th Street
St. Paul, Mn. 55101

Water Operator
Dayton-Hudson Building
2 E. 7th Street
St. Paul, Mn. 55101

Water Operator
Metro Square Building
123 E. 7th Street
St. Paul, Mn. 55101

Water Operator
Univac (Plant #1)
2750 W. 7th Street
St. Paul, Mn. 55102

Water Operator
Donaldson's (Well #1)
95 E. 7th Street
St. Paul, Mn. 55101

Water Operator
New Strand Theater
8th & Wabasha
St. Paul, Mn.

Water Operator
L. Goodman (Bowling Alley)
11 W. 7th Street
St. Paul, Mn. 55102

Water Operator
Faust Theater
626 University Avenue
St. Paul, Mn. 55103

Water Operator
Schmidt Brewery
882 W. 7th Street
St. Paul, Mn. 55102

Water Operator
St. Paul Union Depot (R.R.)
214 E. 4th Street
St. Paul, Mn. 55101

Water Operator
Toni Company
281 E. 4th Street
St. Paul, Mn. 55101

Water Operator
Dunn's Union 76 Station
1328 S. Point Douglas Road
St. Paul, Mn. 55119

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RECEIVED
SEP 16 1981
St. of Health
Div. of Env. Health

PROPOSED RULES

Pursuant to Minn. Laws of 1980, § 15.0412, subd. 4h, an agency may propose to adopt, amend, suspend or repeal rules without first holding a public hearing, as long as the agency determines that the rules will be noncontroversial in nature. The agency must first publish a notice of intent to adopt rules without a public hearing, together with the proposed rules, in the *State Register*. The notice must advise the public:

1. that they have 30 days in which to submit comment on the proposed rules;
2. that no public hearing will be held unless seven or more persons make a written request for a hearing within the 30-day comment period;
3. of the manner in which persons shall request a hearing on the proposed rules;

and

4. that the rule may be modified if modifications are supported by the data and views submitted.

MAR 17 1982
Health Division

If, during the 30-day comment period, seven or more persons submit to the agency a written request for a hearing of the proposed rules, the agency must proceed under the provisions of § 15.0412, subds. 4 through 4g, which state that if an agency decides to hold a public hearing, it must publish in the *State Register* a notice of its intent to do so. This notice must appear at least 30 days prior to the date set for the hearing, along with the full text of the proposed rules. (If the agency has followed the provisions of subd. 4h and has already published the proposed rules, a citation to the prior publication may be substituted for republication.)

Pursuant to Minn. Stat. § 15.0412, subd. 5, when a statute, federal law or court order to adopt, suspend or repeal a rule does not allow time for the usual rulemaking process, temporary rules may be proposed. Proposed temporary rules are published in the *State Register*, and for at least 30 days thereafter, interested persons may submit data and views in writing to the proposing agency.

Department of Health
Environmental Health Division

Proposed Amendments to Rules Relating to Public Water Supplies

Notice of Intent to Adopt Rules without a Public Hearing

Notice is hereby given that the Commissioner of Health proposes to amend the above-entitled rules without a public hearing. The commissioner has determined that the proposed adoption of these rules will be noncontroversial in nature and has elected to follow the procedures set forth in Minnesota Statutes, § 15.0412, subd. 4h (1980).

The amendments are being proposed in order to make the state rules conform to changes made in the corresponding federal rules. In particular, the amendments will require that public water supplies monitor for and comply with maximum contaminant levels for trihalomethanes and that water supplies monitor for sodium and corrosivity. Other changes allow for less frequent monitoring where a water supply has demonstrated compliance with the state well code. These amendments are authorized by Minn. Stat. § 15.0412, subd. 3 (1980) and Minn. Stat. § 144.383(e) (1980).

Persons interested in these rules shall have until 4:30 p.m., Friday, October 16, 1981, to submit comments on the proposed rules. The proposed rules may be modified if the modifications are supported by the data and views submitted to the agency and do not result in a substantial change in the proposed language.

Unless seven or more persons submit written requests for a public hearing on any one or all of the proposed rules within the 30-day comment period, a public hearing will not be held. In the event a public hearing is required for any one or all of the proposed rules, the agency will proceed according to the provisions of Minn. Stat. § 15.0412, subd. 4-4f (1980).

Persons who wish to submit comments or a written request for a public hearing on a particular rule or rules should submit such comments or request(s) to:

Mr. Richard D. Clark, P.E., Supervisor
Engineering Unit
Minnesota Department of Health
Division of Environmental Health
717 Delaware Street S.E.
Minneapolis, Minnesota 55440
(612) 296-5227

A statement of need and reasonableness that describes the need for and reasonableness of each provision of the proposed rules and identifies the data and information relied upon to support the proposed rules has been prepared and is available from Mr. Clark upon request.

Upon adoption of the final rules without a public hearing, the proposed rules, this notice, and the statement of need and reasonableness, all written comments received, and the final rules as adopted will be delivered to the Attorney General for review as to form and legality, including the issue of substantial change. Persons who wish to be advised of the submission of this material to the Attorney General, or who wish to receive a copy of the final rules as proposed for adoption, should submit a written statement of such request to Mr. Clark.

A copy of the proposed rules accompanies this notice.

Copies of this notice and the proposed rules are available and may be obtained by contacting Mr. Clark at the above address and number.

Rules as Proposed

7 MCAR § 1.145 General information and definitions.

B. Definitions. The following definitions apply to 7 MCAR §§ 1.145-1.149, unless the context indicates otherwise.

1. Commissioner. "Commissioner" means the commissioner of health, or his or her authorized representative~~;~~.

2. Disinfectant. "Disinfectant" means any oxidant, including but not limited to chlorine, chlorine dioxide, chloramines, and ozone added to water in any part of the treatment or distribution process, that is intended to kill or inactivate pathogenic micro-organisms.

3. Dose equivalent. "Dose equivalent" means the product of the absorbed dose from ionizing radiation and such factors as account for differences in biological effectiveness due to the type of radiation and its distribution in the body as specified by the International Commission on Radiological Units and Measurements (ICRU)~~;~~.

~~3.~~ 4. Exemption. "Exemption" means a waiver which may be granted by the commissioner to a supply which is in operation on June 24, 1977~~;~~:

a. When a maximum contaminant level or required treatment cannot be complied with because of economic or other compelling factors~~;~~; and

b. If granting the waiver will not result in an unreasonable risk to health.

Such an exemption must be conditioned upon a schedule for compliance with these rules by the dates specified in 7 MCAR § 1.148 B.8. and 9.~~;~~

~~4.~~ 5. Federal act. "Federal act" means the Safe Drinking Water Act of 1974, P.L. 93-523, 42 U.S.C. 300 f, and amendments thereto~~;~~.

~~5.~~ 6. Federal regulations. "Federal regulations" means regulations dealing with public water supplies and drinking water quality, promulgated by the Administrator of the United States Environmental Protection Agency pursuant to the federal act~~;~~.

~~6.~~ 7. Gross alpha particle activity. "Gross alpha particle activity" means the total radioactivity due to alpha particle emission as inferred from measurements on a dry sample~~;~~.

~~7.~~ 8. Gross beta particle activity. "Gross beta particle activity" means the total radioactivity due to beta particle emission as inferred from measurements on a dry sample~~;~~.

9. Halogen. "Halogen" means one of the chemical elements chlorine, bromine, or iodine.

~~8.~~ 10. Man-made beta particle and photon emitters. "Man-made beta particle and photon emitters" means all radionuclides emitting beta particles ~~and/~~or photons listed in Maximum Permissible Body Burdens and Maximum Permissible Concentration of Radionuclides in Air or Water for Occupational Exposure, NBS Handbook 69, except the daughter products of thorium-232, uranium-235 and uranium-238~~;~~.

~~9.~~ 11. Maximum contaminant level. "Maximum contaminant level" means the maximum permissible level of a contaminant (any physical, chemical, biological, or radiological substance or matter) in water which is delivered to the free flowing outlet of the ultimate user of a public water supply; except in the case of turbidity where the maximum permissible level is measured at the point of entry to the distribution system. Contaminants added to the water under circumstances controlled by the user, except for those resulting from corrosion of piping and plumbing caused by water quality are excluded from this definition~~;~~.

12. Maximum total trihalomethane potential. "Maximum total trihalomethane potential" means the maximum concentration of total trihalomethanes produced in a given water containing a disinfectant residual after seven days at a temperature of 25 degrees Celsius or above.

KEY: PROPOSED RULES SECTION — Underlining indicates additions to existing rule language. ~~Strike outs~~ indicate deletions from existing rule language. If a proposed rule is totally new, it is designated "all new material." ADOPTED RULES SECTION — Underlining indicates additions to proposed rule language. ~~Strike outs~~ indicate deletions from proposed rule language.

~~10.~~ 13. Person. "Person" means an individual, partnership, copartnership, cooperative, public or private association or corporation, public subdivision, agency of the state or federal government or any other legal entity or its legal representative, agent or assigns~~;~~.

~~11.~~ 14. Picocurie. "Picocurie (pCi)" means that quantity of radioactive material producing 2.22 nuclear transformations per minute~~;~~.

~~12.~~ 15. Public water supply. "Public water supply" ~~(supply)~~ or "supply" means a system providing piped water for human consumption, and either containing a minimum of 15 service connections or 15 living units, or serving at least 25 persons daily for 60 days of the year. Such term includes:

~~(A)~~ a. Any collection, treatment, storage, and distribution facilities under control of the operator of the supply and used primarily in connection with the supply~~;~~; and

~~(B)~~ b. Any collection or pre-treatment storage facilities used primarily in connection with the supply but not under control of the operator. A public water supply is either a community or a non-community water supply.

~~a.~~ (1) "Community water supply" means a public water supply or system which serves at least 15 service connections or living units used by year-round residents, or regularly serves at least 25 year-round residents~~;~~.

~~b.~~ (2) "Non-community water supply" means any public water supply that is not a community water supply. The following are given as examples of non-community water supplies and are in no way meant to be an exhaustive list: seasonal facilities such as children's camps, recreational camping areas, resorts, or year-round facilities which serve at least 25 persons who are not residents thereof, such as churches, entertainment facilities, factories, gasoline service stations, marinas, migrant labor camps, office buildings, parks, restaurants, schools~~;~~.

~~13.~~ 16. Rem. "Rem" means the unit of dose equivalent from ionizing radiation to the total body or any internal organ or organ system. A "millirem (mrem)" is 1/1000 of a rem~~;~~.

~~14.~~ 17. Sanitary survey. "Sanitary survey" means an on-site review of the water source, facilities, equipment, operation and maintenance of a public water supply for the purpose of evaluating the adequacy of the source, facilities, equipment, operation and maintenance for producing and distributing safe drinking water~~;~~.

~~15.~~ 18. Standard sample. "Standard sample" means the aliquot of finished drinking water that is examined for the presence of coliform bacteria~~;~~.

~~16.~~ 19. Supplier. "Supplier" means any person who owns, manages, or operates a public water supply, whether or not he is an operator certified pursuant to Minn. Stat. § 115.71~~, et. seq. (1976);~~ 115.82.

20. Total trihalomethanes. "Total trihalomethanes" means the sum of the concentration in milligrams per liter of the trihalomethane compounds of trichloromethane (chloroform), dibromochloromethane, bromodichloromethane and tribromomethane (bromoform), rounded to two significant figures.

21. Trihalomethane. "Trihalomethane" means one of the family of organic compounds named as derivatives of methane, wherein three of the four hydrogen atoms in methane are each substituted by a halogen atom in the molecular structure.

~~17.~~ 22. Turbidity unit. "Turbidity unit" means an amount of turbidity equivalent to that in a solution composed of .000125 ~~%~~ percent hydrazine sulfate and .00125 ~~%~~ percent hexamethylenetetramine in distilled and filtered (100 m. pore size membrane) water, as measured by a nephelometric turbidimeter~~;~~.

~~18.~~ 23. Variance. "Variance" means a waiver which may be granted by the commissioner to a supply:

a. Which, due to the raw water quality reasonably available, cannot comply with a maximum contaminant level, despite application of the best known and available technology for treatment or other means~~;~~; and

b. If granting the waiver will not result in an unreasonable risk to health.

Such a variance must be conditioned upon a schedule for implementation of control measures, and may specify an indefinite time period for compliance with the maximum contaminant level or required treatment~~;~~.

~~19.~~ 24. Year-round resident. "Year-round resident" means a person who resides in the area served by the public water supply for more than six months of the year.

C. Scope and coverage.

1. These rules prescribe standards for water supply siting and construction, set maximum contaminant levels for turbidity, microbiological constituents, organic and inorganic chemicals, and radioactivity, prescribe a frequency for monitoring the levels of these constituents and sodium and corrosivity, and prescribe the procedures for reporting results, notifying the public and for maintaining records.

2. The standards and procedures adopted in 7 MCAR §§ 1.145-1.149 inclusive shall apply to all public drinking water supplies, pursuant to authority granted by existing statutes and amendments thereto, notwithstanding any other water quality standards or regulations~~, except that these rules shall not be enforced against any federal facility in the state~~.

3. [Unchanged.]

7 MCAR § 1.146 Maximum contaminant levels. The following levels ~~stated below~~ shall be the enforceable maximum contaminant levels for all public water supplies in the state~~, from the date on which these rules take effect~~.

A. Microbiological. The maximum contaminant levels for coliform bacteria, applicable to both community and non-community water supplies, are as follows:

1. When the membrane filter technique pursuant to 7 MCAR § 1.147 B.1.a. is used, the number of coliform bacteria shall not exceed any of the following:

a. One per 100 milliliters as the arithmetic mean of all samples examined per ~~month~~ compliance period pursuant to 7 MCAR § 1.147 B.2. or 7 MCAR § 1.147 B.3, except that systems required to take ten or fewer samples per month may exclude one positive routine sample per month from the monthly calculation if:

(1) The commissioner determines and indicates in writing to the public water supply that no unreasonable risk to health existed, after having considered the following factors:

(a) The system provided and had maintained an active disinfectant residual in the distribution system;

(b) The potential for contamination as indicated by a sanitary survey; and

(c) The history of the water quality at the public water supply;

(2) The supplier initiates a check sample on each of two consecutive days from the same sampling point within 24 hours after notification that the routine sample is positive, and each of these check samples is negative; and

(3) The original positive routine sample is reported and recorded by the supplier pursuant to 7 MCAR § 1.149 A. and B.

The supplier shall report to the commissioner its compliance with the conditions specified in 1.a. and a summary of the corrective action taken to resolve the prior positive sample result. If a positive routine sample is not used for the monthly calculation, another routine sample must be analyzed for compliance purposes. This provision may be used only once during two consecutive compliance periods.

b. [Unchanged.]

2. a. When the fermentation tube method and 10 milliliter standard portions pursuant to 7 MCAR § 1.147 B.1.b. are used, coliform bacteria shall not be present in any of the following:

(1) More than 10 percent of the portions in any month pursuant to 7 MCAR § 1.147 B.2. or 7 MCAR § 1.147 B.3.~~:~~, except that systems required to take ten or fewer samples per month may exclude one positive routine sample resulting in one or more positive tubes per month from the monthly calculaton if:

(a) The commissioner determines that the supply maintains an active disinfectant residual in the distribution system, or the commissioner determines in writing to the public water system that no unreasonable risk to health existed under the circumstances;

(b) The supplier initiates a check sample on each of two consecutive days from the sampling point within 24 hours after notification that the routine sample is positive, and each of these check samples is negative; and

(c) The original positive routine sample is reported and recorded by the supplier pursuant to 7 MCAR § 1.149 A. and B.

The supplier shall report to the commissioner its compliance with the conditions specified in 2.a.(1) and a summary of the action taken to resolve the prior positive sample result. If a positive routine sample is not used for the monthly calculation,

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other routine sample must be analyzed for compliance purposes. This provision may be used only once during two consecutive compliance periods.

(2) Three or more portions in more than one sample when less than 20 samples are examined per month; or

(3) Three or more portions in more than five percent of the samples when 20 or more samples are examined per month.

b. When the fermentation tube method and 100 milliliter standard portions pursuant to 7 MCAR § 1.147 B.1.b. are used, coliform bacteria shall not be present in any of the following:

(1) More than 60 percent of the portions in any month pursuant to 7 MCAR § 1.147 B.2. or 7 MCAR § 1.147 B.3.; except that systems required to take ten or fewer samples per month may exclude one positive routine sample resulting in one or more positive tubes per month from the monthly calculation if:

(a) The commissioner determines that the supplier maintains an active disinfectant residual in the distribution system, or the commissioner determines in writing to the public water system that no unreasonable risk to health existed under the circumstances;

(b) The supplier initiates two consecutive daily check samples from the same sampling point within 24 hours after notification that the routine sample is positive, and each of these check samples is negative; and

(c) The original positive routine sample is reported and recorded by the supplier pursuant to 7 MCAR § 1.149 A. and B.

The supplier shall report to the state its compliance with the conditions specified in 2.b.(1) and a summary of the corrective action taken to resolve the prior positive sample result. If a positive routine sample is not used for the monthly calculation, another routine sample must be analyzed for compliance purposes. This provision may be used only once during two consecutive compliance periods.

(2) Five portions in more than one sample when less than five samples are examined per month; or,

(3) Five portions in more than 20 percent of the samples when five or more samples are examined per month.

3. For community or non-community supplies that are required to sample at a rate of less than ~~4~~ four per month, compliance with ~~paragraphs~~ 1. or 2. ~~of part A of this rule~~ shall be based upon sampling during a ~~3~~ three-month period, except that, at the discretion of the commissioner compliance may be based upon sampling during a one-month period.

4. If an average maximum contaminant level violation is caused by a single sample maximum contaminant level violation, then the case shall be treated as one violation with respect to the public notification requirements of 7 MCAR § 1.149 D.

B. [Unchanged.]

C. Inorganics. ~~The maximum contaminant level for nitrate applies to both community and non-community water supplies. The levels for the other inorganic chemicals apply only to community water supplies. Compliance with maximum contaminant levels for inorganic chemicals is calculated pursuant to 7 MCAR § 1.147 D.3., 4., 5., and 6.~~

1. The following are the maximum contaminant levels for inorganic chemicals:

Contaminant	Level, miligrams per liter
Arsenic	0.05
Barium	1.
Cadmium	0.010
Chromium	0.05
Fluoride	~~2.4~~ 2.2
Lead	0.05
Mercury	0.002
Nitrate (as N)	10.
Selenium	0.01
Silver	0.95

2. Compliance with maximum contaminant levels for inorganic chemicals shall be calculated in accordance with MCAR § 1.147 D.3.-6.

3. The maximum contaminant level for nitrate listed in 1. also applies to non-community water supplies, except that a

nitrate level not in excess of 20 milligrams per liter may be allowed in a non-community water supply if the supplier demonstrates to the satisfaction of the commissioner that:

a. The water will not be available to children under six months of age;

b. There will be continuous posting of the fact that nitrate levels exceed 10 milligrams per liter and the potential health effects of exposure;

c. Local public health authorities and the commissioner will be notified annually of nitrate levels that exceed 10 milligrams per liter; and

d. No adverse health effects shall result.

D. Organics. The following are the maximum contaminant levels for organic chemicals. They apply only to community water supplies. Compliance with maximum contaminant levels for organic chemicals is calculated pursuant to 7 MCAR § 1.147 E.2., 3., and 4.

1. [Unchanged.]

2. [Unchanged.]

3. The maximum contaminant level for total trihalomethane is 0.10 milligrams per liter. This maximum contaminant level applies only to public water supplies which serve a population of 10,000 or more persons, and which add a disinfectant (oxidant) to the water in any part of the drinking water treatment process. Compliance with the maximum contaminant level for total trihalomethane shall be calculated in accordance with 7 MCAR § 1.147 E.5.

E. [Unchanged.]

7 MCAR § 1.147 Monitoring and analytical requirements.

A. In general.

1. It shall be the responsibility of the supplier of water to monitor the quality of the water in his supply, according to the sampling schedules and testing procedures prescribed in this rule. Where a supplier has the capability for on-site testing for turbidity and/or maintains a laboratory approved to test for coliform bacteria, such supplier shall follow the relevant procedures in the appropriate parts of this rule. If an approved on-site laboratory is not available, the supplier of water shall send his water samples to an appropriate approved testing laboratory, according to procedures prescribed by the commissioner. Such procedures shall be prescribed for each supplier, and shall include a description of the type of container to be used, the manner in which the container shall be handled and delivered to the laboratory, and the date by which a sample must be sent to the approved laboratory for testing.

2. The following terms, which are used in B.-L., shall have the meanings given them.

a. "EPA Chemical" means "*Methods of Chemical Analysis of Water and Wastes,*" United States Environmental Protection Agency, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio 45268 (EPA-600/4-79-020) March 1979, available from ORD Publications, CERI, Environmental Protection Agency, Cincinnati, Ohio 45268. For approved analytical procedures for metals, the technique applicable to total metals must be used.

b. "Standard Methods" means "*Standard Methods for the Examination of Water and Wastewater,*" 14th Edition, American Public Health Association, 1015 15th Street N.W., Washington, D.C. 20005.

c. "USGS 1979" means "*Techniques of Water Resources Investigation of the United States Geological Survey,*" Chapter A.-1, "Methods for Determination of Inorganic Substances in Water and Fluvial Sediments," Book 5, 1979, (Stock #024-001-03177-9, available from Superintendent of Documents, United States Government Printing Office, Washington, D.C. 20402).

d. "ASTM" means *Annual Book of ASTM Standards, Part 31 Water, 1979*, American Society for Testing and Materials, 1916 Race Street, Philadelphia, Pennsylvania 19103.

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e. "USGS 1972" means *"Techniques of Water Resources Investigation of the United States Geological Survey,"* Chapter A-3, "Methods of Analysis of Organic Substances in Water," Book 5, 1972 (Stock #2401-1227, available from Superintendent of Documents, United States Government Printing Office, Washington, D.C. 20402).

f. "EPA Microbiological" means *"Microbiological Methods for Monitoring the Environment, Water and Wastes"* United States Environmental Protection Agency, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio, 45268—EPA—600/8-78-017, December 1978 (available from ORD Publications, CERI, United States Environmental Protection Agency, Cincinnati, Ohio 45268).

g. "EPA Organochlorine Methods" means *"Methods for Organochlorine Pesticides and Chlorophenoxy Acid Herbicides in Drinking Water and Raw Source Water,"* (available from ORD Publications, CERI, United States Environmental Protection Agency, Cincinnati, Ohio 45268).

B. Microbiological contaminant sampling and analytical requirements.

1. Analyses for coliform bacteria shall be made for the purpose of determining compliance with 7 MCAR § 1.146 A. Analyses shall be conducted in accordance with the analytical recommendations set forth in ~~"Standard Methods for the Examination of Water and Wastewater," American Public Health Association, 13th Edition, pp. 662-688,~~ Method 908A, Paragraphs 1, 2 and 3; or Method 908D, Table 908:I; or Method 909A; or EPA Microbiological Methods Part III, Section B 1.0 to 2.6.2, 2.7 to 2.7.2(c); or Part III, Section B 4.0 to 4.6.4(c), except that a standard sample size as referred to ~~below~~ in a. and b. shall be employed~~;~~. See A.2.b. and f. for complete title of reference sources.

a. [Unchanged.]

b. [Unchanged.]

2. [Unchanged.]

3. The supplier of water for a non-community water supply shall sample for coliform bacteria at least once in each calendar quarter during which the supply provides water to the public. Such sampling shall begin before June 24, 1979. If the commissioner determines, on the basis of a sanitary survey which includes a determination of compliance with the Minnesota Water Well Construction Code, 7 MCAR §§ 1.210-1.255, that it is more appropriate for the supply to sample on a frequency other than quarterly, the commissioner shall impose a special sampling frequency. Such special frequency shall then be the frequency required under these rules~~, except that in no case shall sampling be reduced to less than once per year. Such a special sampling frequency~~ and shall be confirmed or changed on the basis of subsequent surveys.

4. [Unchanged.]

5. [Unchanged.]

6. [Unchanged.]

7. [Unchanged.]

8. [Unchanged.]

9. [Unchanged.]

C. Turbidity sampling and analytical requirements.

1. a. All public water supplies, whether community or non-community, which use water obtained in whole or in part from surface sources must be sampled for turbidity. Such samples shall be taken by suppliers at representative points of entry into the water distribution system at least once per day, for the purpose of making turbidity measurements to determine compliance with 7 MCAR § 1.146 B.

b. The commissioner may reduce the sampling frequency for a non-community water supply if he determines that this reduced sampling frequency will not pose a risk to the public health and notifies the non-community water supply of this determination in writing. Such a reduction may be granted only if the non-community water supply practices disinfection and maintains an active disinfectant residual in the distribution system.

c. The measurement shall be made by the Nephelometric Method in accordance with the recommendations set forth in ~~"Standard Methods for the Examination of Water and Wastewater," American Public Health Association, 13th Edition, 350-353, or "Methods for Chemical Analysis of Water and Wastes," pp. 295-298, Environmental Protection Agency, Office of Technology Transfer, Washington, D.C. 20460, 1974~~ or EPA Chemical, Nephelometric Method, 180.1.1., as further described in A.2.a. and b.

d. Sampling by community water supplies that begin before the effective date of these rules. Sampling by non-community water supplies shall begin before June 24, 1979.

2. [Unchanged.]

D. Inorganic chemical contaminant sampling and analytical requirements.

1. [Unchanged.]

2. [Unchanged.]

3. Analyses conducted to determine compliance with 7 MCAR § 1.146 C. shall be made in accordance with ~~the following methods:~~ a.-j. See A.2. for complete title of reference sources.

a. Arsenic—~~Atomic Absorption Method, "Methods for Chemical Analysis of Water and Wastes," pp. 95-96, Environmental Protection Agency, Office of Technology Transfer, Washington, D.C. 20460, 1974~~: EPA Chemical Method 206.2, or Method 206.3, or Method 206.4; or Standard Methods, Method 404-A and 404-B(4), or Method 301.A VII; or USGS 1979, Method I-1062-78; or ASTM, Method D-2972-78A, D-2972-78B.

b. Barium—~~Atomic Absorption Method, "Standard Methods for the Examination of Water and Wastewater," 13th Edition, pp. 210-215, or "Methods for Chemical Analysis of Water and Wastes," pp. 97-98, Environmental Protection Agency, Office of Technology Transfer, Washington, D.C. 20460, 1974~~: EPA Chemical Method 208.1, or 208.2; or Standard Methods, Method 301-A IV.

c. Cadmium—~~Atomic Absorption Method, "Standard Methods for the Examination of Water and Wastewater," 13th Edition, pp. 210-215, or "Methods for Chemical Analysis of Water and Wastes," pp. 101-103, Environmental Protection Agency, Office of Technology Transfer, Washington, D.C. 20460, 1974~~: EPA Chemical, Method 213.1, or 213.2; or Standard Methods, Method 301-A II or III; or ASTM, Method 3447-78A.

d. Chromium—~~Atomic Absorption Method, "Standard Methods for the Examination of Water and Wastewater," 13th Edition, pp. 210-215, or "Methods for Chemical Analysis of Water and Wastes," pp. 105-106, Environmental Protection Agency, Office of Technology Transfer, Washington, D.C. 20460, 1974~~: EPA Chemical, Method 218.1, or 218.2; or Standard Methods, Method 301-A II or III; or ASTM, Method D-1687-77D.

e. Fluoride: EPA Chemical, Method 340.1 or 340.2, or 340.3; or Standard Methods, Method 414-A, or 414-B, or 414-C, or 603; or USGS 1979, Method I-3325-78; or ASTM, Method D-1179-72A, or D-1179-72B; or Industrial Method #129-71W, *Fluoride in Water and Wastewater*, Technicion Industrial Systems, Tarrytown, New York 10591, December 1972; or Industrial Method #380-75WE, Automated Electrode Method, *Fluoride in Water and Wastewater*, Technicon Industrial Systems, Tarrytown, New York, February 1976.

f. Lead—~~Atomic Absorption Method, "Standard Methods for the Examination of Water and Wastewater," 13th Edition, pp. 210-215, or "Methods for Chemical Analysis of Water and Wastes," pp. 112-113, Environmental Protection Agency, Office of Technology Transfer, Washington, D.C. 20169, 1974~~: EPA Chemical, Method 239.1 or 239.2; or Standard Methods, Method 301-A II or III; or ASTM, Method D-3559-79A or B.

~~f.~~g. Mercury—~~Flameless Atomic Absorption Method, "Methods for Chemical Analysis of Water and Wastes," pp. 118-126, Environmental Protection Agency, Office of Technology Transfer, Washington, D.C. 20460, 1974~~: EPA Chemical, Method 245.1 or 245.2; or Standard Methods, Method 301-A VI; or ASTM, Method D-3223-79.

~~g.~~h. Nitrate—~~Brucine Colorimetric Method, "Methods for the Examination of Water and Wastewater," 13th Edition, pp. 461-464, or Cadmium Reduction Method, "Methods for Chemical Analysis of Water and Wastes," pp. 201-206, Environmental Protection Agency, Office of Technology Transfer, Washington, D.C. 20460, 1974~~: EPA Chemical, Method 352.1, or 353.1 or 353.2 or 353.3; or Standard Methods, Method 419-D, or 419-C, or 605; or ASTM, Method D-992-71, or D-3867-79A or D-3867-79B.

~~h.~~ i. Selenium—~~Atomic Absorption Method, "Methods for Chemical Analysis of Water and Wastes," p. 145, Environmental Protection Agency, Office of Technology Transfer, Washington, D.C. 20460, 1974~~: EPA Chemical, Method 270.2 or 270.3; or Standard Methods, Method 301-A VII; or USGS 1979, Method I-1667-78; or ASTM, Method D-3859-79.

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~~i.~~ j. Silver~~—Atomic Absorption Method, "Standard Methods for the Examination of Water and Wastewater," 13th Edition, pp. 210-215, or "Methods for Chemical Analysis of Water and Wastes," p. 146, Environmental Protection Agency, Office of Technology Transfer, Washington, D.C. 20460, 1974~~: EPA Chemical, Method 272.1 or 272.2; or Standard Methods, Method 301-A II.

~~j. Fluoride—Electrode Method, "Standard Methods for the Examination of Water and Wastewater," 13th Edition, pp. 172-174 or "Methods for Chemical Analysis of Water and Wastes," pp. 65-67, Environmental Protection Agency, Office of Technology Transfer, Washington, D.C. 20460, 1974, or Colorimetric Method with Preliminary Distillation, "Standard Methods for the Examination of Water and Wastewater," 13th Edition, pp. 171-172 and 174-176, or "Methods for Chemical Analysis of Water and Wastes," pp. 59-60, Environmental Protection Agency, Office of Technology Transfer, Washington, D.C. 20460, 1974.~~

4. [Unchanged.]

5. [Unchanged.]

6. [Unchanged.]

E. Organic chemical contaminant sampling and analytical requirements.

1. [Unchanged.]

2. Analytical requirements for compliance with 7 MCAR § 1.146 D.1. and 7 MCAR § 1.146 D.2. shall be as described in a. and b.

a. Analyses made to determine compliance with 7 MCAR § 1.146 D.1. shall be made in accordance with ~~"Method for Organochlorine Pesticides in Industrial Effluents," MDQARL, Environmental Protection Agency, Cincinnati, Ohio, November 28, 1973~~ EPA Organochlorine Methods; or Standard Methods, Method 509-A; or ASTM, Method D-3086-79; or USGS 1972, Gas Chromatographic Methods for Analysis of Organic Substances in Water, Chapter A-3. See 7 MCAR § 1.147 A.2. for complete title of reference sources.

b. Analyses made to determine compliance with 7 MCAR § 1.146 D.2. shall be conducted in accordance with ~~Methods for Chlorinated Phenoxy Acid Herbicides in Industrial Effluents," MDQARL, Environmental Protection Agency, Cincinnati, Ohio, November 28, 1973~~ EPA Organochlorine Methods; or Standard Methods, Method 509-B; or ASTM, Method D-3478-79; or USGS 1979, Gas Chromatographic Methods for Analysis of Organic Substances in Water, Chapter A-3. See 7 MCAR § 1.147 A.2. for complete title of reference sources.

3. [Unchanged.]

4. [Unchanged.]

5. Total trihalomethanes sampling, analytical and other requirements shall be as described in a.-i.

a. Community water supplies which serve a population of 10,000 or more individuals and which did a disinfectant (oxidant) to the water in any part of the drinking water treatment process shall analyze for total trihalomethanes in accordance with this section. For systems serving 75,000 or more individuals, sampling and analyses shall begin not later than January 1, 1982. For systems serving 10,000 to 74,999 individuals, sampling and analyses shall begin not later than January 1, 1983. For the purpose of this section, the minimum number of samples required to be taken by the system shall be based on the number of treatment plants used by the system, except that multiple wells drawing raw water from a single aquifer are considered one treatment plant for determining the minimum number of samples. All samples taken within an established frequency shall be collected within a 24-hour period.

b. For all community water supplies utilizing surface water sources in whole or in part, and for all community water supplies utilizing only ground water sources that have not been determined by the commissioner to qualify for the monitoring requirements of e. and f., analyses for total trihalomethanes shall be performed at quarterly intervals on at least four water samples for each treatment plant used by the supply. At least 25 percent of the samples shall be taken at locations within the distribution system reflecting the maximum residence time of the water in the system. The remaining 75 percent shall be taken at representative locations in the distribution system, taking into account number of persons served, different sources of water and different treatment methods employed. The results of all analyses per quarter shall be arithmetically averaged and reported to the commissioner within 30 days of the supply's receipt of such results. All samples collected shall be used in the computation of the average, unless the analytical results are invalidated for technical reasons. Sampling and analyses shall be conducted in cordance with the methods listed in h.

c. Upon the written request of a community water system, the monitoring frequency required by b. may be reduced by the commissioner to a minimum of one sample analyzed for total trihalomethanes per quarter taken at a point in the

distribution system reflecting the maximum residence time of the water in the system, upon a written determination by the commissioner that the data from at least one year of monitoring in accordance with b. and local conditions demonstrate that total trihalomethane concentrations will be consistently below the maximum contaminant level.

d. If at any time during which the reduced monitoring frequency prescribed under c. applies, the results from any analysis exceed 0.10 milligrams per liter of total trihalomethanes and such results are confirmed by at least one check sample taken promptly after such results are received, or if the supply makes any significant change to its source of water or treatment program, the supply shall immediately begin monitoring in accordance with the requirements of b. and shall continue that monitoring for at least one year before the frequency may be reduced again.

e. Upon written request to the commissioner, a community water supply utilizing only ground water sources may seek to have the monitoring frequency required by b. reduced to a minimum of one sample for maximum total trihalomethane potential per year for each treatment plant used by the supply taken at a point in the distribution system reflecting maximum residence time of the water in the system. The supply shall submit to the commissioner the results of at least one sample analyzed for maximum total trihalomethane potential for each treatment plant used by the supply taken at a point in the distribution system reflecting the maximum residence time of the water in the system. The supply's monitoring frequency may only be reduced upon a written determination by the commissioner that, based upon the data submitted by the supply, the supply has a maximum total trihalomethane potential of less than 0.10 milligrams per liter and that, based upon an assessment of the local conditions of the supply, the supply is not likely to approach or exceed the maximum contaminant level for total trihalomethanes. All samples collected shall be used for determining whether the supply must comply with the monitoring requirements of b.-d., unless the analytical results are invalidated for technical reasons. Sampling and analyses shall be conducted in accordance with the methods listed in h.

f. If at any time during which the reduced monitoring frequency prescribed under e. applies, the results from any analysis taken by the supply for maximum total trihalomethane potential are equal to or greater than 0.10 milligrams per liter, and those results are confirmed by at least one check sample taken promptly after such results are received, the supply shall immediately begin monitoring in accordance with the requirements of b.-d. The monitoring shall continue for at least one year before the frequency may be reduced again. In the event of any significant change to the supply's raw water or treatment program, the supply shall immediately analyze an additional sample for maximum total trihalomethane potential taken at a point in the distribution system reflecting maximum residence time of the water in the system for the purpose of determining whether the supply must comply with the monitoring requirements of b-d.

g. Compliance with 7 MCAR § 1.146 D.3. shall be determined based on a running annual average of quarterly samples collected by the supply as prescribed in b. and c. If the average of samples covering any 12-month period exceeds the maximum contaminant level prescribed in 7 MCAR § 1.146 D.3., the supplier of water shall report to the state pursuant to 7 MCAR § 1.149 B. and notify the public pursuant to 7 MCAR § 1.149 D. Monitoring after public notification shall be at a frequency designated by the commissioner and shall continue until a monitoring schedule as a condition to a variance, exemption or enforcement action shall become effective.

h. Sampling and analyses made pursuant to this section shall be conducted by one of the following methods:

(1) "The Analysis of Trihalomethanes in Finished Waters by the Purge and Trap Method," Method 501.1, Environmental Monitoring and Support Laboratory, United States Environmental Protection Agency, Cincinnati, Ohio 45268.

(2) "The Analysis of Trihalomethanes in Drinking Water by Liquid/Liquid Extraction," Method 501.2, Environmental Monitoring and Support Laboratory, United States Environmental Protection Agency, Cincinnati, Ohio 45268.

Samples for total trihalomethane shall be dechlorinated upon collection to prevent further production of trihalomethanes, according to the procedures described in (1) and (2). Samples for maximum total trihalomethane potential should not be dechlorinated, and should be held for seven days at 25 degrees Celsius prior to analysis, according to the procedures described in (1) and (2).

i. Before a community water supply makes any significant modifications to its existing treatment process for the purposes of achieving compliance with 7 MCAR § 1.146 C.3., such supply must submit to the commissioner and obtain the

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commissioner's approval of a detailed plan setting forth its proposed modification and those safeguards that it will implement to ensure that the bacteriological quality of the drinking water served by such supply will not be adversely affected by such modification. Each supply shall comply with the provisions set forth in the plan as approved. At a minimum, an approved plan shall require the system modifying its disinfection practice to:

(1) Evaluate the water supply for sanitary defects and evaluate the source water for biological quality;

(2) Evaluate its existing treatment practices and consider improvements that will minimize disinfectant demand and optimize finished water quality throughout the distribution system;

(3) Provide baseline water quality survey data of the distribution system. Such data shall include the results from monitoring for coliform and fecal coliform bacteria, standard plate counts at 35 degrees Celsius and 20 degrees Celsius, phosphate, ammonia nitrogen and total organic carbon;

(4) Conduct additional monitoring to assure continued maintenance of optimal biological quality in finished water, for example, when chloramines are introduced as disinfectants or when pre-chlorination is being discontinued; and

(5) Demonstrate an active disinfectant residual throughout the distribution system at all times during and after the modification.

F. [Unchanged.]

G. [Unchanged.]

H. Approved laboratories. For the purpose of determining compliance with ~~parts A through F of this rule~~ A.-F., samples may be considered only if they have been analyzed by a laboratory approved by the commissioner, except that measurements for temperature, pH, turbidity, and free chlorine residual may be performed by any person acceptable to the commissioner.

I. [Unchanged.]

J. [Unchanged.]

K. Special monitoring for sodium.

1. Community public water supplies shall collect and analyze one sample per treatment plant at the entry point of the distribution system for the determination of sodium concentration levels. Samples must be collected and analyzed annually for supplies utilizing surface water sources in whole or in part, and at least every three years for supplies utilizing solely ground water sources. The minimum number of samples required to be taken by the supply shall be based on the number of treatment plants used by the supply, except that multiple wells drawing raw water from a single aquifer will be considered one treatment plant for determining the minimum number of samples.

2. The supplier of water shall report the results of the analyses for sodium within the first ten days of the month following the month in which the sample results were received or within the first ten days following the end of the required monitoring period as stipulated by the commissioner whichever of these is first. If more than annual sampling is required the supplier shall report the average sodium concentration within ten days of the month following the month in which the analytical results of the last sample used for the annual average was received.

3. Analyses for sodium shall be performed by the flame photometric method in accordance with the procedures described in Standard Methods, Method 320A; or EPA Chemical, Method 273.1 or 273.2; or ASTM, Method D-1428-64A. See 7 MCAR § 1.147 A.2. for complete title of reference sources.

L. Special monitoring for corrosivity characteristics.

1. Community public water supplies shall collect samples from a representative entry point to the water distribution system for the purpose of analysis to determine the corrosivity characteristics of the water.

a. The supplier shall collect for analysis for each treatment plant using surface water sources in whole or in part, one sample during mid-winter and one sample during mid-summer. The supplier of the water shall collect for analysis one sample per treatment plant for each treatment plant using ground water sources. The minimum number of samples requried to be taken by the supply shall be based on the number of treatment plants used by the supply, except that multiple wells drawing raw water om a single aquifer may be considered one treatment plant for determining the minimum number of samples.

b. Determination of the corrosivity characteristics of the water shall include measurement of pH, calcium hardness,

alkalinity, temperature, total dissolved solids or total filterable residue, and calculation of the Langelier Index in accordance with 3. The determination of corrosivity characteristics shall only include one round of sampling. One round of sampling consists of two samples per treatment plant for surface water and one sample per treatment plant for ground water sources.

2. The supplier of wate shall report the results of the analyses for the corrosivity characteristics within the first ten days of the month following the month in which the sample results were received. If more frequent sampling is required the supplier can accumulate the data and report each value within ten days of the month following the month in which the analytical results of the last sample were received.

3. Analyses conducted to determine the corrosivity of the water shall be made in accordance to the methods described in a.-f. See 7 MCAR § 1.147 A.2. for complete title of reference sources.

a. Langelier Index—Standard Methods, Method 203.

b. Total Filterable Residue—Standard Methods, Method 208B; or EPA Chemical, Method 160.1.

c. Temperature—Standard Methods, Method 212.

d. Calcium—Standard Methods, Method 306C; or ASTM, Method D-1126-67B.

e. Alkalinity—Standard Methods, Method 403; or ASTM, Method D-1067-70B; or EPA Chemical, Method 310.1.

f. pH—Standard Methods, Method 424; or EPA Chemical, Method 150.1; or ASTM, Method D-1293-78 A or B.

4. Community water supplies shall identify whether the following construction materials are present in their distribution system and report to the commissioner the existence of any of the following materials:

a. Lead from piping, solder, caulking, interior lining of distribution mains, alloys, and home plumbing;

b. Copper from piping and alloys, service lines, and home plumbing;

c. Galvanized piping, service lines, and home plumbing;

d. Ferrous piping materials such as cast iron and steel;

e. Asbestos cement pipe;

f. Vinyl-lined asbestos cement pipe; or

g. Coal-tar lined pipes and tanks.

7 MCAR § 1.149 Record maintenance; reporting; public notification.

A. [Unchanged.]

B. 1. [Unchanged.]

2. Except ~~where~~ when a shorter reporting period is specified, all results of tests, analyses or measurements shall be submitted on prescribed reporting forms to the commissioner within ~~40 days~~ the time period specified in a. or b., whichever is shorter:

a. The first ten days following the month in which the result is received by the supplier; or

b. The first ten days following the end of the required monitoring period as stipulated by the commissioner.

3. [Unchanged.]

4. [Unchanged.]

5. [Unchanged.]

C. [Unchanged.]

D. [Unchanged.]

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STATE OF MINNESOTA
DEPARTMENT OF HEALTH

In the Matter of Proposed Amendments to Rules Relating to Public Water Supplies	* * * *	FINDINGS OF FACT AND CONCLUSIONS

The amendments to rules relating to public water supplies were formally proposed in a Notice of Intent to Adopt rules without a public hearing which appeared in the State Register on September 14, 1981 (6 S.R.434). The Commissioner of Health had previously determined that the above-entitled matter would be non-controversial in nature and elected to follow the procedures set forth in Minnesota Statutes, section 15.0412, subdivision 4h (1980).

Notice as required by Minnesota Statutes section 15.0412 was served upon all persons, associations, and other interested groups registered with the Commissioner of Health for that purpose. In addition, notice was also given to all community public water supplies and certified water supply operators in the state. No requests for a hearing were received by the Minnesota Department of Health prior to the time specified in the notice, nor have any requests been received to date.

COMMENTS RECEIVED

During the comment period, the Minnesota Department of Health received only two comments.

On October 16, 1981, the Department received a comment from the Dow Chemical Company, objecting to the proposed requirement for the use of certain methods to analyze for trihalomethane compounds (proposed 7 MCAR §1.147 E.5.h.(1) and (2)). The commentor is of the opinion that the required methods have not had sufficient review within the scientific community, and as a result measurements made through the use of these methods could not support enforcement actions which might be brought for exceeding the maximum levels set in the rule.

The Department responds to the comment in the following manner: the analytical method for trihalomethanes was proposed by the U.S. Environmental Protection Agency (EPA) on November 29, 1979 at 44 F.R. 68641. Under the EPA's laboratory certification guidelines, laboratories had to follow the prescribed method, take part in a quality assurance program and obtain analytical results which fell within the ranges permitted by the EPA. Laboratories which wanted to become EPA certified to do these tests had to comply with all the EPA requirements within the two year interval before the trihalomethane standards were due to take effect.

When EPA published the proposed trihalomethane method (#501) it did so on the basis that the method was merely a modified version of an earlier halogenated hydrocarbon method (#601) which had already been in use in water pollution control activities for several years. The validation results of method #601 were made available a few weeks after publication of the proposed trihalomethane method. EPA also intended that the two-year interval before the maximum levels would take effect would allow sufficient time for validation of the modified method. During this two year interval, EPA has been collecting and analyzing quality assurance information from all the participating laboratories and is satisfied that the method as proposed, has been validated. The Department participated in this validation effort and its laboratory was certified to do trihalomethane analyses according to the procedure prescribed by the EPA. The Department is also satisfied, based on its own review of two years' worth of data and comparisons with other state and private laboratories, that the method as prescribed in the rule has sufficient validity to merit prescribing its use in Minnesota.

2. A set of comments came from the Sanitarian of the City of Bloomington, Minnesota.

7 MCAR §1.146C.3.

The commentor's recommendation that a non-community water supply containing high levels of nitrate be posted and that the water not be given to infants under 6 months of age (if the nitrate level is exceeded) is contained in the proposed rule, 7 MCAR §1.147B.3. The commentor objects to a relaxation of the quarterly sampling requirement for springs and surface water supplies. The proposed rule does not allow for a reduced sampling schedule for any non-community water supply until after a sanitary survey has been made to determine whether or not the supply is satisfactory and if the system complies with the well code. The requirement for less frequent monitoring can apply only to groundwater supplies. The proposed rule does not allow for less frequent monitoring of surface sources because these supplies are not regulated under the well code and because, by their very nature, they are much more subject to contamination.

7 MCAR §1.147E.5.f.(5).

The commentor urges that the rule require a test for viruses and fecal streptococci, in addition to fecal and total coliform and a variety of other baseline water quality tests, when a supply proposes to change a disinfection process. The Department made a determination when proposing the rule, that the water quality data it was requiring would be sufficient to allow it to decide as to whether or not a new disinfection process should be approved. Several reasons exist as to why the rule need not require the fecal strep information as part of the baseline analysis. Fecal coliform and total coliform are recovered much more frequently than fecal strep, in a water supply. The ratio of fecal streptococci and fecal coliform indicator groups can be useful in determining the source of pollution in raw surface water. Although some streptococci may be more resistant to disinfection, the likelihood that fecal strep alone would be present in the absence

of any fecal or total coliform organisms in disinfectant treated water is so small that it can be safely disregarded for regulatory purposes. In addition, survey analyses of treated surface water supplies in Minnesota have never indicated the presence of significant quanitities of fecal strep. Requiring the measurement of these organisms may not be very informative.

As for viral studies, there is no history of illness in Minnesota which is traceable to waterborne viruses from surface water supplies. A great many types of viruses, both harmless and pathogenic, can be found in water. Without more information about the particular classes of virus which might be suspected of being present, it would be impractical, time consuming, and very expensive to require a supply to test for all of them. Without additional information about the suspected classes of viruses which should be looked for, the methodology to use, and an accepted standard by which to interpret results, it serves little purpose to insist that virus studies be required. The Minnesota Department of Health may of course do virus studies on its own initiative before a new disinfection process will be approved, if it has reason to believe that there is a potential for virus contamination of the applicant water supply. Therefore such a requirement need not be imposed in the rule.

After affording interested persons an opportunity to present written data, statements and argument, and to request a hearing on the above-entitled rules, having considered all of the evidence addressed upon the records, files and proceedings herein, the Commissioner makes the following:

FINDINGS OF FACT

1. On August 28, 1981, the Revisor of Statutes approved a draft of proposed amendments to rules of the commissioner of health relating to public water supply systems.

2. On September 14, 1981, a Notice of Intent to Adopt Rules without a Public Hearing and a copy of the proposed amendments were published at 6 State Register, 434.

3. On September 10, 1981, the Minnesota Department of Health mailed the Notice of Intent to Adopt Rules without a Public Hearing to all persons and associations who had registered their names with the Commissioner of Health to receive such notice, to all members of the Minnesota Legislature and to all public water supplies and supply operators certified by the State.

4. The Department had prepared and made available to the public a Statement on the Need for and Reasonableness of the proposed amendments. This Statement along with the proposed amendments was available for public viewing at the Department's office throughout the period in which comments could be made.

5. The Department cites as authority to amend the rules relating to public water supplies, Minn. Stat. §144.383 (1980) which reads as follows:

> "In order to insure safe drinking water in all public water supplies, the commissioner has the following powers:
>
> ... (e) To promulgate rules, pursuant to chapter 15 but no less stringent than federal regulation, which may include the granting of variances and exemptions."

6. The Minnesota Department of Health has proposed amendments to the public water supply rules which are required pursuant to an agreement which the U.S. Environmental Protection Agency has with the State of Minnesota. By the terms of this agreement, the State will enforce standards which are no less stringent that those imposed by the federal agency. The amendments which have been proposed will bring the state rules into conformance with the federal standards, as stated in the agency's Statement of Need and Reasonableness which is incorporated herein by reference.

7. Revisions to rule as proposed in State Register (refer to copy of Revisor's approved version attached hereto).

a. page 9, line 11: The phrase "applicable to community water supplies" should be inserted before the colon. This phrase was omitted by the Revisor in the approved draft. The phrase must be re-inserted to clarify the scope of applicability of the listed chemicals. The re-insertion does not have a significant effect on the regulated utilities, since a further reading of the rule at 3. would permit the reader to infer that the contaminants listed in 1. only apply to community water supplies. The rule should be written in such a way as to eliminate any ambiguities and the Department's re-insertion serves that purpose.

b. page 12, line 32: The reference to the well code should read §1.210-1.224 not 225. This change was made by the Revisor, perhaps on the basis of earlier printed versions of the well code. 7 MCAR §1.225 (adopted in the spring of 1981), relates to licensing of mineral explorers and construction of exploratory bore holes. Since this new rule addresses a subject matter which is somewhat different from the well code, the Department no longer refers to the well code as including §1.22.5.

c. page 17, line 20: Delete "January 1, 1982" and substitute "the effective date of this rule." Under the federal rules, utilities were to start sampling in 1981. Since the federal rules remain in effect until the state rules take effect, it is preferable not to state a date which is as yet uncertain. The actual effective date can be inserted when the rule is printed.

d. page 11, line 6: Insert the following: "The Department will make available to the public any analytical method referenced in this rule if the method is not available for lending from a public library." This sentence is being added at the request of the Revisor who gave approval for the incorporation by reference of the various methods contingent upon this provision being added to the rule.

Based upon the foregoing Findings of Fact, the Commissioner makes the following:

CONCLUSIONS

1. That the Department of Health gave proper notice of the promulgation of the proposed amendments to rules.

2. That the Commissioner of Health has statutory authority to promulgate the proposed amendments.

3. That the Commissioner of Health has fulfilled all relevant substantive and procedural requirements.

4. That the Department of Health has demonstrated the need for and reasonableness of the proposed amendments.

5. That the revisions to the amendments as proposed which have been offered by the Department are necessary and reasonable and present no substantial change from the amendments as proposed.

6. That the amendments as proposed and revised should be adopted.

George R. Pettersen M.D.

George R. Pettersen, M.D.
Commissioner of Health

Dated this 25th day of February 1982

MINNESOTA DEPARTMENT OF HEALTH
Division of Environmental Health

MAR 1 7 1982
Health Division

In the Matter of Amendments
to Rules Relating to Public
Water Supplies

STATEMENT OF NEED AND REASONABLENESS

The amendments to rules relating to public water supplies, 7MCAR § 1.141-1.145, are being proposed by the Commissioner of Health for the purpose of complying with requirements contained in federal safe drinking water rules.

HISTORY

The Minnesota Safe Drinking Water Act (SDWA) enacted in 1977 [Minn. Stat. § 144.381 to 144.387 (1980)] authorizes the Commissioner of Health to promulgate rules which are no less stringent than federal regulations relating to public water supplies [Minn. Stat. § 144.383 (e)(1980)]. This authority was granted for the purpose of allowing the State, pursuant to the federal SDWA of 1974 (PL 93-523 and amendments thereto) to assume primacy for enforcement of the U.S. Environmental Protection Agency (EPA) drinking water standards. The federal law requires that a state which assumes primacy must meet certain minimum requirements prescribed in federal rules in order to be eligible to receive federal grant monies to support its administration of the federal program. The Minnesota SDWA provides that the State can retain primacy only as long as federal support does not fall below 40% of the State's total cost for administration of the program. Minn. Stat. § 144,388 (1980).

The Commissioner of Health promulgated the necessary rules 7MCAR § 1.145-1.149, and the U.S. EPA granted primary enforcement responsibility to the State in 1977. Since that time, the U.S. EPA has amended the federal rules. A state must now amend its rules similarly if it wishes to retain primacy. Amendments to the state rules which are discussed here are being proposed for the purpose of complying with the federal requirements (44 F.R. 68641-68642, November 29, 1979, and 45 F.R. 57342-47346, August 27, 1980).*

NEED AND REASONABLENESS

Nearly all of the amendments being proposed below are required by the federal rules. In those instances where that is basis for the amendment a simple reference to the federal citation will be given without additional comment. Where the federal rules allow a state to exercise discretion, the rationale for the particular amendment being proposed will be provided. Similarly, where a change is being made for any reason other than a change in the federal rule, a specific explanation and rationale will be given.

*A copy of the referenced paghes is attached as Appendix A.

7MCAR § 1.145 B. New terms are being added to the existing list of defined terms. The new terms are contained in the federal rules' definition section, 40 C.F.R., § 141.2 (p) through (t) (44 F.R. 68641). The terms already contained in the state rule are being relabelled to maintain alphabetical order.

7MCAR § 1.145 C.1. This portion of the rule is being amended by addition of the phrase "sodium and corrosivity" to reflect the expanded scope of the State rules, as prescribed in the federal rules (45 F.R. 57346, § 141.42).

7MCAR § 1.145 C.2. The last portion of the sentence is being stricken because the State will henceforth exercise its enforcement authority over public water supplies on federal facilities. When the rule was originally adopted, it was generally accepted that the states were pre-empted from enforcing their own rules in federal facilities. Since that time, Congress has specifically amended* the federal SDWA (42 U.S.C. § 300 f) to allow for enforcement of state standards on federal installations by states with primacy. Since the State has decided to assume this responsibility, the limiting language must be repealed.

7MCAR § 1.146 A.1. All the newly proposed language is authorized in the federal rules [45 F.R. 57343, § 141.14 (a)(1)]. The State will exercise its discretion with regard to authorizing a supplier to exclude one positive sample per month. Based on previous experience, the State has learned that occasional samples will yield a positive result which is not repeatable and which is not attributable to any identifiable cause. As long as the conditions enumerated in subpart A.1. are met, the elimination of the one positive sample from the calculated monthly average will not result in the creation of a public health risk. No purpose would be served by requiring the supplier to include the "false" positive in his monthly average, which might cause the maximum contaminnant level to be exceeded, thus triggering the notification of the public. The proposed amendment meets the federal requirement and reduces the burden on the supplies without any increase in risk to the public health.

7MCAR § 1.146 A.2. The preceding rationale applies equally to the additions being proposed in this section. The comparable federal rule can be found at 45 F.R. 57343, § 141.14 (b)(1) and (2).

7MCAR § 1.145 A.4. The amendment proposed here is taken verbatim from the federal rule contained in 45 F.R. 57343, § 141.14 (d). The amendment is being made to eliminate any misunderstanding of the earlier federal rule. Without the amending statement, one could have interpreted the existing language to mean that exceeding the "single sample" maximum contaminant level (MCL) constituted a separate violation from that which resulted when a monthly average MCL was exceeded because of that same "single sample". The amendment makes clear that there is only one and not two violations.

*P.L. 95-190, 42 U.S.C. 300 j(6).

7MCAR § 1.146 C. The opening paragraph of the section is being stricken because it is being interwoven into succeeding parts of subsection C. In subsection C.1. the level for fluoride is being reduced from 2.4 mg/l to 2.2 mg/l. The MCL of 2.4 mg/l was originally chosen, based on ambient temperature data which was then thought to be representative of the average annual temperature in the State. After adoption of that 2.4 level, it was learned, from the U.S. Weather Service, that the average ambient temperature was lower than previously assumed. The U.S. EPA rules prescribe specific MCLS based on a state's average annual temperature, 40 CFR Section 141.11 (c). Based on the true average temperature in Minnesota, the fluoride MCL should be 2.2 mg/l, to comply with the federal requirements. Sentence number "2" is the same as the second sentence in the opening paragraph which was stricken earlier. The sentence labeled "3" is taken in part from the first sentence in the opening stricken paragraph. (The MCL for nitrate listed in C.1, also applies to non-community water supplies ...). The latter part of this new sentence "3", starting with "except that ..." is new language being added to the state rule. This provision is a discretionary one which is permitted under the federal rule at 45 F.R. 57343, Section 141.11 (d). The amendment is being proposed based on the recognition that the populations which are served by non-community supplies are almost exclusively transient, and therefore are not likely to consume quantities of high nitrate containing water which would be sufficient to cause any significant health problems. In addition, the only population which is really sensitive to high nitrate level water is children under six months of age, and the rule prohibits their being served water from a supply which has a higher nitrate level. There is little likelihood that a non-resident over 6 months of age who is permitted to drink the water will suffer any health consequences. None have been shown to occur in adult populations which have been drinking high nitrate containing water for extended periods of time. The State has determined that if the conditions prescribed in subparts a through d of the proposed amendment are being met, no risk will result to the health of persons who consume that water.

7MCAR § 1.146 D. A new subsection 3 sets out the level for total trihalomethanes and describes its scope of applicability, just as it is as prescribed in the federal rule, 44 F.R. 68641, Section 141.12.

7MCAR § 1.147 B.1. This section enumerates new alternative analytical methods which the federal rules authorize the states to use in analyzing the microbiological quality of water. All of the titles of the reference sources are being defined in the definitions' portion of the amended rules at 7MCAR §1.145 for purposes of brevity and consistency and to reduce the possibility of misprints. The new methods enumerated here are authorized in 45 F.R. 57343, Section 141.21 (a).

7MCAR § 1.147 B.3. The amended federal rules authorize

states to impose on non-community water supplies, monitoring frequencies which are different from those prescribed in the original federal rules. The new federal rule leaves it to the discretion of the state to set a monitoring frequency, as long as the state takes certain factors into account before relaxing the sampling frequency.

Minnesota is electing to adopt this discretionary provision based on the following rationale. The single best way of determining whether a ground water supply can deliver water which complies with state water quality standards is to look for compliance with the state water well construction code. If a well is constructed and located in accordance with the code, the chemical and bacteriological quality of the water is not likely to change from quarter to quarter or even from year to year. Therefore, there is no need to set a minimum sampling frequency of once per year for those supplies which meet the prescribed conditions. Rather than requiring the analysis of one sample of water on an annual basis, the rule will now require that the well have been constructed in accordance with the Minnesota Water Well Construction Code. If upon making a sanitary survey, the inspecting engineer or environmental health specialist finds that the well for a non-community supply does comply with the well code, then the Commissioner may set a sampling frequency which is less than once per year. The State has determined, based on its own experience and that of other states, that this alternative procedure will provide the same degree of protection to the health of the public which consumes water from such supply as would be provided if quarterly samples were required. The federal rule authorizing the exercise of such discretion by the states can be found at 45 F.R. 57344, Section 141.21 (c).

7MCAR § 1.147 C. The federal rules allow a state to reduce the sampling frequency for measurement for turbidity in non-communtiy supplies, as long as the state's regulatory authority finds that such a reduced frequency will not pose a risk to the public health. As provided in the federal rule, the conditions which must be met by the supply before such a reduced sampling frequency will be authorized is contained in the amending language. The federal rule authorizing this exercise of discretion by the states is contained in 45 F.R. 57344, Section 141.22 (a). The federal rules also authorize the adoption of additional analytical methods for the measurement of turbidity, at 45 F.R. 57344 Section 141.22 (a).

7MCAR § 1.147 D.3. This entire portion of the existing rule is being repealed and replaced with updated and additional references for analytical methods, as provided in the federal rules at 45 F.R. 57344, Section 141.23 (f). Here too we have chosen to footnote the names of the major references in order to save having to repeat the same title several times over.

7MCAR § 1.147 E.2. The federal rules permit the alternative use of newly developed methods and these have been incorporated

into the rule. The federal rule language is contained at 45 F.R. 57345, Section 141.24 (e).

7MCAR § 1.147 E.5. The federal rules impose a requirement to sample for a new class of organic materials called trihalomethanes. The proposed amendment contains the necessary provisions (44 F.R. 68641, Section 141.30) which a state with primacy must adopt. In those instances where the federal rule relating to trihalomethanes (THMs) grants to a state the authority to exercise discretion, the State proposes to adopt the minimum requirement permissible under that federal rule. In subpart E.5.a., the proposed amendment states that multiple wells (for any single supply) which draw from the same aquifer will be handled as if they represented a single treatment plant for the purpose of determining number of samples. It has been the State's experience that a cluster of wells drawing from the same aquifer, in the vast majority of cases, supply water which has virtually the same properties. Therefore, it is appropriate to consider a cluster of wells which are drawing from the same aquifer as if they were a single well supplying a single treatment plant. This exercise of discretion by a state is authorized in the federal rule (44 F.R. 68641 Section 141.30 (a) Column 3, line 8). All of the amending language in 7MCAR §1.147 E.5.b(1), (2) and (3) is taken from the federal rule [44 F.R. 68642, § 141.30 (b)(1)(2) and (3)]. The last sentence of subpart (3) of the federal rule grants a state the option of imposing an increased monitoring frequency above the minimum prescribed in the rule, in cases where it is necessary to detect variations of levels within the distribution system. (44 F.R. 68641, Section 141.30 (b)(3), last sentence). It is not necessary to incorporate this optional language into the state rule because there already is a state provision (contained in 7MCAR section 1.147 J.) which allows the Commissioner to impose requirements for more frequent sampling if analytical results show that a previously measured contaminant is approaching an MCL.

7MCAR § 1.147 E.5.c. This is taken from its federal counterpart at 44 F.R. 68642, § 141.30 (c). Two portions of the federal rule were not included in this proposed amendment. The federal rule reference to a 30-day reporting period (44 F.R. 68642, 1st column, 18 lines from bottom) is not incorporated here because there is a separate reporting provision covering all analytical results (cf., 7MCAR §1.149 B.2. as proposed). The second portion from the federal rule which is not incorporated into the proposed amendments relates to increasing the monitoring frequency (44 F.R. 68642, 2nd column, last sentence of (c)(2). The reason for not including this statement is the same as was given above, under 7MCAR § 1.147 E.5.b.(1).

7MCAR § 1.147 E.5.d. and e. are taken in their entirety from 44 F.R. 68642, § 141.30 (d) and (e).

7MCAR § 1.147 E.5.f. is taken from 44 F.R. 68642, § 141.30 (f) with a few deletions from (f)(3) and (f)(4). 7MCAR Section

1.147 E.5.f.(3) makes it mandatory that a supply provide certain base line water quality information as part of its plan for modifying a treatment process. The federal rules make this particular requirement permissive by saying that a state "should" require certain kinds of information, 44 F.R. 68642, 3rd column, mid page. The proposed amendment requires the submission of all the information recommended in the federal rule except for data concerning levels of fecal streptococci, because existing state laboratory practice does not allow for routine testing for fecal strep in drinking water. In our opinion, the results of measurements for fecal coliform are just as good an indicator of fecal contamination as are those from measurements for fecal strep. The last sentence in the same portion of the federal rule recommending that results of virus studies also be required is not included in the proposed amendment because no state laboratory has the necessary facilities for doing such virus studies on a routine basis. If such studies should ever become necessary, the State could explore sources out of state to provide that service. 7MCAR § 1.147 E.5.f(4). Here too, the federal rules permit a state with primacy to impose requirements for additional monitoring when disinfectant procedures are changed by a supply. As noted earlier, the state rules elsewhere contain a provision authorizing the imposition of more frequent monitoring under certain curcumstances.

7MCAR § 1.147 H. The rule is being amended to allow for individual persons who are acceptable to the Commissioner to perform measurements for temperature and pH in addition to those already listed in the rule (turbidity and free-chlorine residual). This authority is being granted to certain individuals because measurements for temperature and pH are relatively easy to perform and require the use of equipment which most supply operators are familiar with. Therefore, it is appropriate that the rules state that some individuals will be allowed to make these measurements.

7MCAR § 1.147 K and L. Both of these subsections contain entirely new language as authorized in the federal rules (45 F.R. 57345 et. seq., § 141.41 and § 141.42). 7MCAR §1.147 K relates to monitoring for sodium and 7MCAR §1.147 L relates to monitoring for corrosivity. Federal law does not require a state with primacy to enforce the federal standards relating to monitoring for sodium and corrosivity. In states which chose not to, the U.S EPA will deal with suppliers directly to require their compliance with the federal monitoring standards. Minnesota has chosen to enforce those requirements through its own rules because the state wishes to continue to be the exclusive governmental body with which public water supplies must interact on matters relating to the quality of drinking water. Those portions of the federal rules which impose specific responsibilities upon the supplier have been incorporated into the State rule. Those portions of the federal rules which are permissive have been handled as follows: the federal provisions authorizing the sampling of multiple wells from a single aquifer as if they constituted a single treatment plant (45 F.R. 57345, § 141.41

(a) re: sodium, and 45 F.R. § 57346, § 141.42 (a)(1) re: corrosivity) have been adopted in the state rule, for the reasons given earlier, at p. 8; the federal provisions authorizing a state to impose more frequent monitoring have not been incorporated here becuse they are already contained in 7MCAR § 1.147 J. In the federal rules (45 F.R. 57346, § 141.41 (c)) there is a provision making it permissive for a supply to be notifying local health officials of sodium levels. Since the State has elected to assume the responsibility for providing this information to local health officials, there is no need to include that federal provision in the state rule. There is permissive language in the federal rule relating to monitoring for corrosivity (45 F.R. 57346, § 141.42 A.(a)(2)) having to do with a state requiring more frequent monitoring, requiring monitoring for additional parameters, or authorizing use of the Aggressive Index. The State has not elected to include any of this language in the proposed amendments. Use of the Aggressive Index by suppliers as one measure for corrosivity, is not being allowed since it is the State's determination that that Index does not provide as reliable a measure of corrosivity as does the Langelier Index.

7MCAR § 1.149 B.2. The forty-day reporting interval provided in the existing rule is being shortened in accordance with the requirement in the federal rules that results be submitted to the state within ten days following receipt of the result by the supply or within ten days following the termination of a stipulated monitoring period whichever is appropriate. This requirement is contained in the federal rule at 45 F.R. 57345, § 141.31.

The rule changes being proposed here are all based on new requirements having been adopted in the federal rules or federal law. To the extent that the State is required by the provisions of the Federal Safe Drinking Water Act to have adopted rules which are at least as stringent as the federal rules, the foregoing proposed changes are necessary. In those instances where the State could exercise some discretion in terms of what it could require from the supplier, only the minimum which is authorized in the federal rules will be imposed in the state rules. The State has based its decision on its own best judgement that risks to the public health would not be increased as a result of imposing these minimum requirements. To the extent that the State is imposing only the minimum requirements of the federal rules, thus freeing the regulated public of any significant new burdens, while still protecting the public health, the rules are reasonable.

regulation not subject to the procedural requirements of Executive Order 12044.

Dated: November 5, 1979.

Douglas M. Costle,
Administrator.

Accordingly, Part 141, Title 40 of the Code of Federal Regulations is hereby amended as follows:

1. By amending § 141.2 to include the following new paragraphs (p) through (t):

§ 141.2 Definitions.

* * * * *

(p) "Halogen" means one of the chemical elements chlorine, bromine or iodine.

(q) "Trihalomethane" (THM) means one of the family of organic compounds, named as derivatives of methane, wherein three of the four hydrogen atoms in methane are each substituted by a halogen atom in the molecular structure.

(r) "Total trihalomethanes" (TTHM) means the sum of the concentration in milligrams per liter of the trihalomethane compounds (trichloromethane [chloroform], dibromochloromethane, bromodichloromethane and tribromomethane [bromoform]), rounded to two significant figures.

(s) "Maximum Total Trihalomethane Potential (MTP)" means the maximum concentration of total trihalomethanes produced in a given water containing a disinfectant residual after 7 days at a temperature of 25° C or above.

(t) "Disinfectant" means any oxidant, including but not limited to chlorine, chlorine dioxide, chloramines, and ozone added to water in any part of the treatment or distribution process, that is intended to kill or inactivate pathogenic microorganisms.

2. By revising § 141.6 to read as follows:

§ 141.6 Effective dates.

(a) Except as provided in paragraph (b) of this section, the regulations set forth in this part shall take effect on June 24, 1977.

(b) The regulations for total trihalomethanes set forth in § 141.12(c) shall take effect 2 years after the date of promulgation of these regulations for community water systems serving 75,000 or more individuals, and 4 years after the date of promulgation for communities serving 10,000 to 74,999 individuals.

3. By revising the introductory paragraph and adding a new paragraph (c) in § 141.12 to read as follows:

§ 141.12 Maximum contaminant levels for organic chemicals.

The following are the maximum contaminant levels for organic chemicals. The maximum contaminant levels for organic chemicals in paragraphs (a) and (b) of this section apply to all community water systems. Compliance with the maximum contaminant levels in paragraphs (a) and (b) is calculated pursuant to § 141.24. The maximum contaminant level for total trihalomethanes in paragraph (c) of this section applies only to community water systems which serve a population of 10,000 or more individuals and which add a disinfectant (oxidant) to the water in any part of the drinking water treatment process. Compliance with the maximum contaminant level for total trihalomethanes is calculated pursuant to § 141.30.

* * * * *

(c) Total trihalomethanes (the sum of the concentrations of bromodichloromethane, dibromochloromethane, tribromomethane (bromoform) and trichloromethane (chloroform)) 0.10 mg/l.

4. By revising the title, the introductory text of paragraph (a) and paragraph (b) of § 141.24 to read as follows:

§ 141.24 Organic chemicals other than total trihalomethanes, sampling and analytical requirements.

(a) An analysis of substances for the purpose of determining compliance with § 141.12(a) and § 141.12(b) shall be made as follows:

(b) If the result of an analysis made pursuant to paragraph (a) of this section indicates that the level of any contaminant listed in § 141.24 (a) and (b) exceeds the maximum contaminant level, the supplier of water shall report to the State within 7 days and initiate three additional analyses within one month.

5. By adding a new § 141.30 to read as follows:

§ 141.30 Total trihalomethanes sampling, analytical and other requirements.

(a) Community water system which serve a population of 10,000 or more individuals and which add a disinfectant (oxidant) to the water in any part of the drinking water treatment process shall analyze for total trihalomethanes in accordance with this section. For systems serving 75,000 or more individuals, sampling and analyses shall begin not later than 1 year after the date of promulgation of this regulation. For systems serving 10,000 to 74,999 individuals, sampling and analyses shall begin not later than 3 years after the date of promulgation of this regulation. For the purpose of this section, the minimum number of samples required to be taken by the system shall be based on the number of treatment plants used by the system, except that multiple wells drawing raw water from a single aquifer may, with the State approval, be considered one treatment plant for determining the minimum number of samples. All samples taken within an established frequency shall be collected within a 24-hour period.

(b)(1) For all community water systems utilizing surface water sources in whole or in part, and for all community water systems utilizing only ground water sources that have not been determined by the State to qualify for the monitoring requirements of paragraph (c) of this section, analyses for total trihalomethanes shall be performed at quarterly intervals on at least four water samples for each treatment plant used by the system. At least 25 percent of the samples shall be taken at locations within the distribution system reflecting the maximum residence time of the water in the system. The remaining 75 percent shall be taken at representative locations in the distribution system, taking into account number of persons served, different sources of water and different treatment methods employed. The results of all analyses per quarter shall be arithmetically averaged and reported to the State within 30 days of the system's receipt of such results. Results shall also be reported to EPA until such monitoring requirements have been adopted by the State. All samples collected shall be used in the computation of the average, unless the analytical results are invalidated for technical reasons. Sampling and analyses shall be conducted in accordance with the methods listed in paragraph (e) of this section.

(2) Upon the written request of a community water system, the monitoring frequency required by paragraph (b)(1) of this section may be reduced by the State to a minimum of one sample analyzed for TTHMs per quarter taken at a point in the distribution system reflecting the maximum residence time of the water in the system, upon a written determination by the State that the data from at least 1 year of monitoring in accordance with paragraph (b)(1) of this section and local conditions demonstrate that total trihalomethane concentrations will be consistently below the maximum contaminant level.

ATTACHMENT 11

FEDERAL RULES - TRIHALOMETHANES

(3) If at any time during which the reduced monitoring frequency prescribed under this paragraph applies, the results from any analysis exceed 0.10 mg/l of TTHMs and such results are confirmed by at least one check sample taken promptly after such results are received, or if the system makes any significant change to its source of water or treatment program, the system shall immediately begin monitoring in accordance with the requirements of paragraph (b)(1) of this section, which monitoring shall continue for at least 1 year before the frequency may be reduced again. At the option of the State, a system's monitoring frequency may and should be increased above the minimum in those cases where it is necessary to detect variations of TTHM levels within the distribution system.

(c)(1) Upon written request to the State, a community water system utilizing only ground water sources may seek to have the monitoring frequency required by subparagraph (1) of paragraph (b) of this section reduced to a minimum of one sample for maximum TTHM potential per year for each treatment plant used by the system taken at a point in the distribution system reflecting maximum residence time of the water in the system. The system shall submit to the State the results of at least one sample analyzed for maximum TTHM potential for each treatment plant used by the system taken at a point in the distribution system reflecting the maximum residence time of the water in the system. The system's monitoring frequency may only be reduced upon a written determination by the State that, based upon the data submitted by the system, the system has a maximum TTHM potential of less than 0.10 mg/l and that, based upon an assessment of the local conditions of the system, the system is not likely to approach or exceed the maximum contaminant level for total TTHMs. The results of all analyses shall be reported to the State within 30 days of the system's receipt of such results. Results shall also be reported to EPA until such monitoring requirements have been adopted by the State. All samples collected shall be used for determining whether the system must comply with the monitoring requirements of paragraph (b) of this section, unless the analytical results are invalidated for technical reasons. Sampling and analyses shall be conducted in accordance with the methods listed in paragraph (e) of this section.

(2) If at any time during which the reduced monitoring frequency prescribed under paragraph (c)(1) of this section applies, the results from any analysis taken by the system for maximum TTHM potential are equal to or greater than 0.10 mg/l, and such results are confirmed by at least one check sample taken promptly after such results are received, the system shall immediately begin monitoring in accordance with the requirements of paragraph (b) of this section and such monitoring shall continue for at least one year before the frequency may be reduced again. In the event of any significant change to the system's raw water or treatment program, the system shall immediately analyze an additional sample for maximum TTHM potential taken at a point in the distribution system reflecting maximum residence time of the water in the system for the purpose of determining whether the system must comply with the monitoring requirements of paragraph (b) of this section. At the option of the State, monitoring frequencies may and should be increased above the minimum in those cases where this is necessary to detect variation of TTHM levels within the distribution system.

(d) Compliance with § 141.12(c) shall be determined based on a running annual average of quarterly samples collected by the system as prescribed in subparagraphs (1) or (2) of paragraph (b) of this section. If the average of samples covering any 12 month period exceeds the Maximum Contaminant Level, the supplier of water shall report to the State pursuant to § 141.31 and notify the public pursuant to § 141.32. Monitoring after public notification shall be at a frequency designated by the State and shall continue until a monitoring schedule as a condition to a variance, exemption or enforcement action shall become effective.

(e) Sampling and analyses made pursuant to this section shall be conducted by one of the following EPA approved methods:

(1) "The Analysis of Trihalomethanes in Finished Waters by the Purge and Trap Method." Method 501.1, EMSL, EPA Cincinnati, Ohio.

(2) "The Analysis of Trihalomethanes in Drinking Water by Liquid/Liquid Extraction," Method 501.2, EMSL, EPA Cincinnati, Ohio.

Samples for TTHM shall be dechlorinated upon collection to prevent further production of Trihalomethanes, according to the procedures described in the above two methods. Samples for maximum TTHM potential should not be dechlorinated, and should be held for seven days at 25° C prior to analysis, according to the procedures described in the above two methods.

(f) Before a community water system makes any significant modifications to its existing treatment process for the purposes of achieving compliance with § 141.12(c), such system must submit and obtain State approval of a detailed plan setting forth its proposed modification and those safeguards that it will implement to ensure that the bacteriological quality of the drinking water served by such system will not be adversely affected by such modification. Each system shall comply with the provisions set forth in the State-approved plan. At a minimum, A State approved plan shall require the system modifying its disinfection practice to:

(1) Evaluate the water system for sanitary defects and evaluate the source water for biological quality;

(2) Evaluate its existing treatment practices and consider improvements that will minimize disinfectant demand and optimize finished water quality throughout the distribution system;

(3) Provide baseline water quality survey data of the distribution system. Such data should include the results from monitoring for coliform and fecal coliform bacteria, fecal streptococci, standard plate counts at 35° C and 20° C, phosphate, ammonia nitrogen and total organic carbon. Virus studies should be required where source waters are heavily contaminated with sewage effluent;

(4) Conduct additional monitoring to assure continued maintenance of optimal biological quality in finished water, for example, when chloramines are introduced as disinfectants or when pre-chlorination is being discontinued. Additional monitoring should also be required by the State for chlorate, chlorite and chlorine dioxide when chlorine dioxide is used as a disinfectant. Standard plate count analyses should also be required by the State as appropriate before and after any modifications;

(5) Demonstrate an active disinfectant residual throughout the distribution system at all times during and after the modification.

This paragraph (f) shall become effective on the date of its promulgation.

ENVIRONMENTAL PROTECTION AGENCY

Docket No.

40 CFR Part 141

National Primary Drinking Water Regulations; Amendments

Correction

AGENCY: Environmental Protection Agency

ACTION: Final Rule; Correction

SUMMARY: This document corrects amendments to the National Interim Primary Drinking Water Regulations that appeared on November 29, 1979, (44 FR 68624). This action is necessary to correct typographical errors and to clarify certain effective dates for the purpose of implementing these regulations on the calendar quarter basis.

FOR FURTHER INFORMATION CONTACT: Joseph A. Cotruvo, Director, Criteria and Standards Division, Office of Drinking Water (WH-550), Environmental Protection Agency, Washington, D.C. 20460 (202/472-5030).

SUPPLEMENTARY INFORMATION: The following corrections are made in FR Doc. 79-35442 appearing at page 68624 in the issue of November 29, 1979:

1. On page 68641, column 1, section 141.6(a), "paragraph (b)" should be corrected to read "paragraph (b), (c), (d), and (e)".
2. On page 68641, column 1, section 141.6(b), "2 years after the date of promulgation of these regulations" should be corrected to read "on January 1, 1982," and "4 years after the date of promulgation" should be corrected to read "on January 1, 1984,".

TRIHALOMETHANES - FEDERAL RULES - CORRECTIONS

3. On page 68641, column 2, section 141.24(b), fourth line, "§141.24" should be corrected to read "§141.12".

4. On page 68641, column 2, section 141.30(a), "1 year after the date of promulgation of this regulation" should be corrected to read, "January 1, 1981".

5. On page 6841, column 3, section 141.30(a), "3 years after the date of promulgation of this regulation" should be corrected to read, "January 1, 1983".

AUTHORITY: Safe Drinking Water Act, Sections 1401, 1412, 1414, 1416, 1445 and 1450 of the Pub.L. 93-523, as amended by Pub.L. 95-190, 96-16 and 96-502: (42 U.S.C. 300f, et seq.)

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Victor J. Kimm
Deputy Assistant Administrator
for Drinking Water

Date

of contamination and increased monitoring for microbiological contaminants would be recommended.

While the condition on nitrite has been deleted, the condition that states "no adverse health effects will result" has been retained. This condition is the final safeguard and is left as general guidance as a contingency if the other conditions are not met.

Several commenters felt that the proposed requirement that the suppliers notify local physicians was unclear and could impose a large burden for some supplies in the suburbs of a large city. This condition has been revised so that the supplier would notify appropriate local and State public health authorities on an annual basis. It is expected that the local and State health authorities would notify appropriate physicians in the locality of the public water system.

Economic and Energy Assessment

A detailed regulatory analysis of the proposed amendments was not conducted due to the routine nature of the amendments and the expected decrease in the economic burden associated with these amended NIPDWR. Further, these amendments are generally not expected to have significant impacts upon resources or reporting requirements. The economics associated with each of the amendments are explained below. Energy impacts are negligible.

Changes in the microbiological monitoring and reporting requirements should result in unquantifiable but known savings to local water supply facilities. The savings reflect fewer public notifications. Although these savings are relatively small on a national scale, they are significant to the water utilities affected.

It is anticipated that the amendment on alternate analytical methods will have a minimal economic impact. Laboratories that are presently using equipment for new alternate methods, will have cost savings, since the need for equipment purchase for the previously approved methods will be eliminated. No changes in costs are expected in laboratories that do not adopt these procedures. The overall economic effect of the amendment on alternate techniques should be no cost increase, and in some cases a cost savings, since a greater analytical flexibility will be provided.

Changes in the regulations which affect non-community water systems will result in savings associated with reduced monitoring and public notification. Again, the extent of these reductions will be small in terms of national costs, but may be significant for individual suppliers.

Changes in public notification requirements will decrease costs. Some of these savings will be significant for small supplies.

Changes in the fluoride regulations are only for clarification, and will not affect the associated cost in any way.

As indicated previously, a requirement for monitoring and notification of sodium concentrations in drinking water will result in new costs to drinking water utilities. Based upon $10 per sample analysis, total national annual costs associated with this regulation are estimated to be $450,000 with annual per capita costs for the smallest systems (25 customers) of $0.80 for surface supplies and $0.13 for groundwater supplies, and less than $0.01 for the largest systems of both source types. These new costs do not impact all systems since some States already require monitoring for sodium.

Monitoring for corrosivity characteristics does not require sophisticated equipment or procedures. Determination of the Langelier Index involves measurement of hardness, alkalinity, pH, total dissolved solids, and temperature (the Aggressive Index only requires hardness, alkalinity and pH); in many cases, the water system will be able to conduct the analyses in their own laboratory. For many of the smaller systems, States will likely continue providing analytical services to the utilities. Based upon an estimate of $20 per LI analysis by a commercial laboratory, the total one time national cost would be $1.5 million with maximum per capita costs for the smallest systems (25 customers) of $1.60 and $0.60 for surface and groundwater systems, respectively, and less than $0.01 per capita for the largest systems of both source types. Costs for each system associated with identifying the composition of materials of construction in the distribution systems are expected to be negligible.

In regard to reporting and resource impacts, it is expected that the reporting requirements will have negligible impacts because of the infrequency of monitoring and the fact that reporting would occur through the system already established and in use for compliance with the primary regulations. Thus, additional resources are not expected to be necessary at the Federal, State and local levels.

The effective date is immediately upon promulgation except that the requirements for sodium monitoring and reporting, determination of the types of materials in the distribution system, and monitoring and reporting corrosivity characteristics will be effective 18 months after date of promulgation. The sodium and corrosion requirements must be completed within 12 months following the effective date. The Statement of Basis and Purpose Document which provides additional supporting information for the sodium and corrosivity monitoring requirements is available upon request at EPA headquarters, 401 M Street, S.W., Washington, D.C., and for reading at EPA regional offices.

Under Executive Order 12044, EPA is required to judge whether a regulation is "significant" and therefore subject to the procedural requirements of the Order or whether it may follow other specialized development procedures. EPA labels these regulations "specialized." I have reviewed this regulation and determined that it is a specialized regulation not subject to the procedural requirements of Executive Order 12044.

Dated: August 19, 1980.

Barbara Blum,

Acting Administrator.

Accordingly, 40 CFR, Part 141, is amended as follows:

1. By revising § 141.6 (c) and (d) to read as follows:

§ 141.6 Effective dates.

* * * * *

(c) The regulations set forth in 141.11 (a), (c) and (d); 141.14(a)(1); 141.14(b)(1)[a]; 141.14(b)(2)(i); 141.14(d); 141.21 (a), (c) and (i); 141.22 (a) and (e); 141.23 (a)(3) and (a)(4); 141.23(f); 141.24(a)(3); 141.24 (e) and (f); 141.25(e); 141.27(a); 141.28 (a) and (b); 141.31 (a), ~~(c)~~, (d) and (e); 141.32(b)(3); and 141.32(d) shall take effect ~~immediately upon promulgation.~~ on 8/27/80

(d) The regulations set forth in 141.41 shall take effect ~~18 months from the date of promulgation.~~ Suppliers must complete the first round of sampling and reporting ~~within 12 months following the effective date.~~ on 8/1/82 by 4/1/83

(e) The regulations set forth in 141.42 shall take effect 18 months from the date of promulgation. All requirements in 141.42 must be completed within 12 months following the effective date.

2. Amending § 141.11 (a) and (d) to read as follows:

§ 141.11 Maximum contaminant levels for inorganic chemicals.

(a) The MCL for nitrate is applicable to both community water systems and non-community water systems except as provided by in paragraph (d). The levels for the other ~~organic~~ chemicals apply only to community water systems. Compliance with MCLs for inorganic

(d) + (e) (i) (e) inorganic

MISCELLANEOUS CHANGES - FEDERAL RULES

chemicals is calculated pursuant to § 141.23.

• • • • •

(e) (d) At the discretion of the State, nitrate levels not to exceed 20 mg/l may be allowed in a non-community water system if the supplier of water demonstrates to the satisfaction of the State that:

(1) Such water will not be available to children under 6 months of age; and

(2) There will be continuous posting of the fact that nitrate levels exceed 10 mg/l and the potential health effects of exposure; and

(3) Local and State public health authorities will be notified annually of nitrate levels that exceed 10 mg/l; and

(4) No adverse health effects shall result.

3. Amending § 141.11(c) to read as follows:

§ 141.11 Maximum contaminant levels for inorganic chemicals.

• • • • •

(d) (c) Fluoride at optimum levels in drinking water has been shown to have beneficial effects in reducing the occurrence of tooth decay.

5. 4. Amending § 141.14 (a)(1), (b)(1)(i), (b)(2)(i), and revising (d) to read as follows:

§ 141.14 Maximum microbiological contaminant levels.

(a) • • •

(1) One per 100 milliliters as the arithmetic mean of all samples examined per compliance period pursuant to § 141.21(b) or (c), except that, at the primacy Agency's discretion systems required to take 10 or fewer samples per month may be authorized to exclude one positive routine sample per month from the monthly calculation if: (i) as approved on a case-by-case basis the State determines and indicates in writing to the public water system that no unreasonable risk to health existed under the conditions of this modification. This determination should be based upon a number of factors not limited to the following: (A) the system provided and had maintained an active disinfectant residual in the distribution system, (B) the potential for contamination as indicated by a sanitary survey, and (C) the history of the water quality at the public water system (e.g. MCL or monitoring violations); (ii) the supplier initiates a check sample on each of two consecutive days from the same sampling point within 24 hours after notification that the routine sample is positive, and each of these check samples is negative; and (iii) the original positive routine sample is reported and recorded by the supplier pursuant to § 141.31(a) and § 141.33(a). The supplier shall report to the State its compliance with the conditions specified in this paragraph and a summary of the corrective action taken to resolve the prior positive sample result. If a positive routine sample is not used for the monthly calculation, another routine sample must be analyzed for compliance purposes. This provision may be used only once during two consecutive compliance periods.

(b)(1) • • •

(i) More than 10 percent of the portions (tubes) in any one month pursuant to § 141.21 (b) or (c) except that, at the State's discretion, systems required to take 10 or fewer samples per month may be authorized to exclude one positive routine sample resulting in one or more positive tubes per month from the monthly calculation if: (A) as approved on a case-by-case basis the State determines and indicates in writing to the public water system that no unreasonable risk to health existed under the conditions of this modification. This determination should be based upon a number of factors not limited to the following: (1) the system provided and had maintained an active disinfectant residual in the distribution system, (2) the potential for contamination as indicated by a sanitary survey, and (3) the history of the water quality at the public water system (e.g. MCL or monitoring violations); (B) the supplier initiates a check sample on each of two consecutive days from the sampling point within 24 hours after notification that the routine sample is positive, and each of these check samples is negative; and (C) the original positive routine sample is reported and recorded by the supplier pursuant to § 141.31(a) and § 141.33(a). The supplier shall report to the State its compliance with the conditions specified in this paragraph and report the action taken to resolve the prior positive sample result. If a positive routine sample is not used for the monthly calculation, another routine sample must be analyzed for compliance purposes. This provision may be used only once during two consecutive compliance periods.

(b)(2) • • •

(i) More than 60 percent of the portions (tubes) in any month pursuant to § 141.21 (b) or (c), except that, State discretion, systems required to take 10 or fewer samples per month may be authorized to exclude one positive routine sample resulting in one or more positive tubes per month from the monthly calculation if: (A) as approved on a case-by-case basis the State determines and indicates in writing to the public water system that no unreasonable risk to health existed under the conditions of this modification. This determination should be based upon a number of factors not limited to the following: (1) the system provided and had maintained an active disinfectant residual in the distribution system, (2) the potential for contamination as indicated by a sanitary survey, and (3) the history of the water quality at the public water system (e.g. MCL or monitoring violations); (B) the supplier initiates two consecutive daily check samples from the same sampling point within 24 hours after notification that the routine sample is positive, and each of these check samples is negative; and (C) the original positive routine sample is reported and recorded by the supplier pursuant to § 141.31(a) and § 141.33(a). The supplier shall report to the State its compliance with the conditions specified in this paragraph and a summary of the corrective action taken to resolve the prior positive sample result. If a positive routine sample is not used for the monthly calculation, another routine sample must be analyzed for compliance purposes. This provision may be used only once during two consecutive compliance periods.

• • • • •

(d) If an average MCL violation is caused by a single sample MCL violation, then the case shall be treated as one violation with respect to the public notification requirements of § 141.32.

6 8. Amending § 141.21 (a) and (c) to read as follows and adding (i):

§ 141.21 Microbiological contaminant sampling and analytical requirements.

(a) Suppliers of water for community and non-community water systems shall analyze or use the services of an approved laboratory for coliform bacteria to determine compliance with § 141.14. Analyses shall be conducted in accordance with the analytical recommendations set forth in "Standard Methods for the Examination of Water and Wastewater," American Public Health Association, 14th Edition, Method 908A, Paragraphs 1, 2 and 3—pp. 916–918; Method 908D, Table 908: I—p. 923; Method 909A, pp. 928–935, or "Microbiological Methods for Monitoring the Environment, Water and Wastes," U.S. EPA, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio 45268—EPA–600/8–78–017, December 1978. Available from ORD Publications, CERI, U.S. EPA, Cincinnati, Ohio 45268. Part III, Section

B 1.0 through 2.6.2, pp. 108–112; 2.7 through 2.7.2(c), pp. 112–113; Part III, Section B 4.0 through 4.6.4(c), pp. 114–118, except that a standard sample size shall be employed. The standard sample used in the membrane filter procedure shall be 100 milliliters. The standard sample used in the 5 tube most probable number (MPN) procedure (fermentation tube method) shall be 5 times the standard portion. The standard portion is either 10 milliliters or 100 milliliters as described in § 141.14 (b) and (c). The samples shall be taken at points which are representative of the conditions within the distribution system.

• • • • •

(c) The supplier of water for a non-community water system shall be responsible for sampling coliform bacteria in each calendar quarter that the system provides water to the public. Such sampling shall begin ~~within two years after promulgation~~. The State can adjust the monitoring frequency on the basis of a sanitary survey, the existence of additional safeguards such as a protective and enforced well code, or accumulated analytical data. Such frequency shall be confirmed or modified on the basis of subsequent surveys or data. The frequency shall not be reduced until the non-community water system has performed at least one coliform analysis of its drinking water and shown to be in compliance with § 141.14.

• • • • •

(i) The State has the authority to determine compliance or initiate enforcement action based upon analytical results or other information compiled by their sanctioned representatives and agencies.

7. Amending § 141.22(a) to read as follows and adding (e):

§ 141.22 Turbidity sampling and analytical requirements.

(a) Samples shall be taken by suppliers of water for both community and non-community water systems at a representative entry point(s) to the water distribution system at least once per day, for the purpose of making turbidity measurements to determine compliance with § 141.13. If the State determines that a reduced sampling frequency in a non-community system will not pose a risk to public health, it can reduce the required sampling frequency. The option of reducing the turbidity frequency shall be permitted only in those public water systems that practice disinfection and which maintain an active residual disinfectant in the distribution system, and in those cases where the State has indicated in writing that no unreasonable risk to health existed under the circumstances of this option. The turbidity measurements shall be made by the Nephelometric Method in accordance with the recommendations set forth in "Standard Methods for Examination of Water and Wastewater," American Public Health Association, 14th Edition, pp. 132–134; or Method 180.1.1-Nephelometric Method.

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(e) The State has the authority to determine compliance or initiate enforcement action based upon analytical results or other information compiled by their sanctioned representatives and agencies.

8. Amending § 141.23(a)(3), adding (a)(4) and amending (f) (1) through (10) to read as follows:

§ 141.23 Inorganic chemical sampling and analytical requirements.

(a) • • •

(3) For non-community water systems, whether supplied by surface or ground sources, analyses for nitrate shall be completed by December 24, 1980. These analyses shall be repeated at intervals determined by the State.

(4) The State has the authority to determine compliance or initiate enforcement action based upon analytical results and other information compiled by their sanctioned representatives and agencies.

• • • • •

(f) • • •

(1) Arsenic—Method [1] 206.2, Atomic Absorption Furnace Technique; or Method [1] 206.3, or Method [4] D2972–78B, or Method [2] 301.A VII, pp. 159–162, or Method [3] I–1062–78, pp. 61–63, Atomic Absorption—Gaseous Hydride; or Method [1] 206.4, or Method [4] D–2972–78A, or Method [2] 404–A and 404–B(4), Spectrophotometric, Silver Diethyldithiocarbamate.

(2) Barium—Method [1] 208.1, or Method [2] 301–A IV, pp. 152–155, Atomic Absorption—Direct Aspiration; or Method [1] 208.2, Atomic Absorption Furnace Technique.

(3) Cadmium—Method [1] 213.1, or Method [4] 3557–78A ~~or B~~ or Method [2] 301–A II or III, pp. 148–152, Atomic Absorption—Direct Aspiration; or Method [1] 213.2, Atomic Absorption Furnace Technique.

(4) Chromium—Method [1] 218.1, or Method [4] D–1687–77D, or Method [2] 301–A II or III, pp. 148–152, Atomic Absorption—Direct Aspiration; or Chromium—Method [1] 218.2, Atomic Absorption Furnace Technique.

(5) Lead—Method [1] 239.1, or Method [4] D–3559–78A or B, or Method [2] 301–A II or III, pp. 148–152, Atomic Absorption—Direct Aspiration; or Method [1] 239.2, Atomic Absorption Furnace Technique.

(6) Mercury—Method [1] 245.1, or Method [4] D–3223–79, or Method [2] 301–A VI, pp. 156–159, Manual Cold Vapor Technique; or Method [1] 245.2, Automated Cold Vapor Technique.

(7) Nitrate—Method [1] 352.1, or Method [4] D–992–71, or Method [2] 419–D, pp. 427–429, Colorimetric Brucine; or Method [1] 353.3, or Method [4] D–3867–79B, or Method [2] 419–C, pp. 423–427, Spectrometric, Cadmium Reduction; Method [1] 353.1, Automated Hydrazine Reduction; or Method [1] 353.2, or Method [4] D–3867–79A, or Method [2] 605, pp. 620–624, Automated Cadmium Reduction.

(8) Selenium—Method [1] 270.2, Atomic Absorption Technique; or Method [1] 270.3; or Method [3] I–1667–78, pp. 237–239, or Method [4] D–3859–79, or Method [2] 301–A VII, pp. 159–162, Hydride Generation—Atomic Absorption Spectrophotometry.

(9) Silver—Method [1] 272.1, or Method [2] 301–A II, Atomic Absorption—Direct Aspiration; or Method [1] 272.2, Atomic Absorption ~~Technique~~ Furnace Technique.

(10) Fluoride—Electrode Method, or SPADNS Method, Method [2] 414–B and C, pp. 391–394, or Method [1] 340.1, "Colorimetric SPADNS with Bellack Distillation," or Method [1] 340.2, "Potentiometric Ion Selective Electrode;" or ASTM Method [4] D1179–72; or Colorimetric Method with Preliminary Distillation, Method [2] 603, Automated Complexone Method (Alizarin Fluoride Blue) pp. 614–616; or Automated Electrode Method, "Fluoride in Water and Wastewater," Industrial Method #380–75WE, Technicon Industrial Systems, Tarrytown, New York 10591, February 1976, or "Fluoride in Water

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[1] "Methods of Chemical Analysis of Water and Wastes," EPA Environmental Monitoring and Support Laboratory, Cincinnati, Ohio 45268 (EPA-600/4–79–020), March 1979. Available from ORD Publications, CERI, EPA, Cincinnati, Ohio 45268. For approved analytical procedures for metals, the technique applicable to total metals must be used.

[2] "Standard Methods for the Examination of Water and Wastewater," 14th Edition, American Public Health Association, American Water Works Association, Water Pollution Control Federation, 1976.

[3] Techniques of Water—Resources Investigation of the United States Geological Survey, Chapter A-1, "Methods for Determination of Inorganic Substances in Water and Fluvial Sediments," Book 5, 1979, Stock #024–001–03177–9. Available from Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

[4] Annual Book of ASTM Standards, part 31 Water, American Society for Testing and Materials, 1916 Race Street, Philadelphia, Pennsylvania 19103.

and Wastewater Industrial Method #129-71W," Technicon Industrial Systems, Tarrytown, New York 10591, December 1972; or Fluoride, Total, Colorimetic, Zirconium—Eriochrome Cyanine R Method [1]—I-3325-78, pp. 365-367.

9. ~~11.~~ Amending §141.24(a)(3), (e) and (f) to read as follows:

§ 141.24 Organic chemical sampling and analytical requirements.

(a) • • •

(3) The State has the authority to determine compliance or initiate enforcement action based upon analytical results and other information compiled by their sanctioned representatives and agencies.

• • • • •

(e) Analysis made to determine compliance with § 141.12(a) shall be made in accordance with "Methods for Organochlorine Pesticides and Chlorophenoxy Acid Herbicides in Drinking Water and Raw Source Water," available from ORD Publications, CERI, EPA, Cincinnati, Ohio 45268; or "Organochlorine Pesticides in Water," ~~1977~~ Annual Book of ASTM Standards, part 31, Water, Method D3086 or Method 509-A, pp. 555-565; [2] or Gas Chromatographic Methods for Analysis of Organic Substances in Water, [3] USGS, Book 5, Chapter ~~A-5~~ pp. 24-39.

(f) Analysis made to determine compliance with § 141.12(b) shall be conducted in accordance with "Methods for Organochlorine Pesticides and Chlorophenoxy Acid Herbicides in Drinking Water and Raw Source Water," available from ORD Publications, CERI, EPA, Cincinnati, Ohio 45268; or "Chlorinated Phenoxy Acid Herbicides in Water," ~~1977~~ Annual Book of ASTM Standards, part 31, Method ~~D1730~~ or Method 509-B, pp. 555-569; [2] or Gas Chromatographic Methods for Analysis of Organic Substances in Water, [3] USGS, Book 5, Chapter A-3, pp. 24-39.

~~§ 141.25 [Amended]~~

~~12. Amending § 141.25 to add (e):~~

~~(e) The State has the authority to determine compliance or initiate enforcement action based upon analytical results or other information compiled by their sanctioned representatives and agencies.~~

~~13. Amending § 141.27(a) to read as follows:~~

§ 141.27 Alternate analytical techniques.

(a) With the written permission of the State, concurred in by the Administrator of the U.S. EPA, an alternate analytical technique may be employed. An alternate technique shall be accepted only if it is substantially equivalent to the prescribed test in both precision and accuracy as it relates to the determination of compliance with any MCL. The use of the alternate analytical technique shall not decrease the frequency of monitoring required by this part.

11. ~~14.~~ Amending § 141.28 to read as follows:

§ 141.28 Approved laboratories.

(a) For the purpose of determining compliance with § 141.21 through § 141.27, samples may be considered only if they have been analyzed by a laboratory approved by the State except that measurements for turbidity, free chlorine residual, temperature and pH may be performed by any person acceptable to the State.

(b) Nothing in this Part shall be construed to preclude the State or any duly designated representative of the State from taking samples or from using the results from such samples to determine compliance by a supplier of water with the applicable requirements of this Part.

12. ~~15.~~ Amending § 141.31 (a) ~~and (e)~~ and adding paragraphs (d) and (e) to read as follows:

§ 141.31 Reporting requirements.

(a) Except where a shorter period is specified in this part, the supplier of water shall report to the State the results of any test measurement or analysis required by this part within (A) the first ten days following the month in which the result is received or (B) the first ten days following the end of the required monitoring period as stipulated by the State, whichever of these is ~~shortest~~ appropriate

• • • • •

(d) The water supply system, within ten days of completion of each public notification required pursuant to § 141.32, shall submit to the State a representative copy of each type of notice distributed, published, posted, and/or made available to the persons served by the system and/or to the media.

(e) The water supply system shall submit to the State within the time stated in the request copies of any records required to be maintained under § 141.33 or copies of any documents then in existence which the State or the Administrator is entitled to inspect pursuant to the authority of § 1445 of the Safe Drinking Water Act or the equivalent provisions of State law.

13. ~~16.~~ Amending § 141.32 (b)(3) and (d) to read as follows:

§ 141.32 Public notification.

• • • • •

(b) • • •

(3) Except that the requirements of this subsection (b) may be waived by the State if it determines that the violation has been corrected promptly after discovery, the cause of the violation has been eliminated, and there is no longer a risk to public health.

• • • • •

(d) If a non-community water system fails to comply with an applicable MCL established in Subpart B of this part, fails to comply with an applicable testing procedure established in Subpart C of this part, is granted a variance or an exemption from an applicable MCL, fails to comply with the requirements of any schedule prescribed pursuant to a variance or exemption, or fails to perform any monitoring requirement pursuant to section 1445(a) of the Act, the supplier of water shall give notices by continuous posting of such failure or granting of a variance or exemption to the persons served by the system as long as the failure or granting of a variance or exemption continues. The form and manner for such notices shall be prescribed by the State and shall ensure that the public using the system is adequately informed of the failure or granting of the variance or exemption.

14. ~~17.~~ Amending Subpart E to ~~read as follows:~~ add the following:

Subpart E—Special Monitoring Regulations for Organic Chemicals and Otherwise Unregulated Contaminants

§ 141.41 Special monitoring for sodium.

(a) Suppliers of water for community public water systems shall collect and analyze one sample per plant at the entry point of the distribution system for the determination of sodium concentration levels; samples must be collected and analyzed annually for systems utilizing surface water sources in whole or in part, and at least every three years for systems utilizing solely ground water sources. The minimum number of samples required to be taken by the system shall be based on the number of treatment plants used by the system, except that multiple wells drawing raw water from a single aquifer may, with the State approval, be considered one treatment plant for determining the minimum number of samples. The supplier of water may be required by the State to collect and analyze water samples for sodium more

[1] Techniques of Water-Resources Investigation of the United States Geological Survey, Chapter A-3, "Methods for Analysis of Organic Substances in Water," Book 5, 1972, Stock #2401-1227. Available from Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

frequently in locations where the sodium content is variable.

(b) The supplier of water shall report to EPA and/or the State the results of the analyses for sodium within the first 10 days of the month following the month in which the sample results were received or within the first 10 days following the end of the required monitoring period as stipulated by the State, whichever of these is first. If more than annual sampling is required the supplier shall report the average sodium concentration within 10 days of the month following the month in which the analytical results of the last sample used for the annual average was received. The supplier of water shall not be required to report the results to EPA where the State has adopted this regulation and results are reported to the State. The supplier shall report the results to EPA where the State has not adopted this regulation.

(c) The supplier of water shall notify appropriate local and State public health officials of the sodium levels by written notice by direct mail within three months. A copy of each notice required to be provided by this paragraph shall be sent to EPA and/or the State within 10 days of its issuance. The supplier of water is not required to notify appropriate local and State public health officials of the sodium levels where the State provides such notices in lieu of the supplier.

(d) Analyses for sodium shall be performed by the flame photometric method in accordance with the procedures described in "Standard Methods for the Examination of Water and Wastewater," 14th Edition, pp. 250–253; or by Method 273.1, Atomic Absorption—Direct Aspiration or Method 273.2, Atomic Absorption—Graphite Furnace, in "Methods for Chemical Analysis of Water and Waste," EMSL, Cincinnati, EPA, 1979; or by Method D1428–64(a) in Annual Book of ASTM Standards, part 31, Water.

5. ~~10.~~ Adding a § 141.42 to read as follows:

§ 141.42 Special monitoring for corrosivity characteristics.

(a) Suppliers of water for community public water systems shall collect samples from a representative entry point to the water distribution system for the purpose of analysis to determine the corrosivity characteristics of the water.

(1) The supplier shall collect two samples per plant for analysis for each plant using surface water sources wholly or in part or more if required by the State; one during mid-winter and one during mid-summer. The supplier of the water shall collect one sample per plant for analysis for each plant using ground water sources or more if required by the State. The minimum number of samples required to be taken by the system shall be based on the number of treatment plants used by the system, except that multiple wells drawing raw water from a single aquifer may, with the State approval, be considered one treatment plant for determining the minimum number of samples.

(2) Determination of the corrosivity characteristics of the water shall include measurement of pH, calcium hardness, alkalinity, temperature, total dissolved solids (total filterable residue), and calculation of the Langelier Index in accordance with paragraph (c) below. The determination of corrosivity characteristics shall only include one round of sampling (two samples per plant for surface water and one sample per plant for ground water sources). However, States may require more frequent monitoring as appropriate. In addition, States have the discretion to require monitoring for additional parameters which may indicate corrosivity characteristics, such as sulfates and chlorides. In certain cases, the Aggressive Index, as described in paragraph (c), can be used instead of the Langelier Index; the supplier shall request in writing to the State and the State will make this determination.

(b) The supplier of water shall report to EPA and/or the State the results of the analyses for the corrosivity characteristics within the first 10 days of the month following the month in which the sample results were received. If more frequent sampling is required by the State, the supplier can accumulate the data and shall report each value within 10 days of the month following the month in which the analytical results of the last sample was received. The supplier of water shall not be required to report the results to EPA where the State has adopted this regulation and results are reported to the State.

(c) Analyses conducted to determine the corrosivity of the water shall be made in accordance to the following methods:

(1) Langelier Index—"Standard Methods for the Examination of Water and Wastewater," 14th Edition, Method 203, pp. 61–63.

(2) Aggressive Index—"AWWA Standard for Asbestos-Cement Pipe, 4 in. through 24 in. for Water and Other Liquids," AWWA C400–77, Revision of C400–75, AWWA, Denver, Colorado.

(3) Total Filtrable Residue—"Standard Methods for the Examination of Water and Wastewater," 14th Edition, Method 208B, pp. 92–93; or "Methods for Chemical Analysis of Water and Wastes," Method 160.1.

(4) Temperature—"Standard Methods for the Examination of Water and Wastewater," 14th Edition, Method 212, pp. 125–126.

(5) Calcium Hardness—EDTA Titrimetric Method "Standard Methods for the Examination of Water and Wastewater," 14th Edition, Method 309B, pp. 202–205; or "Annual Book of ASTM Standards," Method D1126–67 ~~(8)~~B.

(6) Alkalinity—Methyl Orange ~~end~~ ~~point~~ pH 4.5. "Standard Methods for the Examination of Water and Wastewater," 14th Edition, Method 403, pp. 278–281; or "Annual Book of ASTM Standards," Method D1067–70B; or "Methods for Chemical Analysis of Water and Wastes," Method 310.1.

(7) pH—"Standard Methods for the Examination of Water and Wastewater," 14th Edition, Method 424, pp. 460–465; or "Methods for Chemical Analysis of Water and Wastes," Method 150.1; or "Annual Book of ASTM Standards," Method ~~D1293-78 A or B~~.

(8) Chloride—Potentiometric Method, "Standard Methods for the Examination of Water and Wastewater," 14th Edition, p. 306.

(9) Sulfate—Turbidimetric Method, "Methods for Chemical Analysis of Water and Wastes," pp. 277–278, EPA, Office of Technology Transfer, Washington, D.C. 20460, 1974, or "Standard Methods for the Examination of Water and Wastewater," ~~13th Edition, pp. 334–335,~~ 14th Edition, pp. 496–498.

(d) Community water supply systems shall identify whether the following construction materials are present in their distribution system and report to the State:

- Lead from piping, solder, caulking, interior lining of distribution mains, alloys and home plumbing.
- Copper from piping and alloys, service lines, and home plumbing.
- Galvanized piping, service lines, and home plumbing.
- Ferrous piping materials such as cast iron and steel.
- Asbestos cement pipe.

In addition, States may require identification and reporting of other materials of construction present in distribution systems that may contribute contaminants to the drinking water, such as:

- Vinyl lined asbestos cement pipe.
- Coal tar lined pipes and tanks.

Appendix A—Response to Public Comments

Comments submitted to the Agency and statements presented at the public hearing in

ENVIRONMENTAL PROTECTION AGENCY

Docket No.

40 CFR Part 141

National Primary Drinking Water Regulations; Amendments Correction

AGENCY: Environmental Protection Agency

ACTION: Final Rule; Correction

SUMMARY: This document corrects amendments to the National Interim Primary Drinking Water Regulations that appeared on August 27, 1980, (45 FR 57332). This action is necessary to correct typographical errors, errors in citations for analytical methods, and to clarify certain effective dates for the purpose of implementing these regulations on the calendar quarter basis.

DATES: These corrections are effective upon publication.

FOR FURTHER INFORMATION CONTACT: Joseph A. Cotruvo, Director, Criteria and Standards Division, Office of Drinking Water (WH-550), Environmental Protection Agency, Washington, D.C. 20460 (202-472-5016).

SUPPLEMENTARY INFORMATION: The following corrections are made in FR Doc. 80-26105 appearing at page 57332 in the issue of August 27, 1980:

1. On page 57332, column 3, eighteenth line in section titled, "Summary of Major Changes," the word "nitrite" should be corrected to read "nitrate".

MISCELLANEOUS CHANGES - FEDERAL RULES - CORRECTIONS

2. On page 57341, column 1, footnote to Table 1 should be corrected to read, "As noted previously, indices may not be an appropriate measure of corrosive characteristics in all cases."

3. On page 57342, column 3, section 141.6(c), line 2, "(c) and (d)" should be corrected to read "(d) and (e)". In line 3, "141.14(b)(1)(c)" should be corrected to read "141.14(b)(1)(i)." Omit "(c)," from line 8. The phrase "immediately upon promulgation." should be corrected to read "on August 27, 1980.".

4. On page 57342, column 3, section 141.6(d) and (e), "18 months from the date of promulgation." should be corrected to read "on April 1, 1982." and "within 12 months following the effective date." should be corrected to read "by April 1, 1983.".

5. On page 57342, column 3, section 141.11(a), line 4, "(d)" should be corrected to read "(e)"; line 5, "organic" should be corrected to read "inorganic".

6. On page 57343, column 1, line 3, section 141.11, "(d)" should be corrected to read "(e)".

7. On page 57343, column 1, section 141.11, "(d)" (corrected to read "(e)"), lines two, ten, and fifteen, "nitrate" should be corrected to read "nitrate as nitrogen".

8. On page 57343, column 1, section 141.11, "(c)" should be corrected to read "(d)".

9. On page 57343, column 1, preceeding amendatory paragraph 4, insert the following:

"4. Amending §141.13 by adding (c):

§141.13 Maximum contaminant level for turbidity

* * * * *

(c) If an average monthly MCL violation is caused by a two day average violation, then the case shall be treated as one violation with respect to the public notification requirements of §141.32."

10. On page 57343, column 1, "4" denoting the amendatory paragraph should be corrected to read "5".

11. On page 57343, column 1, section 141.14(a)(1), fourth line from the bottom, "notification" should be corrected to read "being notified by the laboratory".

12. On page 57343, column 2, section 141.14(b)(1)(i), line twenty-eight, "notification" should be corrected to read "being notified by the laboratory".

13. On page 57343, column 3, line twelve, "(iii)" should be corrected to read "(3)".

14. On page 57343, column 3, line eighteen "notification" should be corrected to read "being notified by the laboratory".

15. On page 57343, column 3, "8" denoting the amendatory paragraph should be corrected to read "6".

16. On page 57344, column 1, section 141.21(c), lines six and seven, "within two years after promulgation." should be corrected to read "on October 1, 1982.".

17. On page 57344, column 1, "9" denoting the amendatory paragraph should be corrected to read "7".

18. On page 57344, column 2, section 141.22(a), last line, "Nephrometric" should be corrected to read "Nephelometric".

19. On page 57344, column 2, "10" denoting the amendatory paragraph should be corrected to read "8".

20. On page 57344, column 2, section 141.23(f)(1), line three, "D-2972-78A" should be corrected to read "D-2972-78B".

21. On page 57344, column 2, section 141.23(f)(1), footnote 4, "1976, Race Street" should be corrected to read, "1916 Race Street".

22. On page 57344, column 3, section 141.23(f)(3), line two, delete "or B".

23. On page 57344, column 3, section 141.23(f)(8), line two, "Absorption Technique" should be corrected to read "Absorption Furnace Technique".

24. On page 57344, column 3, section 141.23(f)(9), line two, insert "pp. 148-151," preceding "Atomic Absorption"; "Atomic Absorption Techniques Furnace Technique" should be corrected to read "Atomic Absorption Furnace Technique".

25. On page 57344, column 3, section 141.23(f)(10) should be deleted and replaced with the following:

"(10) Fluoride--Method[1] 340.1, Method[2] 414-A and 414-C, or Method[4] D-1179-72A, Colorimetric Method with Preliminary Distillation; or Method[1] 340.2, Method[2] 414-B, or Method[4] D-1179-72B, Potentiometric Ion Selective Electrode; or Method[3] I-3325-78, pp. 365-367, Colorimetric Eriochrome Cyanine R Method; or Method[1] 340.3, Method[2] 603, Automated Complexone Method (Alizarin Fluoride Blue), pp. 614-616; or Industrial Method #129-71W, Fluoride in Water and Wastewater, Technicon Industrial Systems, Tarrytown, NY 10591, Dec. 1972; or Industrial Method #380-75WE, Automated Electrode Method, Flouride in Water and Wastewater, Technicon Industrial Systems, Tarrytown, NY, February 1976."

26. On page 57345, column 1, "11" denoting the amendatory paragraph should be corrected to read "9".

27. On page 57345, column 1, section 141.24(e), line ten, delete "1977"; line twelve, "D3088" should be corrected to read "D-3086-79"; line sixteen, "A-5" should be corrected to read "A-3".

28. One page 57345, column 1, section 141.24(f), line ten, delete "1977"; line twelve, "D3478" should be corrected to read "D-3478-79"; line thirteen, "555-5692" should be corrected to read "565-569".

29. On page 57345, column 1, insert "10. Amending §141.25 to add (e):" in the space preceding "§141.25 [Amended]"; and delete line 1, section 141.25 [Amended] "12. Amending §141.25 to add (e):".

30. On page 57345, columns 1 and 2 delete amendatory paragraph 13 in its entirety. Section 141.2" remains unchanged in the regulations.

31. On page 57345, column 2, "14" denoting the amendatory paragraph should be corrected to read "11".

32. On page 57345, column 2, section 141.28(a), line three, insert after "§141.27," the following: "§141.41 and §141.42,".

33. On page 57345, column 2, "15" denoting the amendatory paragraph should be corrected to read "12"; delete "and (c)" in the first line.

34. On page 57345, column 2, §141.31(a), lines 10 and 11, delete "of these is shortest" and insert "is appropriate".

35. On page 57345, column 3, "16" denoting the amendatory paragraph should be corrected to read "13".

36. On page 57345, column 3, "17. Amending Subpart E to read as follows" should be corrected to read, "14. Amending Subpart E to add the following:"

37. On page 57346, column 1, "18" denoting the amendatory paragraph should be corrected to read "15".

38. On page 57346, column 3, section 141.42(c)(5) should be deleted and replaced with the following:

"(5) Calcium - EDTA titrimetric method 'Standard Methods for the Examination of Water and Wastewater,' 14th Edition. Method 306C, pp. 189-191; or Annual Book of ASTM Standards, Method D-1126-67B."

39. On page 57346, column 3, section 141.42(c)(6), lines one and two, "and paint" should be corrected to read "end point".

40. On page 57346, column 3, section 141.42(c)(7), bottom line "D-1293-78A or B" should be corrected to read, "D-1293-78A or B".

41. On page 57346, column 3, section 141.42(c)(9), lines 7 and 8, delete "13th Edition, pp. 334-335,".

AUTHORITY: Safe Drinking Water Act, Sections 1401, 1412, 1414, 1416, 1445 and 1450 of the Pub.L. 93-523, as amended by Pub. L. 95-190, 96-[illegible] and 96-502: (42 U.S.C. 300f, et seq.)

63

Victor J. Kimm
Deputy Assistant Administrator
for Drinking Water

Date

Comments

MAR 17 1982

Health Division

DOW CHEMICAL U.S.A.

BENNETT BUILDING
2030 DOW CENTER
MIDLAND, MICHIGAN 48640

October 15, 1981



Mr. Richard Clark, P.E.
Supervisor, Engineering Unit
Department of Health
Division of Environmental Health
717 Delaware Street
Southeast Minneapolis, Minnesota 55440

Dear Mr. Clark:

This letter is written in reference to the proposed amendments to the Minnesota rules relating to public water supplies, and constitutes the comments thereon of The Dow Chemical Company. As a major manufacturer of products both useful and necessary to the general public, Dow has a continuing interest in the promulgation of rules and regulations which are effective in protecting the public health and welfare but which do not unduly interfere with providing such necessary products to the public. Of particular concern to Dow is that all rules and regulations which may impact the public be based on sound scientific principles.

In the proposed amendments to the Minnesota rules, the Department of Health has designated certain published monitoring and analytical methods as requirements for determining compliance with maximum contaminant levels in drinking water [Proposed 7 MCSAR S 1.147]. Dow is pleased to note that, in most cases, the Department has listed alternative methods as being acceptable and at least one of those methods (such as those published by ASTM) have been properly validated and reviewed by the scientific community. However, the analytical methods proposed as requirements for testing for trihalomethanes [7 MCAR S 1.147(E)(5)(h)(1)(2)] are deficient in this regard. The two methods listed were developed and published by the U.S. Environmental Protection Agency (EPA) without sufficient review within the scientific community.

Before any analytical method may be validated, the precision of the method must be determined by inter-laboratory testing. Such a procedure uncovers the reliability and precision of the analytical method, critical factors where the method may determine whether a violation of a standard has occurred which could result in enforcement action. The analytical

methods published by the EPA have not been sufficiently subjected to such a review procedure; therefore the reliability and precision of the methods are not known and they should not form the basis for any enforcement action as they must in the context of these rules.

Because Dow finds the trihalomethane analytical methods in the proposal to be defective and as yet unvalidated, Dow hereby offers to work with representatives of the Department of Health in developing the information necessary to establish a stronger scientific basis for the rules. Dow has an established and recognized scientific expertise which could benefit the State and its citizens.

Sincerely,

Donald W. Genson
Manager Environmental Regulatory
Activities for Water

Byron R. Crary
Attorney
Legal Department

vsd

the city of Bloomington minnesota

2215 WEST OLD SHAKOPEE ROAD–55431–(612)881-5811

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WS & GE

October 15, 1981

Richard D. Clark, P.E.
Supervisor, Engineering Unit
Division of Environmental Health
Minnesota Department of Health
717 Delaware St. S.E.
Minneapolis, MN 55440

In reference to the proposed amendments to the Minnesota Department of Health Rules 7MCAR § 1.145 to 1.149, I am enclosing my comments on those amendments which may be controversial for the reasons cited but not necessarily limited thereto. I have addressed these items only in a general way, and specific details and references will be provided if a public hearing is required or if a request for clarification is necessary.

Please send me a copy of the final rules, notices of meetings or hearings, and other pertinent information related to the amendments, as well as future proposed changes of MDH Rules regulating water supplies, water wells, etc.. Thank you.

DEPARTMENT OF COMMUNITY DEVELOPMENT
Building and Inspection Division

Ronald C. Spong

Ronald C. Spong, Senior Environmental Health Specialist
Environmental Services Section

RCS:ew
Encl.
cc: R. A. Mood, Manager, Bldg. & Insp. Div.

Comments on Proposed Amendments to Minnesota Department of Health (MDH) Rules 7 MCAR § 1.145 - 1.149 by Ronald C. Spong

7 MCAR § 1.145 No comments.
7 MCAR § 1.146A No comments.
7 MCAR § 1.146C.3. Populations served by non-community water supplies are not necessarily "exclusively transient." Certain supplies, such as individual wells, cisterns, and springs, may be utilized by the local populace on a regular basis. Sometimes such use is in lieu of a community water supply when persons believe the non-community water supply is more palatable than the municipally treated water. Therefore, it is possible that local populations may consume large quantities of water from non-community supplies.
Recommendation: Post a notice at non-community water supplies whenever the maximum contaminant level (MCL) for nitrate-nitrogen is exceeded such that infants under the age of six months are prohibited from consuming the water in any form.

7 MCAR § 1.146D. No comments.
7 MCAR § 1.147B.3. Utilization of MDH Water Well Construction Code compliance for determining minimum sampling frequency of non-community water supplies fails to consider those supplies whose sources are from springs and surface waters. Also, inspections during well construction and required reporting by well drillers are essential to the success of a comprehensive sanitary survey of a well once it is constructed.
Recommendation: Include compliance requirements for other non-community water supply sources, viz., springs and surface waters (cisterns, streams, lakes). Require initial code compliance for existing and new wells before exclusionary rule can be utilized.

7 MCAR § 1.147C. No comments.
7 MCAR § 1.147E.5f(3) The exclusion of the fecal streptococci analysis from the base line water quality data requirement is not supported in the scientific literature. The necessity of using a number of different fecal indicator bacteriologic tests (viz., total coliform bacteria, fecal coliform bacteria, and fecal streptococci bacteria), as well as other microbial assays, has been substantiated in many waterborne disease outbreaks (e.g., Riverside, California). Domestic and wild animals shed more fecal streptococci than fecal coliform bacteria. Since most surface and ground water recharge occurs in the rural environment, the presence of fecal streptococci in water samples may be one to several orders of magnitude greater than fecal coliforms. Survival of fecal streptococci organisms is greater than fecal coliforms in water and, therefore, their presence may be detected in a polluted water when no fecal coliforms can be isolated. However, the sanitary significance of fecal streptococci less than 100 colonies per 100 ml is questionable in light of the ubiquity of certain species in non-fecal environments.
Recommendation: Fecal streptococci are a valuable indicator of the sanitary quality of water when used in conjunction with other indicator groups (especially, total coliform bacteria and fecal coliform bacteria). To exclude the assay because it is not regularly performed on water samples is a serious oversight.

The exclusion of viral studies on a routine basis infers that viral assays may be unwarranted. Recent studies and literature reviews indicate the significance of viral assays on water supplies, especially where other fecal indicator groups (total coliform, fecal coliform, fecal streptococci bacteria) suggest no contamination because of negative cultures. Although viral plaque assays are prone to quantification errors, as well as lacking identification capability, they are relatively inexpensive if established routinely and form one aspect of a multi-indicator system essential to the determination of sanitary water quality.

Recommendation: Utilize viral plaque assays whenever environmental/epidemiological justification exists. This is especially important when cultures for other fecal indicator groups are negative or indeterminate. Routine assays would lower per sample costs, improve laboratory assay proficiency, enhance laboratory quality assurance, and upgrade waterborne disease surveillance.

7 MCAR § 1.147H. No comments.

7 MCAR § 1.147K and L. No comments.

STATE OF MINNESOTA

COUNTY OF HENNEPIN

BEFORE THE MINNESOTA

COMMISSIONER OF HEALTH

In the Matter of the Proposed Adoption of Amendments to Rules of the State Commissioner of Health Governing Public Water Supplies

STATEMENT OF COMPLIANCE WITH RULEMAKING PROCEDURES

I, Paul G. Zerby, Special Assistant Attorney General, do hereby declare that I have examined the above-captioned rules and all related documents and that, based on my examination and my personal familiarity with the applicable procedures, the Administrative Procedure Act, the rules of the Office of Administrative Hearings, and the rules of the Attorney General have been followed without any exceptions.

Dated: March 17, 1982

BEFORE THE MINNESOTA

COMMISSIONER OF HEALTH

PAUL G. ZERBY
Special Assistant
Attorney General

MAR 17

Health Division

In the Matter of the Proposed Adoption of Amendments to Rules of the State Commissioner of Health Relating to Public Water Supplies	* * * * *	AFFIDAVIT OF MAILING NOTICE OF SUBMISSION TO THE ATTORNEY GENERAL

STATE OF MINNESOTA)
) SS.
COUNTY OF HENNEPIN)

Marilyn Scruton, being first duly sworn, deposes and says:

That on the 17th day of March, 1982, in the City of Minneapolis, County of Hennepin, State of Minnesota, she served the attached Notice of Submission to the Attorney General by depositing in the State of Minnesota Central Mail System for first class mailing, a copy thereof, properly enveloped, with postage prepaid, to all persons and associations who requested notice that the rules in the above-entitled matter have been submitted to the Attorney General.

Marilyn Scruton

Subscribed and sworn to
before me this 17 day
of March, 1982.

LOUISE K. KANIUK
NOTARY PUBLIC-MINNESOTA
HENNEPIN COUNTY
My Comm. Expires Feb. 23, 1984

minnesota department of health
717 s.e. delaware st. p.o. box 9441 minneapolis 55440
(612) 296-5221

NOTICE OF SUBMISSION OF RULE TO ATTORNEY GENERAL

To whom it may concern:

Notice is hereby given that the

"Amendments to Rules Relating to Public Water Supplies"

which were published in the State Register on Monday, September 14, 1981, have been adopted by the Commissioner of Health and were submitted to the Attorney General for final approval on March 17, 1982.

Pauline M. Bouchard, J.D.
Assistant to the Director
Division of Environmental Health