

Minnesota Attorney General: Administrative Rules Proceedings

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Version 3
August 20, 2018

ADMIN. 1000
3

STATE OF MINNESOTA

DEPARTMENT - Health

Office Memorandum

TO : Bill Miller
Special Asst. Atty. General

DATE: 10/11/77

FROM : Pauline Bouchard
Env. Health

SUBJECT: Safe Drinking Water Act Rules - etc.

Attached you will find 3 sets of documents as required by the attached checklist. Those items labelled Bill are not included - since these are the ones you said you would prepare.

Please let me know how long it will take b/4 we can send copy of rules as adopted for publication in SR. A copy of this last noted item is also included for your comment. PMB

Sept. 77

orig + 2y

PRACTICE ACT FORMS CHECKLIST

# copies to prepare	# copies for submission		Forms
7	5 3 ✓	☐	Regulations as Adopted — ✓ get changes from carol
5	3 ✓	☐	Regulations as Proposed — same as adopted
5	3 ✓	☐	Order for Hearing 3 sets
5	3 ✓	☐	Notice of Hearing
			Resolution (authorizing hearing)
5	3 ✓	☐	Certificate of Board's Authorizing Resolution
5	3 ✓	☐	Certificate of Secretary of State
5	3 ✓	☐	Affidavit of Mailing
5	3 ✓	☐	Statement of Need 3 sets
5	3 ✓	☐	Statement of Justification
	✓	☐	Statement of Evidence
5	~~3~~		~~Appointment of Hearing Officer~~
5	3 ✓	☐	Notice of Intent to Obtain Information
5	3		Order Adopting Rules ☐
5	3		Findings of Fact (adopting H.E.'s report) ☐
5	~~3~~		~~Certificate of Board's Adoption of Rules Resolution~~
Bill 5	3 Bill		Statement of Compliance with Manual of Rule Making Procedures ☐
✓	1	☐	~~Transcript and~~ Exhibits - attached to HE Record
3	~~1~~		~~Fiscal Note (if applicable) (Not to be submitted to A.G.)~~
Bill	3		Statement of No Substantial Change (for Chief H.E.) ☐
Bill	1		Other items (?) Cover Letter, explaining Abolishment of Bd. ☐

Board Room: Reserved on _____, 197__, for _____, 197__, at ____ __.M.

Court Reporter: Contacted on _____, 197__, by (phone) (letter)

Hearing Examiner: Will be _____; contacted on _____, 197__.

350

William G. Miller
Special Assistant
Attorney General

November 30, 1977

-Relating to Public Water Supplies, to Water Haulers, and to the repeal of rules relating to Tourist Camps, Industrial Camps, Miscellaneous Nuisances and Hatters' Fur

STATE OF MINNESOTA

COUNTY OF HENNEPIN

MINNESOTA COMMISSIONER

OF HEALTH

In the Matter of Proposed Rules Relating to Public Water Supplies, to Water Haulers, and to the Repeal of Rules Relating to Tourist Camps, Industrial Camps, Miscellaneous Nuisances and Hatters' Fur

STATEMENT OF COMPLIANCE WITH MANUAL OF RULE MAKING PROCEDURES

I, Special Assistant Attorney General William G. Miller, do hereby declare that I have examined the above-referenced rules and all related documents thereto, and that, based upon them and my personal familiarity with the applicable procedures, the Manual of Rule Making Procedures and the provisions of the Administrative Procedure Act related thereto have been followed.

Dated: October 21, 1977.

WILLIAM G. MILLER
Special Assistant
Attorney General

STATE OF MINNESOTA

COUNTY OF HENNEPIN

BEFORE THE MINNESOTA

BOARD OF HEALTH

In the Matter of Proposed Rules Relating to Public Water Supplies, to Water Haulers, and to the Repeal of Rules Relating to Tourist Camps, Industrial Camps, Miscellaneous Nuisances and Hatters' Fur. *

RULES AS ADOPTED AND REPEALED

-- Adopted Minn. Rules MHD 145-150

-- Repeal Minn. Rules MHD 195, 198, 246-254

ADOPTED
w/ AMENDMENTS

MHD 145. Rules Relating to Water Supplies

A. Justification:

These rules are adopted pursuant to legislative authority granted in Minnesota Laws, Chapter 66, Section 3(e) (1977), which requires that the ~~State Board~~ commissioner of Health adopt for all public water supplies rules which are at least as stringent as the federal regulations dealing with public water supplies adopted by the United States Environmental Protection Agency, in order for the ~~board~~ commissioner to be able to assume the primary responsibility for enforcing the Federal Act.

B. Definitions:

1. ~~"Board"~~ "Commissioner" means the ~~state board~~ commissioner of health, or ~~any~~ his or her authorized representative~~s thereof;~~

2. 12.

a. "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 ~~an average of~~ at least 25 year-round residents;

b. "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 ~~more than~~ at least 25 persons who are not residents thereof, such as churches, entertainment facilities, factories, gasoline

service s[redacted]tions, marinas, migrant l[redacted]or camps, office buildings, parks, restaurants, schools;

2/3. "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" means a waiver which may be granted by the ~~board~~ commissioner to a supply

--which is in operation on June 24, 1977,

--when a maximum contaminant level or required treatment cannot be complied with because of economic or other compelling factors, and

--if granting the waiver will not result in an unreasonable risk to health.

Such ~~a waiver~~ an exemption must be conditioned upon a schedule for compliance with these rules by the dates specified in MHD 148 B.8 and 9.

4/5. "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" 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" means the total radioactivity due to alpha particle emission as inferred from measurements on a dry sample;

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

8 9. "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. 10. "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;

10. 11. "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. 12. "Picocurie (pCi)" means that quantity of radioactive material producing 2.22 nuclear transformations per minute;

12. 13. "Public water supply" (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 ~~an~~ at least ~~average~~ of 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 pretreatment 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. (parts "a" and "b" here)

13. ~~14.~~ "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. ~~15.~~ "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. ~~16.~~ "Standard sample" means the aliquot of finished drinking water that is examined for the presence of coliform bacteria;

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

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

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

-- 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

-- if granting the waiver will not result in an unreasonable risk to health.

Such a ~~waiver~~ 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. 20. "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 prescribe the procedures for reporting results, notifying the public and for maintaining records.

2. The standards and procedures adopted in MHD 145-149 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. A water supply which meets all of the following requirements:

a. consists only of distribution and storage facilities;

b. obtains all of its water from, but is not owned or operated by a public water supply to which such regulations apply;

c. does not sell water to any person; and

d. is not a carrier which conveys passengers in intrastate commerce,

shall not be a public water supply for the purpose of rules MHD 145 through 149, inclusive.

MHD 146. Maximum Contaminant Levels:

The 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 MHD 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 pursuant to MHD 147 B.2. or MHD 147 B.3.

   b. Four per 100 milliliters in more than one sample when less than 20 are examined per month; or

   c. Four per 100 milliliters in more than five percent of the samples when 20 or more are examined per month.

2.

   a. When the fermentation tube method and 10 milliliter standard portions pursuant to MHD 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 MHD 147 B.2. or MHD 147 B.3;

      (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 standards portions pursuant to MHD 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 MHD 147 B.2. or MHD 147 B.3.

(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 per month, compliance with paragraphs 1 or 2 of part A of this rule shall be based upon sampling during a 3 month period, except that, at the discretion of the ~~board~~ commissioner, compliance may be based upon sampling during a one-month period.

B. Turbidity:

The maximum contaminant levels for turbidity are applicable to both community and non-community water supplies using surface water sources in whole or in part. The maximum contaminant levels for turbidity in drinking water, measured at a representative entry point(s) to the distribution system, are:

1. One turbidity unit (TU), rounded off the nearest whole number, as determined by a monthly average pursuant to MHD 147 C.
2. Fived turbidity units based on an average for two consecutive days, pursuant to MHD 147 C.
3. A variance or exemption may be granted according to the procedure described in MHD 148, to permit the supplier to provide water which contains 5 or less turbidity units, if the supplier can demonstrate to the ~~board~~ COMMISSIONER that the higher turbidity does not do any of the following:
   a. interfere with disinfection;
   b. prevent maintenance of an effective disinfectant agent throughout the distribution system; or
   c. interfere with microbiological determinations.

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 MHD 147 D 3, 4, 5 and 6. The following are the maximum contaminant levels for inorganic chemicals:

Contaminant	Level, milligrams per liter
Arsenic	0.05
Barium	1.
Cadmium	0.010
Chromium	0.05
Fluoride	2.4
Lead	0.05
Mercury	0.002

Nitrate (as N)	10.
Selenium	0.01
Silver	0.05

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 MHD 147 E 2, 3 and 4.

	Level, milligrams per liter
1. Chlorinated hydrocarbons:	
Endrin (1,2,3,4,10, 10-hexachloro-6, 7-epoxy-1,4,4a,5,6,7,8,8a-octa-hydro-1,4-endo, endo-5,8 - dimethano-naphthalene).	0.0002
Lindane (1,2,3,4,5,6-hexachloro-cyclohexane, gamma isomer).	0.004
Methoxychlor (1,1,1-Trichloro 2,2 - bis [p-methoxyphenyl] ethane).	0.1
Toxaphene ($C_{10}H_{10}Cl_8$-Technical chlorinated camphene, 67-69 percent chlorine).	0.005
2. Chlorophenoxys:	
2,4-D, (2,4-Dichlorophenoxyacetic acid).	0.1
2,4,5-TP Silvex (2,4,5-Trichloro-phenoxypropionic acid).	0.01

E. Radiological:

Maximum contaminant levels for radiological materials shall apply only to community water supplies.

1. Maximum contaminant levels for radium-226, radium-228, and gross alpha particle radioactivity:
   a. Combined radium-226 and radium-228 -- 5 pCi/l.
   b. Gross alpha particle activity (including radium-226 but excluding radon and uranium) -- 15 pCi/l.
2. Maximum contaminant levels for beta particle and photon radioactivity from man-made radionuclides:
   a. The average annual concentration of beta particle and photon radioactivity from man-made radionuclides in drinking water shall not produce an annual dose equivalent to the total body or any internal organ greater than 4 millirem/year.
   b. Except for the radionuclides listed in Table A, the concentration of man-made radionuclides causing 4 or more millirem total body or organ dose equivalents shall be calculated on the basis of a 2 liter per day drinking water intake using the 168 hour data listed in "Maximum Permissible Body Burdens and Maximum Permissible Concentration of Radionuclides in Air or Water for Occupational Exposure," NBS Handbook 69 as amended August 1963, U.S. Department of Commerce. If two or more radionuclides are present, the sum of their annual dose equivalent to the total body or to any organ shall not exceed 4 millirem/year.

Table A. — Average annual concentrations assumed to produce a total body or organ dose of 4 millirem/year.

Radionuclide	Critical Organ	pCi/l
Tritium	Total body	20,000
Strontium-90	Bone marrow	8

MHD 147 MONITORING AND ANALYTICAL REQUIREMENTS:

A. 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 ~~certified~~ approved to test for coliform bacteria, such supplier shall follow the relevant procedures in the appropriate parts of this rule. If ~~a certified~~ an approved on-site laboratory is not available, the supplier of water shall send his water samples to an appropriate ~~certified~~ approved testing laboratory, according to procedures prescribed by the ~~board~~ 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 certified laboratory for testing.

B. Microbiological contaminant sampling and analytical requirements:

1. Analyses for coliform bacteria shall be made for the purpose of determining compliance with MHD 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, ~~14~~ 13th Edition, pp. ~~913 - 942~~ 662 - 688, except that a standard sample size as referred to below shall be employed;

   a. The standard sample used in the membrane filter procedure shall be 100 milliliters;

b. 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 10 milliliters if compliance is to be determined according to the maximum contaminant level prescribed in MHD 146 A.2.a., and it is 100 milliliters if compliance is to be determined according to the maximum contaminant level prescribed in MHD 146 A.2.b. The samples shall be taken at points which are representative of the conditions within the distribution system.

2. The supplier of water for a community water supply shall take samples to be analyzed for coliform density.

a. The samples shall be taken at regular time intervals, and in number proportionate to the population served by the supply. In no event shall the frequency be less than as set forth below:

Population served:	*Minimum number of samples per month*
25 to 1,000	1
1,001 to 2,500	2
2,501 to 3,300	3
3,301 to 4,100	4
4,101 to 4,900	5
4,901 to 5,800	6
5,801 to 6,700	7
6,701 to 7,600	8
7,601 to 8,500	9
8,501 to 9,400	10
9,401 to 10,300	11
10,301 to 11,100	12
11,101 to 12,000	13
12,001 to 12,900	14
12,901 to 13,700	15
13,701 to 14,600	16
14,601 to 15,500	17
15,501 to 16,300	18
16,301 to 17,200	19
17,201 to 18,100	20
18,101 to 18,900	21
18,901 to 19 800	22
19,801 to 20,700	23
20,701 to 21,500	24
21,501 to 22,300	25
22,301 to 23,200	26
23,201 to 24,000	27
24,001 to 24,900	28
24,901 to 25,000	29
25,001 to 28,000	30
28,001 to 33,000	35
33,001 to 37,000	40
37,001 to 41,000	45
41,001 to 46,000	50
46,001 to 50,000	55
50,001 to 54,000	60
54,001 to 59,000	65
59,001 to 64,000	70
64,001 to 70,000	75
70,001 to 76,000	80
76,001 to 83,000	85
83,001 to 90,000	90
90,001 to 96,000	95
96,001 to 111,000	100
111,001 to 130,000	110
130,001 to 160,000	120
160,001 to 190,000	130
190,001 to 220,000	140
220,001 to 250,000	150
250,001 to 290,000	160
290,001 to 320,000	170
320,001 to 360,000	180
360,001 to 410,000	190
410,001 to 450,000	200
450,001 to 500,000	210
500,001 to 550,000	220
550,001 to 600,000	230
600,001 to 660,000	240
660,001 to 720,000	250
720,001 to 780,000	260
780,001 to 840,000	270
840,001 to 910,000	280
910,001 to 970,000	290
970,001 to 1,050,000	300
1,050,001 to 1,140,000	310
1,140,001 to 1,230,000	320
1,230,001 to 1,320,000	330
1,320,001 to 1,420,000	340
1,420,001 to 1,520,000	350
1,520,001 to 1,630,000	360
1,630,001 to 1,730,000	370
1,730,001 to 1,850,000	380
1,850,001 to 1,970,000	390
1,970,001 to 2,060,000	400
2,060,001 to 2,270,000	410
2,270,001 to 2,510,000	420
2,510,001 to 2,750,000	430
2,750,001 to 3,020,000	440
3,020,001 to 3,320,000	450
3,320,001 to 3,620,000	460
3,620,001 to 3,960,000	470
3,960,001 to 4,310,000	480
4,310,001 to 4,690,000	490
4,690,001 or more	500

Such sampling shall begin on the effective date of these rules.

b. Based on a history of no coliform bacterial contamination and on a sanitary survey by the board showing the water system to be supplied solely by a protected ground water source and free of sanitary defects, a community water supply serving 25 to 1,000 persons, with written permission from the ~~board~~ commissioner, may reduce this sampling frequency, except that in no case shall it be reduced to less than one per quarter. Such permission may be withdrawn at any time if changed conditions warrant monthly sampling.

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 ~~board~~ commissioner determines, on the basis of a sanitary survey, that it is more appropriate for the supply to sample on a frequency other than quarterly, the ~~board~~ 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 shall be confirmed or changed on the basis of subsequent surveys.

4. Whenever any coliform bacteria are found in a single standard sample, at least two consecutive daily check samples shall be collected and examined from the same sampling point.

a. Additional check samples shall be collected daily until the results obtained from at least two consecutive daily

check samples show no coliform bacteria in the case of the 100 milliliter membrane filter portions, or show no positive tubes in the case of the 10 or 100 milliliter portions analyzed by the fermentation method.

b. The location at which the check samples were taken pursuant to paragraph B.4.a. of this rule shall not be eliminated from future sampling without approval of the commissioner ~~board~~.

5. The results from all coliform bacterial analyses performed pursuant to this rule, except those obtained from check samples as referred to in MHD 147 B.4.a. and b. and special purpose samples as referred to in MHD 147 B.8. shall be used to determine compliance with the maximum contaminant level for coliform bacteria as established in MHD 146 A. Check samples shall not be included in calculating the total number of samples taken each month to determine compliance with MHD 146 A.

6. When the presence of coliform bacteria in water taken from a particular sampling point has been confirmed by any check samples examined as directed in paragraph B.4.a. of this rule, the analytical laboratory shall notify the supplier and the commissioner ~~board~~ within 24 hours.

7. As soon as a maximum contaminant level set forth in MHD 146 A. is exceeded, the supplier of water shall report to the commissioner ~~board~~ and notify the public as prescribed in MHD 149 D.

8. Special purpose samples, such as those taken to determine whether disinfection practices following pipe placement, replacement, or repair have been sufficient, shall not be used

to determine compliance with paragraphs B.2 and B.3 of this rule.

9. A supplier of water of either a community or non-community water supply may, with the approval of the ~~board~~ commissioner and based upon a sanitary survey, substitute the use of free chlorine residual monitoring for not more than 75 percent of the samples required to be taken by MHD 147 B.2 and B.3. A supplier of water who is allowed to substitute chlorine residual sampling must take such samples at points which are representative of the conditions within the distribution system at the frequency of at least four for each substituted microbiological sample required to be taken by MHD 147 B.2 and B.3. There shall be at least daily determinations of chlorine residual. When the supplier of water exercises the option of substituting chlorine residual samples, he shall maintain no less than 0.2 mg/l free chlorine throughout the public water distribution system. When a particular sampling point has been shown to have a free chlorine residual less than 0.2 mg/l, the water at that location shall be retested as soon as practicable and in any event within one hour. If the original analysis is confirmed, this fact shall be reported to the ~~board~~ commissioner within 48 hours. Also, if the analysis is confirmed, a sample for coliform bacterial analysis must be collected from that sampling point as soon as practicable and preferably within one hour, and the results of such analysis reported to the ~~board~~ commissioner within 48 hours. Analyses for residual chlorine shall be made in accordance with "Standard Methods for the Examination of Water and Wastewater," ~~14~~ 13th Edition, pp. ~~332 - 334~~ 129-132. Compliance with the maximum contaminant levels for coliform

shall be determined on the monthly mean or quarterly mean basis specified in MHD 146 A. including those samples taken as a result of failure to maintain the required chlorine residual level. The ~~board~~ commissioner may withdraw its approval of the use of chlorine residual substitution at any time.

C. Turbidity sampling and analytical requirements:

1. 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 MHD 146 B. 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 ~~14th~~ Edition, pp. 350-353 ~~132-134~~, or "Methods for Chemical Analysis of Water and Wastes," pp. 295-298, Environmental Protection Agency, Office of Technology Transfer, Washington, D.C. 20460, 1974. 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. If the result of a turbidity analysis indicates that the maximum allowable limit has been exceeded, the sampling and measurement shall be confirmed by resampling as soon as practicable and preferably within one hour. If the repeat sample confirms that the maximum allowable limit has been exceeded, the supplier of water shall report to the ~~board~~ commissioner within 48 hours. The repeat sample shall be the sample used

for the purpose of calculating the monthly average. If the monthly average of the daily samples exceeds the maximum allowable limit, or if the average of two samples taken on consecutive days exceeds five turbidity units, the supplier of water shall report to the ~~board~~ commissioner as prescribed in MHD 149 B. and shall notify the public as prescribed in MHD 149 D.

D. Inorganic chemical contaminant sampling and analytical requirements:

1. Analyses for the purpose of determining compliance with MHD 146 C. are required as follows:

   a. Analyses for all community water supplies utilizing surface water sources shall be completed before June 24, 1978. These analyses shall be repeated at yearly intervals.

   b. Analyses for all community water supplies utilizing only ground water sources shall be completed before June 24, 1979. These analyses shall be repeated at three year intervals.

   c. For non-community water supplies, whether supplied by surface or ground water sources, analyses for nitrate shall be completed before June 24, 1979. These analyses shall be repeated at least once every five years after the initial determination. The ~~board~~ commissioner may order more frequent sampling depending upon the geological formation, the level of nitrate present and the size of the population being served.

2. For the initial analyses required by paragraph D.1. of this rule, data for surface waters acquired within one year prior to June 24, 1977 and data for ground waters acquired within

3 years prior to June 24, 1977 may be substituted at the discretion of the ~~board~~ commissioner.

3. Analyses conducted to determine compliance with MHD 146 C. shall be made in accordance with the following methods:

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.

b. Barium - Atomic Absorption Method, "Standard Methods for the Examination of Water and Wastewater," ~~14~~13th Edition, pp. ~~143-155~~ 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.

c. Cadmium - Atomic Absorption Method, "Standard Methods for the Examination of Water and Wastewater," ~~14~~13th Edition, pp. ~~143-152~~ 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.

d. Chromium - Atomic Absorption Method, "Standard Methods for the Examination of Water and Wastewater," ~~14~~13th Edition, pp. ~~143-152~~ 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.

e. Lead - Atomic Absorption Method, "Standard Methods for the Examination of Water and Wastewater," ~~14~~13th Edition, pp. ~~143-152~~ 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.

f. 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.

g. Nitrate - Brucine Colorimetric Method, "Methods for the Examination of Water and Wastewater," ~~14~~ 13th Edition, pp. ~~427-429~~ 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.

h. 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.

i. Silver - Atomic Absorption Method, "Standard Methods for the Examination of Water and Wastewater", ~~14~~ 13th Edition, pp. ~~143-151~~ 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.

j. Fluoride - Electrode Method, "Standard Methods for the Examination of Water and Wastewater", ~~14~~ 13th Edition, pp. ~~391-393~~ 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," ~~14~~ 13th Edition, pp. ~~389-390~~ 171-172, and ~~393-394~~ 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. If the result of an analysis made pursuant to paragraph D.1. of this rule indicates that the level of any contaminant listed in MHD 146 C. exceeds the maximum contaminant level, the supplier of water shall report to the ~~board~~ commissioner within 7 days from the time he receives the results and he shall collect and submit for analysis three additional samples taken at the same sampling point within one month from the time the ~~board~~ commissioner is notified.

5. When the average of four analyses made pursuant to paragraph D.4. of this rule, rounded to the same number of significant figures as the maximum contaminant level for the substance in question, exceeds the maximum contaminant level prescribed in MHD 146 C., the supplier of water shall notify the ~~board~~ commissioner within 48 hours pursuant to MHD 149 B. and give notice to the public pursuant to MHD 149 D. Monitoring after public notification shall be at a frequency designated by the ~~board~~ commissioner and shall continue until the maximum contaminant level has not been exceeded in two successive samples or until a new monitoring schedule prescribed as a condition to a variance, exemption, or enforcement action shall become effective.

6. The provisions of paragraphs 4 and 5 of part D of this rule notwithstanding, compliance with the maximum contaminant level for nitrate shall be determined on the basis of the mean of two analyses. When a level exceeding the maximum contaminant level for nitrate is found, a second analysis shall be initiated within 24 hours, and if the mean of the two analyses exceeds the maximum contaminant level, the supplier of water shall report his findings to the ~~board~~ commissioner within 48 hours pursuant to MHD 149 B. and shall notify the public pursuant to MHD 149 D.

E. Organic chemical contaminant sampling and analytical requirements:

1. An analysis of substances for the purpose of determining compliance with MHD 146 D. shall be made as follows:

   a. For all community water supplies utilizing surface water sources, analyses shall be completed before June 24, 1978. Samples analyzed shall be collected during the period of the year designated by the ~~board~~ commissioner as the period when contamination by pesticides is most likely to occur. These analyses shall be repeated at intervals specified by the ~~board~~ commissioner but in no event less frequently than at three year intervals.

   b. For community water supplies utilizing only ground water sources, analyses shall be completed by those supplies specified by the ~~board~~ commissioner.

2.

   a. Analyses made to determine compliance with MHD 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.

   b. Analyses made to determine compliance with MHD 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.

3. If the result of an analysis made pursuant to paragraph E.1. of this rule indicates that the level of any contaminant listed in MHD 146 D. exceeds the maximum contaminant level, the supplier of water shall report to the ~~board~~ commissioner within 7 days and collect and submit for analysis three additional samples taken at the same sampling point within one month from the time the ~~board~~ commissioner is notified.

4. When the average of four analyses made pursuant to paragraph D.3. of this rule, rounded to the same number of significant figures as the maximum contaminant level for the substance in question, exceeds the maximum contaminant level, the supplier of water shall report to the ~~board~~ commissioner pursuant to MHD 149.B. and give notice to the public pursuant to MHD 149.D. Monitoring after public notification shall be at a frequency designated by the ~~board~~ commissioner and shall continue until the maximum contaminant level has not been exceeded in two successive samples or until a monitoring schedule as a condition to a variance or exemption or enforcement action shall become effective.

F. Radiological contaminant sampling and analytical requirements for community water supplies:

1. Monitoring requirements for gross alpha particle activity, radium-226 and radium 228;

   a. Initial sampling to determine compliance with MHD 146 E.1. shall begin before June 24, 1979 and the analysis shall

be completed before June 24, 1980. Compliance shall be based on the analysis of an annual composite of four consecutive quarterly samples or the average of the analyses of four samples obtained at quarterly intervals.

(1) A gross alpha particle activity measurement may be substituted for the required radium-226 and radium-228 analyses provided that the measured gross alpha particle activity does not exceed 5 pCi/l at a confidence level of 95 percent (1.65 σ where σ is the standard deviation of the net counting rate of the sample.)

(2) In localities where radium-228 may be present in drinking water, analyses for radium-226 and/or radium-228 are required when the gross alpha particle activity exceeds 2 pCi/l at a confidence level of 95 percent.

(3) When the gross alpha particle activity exceeds 5 pCi/l, the same or an equivalent sample shall be analyzed for radium-226. If the concentration of radium-226 exceeds 3 pCi/l, the same or an equivalent sample shall be analyzed for radium-228.

b. Suppliers of water shall monitor at least once every four years following the procedure required by paragraph F.1.a. of this rule. When an annual record taken in conformance with paragraph F.1.a. has established that the average annual

concentration is less than half the maximum contaminant levels established by MHD 146 E.1., analysis of a single sample may be substituted for the quarterly sampling procedure required by MHD 147 F.1.a.

(1) More frequent monitoring shall be conducted when ordered by the ~~board~~ commissioner in the vicinity of mining or other operations which may contribute alpha particle radioactivity to either surface or ground water sources of drinking water.

(2) A supplier of water shall monitor in conformance with paragraph F.1.a. within one year of the introduction of a new water source for a community water supply. More frequent monitoring shall be conducted when ordered by the ~~board~~ commissioner in the event of possible contamination or when changes in the distribution system or treatment process occur which may increase the concentration of radioactivity in finished water.

(3) A community water supply using two or more sources having different concentrations of radioactivity shall monitor source water, in addition to water from a free-flowing tap, when ordered by the ~~board~~ commissioner.

(4) Monitoring for compliance with MHD 146 E.1. after the initial period need not include radium-228 except when required by the ~~board~~ commissioner, provided that the average annual concentration of radium-228 has been assayed at least once using the quarterly sampling procedure required by MHD F.1.a.

(5) Suppliers of water shall conduct annual monitoring of any community water supply in which the radium-226 concentration exceeds 3 pCi/l, when ordered by the ~~board~~ commissioner.

c. If the average annual maximum contaminant level for gross alpha particle activity or total radium as set forth in MHD 146 E.1. is exceeded, the supplier of a community water system shall give notice to the ~~board~~ commissioner pursuant to MHD 149 B and notify the public as required by MHD 149 D. Monitoring at quarterly intervals shall be continued until the annual average concentration no longer exceeds the maximum contaminant level or until a monitoring schedule as a condition to a variance, exemption or enforcement action shall become effective.

2. Monitoring requirements for man-made radioactivity in community water supplies using surface sources and serving more than 100,000 persons, and such other community water supplies as are designated by the ~~board~~ commissioner;

a. Before June 24, 1979, such supplies shall be monitored for compliance with MHD 146 E.2. by analysis of a composite of four consecutive quarterly samples or analysis of four quarterly samples. Compliance with MHD 146 E.2. may be assumed without further analysis if the average annual concentration of gross beta particle activity is less than 50 pCi/l and if the average annual concentrations of tritium and strontium-90 are less than those listed in Table A, provided that if both radionuclides are present the sum of their annual dose equivalents to bone marrow shall not

exceed 4 millirem/year.

(1) If the gross beta particle activity exceeds 50 pCi/l, an analysis of the sample must be performed to identify the major radioactive constituents present and the appropriate organ and total body doses shall be calculated to determine compliance with MHD 146 E.2.

(2) Suppliers of water shall conduct additional monitoring, as ordered by the ~~board~~ commissioner, to determine the concentration of man-made radioactivity in principal watersheds designated by the ~~board~~ commissioner.

b. At the discretion of the ~~board~~ commissioner suppliers of water utilizing only ground waters may be required to monitor for man-made radioactivity.

c. After the initial analysis required by MHD 147 F.2.a., these suppliers shall monitor at least every four years following the procedure given in paragraph F.2.a.

d. Before June 24, 1979 the supplier of any community water supply which is found by the ~~board~~ commissioner to be utilizing waters contaminated by effluents from nuclear facilities shall initiate quarterly monitoring for gross beta particle and iodine-131 radioactivity and annual monitoring for strontium-90 and tritium.

(1) Quarterly monitoring for gross beta particle activity shall be based on the analysis of monthly samples. If the gross beta particle activity in a sample exceeds 15 pCi/l, the same or an equivalent sample shall be analyzed for strontium-89 and

cesium-134. If the gross beta particle activity exceeds 50 pCi/l, an analysis of the sample must be performed to identify the major radioactive constituents present and the appropriate organ and total body doses shall be calculated to determine compliance with MHD 146 E.2.

(2) For iodine-131, a composite of five consecutive daily samples shall be analyzed once each quarter. As ordered by the ~~board~~ commissioner, more frequent monitoring shall be conducted when iodine-131 is identified in the finished water.

(3) Annual monitoring for strontium-90 and tritium shall be conducted by means of the analysis of four quarterly samples.

(4) The ~~board~~ commissioner may allow the substitution of environmental surveillance data taken in conjunction with a nuclear facility for direct monitoring of man-made radioactivity by the supplier of water where the ~~board~~ commissioner determines such data is applicable to a particular community water supply.

e. If the average annual maximum contaminant level for man-made radioactivity set forth in MHD 146 E.2. is exceeded, the supplier of a community water supply shall give notice to the ~~board~~ commissioner pursuant to MHD 149 B. and to the public as required by MHD 149 D. Monitoring at monthly intervals shall be initiated and continued until the concentration no longer exceeds the maximum contaminant level or until a monitoring schedule as a condition to a

variance, exemption or enforcement action shall become effective.

3. Analytical Methods:

a. Measurements made to determine compliance with MHD 146 E. shall be made in accordance with the following methods:

(1) Gross Alpha and Beta - ~~Method~~ Section 302 "Gross Alpha and Beta Radioactivity in Water" Standard Methods for the Examination of Water and Wastewater, ~~14~~ 13th Edition, American Public Health Association, New York, N.Y., 1975.

(2) Total Radium - ~~Method~~ Section 304 "Radium in Water by Precipitation" Ibid.

(3) Radium - 226 - ~~Method~~ Section 305 "Radium - 226 by Radon in Water" Ibid.

(4) Strontium - 89.90 - ~~Method~~ Section 303 "Total Strontium and Stontium - 90 in Water" Ibid.

(5) Tritium - ~~Method~~ Section 306 "Tritium in Water" Ibid.

(6) Cesium - 134 - ASTM D-2459 "Gamma Spectrometry in Water," 1975 Annual Book of ASTM Standards, Water and Atmospheric Analysis, Part 31, American Society for Testing and Materials, Philadelphia, PA. (1975).

(7) Uranium - ASTM D-2907 "Microquantities of Uranium in Water by Fluorometry," Ibid.

When the identification and measurement of radionuclides other than those listed above is required, the following references are to be used, except in cases where alternative methods have been approved in accordance with MHD 147 G.

(8) Procedures for Radiochemical Analysis of Nuclear Reactor Aqueous Solutions, H. L. Krieger and S. Gold, EPA-R4-73-014. USEPA, Cincinnati, Ohio, May 1973.

(9) HASL Procedure Manual, Edited by John H. Harley. HASL 300, ERDA Health and Safety Laboratory, New York, N.Y., 1973.

b. For the purpose of monitoring radioactivity concentrations in drinking water, the required sensitivity of the radioanalysis is defined in terms of a detection limit. The detection limit shall be that concentration which can be counted with a precision of plus or minus 100 percent at the 95 percent confidence level (1.96 σ where σ is the standard deviation of the net counting rate of the sample).

(1) To determine compliance with MHD 146 E.1.a., the detection limit shall not exceed 1 pCi/l. To determine compliance with MHD 146 E.1.b., the detection limit shall not exceed 3 pCi/l.

(2) To determine compliance with MHD 146 E.2. the detection limits shall not exceed the concentrations listed in Table B.

Table B -- Detection Limits For Man-Made Beta Particle and Photon Emitters

Radionuclide	Detection Limit
Tritium	1,000 pCi/l
Strontium-89	10 pCi/l
Strontium-90	2 pCi/l
Iodine-131	1 pCi/l
Cesium-134	10 pCi/l
Gross beta	4 pCi/l
Other radionuclides	1/10 of the applicable limit

c. To judge compliance with the maximum contaminant levels listed in MHD 146 E.1. and MHD 146 E.2., averages of data shall be used and shall be rounded to the same number of significant figures as the maximum contaminant level for the substance in question.

G. Alternative analytical techniques:

With the written permission of the ~~board~~ commissioner, an alternative analytical technique may be employed. An alternative technique shall be acceptable 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 maximum contaminant level. The use of the alternative analytical technique shall not decrease the frequency of monitoring required by this rule.

H. Approved laboratories:

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

I. Monitoring consecutive systems:

When a public water supply provides water to one or more other public water supplies, the monitoring requirements imposed by

MHD 147 A. through F. may be superseded by a special monitoring schedule prescribed by the ~~board~~ commissioner. Such a special monitoring schedule may be imposed to the extent that the interconnection justifies treating them as a single supply for monitoring purposes, and is enforceable just as any other monitoring requirement imposed by these rules. Such a special monitoring schedule shall include an agreement which names the supply or supplies responsible for monitoring, reporting, giving public notice, and maintaining records.

J. The ~~board~~ commissioner may impose additional monitoring requirements if the results of a sanitary survey indicate that a public health risk may exist. The ~~board~~ commissioner may impose a requirement for more frequent sampling if the analytical results of water tests show that a previously measured contaminant is approaching a maximum contaminant level as prescribed in MHD 146.

MHD 148. VARIANCES AND EXEMPTIONS.

A. Variances:

1. The ~~board~~ commissioner may grant one or more variances from a maximum contaminant level prescribed in MHD 146 or from a treatment required by these rules, pursuant to authority granted in Minn. Laws Chap. 66 §3(e)(1977), according to the procedure described below.

2. A supplier may request a variance whenever he determines that his supply is exceeding or will exceed a maximum contaminant level. A supplier who has not requested a variance or has not taken corrective action to bring his supply into compliance by the date specified in the notification of violation shall be subject to the penalties of Minn. Laws, Chap. 66 §3(e)(1977).

3. In deciding whether to grant a variance from a maximum contaminant level, the ~~board~~ commissioner shall consider --

   a. the availability and effectiveness of treatment methods for the contaminant for which the variance is requested; and

   b. cost and other economic considerations such as implementing treatment, improving the quality of the source water or using an alternative source.

4. The ~~board~~ commissioner may grant a variance from a maximum contaminant level upon finding that --

   a. because of the characteristics of the raw water sources which are reasonably available to the supply, the supply cannot meet the requirements respecting the maximum contaminant levels prescribed in MHD 146 despite the

application of the best known and economically feasible technology for treatment or other means, and

b. the variance will not result in an unreasonable risk to health.

5. The ~~board~~ commissioner may grant a variance from any required treatment upon finding that the supply has demonstrated that such treatment is not necessary to meet a maximum contaminant level or to protect the health of persons, because of the nature of the raw water source of the supply.

6. Application Procedure: A request for a variance shall be submitted to the ~~board~~ commissioner in writing and shall contain the following information:

a. the nature and duration of the variance being requested;

b. relevant analytical results of water quality sampling of the supply, including results of relevant tests conducted pursuant to the requirements of these rules;

c. for any request for a variance from a maximum contaminant level, the notice shall also contain:

(1) an explanation in full and evidence of the best available treatment;

(2) economic and legal factors relevant to the ability to comply;

(3) analytical results of raw water quality relevant to the variance request;

(4) a proposed compliance schedule, including the date each step toward compliance will be achieved. Such a schedule shall include as a minimum the following dates:

(a) a date by which arrangement for alternative raw water source or improvement of existing raw water source will be completed;

(b) a date for initiation of the connection of the alternative raw water source or improvement of existing raw water source;

(c) a date by which final compliance is to be achieved;

(5) a plan for the provision of safe drinking water in the case of an excessive rise in the contaminant level for which the variance is requested;

(6) a plan for interim control measures during the effective period of variance.

d. for any request for a variance from a required treatment, the notice shall include a statement that the supply will perform monitoring and other reasonable requirements prescribed by the ~~board~~ commissioner as a condition to the variance;

e. such other information as the ~~board~~ commissioner may require;

f. any information which the supplier believes is pertinent to the request.

7. Disposition of a request for a variance:
Upon receipt of an application for a variance the ~~board~~ commissioner shall initiate, within 90 days, the procedure for a contested case. Notice and opportunity for hearing shall be given according to Minn. Stats. Chap. 15 (1976) and the rules of the office of hearing examiners.

8. The ~~board~~ commissioner shall within one year after the variance is granted,

impose a schedule for compliance with MHD 145 through 149, after notice and opportunity for hearing have been given.

9. a. A variance from a maximum contaminant level may be terminated by the ~~board~~ commissioner when the supply comes into compliance with the applicable rule, and may be terminated by the ~~board~~ commissioner upon a finding that the supply has failed to comply with any requirement of a final schedule imposed by the ~~board~~ commissioner pursuant to this rule.

b. A variance from a required treatment may be terminated at any time upon a finding by the ~~board~~ commissioner that the nature of the raw water source is such that the required treatment for which the variance was granted is necessary to protect the health of persons, or upon a finding by the ~~board~~ commissioner that the supply has failed to comply with monitoring and other requirements prescribed as a condition to the granting of the variance.

10. A compliance schedule imposed by the ~~board~~ commissioner pursuant to the grant of a variance shall be enforceable as if it were a rule of the ~~board~~ commissioner.

B. Exemptions:

1. The ~~board~~ commissioner may grant one or more exemptions from a maximum contaminant level prescribed in MHD 146 or from a treatment required by these rules, pursuant to authority granted in Minn. Laws Chap. 66 §3(e)(1977), according to the procedure described below.

2. A supplier may request an exemption whenever he determines that his supply is exceeding or will exceed a maximum contaminant level. A supplier who has not requested an exemption or has not taken corrective action to bring his

supply into compliance by the date specified in the notification of violation shall be subject to the penalties of Minn. Laws, Chap. §3(e)(1977).

3. The ~~board~~ commissioner may grant an exemption from a maximum contaminant level or from a required treatment--

   a. after having considered the following:

      (1) construction, installation, or modification of treatment equipment or systems;

      (2) the time needed to put into operation a new treatment facility to replace an existing supply which is not in compliance;

      (3) economic feasibility of compliance;

   b. and upon finding that:

      (1) due to compelling factors (which may include economic factors), the supply is unable to comply with such contaminant level or required treatment;

      (2) the supply was in operation on the date on which such contaminant level or required treatment went into effect; and

      (3) the granting of the exemption will not result in an unreasonable risk to health.

4. Application Procedure: A request for an exemption shall be submitted to the ~~board~~ commissioner in writing and shall contain the following information:

   a. the nature and duration of the exemption being requested;

   b. relevant analytical results of water quality sampling of the supply, including results of relevant tests conducted pursuant to the requirements of these rules;

c. an explanation of the compelling factors such as time or economic factors which prevent the supply from complying with a maximum contaminant level or required treatment on the effective date of the applicable standard;

d. a proposed compliance schedule, including the date when each step toward compliance will be achieved;

e. such other information as the board may require;

f. any other information which the applicant believes is pertinent to the request.

5. Disposition of a request for an exemption:
Upon receipt of an application for an exemption the ~~board~~ commissioner shall initiate within 90 days, the procedure for a contested case. Notice and opportunity for hearing shall be given according to Minn. Stats. Chap. 15 (1976) and the rules of the office of hearing examiners.

6. The ~~board~~ commissioner shall within one year after the exemption is granted, impose a schedule for compliance with these rules. after notice and opportunity for hearing have been given.

7. An exemption may be terminated by the ~~board~~ commissioner when the supply comes into compliance with the applicable rule, and may be terminated by the ~~board~~ commissioner upon a finding by the ~~board~~ commissioner that the supply has failed to comply with any requirement of a final schedule imposed pursuant to this rule.

8. Any compliance schedule issued pursuant to an exemption shall require compliance with these rules before January 1, 1981. Compliance with the requirements of revised federal regulations will have to be achieved within seven years

of the date on which such federal regulations become effective.

9. If the supply which seeks the exemption has entered into an enforceable agreement to become a part of a regional system, as determined by the ~~board~~ commissioner, the compliance schedule shall require compliance by the supply with each maximum contaminant level or required treatment prescribed by these rules before January 1, 1983. For such a supply (which will become part of a regional system) compliance with the requirements of the revised federal regulations shall be required within nine years of the effective date of the revised federal regulations.

10. A compliance schedule imposed by the ~~board~~ commissioner pursuant to the grant of an exemption shall be enforceable as if it were a rule of the ~~board~~ commissioner.

MHD 149. Record Maintenance; Reporting; Public Notification.

A. Record Maintenance: Any owner or operator of a public water supply shall retain on ~~the~~ its premises or at a convenient location near the premises, and shall make available for public inspection, the following records for the specified period of time:

1.

a. Records of bacteriological analyses and turbidity measurements made pursuant to MHD 147 B. and C. shall be kept for not less than 5 years.

b. Records of chemical analyses made pursuant to MHD 147 D., E., and F. shall be kept for not less than 10 years.

2. Actual laboratory reports may be kept, or data may be transferred to tabular summaries, provided that the following information is included:

a. the date, place, and time of sampling, and the name of the person who collected the sample;

b. identification of the sample as to whether it was a routine distribution system sample, check sample, raw or process water sample or other special purpose sample;

c. date of analysis;

d. laboratory and person responsible for performing analysis;

e. the analytical technique or method used; and

f. the results of the analysis.

3. Records of action taken by the supply to correct violations of rules dealing with public water supplies shall be kept for a period not less than 3 years after the last action taken with respect to the particular violation involved.

4. Copies of any written reports, summaries or communications relating to sanitary surveys of the supply conducted by the supply itself, by a private consultant, or by any local, state or federal agency, shall be kept for a period of not less than 10 years after completion of the sanitary survey involved.

5. Records concerning a variance or exemption granted to the supply shall be kept for a period ending not less than 5 years following the expiration of such variance or exemption.

B. Reporting Requirements:

1. All the results of analyses performed on samples which are to be tested pursuant to these rules shall be reported as follows:

   a. the ~~certified~~ approved laboratory shall submit all analytical results on reporting forms to be prescribed by the ~~board~~ commissioner. These forms shall be prepared in triplicate, with one copy being sent to the supplier, one copy being sent to the State Department of Health, Division of Environmental Health, Section of Public Water Supplies, and the third being retained by the laboratory;

   b. results of turbidity and chlorine residual measurements shall be submitted by the supplier on the prescribed reporting forms.

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

3. A laboratory performing microbiological analyses pursuant to these rules shall report to the supplier and to the ~~board~~ commissioner

any positive test results within 24 hours of the time the positive result becomes available.

4. The supplier shall report to the ~~board~~ commissioner a positive bacteriological test result within 24 hours of the time the supplier learns of such a result.

5. The supplier of water shall report to the ~~board~~ commissioner within 48 hours the failure to comply with any of the rules relating to public water supplies, including the failure to comply with a monitoring requirement, as set forth in rule MHD 147.

C. Right of Inspection:

The ~~board~~ commissioner, or one of ~~its~~ his or her authorized representatives, upon presenting appropriate credentials to any water supplier, is authorized to enter and inspect any establishment, facility or other property of such supplier, in order to determine whether such supplier has acted or is acting in compliance with the rules of the ~~board~~ commissioner relating to water supplies, including for this purpose, the inspection of records, files, papers, processes, controls, and facilities, or in order to test any feature of a public water supply, including its raw water source.

D. Public Notification:

1. Public notification must be made by a supplier of water whenever a public water supply--

   a. fails to comply with a maximum contaminant level prescribed in MHD 146;

   b. fails to comply with a prescribed monitoring schedule pursuant to MHD 147;

c. fails to submit timely reports pursuant to MHD 149 B;

d. is granted a variance or exemption from a maximum contaminant level pursuant to MHD 148; or

e. fails to comply with a schedule prescribed pursuant to such a variance or exemption.

f. fails to comply with an applicable testing method established in MHD 147.

2. A notice given pursuant to this rule shall be written in a manner reasonably designed to inform fully the user of the supply. The notice shall be conspicuous and shall not use unduly technical language, unduly small print or other methods which would frustrate the purpose of the notice. The notice shall disclose all material facts regarding the subject including the nature of the problem and, where appropriate, a clear statement that a rule dealing with public water supplies has been violated, and shall also disclose any preventive measures that should be taken by the public. Where appropriate, or where required by the ~~board~~ commissioner, bilingual notice shall be given. Notices may include a reasonable explanation of the subject of the notice and of its significance or seriousness to the public health, a fair explanation of steps taken by the supply to correct any problem, and the results of any additional sampling.

3. Notice by Community Water Supply:

a. In the case of a community water supply, the supplier shall give notification as referred to in MHD 149 D.1. and 2.:

(1) by including a notice in the first set of water bills issued after any of the conditions described in paragraph D.1 of this rule occurs;

(2) if the supply issues bills less frequently than every three months, or does not issue water bills, the supplier must give notice by direct mail to every residence served, within six weeks after the condition which gave rise to the need for such notice has occurred;

(3) in addition, a copy of every notice mailed pursuant to this rule shall be sent to the ~~board~~ commissioner, as part of the same mailing which is made to the supply's customers.

b. In the case of a failure to comply with a maximum contaminant level, such written notice shall be repeated according to the procedure prescribed in MHD 149 D.3.a. not less than once every three months after the initial notice. Such continuing notice must be given as long as the failure to comply continues, whether or not the supply has a variance or exemption relating to the maximum contaminant level which is being exceeded.

c. In the case of a failure to comply with a maximum contaminant level which is not corrected promptly after discovery, the supplier must give other general public notice of the failure, in addition to the notice by direct mail, in a manner to be prescribed by the ~~board.~~ commissioner Such additional notice may include announcements to communications media in the area served by the supply.

4. Notice by non-community water supply:

In the case of a non-community supply, the supplier must give notice by conspicuous posting. Notice must be posted at or near every tap or drinking fountain, or wherever the public

can draw the water. If the water is served to the consumer, then additional notice must be posted on the menu, or registration form, or in some other obvious location to assure adequate readibility of the notice, before the water is consumed. The ~~board~~ commissioner shall order the form and location for the posting of such notice. Such notice must remain posted as long as any one of the conditions cited in paragraph D.1. of this rule continues to exist.

5. Whenever the ~~board~~ commissioner determines that a supply is providing water which, if consumed, might create an imminent risk to the public health, the ~~board~~ commissioner may order the supplier to give a notice or warning of such risk in a prescribed manner.

6. The ~~board~~ commissioner may issue any notice or warning required by this rule on behalf of a supplier, but a supplier is not relieved of any responsibility to issue any notice or warning under this rule, unless he has been specifically relieved of the responsibility by the ~~board~~ commissioner, in writing.

ADOPTED
W/AMENDMENTS

MHD 150

A. This rule is adopted for the purpose of assuring that sanitary procedures are followed by those who distribute drinking water by tank truck and that the public health is thereby preserved. The authority for adopting this rule may be found in Minn. Stats. § 144.12 Subd. 1(5) (1976) as amended by Minn. Laws Chap. 66 §10 (1977) which states that the ~~State Board~~ Commissioner of Health may regulate the "distribution of water by persons."

B. Definitions:

1. "Accessible" means capable of being exposed for cleaning and inspection.
2. "Approved source" means a public water supply which is in compliance with state rules relating to water supplies, and is equipped with a permanent overhead delivery system designed to prevent the introduction of biological or chemical contaminants.
3. ~~"Board"~~ "Commissioner" means the ~~State Board~~ Commissioner of Health or ~~any~~ his or her authorized representative ~~thereof;~~
4. "Corrosion-resistant" means capable of maintaining original surface characteristics under the prolonged influence of the use environment, including the expected water contact and normal use of cleaning compounds and sanitizing solutions.
5. "Easily cleanable" means readily accessible, and of such material and finish and so fabricated that cleaning can be accomplished by hand scrubbing.
6. "Sanitize" means the bactericidal treatment of the interior surfaces of the tank by a process which has proven effective

and does not leave a toxic residue.

7. "Smooth" means a surface free of pits and inclusions.
8. "Toxic" means having an adverse physiological effect on man.
9. "Water hauler" or "hauler" means a person engaged in bulk vehicular transportation of water to other than the hauler's household, which is intended for use or used for drinking or domestic purposes.

C. A water hauler shall be free of any infectious or communicable disease.

D. The water hauler shall consult with regional district personnel of the Minnesota Department of Health before implementing any questionable procedures.

E. Dipping into the filled tank is prohibited.

F. Tank Requirements:

1. The tank shall be constructed of stainless steel or be lined with glass or other acceptable, corrosion-resistant and non-toxic material, with rounded corners and a smooth surface so that the interior may be thoroughly cleaned and sanitized.
2. The system shall be completely closed except for vents which are properly constructed and screened.
3. Caps on inlets and outlets shall be hinged or chained to provide a permanent attachment.
4. The inlets and outlets shall be easy to clean and so located

and protected as to minimize the hazard of contamination.

5. Filters shall not be used.

6. The tank shall be filled only from the top.

7. The outlet hose from the tank shall be maintained in a sanitary condition at all times, shall be flushed clean prior to every delivery, and shall not impart any taste or odor to the water.

8. The tank shall be accessible internally, for proper cleaning, disinfection and inspection.

9. The tank shall never have been used to haul any materials which might have a deleterious effect on health or on the quality of the water being transported. If the tank has been used for transporting any materials other than water, the hauler shall obtain the approval of the ~~board~~ commissioner before using the tank to haul water for drinking or domestic use.

G. Cleaning and Disinfection:

1. The tank and all fittings shall be cleaned and sanitized according to the following procedures before they can be used to haul water, and thereafter once per week:

   a. The tank shall be cleaned by scrubbing manually with brushes and non-corrosive detergents, or

   b. by automation using a spray ball within the tank which provides cleaning solution with sufficient velocity to remove all soil from the tank interior;

2. The tank and fittings shall then be rinsed.

3. The tank and fittings shall be sanitized by any of the following methods:

a. filling with water from an approved source to which 50 parts per million chlorine has been added, mixing and allowing it to stand for 3-4 hours; or 100 parts per million chlorine for not less than 20 minutes;

b. The ~~board~~ commissioner may approve the use of an alternate sanitizing method if the supplier can show that the use of the alternate method assures a level of biocidal activity comparable to that provided by the use of chlorine.

4. The tank may be cleaned and sanitized in a single step by using a commercial detergent-sanitizer according to the manufacturer's directions.

5. After sanitizing, the tank shall be drained, and the tank and fittings shall be rinsed with water from an approved source.

6. The sanitized tank shall be filled with water from an approved source.

7. The hauler shall add sufficient chlorine to assure that there is one part per million free chlorine residual when the last remaining quantity of water is delivered to a user. The hauler shall test the chlorine residual in each tankful of water using the DPD method.

H. Testing:

Once each month the hauler shall collect a sample of water from each tank and shall submit the water sample to the State Department of Health Laboratory for a bacteriological analysis. Sample collecting bottles for this purpose may be obtained from any Minnesota Department of Health Regional District Office or by

writing to the Minnesota Department of Health, Section of Analytical Services, 717 Delaware Street S.E., Minneapolis, Minnesota 55440.

I. Records:

The hauler shall retain a written log for each tank and shall record therein:

1. the date when the tank is sanitized;
2. the date on which the tank is filled and the name of the approved source from which the water is obtained;
3. the chlorine residual and date on which it is measured;
4. date on which water samples are sent for analysis; and
5. customer's name, address, date and quantity delivered.

REPEALED

MHD 195 Tourist camp sanitation - Registration of tourist camps

DEFINITION - A Tourist Camp shall constitute any area used on a daily, nightly or weekly basis for the accommodation of tents, expandable camp trailers, travel trailers under 19 feet in length, and converted buses or trucks; whether privately or publicly owned; and whether use of such accommodation is granted free of charge or for compensation.

This definition shall not include trailer coach parks as defined in MS 327.14, Children's Camps, Industrial Camps, Migrant Labor Camps, United States Forest Service Camps, State Forest Service Camps, State Wildlife Management Areas or State owned public access areas which are restricted in use to picnicking and boat landing.

REGISTRATION-

Every person, organization or municipality establishing or having control of a tourist camp shall annually on or before April 1st register with the State Board of Health on a form provided by the Board for such purpose. The name, location, ownership, person in charge, and such other data as the Board may require shall be provided.

GENERAL PROVISIONS -

Every person, organization or municipality establishing or having control of a tourist camp shall locate such camp on an adequate site. Each camp shall be provided with satisfactory water supply, toilet and refuse disposal facilities. Fish cleaning houses shall be installed where needed.

CAMP SITE -

Every tourist camp shall be located on a site that is well drained. No individual tent site shall be less than 25' x 50'. No vehicle shall be parked on such sites and off site parking shall be provided. Tent sites designed to accommodate cars and boat trailers shall not be less than 40 feet wide nor less than 50 feet long.

WATER SUPPLY -

Every tourist camp shall be provided with an adequate water supply system, the location, construction and operation of which complies with the standards of the Board. The water supply shall be easily accessible at a point not more than 400 feet from the farthest tent site. The well and pumping equipment where central toilets and showers are provided shall be capable of furnishing water at the rate of 25 gallons per person per day. Community drinking cups, i.e., cups or dippers at the well or hydrant, are not permitted.

TOILETS -

Every tourist camp shall be provided with adequate toilet facilities or privies. Water flush toilets shall be provided wherever a municipal sewerage system can be operated and where water under pressure is available for the operation of water flush toilets. When a central building with water under pressure is provided the ratio of fixtures to tent sites shall be as follows:

One water closet for each 10 sites

One lavatory for each 10 sites

One shower for each 15 sites

There shall be not less than one complete set of fixtures for each sex. No tent site shall be more than 400 feet from the nearest central building.

Privies may be used where no municipal sewerage system is available or where conditions are such that a sewage disposal system cannot be operated satisfactorily or water under pressure is not available. Such privies shall be located, constructed and operated in accordance with the standards of the Board. The ratio of privies to tent sites shall be as follows:

A separate one compartment privy for each sex for each ten sites or portion thereof. No tent sites shall be more than 400 feet from the nearest privy.

Toilet factilities shall be provided at the water front but shall not be located within 50 feet of the water's edge.

Toilet tissue shall be provided at each unit.

Toilets shall be cleaned daily.

All toilets and privies must be well ventilated and lighted. Artificial lighting shall be provided after daylight hours.

Separate toilets or privies shall be provided for men and women. The location of all toilets shall be indicated by suitable signs. Facilities shall be identified by sign for each sex. Privies for the sexes shall be spaced not less than 15 feet apart.

SEWAGE AND EXCRETA DISPOSAL -

Where water-flush toilets are used, a sewage disposal system acceptable to the Board shall be provided. Where water-flush toilets are not provided, privies of the pit type which conform to a standard of construction acceptable to the Board shall be used. Toilets of the privy or pit type hereinafter constructed shall be located at least 50 feet from the nearest tent site.

Whenever self-contained travel trailers, converted buses or trucks are accommodated, separate facilities for emptying the chemical toilets or reservoir tanks shall be provided in accordance with standards of the Board. All travel trailers, converted buses or trucks having sewage drains shall be connected to a sewerage system or all drains shall be sealed for the duration of stay in the camping area. No "post hole", shallow pits or buried metal drums shall be used for the disposal of liquid wastes.

LIQUID WASTE DISPOSAL -

Liquid wastes from the tent sites and other sources shall be combined with the liquid toilet waste or shall be disposed of separately by soil absorption in a manner which will not endanger the water supply, pollute any surface water, or create nuisances or otherwise constitute a hazard to public health and safety. Liquid waste disposal facilities shall be constructed for each four sites to receive dishwater and other liquid wastes.

GARBAGE AND REFUSE DISPOSAL -

All garbage and refuse shall be stored and disposed of in a manner that will not create or tend to create a nuisance, or provide a breeding place for flies. Garbage and refuse containers shall be constructed of non-absorbent materials with tight fitting lids. All containers shall be washed at least once each week and sprayed with effective insecticides. Garbage or refuse containers shall be supplied for each four tent sites and shall be not more than 200 feet from the farthest tent site. Containers shall be emptied twice weekly or more often if required. Garbage and refuse may be disposed of by incineration, burying or other means acceptable to the Board. Open refuse dumps are prohibited. Garbage pits constructed according to standards of the Board may be used for installations of less than 10 sites.

PICNIC AREAS -

Picnic areas shall be provided with suitable toilets, or privies and refuse containers consistent with the usage demands. Such facilities shall be constructed in accordance with standards of the Board.

DOGS - LEASHING, MUZZLING -

No dog shall be permitted within a tourist camp unless such dog is wearing an effective and satisfactorily adjusted muzzle; or is held in leash, the length of the leash not to exceed 6 feet; or is securely chained to the owner's car, the length of the chain not to exceed 6 feet.

For the purpose of this regulation the owner or, in his absence, the responsible head of the group with which the dog is traveling shall be held responsible for compliance with the requirements of this order. The operator of any tourist camp shall cause the above order to be posted in a conspicuous place at the entrance or entrances of each tourist camp, and further, shall see that the requirements of the above order are enforced.

SWIMMING AREAS -

Natural swimming areas shall be located only on lakes and streams which are relatively free from human, animal, and industrial pollution, and where swimming will not endanger the quality of a domestic water supply.

Swimming areas shall be located at least 75 feet (preferably 150 feet) from boat docks or boat landing slips and shall be "roped-off" by floats and cables to designate the safe limits of the swimming area. Artificial swimming and wading pools shall be constructed in accordance with standards of the Board.

CARETAKER -

A caretaker or tourist camp supervisor shall be available at all times to register guests and control the activities of the campers. This requirement shall not apply to non-commercial wilderness camp sites.

SUBMISSION OF PLANS -

No tourist camp shall be constructed nor shall any system of plumbing, sewerage system, water supply or swimming

pool for any tourist camp be installed or altered until plans have been submitted to and approved by the Board.

EFFECTIVE DATE -

The regulation shall become effective September 1, 1962.]

(a) Definition of "Camp." The term "camp," as used in this regulation, shall include any lumber camp, construction camp, or other industrial camp in which five or more men are employed and housed in temporary quarters, such as cars, wagons, tents, buildings, or other enclosures, but shall not include the bona fide homes of the employees, nor buildings used as hotels, restaurants, lodging houses, boarding houses, and places of refreshment, as are defined in Minnesota Statutes 1941, Section 157.01.

(b) Camp Site. Every camp shall be located on a site that is well drained, and if occupied during the months of June to October, inclusive, shall be as far as practical from any swamp or pool of stagnant water. No such camp shall be located along or near a road where excessive dust exists, unless such dust is controlled by the sprinkling of the road with water, oil, or other adequate dust control material.

(c) Arrangement of Buildings. The buildings shall be so arranged on the camp site that the stables shall be separated from the kitchen, dining, eating, living, and sleeping quarters by a distance of at least 100 feet. The stables shall be located so that the surface drainage from the stables will not be in the direction of the kitchen, dining, eating, living, or sleeping quarters. All kitchen and eating quarters shall be in separate buildings.

(d) Sleeping Quarters; Cubic Contents. Every temporary building, car, wagon, or other enclosure, except tents, occupied as sleeping quarters by the employes engaged in any camp shall contain at least 300 cubic feet of air space for every occupant thereof, and, with the exception of tents, shall be supplied with windows for purposes of light and ventilation. The windows shall be constructed so as to be easily opened, and so spaced that there will be a window on at least one side of each bunk. The windows shall be of such size that their total net area will be not less than ten per cent of the floor area of the room, and shall be so constructed as to readily open the equivalent of at least four per cent of the floor area. They shall be so located that all parts of the structure are properly ventilated. Tents having canvas walls and roof must be supplied with wooden floors corresponding in size to the dimensions of the tents. The canvas sides may be fastened to the edges of the floor. A door frame of wood must be set up at the entrances of the tent and fitted with a board and/or screen door, as the season demands. No windows will be required in tents. Provided that the provisions in this regulation for the location of windows shall not apply to lumber camps.

Provision must be made for the drying of clothes in a separate room, or otherwise in a place and manner which may be approved by the State Board of Health. A separate room or compartment also shall be provided for fumigating clothing and bedding, and proper fumigating material shall be furnished and available to the employees at all times.

Provided that if any deviations from the requirements set forth in this section appear to be justified in any special case, they may be granted by the Executive Officer of the State Board of Health upon written approval thereof by the State Industrial Commission.

(e) Screens. All kitchens, dining, eating, living, and sleeping quarters used during the months of June to October, inclusive, must be effectively screened with full screens on the windows and doors to keep out flies and mosquitoes. The screens shall not have larger than 16-mesh, and the doors shall be self-closing.

(f) Floors. All kitchens, dining, eating, living, and sleeping quarters hereafter constructed shall be provided with floors of wood, concrete, or some other satisfactory material. If the floors are of wood, they shall be constructed of matched lumber or shiplap, or in two layers of boards laid crosswise and made tight.

(g) Bunks. Bunks shall be at least 12 inches above the floor and shall be arranged so that at least one side is accessible for the purpose of being made up. All bunks hereafter purchased or acquired for use in camps shall be constructed of iron, and shall be not less than 42 inches wide and 6½ feet long. Bunk houses hereafter constructed shall house not more than 40 persons, and shall have two outside exits. Where two tier bunks are used, the distance between the ceiling over the upper bunks and the floor under the lower bunks shall be not less than 10 feet. Bunks shall be furnished with mattresses or with ticks filled with clean hay or straw. If mattresses are used, slips shall be provided. Clean, dry straw or hay for bedding shall be available at all times. Whenever a different individual occupies a bunk, clean mattress slips, blankets and clean hay or straw must be provided. If pillow slips are used, they shall be washed at least once each week. Cotton or cotton flannel blankets shall be washed at least every two weeks. Blankets, whether of wool or cotton, must be hung outside for airing at least once each week. Not more than one employee shall be required or permitted to sleep in a bunk at the same time, and all of them shall be required to sleep between cotton or cotton flannel blankets or sheets. Blankets or other covers suitable for the prevailing temperatures shall be provided.

(h) Cleaning of Quarters. The kitchen, dining, eating, living, and sleeping quarters must be scrubbed thoroughly at least once each week, and the floors must be swept daily. Dry sweeping is not permitted.

(i) Heating; Ventilation. Kitchens, dining, eating, living, and sleeping quarters that are occupied shall be heated by means of suitable stoves, furnaces, steam or hot water plant of sufficient capacity to heat such quarters to a temperature of not less than 70 degrees Fahrenheit during the coldest weather. Provisions for adequate ventilation of all camp quarters by means of windows, doors, or ceiling openings must be made.

(j) Water Supply. Every camp shall be provided with an adequate supply of good, sanitary water from a source which will meet the standards of the State Board of Health.

(k) Toilets. Wherever water under pressure is readily available and a municipal sewerage system is available for the camp site, water flush toilets shall be used. If a municipal sewerage system is not available and water flush toilets are used, a sewage treatment plant constructed and operated in accordance with the standards of the State Board of Health shall be provided. Where water flush toilets are not required, privies of the pit type may be used. Such privies hereafter constructed must be constructed and operated in accordance with the standards of the State Board of Health. All toilets and privies must be well ventilated and lighted and provided with some means of artificial lighting at night. All toilets and privies must be maintained in a clean and sanitary condition. Toilets and privies must be supplied with paper at all times. Toilets of the privy or pit type hereafter constructed must be located at least 100 feet from the kitchen, dining, eating, living, and sleeping quarters, and must be so located that the surface drainage from them is not in the direction of the water supply, or the kitchen, dining, eating, living, and sleeping quarters.

Toilet facilities shall be provided in the following ratio: where there are 100 or less persons employed on a shift, there shall be one seat for every 10 persons; where there are 100 to 500 persons on a shift, there shall be one seat to every 15 persons; where there are 500 to 1,000 persons on a shift, there shall be one seat to every 20 persons; and where there are over 1,000 persons on a shift, there shall be one seat to every 30 persons.

Where more than 100 men are employed on a shift, there shall, in addition to the seats required by this section, be provided one urinal for every 50 men. Urinals shall be either individual or slab urinals. Two feet of slab urinal shall be considered the equivalent of one individual urinal.

Separate toilet facilities shall be provided for men and wo[illegible]

NUISANCES
ANNUAL SANITARY INSPECTION

MHD 246 The health officer of each city and village in the State of Minnesota shall make a thorough sanitary inspection of his municipality in the month of May, and present a written report of such inspection, together with his recommendations, to the council on or before the first day of June of the year in which the inspection is made. The health officer shall send a copy of this report to the Minnesota State Board of Health before July 1st of the same year. Other sanitary inspection shall be made during each year if deemed necessary.

MHD 247 Preceding the regular May sanitary inspection, the health officer of each city and village shall publish in a local paper, or by means of bills posted in two or more conspicuous places, an order for the citizens to thoroughly clean all yards, vaults and cesspools, also all sheds or barns containing manure, on or before a given date. If upon inspection this general order is found not to have been carried out, then like individual notices shall be served.

MHD 248 CESSPOOLS AND PRIVIES

(a) All human excreta in cities and villages shall be deposited in sewers, cesspools and vaults. The cesspools and vaults must be made fly-proof.

(b) Permanent privy vaults which are of water-tight construction must be cleaned out at least once a year and at such other times as may be considered necessary by the local health officer. The contents of these vaults shall be disinfected with chloride of lime or some other equally efficient disinfectant before it is removed.

Earth pits used as privy vaults shall be abandoned before they are entirely filled. A new pit shall be dug, over which the privy building shall be moved, and the contents of the old privy vault shall be covered with at least one foot of earth.

MHD 249 DISPOSAL OF DEAD ANIMALS

No carcass of any dead animal shall be left unburied in the State of Minnesota, nor shall it be thrown into any stream, lake, pond, well, or other body of water therein.

Any such carcass shall be buried by the owner so that it will be covered by at least three feet of earth.

Burial shall be made within twenty-four (24) hours after death, and in all cases of death from a communicable disease the body shall be thoroughly enveloped in quicklime.

At all municipal dumping grounds where carcasses are disposed of, provision must be made for their immediate burial.

In lieu of the foregoing the dead bodies of animals may be burned.

MHD 250 GARBAGE FEEDING

(a) The collection of garbage in cities and villages in Minnesota must be carried on in water-tight receptacles with closed tops. Householders, whose garbage is to be collected under the supervision of a city or village board of health must provide covered water-tight cans or containers of such size and form as to permit of their being emptied into the collecting receptacle by one man.

(b) Garbage collected in cities and villages in Minnesota to be used as food for hogs, cattle and other animals must be kept in water-tight boxes or cans under cover and protected from the weather. These garbage receptacles must be scalded at least twice a week during the time from April 1st to October 1st, and once a week during the rest of the year, in a manner satisfactory to the local health officer or a representative of the Minnesota State Board of Health.

(c) Garbage collected in cities and villages in Minnesota and fed to hogs, cattle or other animals must be fed on or over water-tight floors built at least one foot above the ground, with water-tight sides to a height of one foot above the floor. Pens and floors constructed as a place for feeding of garbage must be approved as to their construction by the local health officer or a representative of the Minnesota State Board of Health.

(d) The word "garbage" as used in the preceding rules shall be construed to refer to the accumulation of animal or vegetable matter from kitchens, pantries, dining rooms or other parts of hotels, restaurants, boarding houses, tenement houses, dwelling houses, public institutions, market houses, fruit and vegetable stores, commission houses and grocery stores.

MHD 251 RENDERING ESTABLISHMENTS

(a) No person shall produce, manufacture or convert into any article of commerce, by any process, in any room wherein any article of human food is produced, manufactured or handled, any part of an animal carcass slaughtered when not in good health, or any butcher's offal as the same is defined in Regulation 11004, or any decaying or unwholesome animal matter.

(b) Butcher's offal, for the purpose of these rules and regulations, is defined to be all meat, tallow, fat, fish, and all scraps and odds and ends of the same, and all bones which have become in any degree decayed or unwholesome, or which have been put into any unclean receptacle or in contact with any tainted article of any kind.

MHD 252 SLAUGHTER HOUSES

(a) All slaughter houses must have an abundant supply of water from a well or other source which is not contaminated. This water must be applied with adequate pressure through a hose to all parts of the room or rooms used for the purpose of slaughtering or preparing meats for consumption as human food.

(b) All slaughter houses must have suitable water-tight floors and proper subdrainage. The floors must be thoroughly washed each day after the slaughtering is completed.

(c) The walls and all exposed surfaces on the inside of a slaughter house must be cleaned by washing or scraping as often as necessary in order to keep the premises in proper sanitary condition. If the walls are not painted they must be calcimined or white-washed at least once a month. Painted walls must be re-painted at least once a year.

APPROVED AS TO FORM AND LEGALITY
NOV 10 1977 19
WARREN SPANNAUS, ATTORNEY GENERAL
BY /s/ Michael G. Miller
SPECIAL ASSISTANT ATTORNEY GENERAL

STATE OF MINNESOTA
DEPARTMENT OF STATE
FILED
NOV 17 1977
Joan Anderson Growe
Secretary of State
3:25 PM

MHD 253 KEEPING HOGS AT SLAUGHTER HOUSES

(a) Feeding with Offal. All offal and refuse must be removed from the slaughter house on the day of slaughtering and disposed of in a sanitary manner. The feeding of hogs or other animals on offal from or at a slaughter house is absolutely forbidden.

(b) All animals kept in yards near the slaughter house must be treated in a humane manner, and if kept over twelve (12) hours must be properly fed. The animals must be watered frequently. All pens and enclosures connected with any slaughter house must be kept in a sanitary condition.

(c) No slaughtering shall be done in barns, sheds, shipping pens or other buildings not designed or suitable for the slaughtering of animals and the handling, dressing and cooling of meats; nor shall any slaughtering be done outside of any building except in rural districts and for private consumption.

Cooling and storage rooms for meats must be properly ventilated.

MHD 254 HATTERS' FUR

(a) Definitions. For the purpose of carrying out the provisions of this regulation the following terms are defined:

Hatters' Fur is any animal fiber or other substance used in the manufacture of hats, which is treated or otherwise prepared by the process of, or, in a manner similar to that of carroting.

Carroting is a process of treating hatters' fur with mercury nitrate or any other solution or material for the purpose of rendering the hatters' fur suitable in the manufacture of hats.

Mercurial carrot is any solution or material containing mercury or its compounds in combination with nitric acid or other materials and used in the carroting or preparation of hatters' fur.

(b) Effective January 1, 1942, the use of mercurial carrot in the preparation of hatters' fur, or the use of mercurial carroted hatters' fur in the manufacture of hats, is prohibited; provided that any hat manufacturer or fur cutter having mercurial carroted hatters' fur on hand January 1, 1942 may use said fur until it is consumed.

STATE OF MINNESOTA

COUNTY OF HENNEPIN

BEFORE THE MINNESOTA

BOARD OF HEALTH

In the Matter of Proposed Rules Relating to Public Water Supplies, to Water Haulers, and to the Repeal of Rules Relating to Tourist Camps, Industrial Camps, Miscellaneous Nuisances and Hatters' Fur.

NOTICE OF HEARING

Notice is hereby given that a public hearing in the above-entitled matter will be held pursuant to Minn. Stat. § 15.0412 subd. 4 (1976), in the Board Room, Minnesota Department of Health Building, 717 Delaware Street Southeast, Minneapolis, Minnesota, on Thursday, July 7, 1977, commencing at 9:30 a.m.

All interested or affected persons will have an opportunity to participate concerning the adoption of the proposed rule captioned above. Statements may be made orally and written material may be submitted. In addition, whether or not an appearance is made at the hearing, written statements or material may be submitted by mail to Howard Kaibel, Hearing Examiner, at Room 300, 1745 University Avenue, Saint Paul, Minnesota 55104, telephone (612)296-8107, either before the hearing or within twenty (20) days after the close of the hearing. All such statements will be entered into and become part of the record. Testimony or other evidence to be submitted for consideration should be pertinent to the matter at hand. For those wishing to submit written statements or exhibits, it is requested that at least three (3) copies be furnished. In addition,

it is suggested, to save time and avoid duplication, that those persons, organizations, or associations having a common viewpoint or interest in these proceedings join together where possible and present a single statement in behalf of such interests. The conduct of the hearing shall be governed by the rules of the Office of Hearing Examiners.

If adopted, the proposed rules relating to public water supplies would require that water suppliers analyze the quality of the water they are distributing to the public, report the results of these analyses to the Board, comply with maximum contaminant levels for certain constituents, and notify the public when the water exceeds the prescribed maximum levels. If adopted, the proposed rule relating to water haulers would require that a water hauler follow certain procedures to assure the healthfulness of the water delivered for drinking and domestic use. A copy of the proposed rules and of those to be repealed will be published in the State Register, June 6, 1977.

Copies of all these rules are now available and at least one free copy may be obtained by writing to the Minnesota State Board of Health, 717 Delaware Street Southeast, Minneapolis, Minnesota 55440. Additional copies will be available at the door on the date of the hearing.

A Statement of Need explaining the Board of Health position relative to the necessity for the proposed rules and proposed repeal of rules and a Statement of Evidence together with Statement of Justification outlining the testimony and evidence

which will be introduced by the Board in support of the proposed rules and proposed repeal of rules, will be filed with the Hearing Examiner's Office at least twenty-five (25) days prior to the hearing and will be available there for public inspection. The statutory authority of the Board of Health to promulgate and adopt these rules is contained in Minn. Stat. § 144.12 Subd. 1(5) (1976), and Minn. Laws Chap. 66 § 9(1977). The statutory authority of the Board of Health to repeal its rules is contained in Minn. Stats. § 144.05, § 144.12 S.1 and § 15.0412(1976).

In addition, please be advised that Minn. Stat. ch. 10A requires each lobbyist to register with the State Ethical Practices Board within five (5) days after he commences lobbying. Lobbying includes attempting to influence rule making by communicating or urging others to communicate with public officials. A lobbyist is generally any individual who spends more than $250 per year for lobbying or any individual who is engaged for pay or authorized to spend money by another individual or association and who spends more than $250 a year or five (5) hours per month for lobbying. The statute provides certain exceptions. Questions should be directed to the Ethical Practices Board, 41 State Office Building, Saint Paul, Minnesota 55155, telephone (612)296-5615.

Dated: May 18, 1977

STATE OF MINNESOTA

BOARD OF HEALTH

s/ Warren R. Lawson, M.D.
WARREN R. LAWSON, M.D.
Secretary and Executive Officer

STATE OF MINNESOTA

COUNTY OF HENNEPIN

BEFORE THE MINNESOTA

BOARD OF HEALTH

In the Matter of Proposed Rules Relating to Public Water Supplies, to Water Haulers, and to the Repeal of Rules Relating to Tourist Camps, Industrial Camps, Miscellaneous Nuisances and Hatters' Fur.

RULES AS PROPOSED FOR ADOPTION AND REPEAL

-- Proposed Minn. Rules MHD 145-150 (including changes proposed by agency at public hearing).

-- Proposed for repeal Minn. Rules MHD 195, 198, 246-254.

PROPOSED FOR ADOPTION

MHD 145. Rules Relating to Water Supplies

A. Justification:

These rules are adopted pursuant to legislative authority granted in Minnesota Laws, Chapter 66, Section 3(e) (1977), which requires that the State Board of Health adopt for all public water supplies rules which are at least as stringent as the federal regulations dealing with public water supplies adopted by the United States Environmental Protection Agency, in order for the board to be able to assume the primary responsibility for enforcing the Federal Act.

B. Definitions:

1. "Board" means the state board of health, or any authorized representative thereof;

2.

a. "Community water supply" means a public water supply or system which serves 15 service connections or living units used by year-round residents, or regularly serves an average of 25 year-round residents;

b. "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 more than 25 persons who are not residents thereof, such as churches, entertainment facilities, factories, gasoline

service s●tions, marinas, migrant l●or camps, office buildings, parks, restaurants, schools;

3. "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" means a waiver which may be granted by the board to a supply

--which is in operation on June 24, 1977,

--when a maximum contaminant level or required treatment cannot be complied with because of economic or other compelling factors, and

--if gran.ing the waiver will not result in an unreasonable risk to health.

Such a waiver must be conditioned upon a schedule for compliance with these rules by the dates specified in MHD 148 B.8 and 9.

5. "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" 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" means the total radioactivity due to alpha particle emission as inferred from measurements on a dry sample;

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

9. "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;

10. "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;

11. "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;

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

13. "Public water 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 an average of 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 pretreatment 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.

14. "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;

15. "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;

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

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

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

19. "Variance" means a waiver which may be granted by the board to a supply

-- 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, and

-- if granting the waiver will not result in an unreasonable risk to health.

Such a waiver 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.

20. "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 prescribe the procedures for reporting results, notifying the public and for maintaining records.

2. The standards and procedures adopted in MHD 145-149 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. A water supply which meets all of the following requirements:

a. consists only of distribution and storage facilities;

b. obtains all of its water from, but is not owned or operated by a public water supply to which such regulations apply;

c. does not sell water to any person; and

d. is not a carrier which conveys passengers in intrastate commerce,

shall not be a public water supply for the purpose of rules MHD 145 through 149, inclusive.

MHD 146. Maximum Contaminant Levels:

The 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 MHD 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 pursuant to MHD 147 B.2. or MHD 147 B.3.

   b. Four per 100 milliliters in more than one sample when less than 20 are examined per month; or

   c. Four per 100 milliliters in more than five percent of the samples when 20 or more are examined per month.

2.

   a. When the fermentation tube method and 10 milliliter standard portions pursuant to MHD 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 MHD 147 B.2. or MHD 147 B.3;

      (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 standards portions pursuant to MHD 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 MHD 147 B.2. or MHD 147 B.3.

(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 per month, compliance with paragraphs 1 or 2 of part A of this rule shall be based upon sampling during a 3 month period, except that, at the discretion of the board, compliance may be based upon sampling during a one-month period.

B. Turbidity:

The maximum contaminant levels for turbidity are applicable to both community and non-community water supplies using surface water sources in whole or in part. The maximum contaminant levels for turbidity in drinking water, measured at a representative entry point(s) to the distribution system, are:

1. One turbidity unit (TU), rounded off the nearest whole number, as determined by a monthly average pursuant to MHD 147 C.
2. Fived turbidity units based on an average for two consecutive days, pursuant to MHD 147 C.
3. A variance or exemption may be granted according to the procedure described in MHD 148, to permit the supplier to provide water which contains 5 or less turbidity units, if the supplier can demonstrate to the board that the higher turbidity does not do any of the following:
   a. interfere with disinfection;
   b. prevent maintenance of an effective disinfectant agent throughout the distribution system; or
   c. interfere with microbiological determinations.

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 MHD 147 D 3, 4, 5 and 6. The following are the maximum contaminant levels for inorganic chemicals:

Contaminant	Level, milligrams per liter
Arsenic	0.05
Barium	1.
Cadmium	0.010
Chromium	0.05
Fluoride	2.4
Lead	0.05
Mercury	0.002

Nitrate (as N)	10.
Selenium	0.01
Silver	0.05

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 MHD 147 E 2, 3 and 4.

	Level, milligrams per liter
1. Chlorinated hydrocarbons:	
Endrin (1,2,3,4,10, 10-hexachloro-6, 7-epoxy-1,4,4a,5,6,7,8,8a-octa-hydro-1,4-endo, endo-5,8 - dimethano-naphthalene).	0.0002
Lindane (1,2,3,4,5,6-hexachloro-cyclohexane, gamma isomer).	0.004
Methoxychlor (1,1,1-Trichloro 2,2 - bis [p-methoxyphenyl] ethane).	0.1
Toxaphene ($C_{10}H_{10}Cl_8$-Technical chlorinated camphene, 67-69 percent chlorine).	0.005
2. Chlorophenoxys:	
2,4-D, (2,4-Dichlorophenoxyacetic acid).	0.1
2,4,5-TP Silvex (2,4,5-Trichloro-phenoxypropionic acid).	0.01

E. Radiological:

Maximum contaminant levels for radiological materials shall apply only to community water supplies.

1. Maximum contaminant levels for radium-226, radium-228, and gross alpha particle radioactivity:
   a. Combined radium-226 and radium-228 -- 5 pCi/l.
   b. Gross alpha particle activity (including radium-226 but excluding radon and uranium) -- 15 pCi/l.
2. Maximum contaminant levels for beta particle and photon radioactivity from man-made radionuclides:
   a. The average annual concentration of beta particle and photon radioactivity from man-made radionuclides in drinking water shall not produce an annual dose equivalent to the total body or any internal organ greater than 4 millirem/year.
   b. Except for the radionuclides listed in Table A, the concentration of man-made radionuclides causing 4 or more millirem total body or organ dose equivalents shall be calculated on the basis of a 2 liter per day drinking water intake using the 168 hour data listed in "Maximum Permissible Body Burdens and Maximum Permissible Concentration of Radionuclides in Air or Water for Occupational Exposure," NBS Handbook 69 as amended August 1963, U.S. Department of Commerce. If two or more radionuclides are present, the sum of their annual dose equivalent to the total body or to any organ shall not exceed 4 millirem/year.

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Table A. — Average annual concentrations assumed to produce a total body or organ dose of 4 millirem/year.

Radionuclide	Critical Organ	pCi/l
Tritium	Total body	20,000
Strontium-90	Bone marrow	8

MHD 147 MONITORING AND ANALYTICAL REQUIREMENTS:

A. 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 certified to test for coliform bacteria, such supplier shall follow the relevant procedures in the appropriate parts of this rule. If a certified on-site laboratory is not available, the supplier of water shall send his water samples to an appropriate certified testing laboratory, according to procedures prescribed by the board. 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 certified laboratory for testing.

B. Microbiological contaminant sampling and analytical requirements:

1. Analyses for coliform bacteria shall be made for the purpose of determining compliance with MHD 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, 14th Edition, pp. 913 - 942 , except that a standard sample size as referred to below shall be employed;

   a. The standard sample used in the membrane filter procedure shall be 100 milliliters;

b. 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 10 milliliters if compliance is to be determined according to the maximum contaminant level prescribed in MHD 146 A.2.a., and it is 100 milliliters if compliance is to be determined according to the maximum contaminant level prescribed in MHD 146 A.2.b. The samples shall be taken at points which are representative of the conditions within the distribution system.

2. The supplier of water for a community water supply shall take samples to be analyzed for coliform density.

a. The samples shall be taken at regular time intervals, and in number proportionate to the population served by the supply. In no event shall the frequency be less than as set forth below:

Population served:	*Minimum number of samples per month*
25 to 1,000	1
1,001 to 2,500	2
2,501 to 3,300	3
3,301 to 4,100	4
4,101 to 4,900	5
4,901 to 5,800	6
5,801 to 6,700	7
6,701 to 7,600	8
7,601 to 8,500	9
8,501 to 9,400	10
9,401 to 10,300	11
10,301 to 11,100	12
11,101 to 12,000	13
12,001 to 12,900	14
12,901 to 13,700	15
13,701 to 14,600	16
14,601 to 15,500	17
15,501 to 16,300	18
16,301 to 17,200	19
17,201 to 18,100	20
18,101 to 18,900	21
18,901 to 19,800	22
19,801 to 20,700	23
20,701 to 21,500	24
21,501 to 22,300	25
22,301 to 23,200	26
23,201 to 24,000	27
24,001 to 24,900	28
24,901 to 25,000	29
25,001 to 28,000	30
28,001 to 33,000	35
33,001 to 37,000	40
37,001 to 41,000	45
41,001 to 46,000	50
46,001 to 50,000	55
50,001 to 54,000	60
54,001 to 59,000	65
59,001 to 64,000	70
64,001 to 70,000	75
70,001 to 76,000	80
76,001 to 83,000	85
83,001 to 90,000	90
90,001 to 96,000	95
96,001 to 111,000	100
111,001 to 130,000	110
130,001 to 160,000	120
160,001 to 190,000	130
190,001 to 220,000	140
220,001 to 250,000	150
250,001 to 290,000	160
290,001 to 320,000	170
320,001 to 360,000	180
360,001 to 410,000	190
410,001 to 450,000	200
450,001 to 500,000	210
500,001 to 550,000	220
550,001 to 600,000	230
600,001 to 660,000	240
660,001 to 720,000	250
720,001 to 780,000	260
780,001 to 840,000	270
840,001 to 910,000	280
910,001 to 970,000	290
970,001 to 1,050,000	300
1,050,001 to 1,140,000	310
1,140,001 to 1,230,000	320
1,230,001 to 1,320,000	330
1,320,001 to 1,420,000	340
1,420,001 to 1,520,000	350
1,520,001 to 1,630,000	360
1,630,001 to 1,730,000	370
1,730,001 to 1,850,000	380
1,850,001 to 1,970,000	390
1,970,001 to 2,060,000	400
2,060,001 to 2,270,000	410
2,270,001 to 2,510,000	420
2,510,001 to 2,750,000	430
2,750,001 to 3,020,000	440
3,020,001 to 3,320,000	450
3,320,001 to 3,620,000	460
3,620,001 to 3,960,000	470
3,960,001 to 4,310,000	480
4,310,001 to 4,690,000	490
4,690,001 or more	500

Such sampling shall begin on the effective date of these rules.

b. Based on a history of no coliform bacterial contamination and on a sanitary survey by the board showing the water system to be supplied solely by a protected ground water source and free of sanitary defects, a community water supply serving 25 to 1,000 persons, with written permission from the board, may reduce this sampling frequency, except that in no case shall it be reduced to less than one per quarter. Such permission may be withdrawn at any time if changed conditions warrant monthly sampling.

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 board determines, on the basis of a sanitary survey, that it is more appropriate for the supply to sample on a frequency other than quarterly, the board 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 shall be confirmed or changed on the basis of subsequent surveys.

4. Whenever any coliform bacteria are found in a single standard sample, at least two consecutive daily check samples shall be collected and examined from the same sampling point.

a. Additional check samples shall be collected daily until the results obtained from at least two consecutive daily

check samples show no coliform bacteria in the case of the 100 milliliter membrane filter portions, or show no positive tubes in the case of the 10 or 100 milliliter portions analyzed by the fermentation method.

b. The location at which the check samples were taken pursuant to paragraph B.4.a. of this rule shall not be eliminated from future sampling without approval of the board.

5. The results from all coliform bacterial analyses performed pursuant to this rule, except those obtained from check samples as referred to in MHD 147 B.4.a. and b. and special purpose samples as referred to in MHD 147 B.8. shall be used to determine compliance with the maximum contaminant level for coliform bacteria as established in MHD 146 A. Check samples shall not be included in calculating the total number of samples taken each month to determine compliance with MHD 146 A.

6. When the presence of coliform bacteria in water taken from a particular sampling point has been confirmed by any check samples examined as directed in paragraph B.4.a. of this rule, the analytical laboratory shall notify the supplier and the board within 24 hours.

7. As soon as a maximum contaminant level set forth in MHD 146 A. is exceeded, the supplier of water shall report to the board and notify the public as prescribed in MHD 149 D.

8. Special purpose samples, such as those taken to determine whether disinfection practices following pipe placement, replacement, or repair have been sufficient, shall not be used

to determine compliance with paragraphs B.2 and B.3 of this rule.

9. A supplier of water of either a community or non-community water supply may, with the approval of the board and based upon a sanitary survey, substitute the use of free chlorine residual monitoring for not more than 75 percent of the samples required to be taken by MHD 147 B.2 and B.3. A supplier of water who is allowed to substitute chlorine residual sampling must take such samples at points which are representative of the conditions within the distribution system at the frequency of at least four for each substituted microbiological sample required to be taken by MHD 147 B.2 and B.3. There shall be at least daily determinations of chlorine residual. When the supplier of water exercises the option of substituting chlorine residual samples, he shall maintain no less than 0.2 mg/l free chlorine throughout the public water distribution system. When a particular sampling point has been shown to have a free chlorine residual less than 0.2 mg/l, the water at that location shall be retested as soon as practicable and in any event within one hour. If the original analysis is confirmed, this fact shall be reported to the board within 48 hours. Also, if the analysis is confirmed, a sample for coliform bacterial analysis must be collected from that sampling point as soon as practicable and preferably within one hour, and the results of such analysis reported to the board within 48 hours. Analyses for residual chlorine shall be made in accordance with "Standard Methods for the Examination of Water and Wastewater," 14th Edition, pp. 332 - 334. Compliance with the maximum contaminant levels for coliform

shall be determined on the monthly mean or quarterly mean basis specified in MHD 146 A. including those samples taken as a result of failure to maintain the required chlorine residual level. The board may withdraw its approval of the use of chlorine residual substitution at any time.

C. Turbidity sampling and analytical requirements:

1. 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 MHD 146 B. 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, 14th Edition, pp. 132-134 , or "Methods for Chemical Analysis of Water and Wastes," pp. 295-298, Environmental Protection Agency, Office of Technology Transfer, Washington, D.C. 20460, 1974. 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. If the result of a turbidity analysis indicates that the maximum allowable limit has been exceeded, the sampling and measurement shall be confirmed by resampling as soon as practicable and preferably within one hour. If the repeat sample confirms that the maximum allowable limit has been exceeded, the supplier of water shall report to the board within 48 hours. The repeat sample shall be the sample used

for the purpose of calculating the monthly average. If the monthly average of the daily samples exceeds the maximum allowable limit, or if the average of two samples taken on consecutive days exceeds five turbidity units, the supplier of water shall report to the board as prescribed in MHD 149 B. and shall notify the public as prescribed in MHD 149 D.

D. Inorganic chemical contaminant sampling and analytical requirements:

1. Analyses for the purpose of determining compliance with MHD 146 C. are required as follows:

   a. Analyses for all community water supplies utilizing surface water sources shall be completed before June 24, 1978. These analyses shall be repeated at yearly intervals.

   b. Analyses for all community water supplies utilizing only ground water sources shall be completed before June 24, 1979. These analyses shall be repeated at three year intervals.

   c. For non-community water supplies, whether supplied by surface or ground water sources, analyses for nitrate shall be completed before June 24, 1979. These analyses shall be repeated at least once every five years after the initial determination. The board may order more frequent sampling depending upon the geological formation, the level of nitrate present and the size of the population being served.

2. For the initial analyses required by paragraph D.1. of this rule, data for surface waters acquired within one year prior to June 24, 1977 and data for ground waters acquired within

3 years prior to June 24, 1977 may be substituted at the discretion of the board.

3. Analyses conducted to determine compliance with MHD 146 C. shall be made in accordance with the following methods:

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.

b. Barium - Atomic Absorption Method, "Standard Methods for the Examination of Water and Wastewater," 14th Edition, pp. 143-155, or "Methods for Chemical Analysis of Water and Wastes," pp. 97-98, Environmental Protection Agency, Office of Technology Transfer, Washington, D.C. 20460, 1974.

c. Cadmium - Atomic Absorption Method, "Standard Methods for the Examination of Water and Wastewater," 14th Edition, pp. 143-152, or "Methods for Chemical Analysis of Water and Wastes," pp. 101-103, Environmental Protection Agency, Office of Technology Transfer, Washington, D.C. 20460, 1974.

d. Chromium - Atomic Absorption Method, "Standard Methods for the Examination of Water and Wastewater," 14th Edition, pp. 143-152, or "Methods for Chemical Analysis of Water and Wastes," pp. 105-106, Environmental Protection Agency, Office of Technology Transfer, Washington, D.C. 20460, 1974.

e. Lead - Atomic Absorption Method, "Standard Methods for the Examination of Water and Wastewater," 14th Edition, pp. 143-152, or "Methods for Chemical Analysis of Water and Wastes," pp. 112-113, Environmental Protection Agency, Office of Technology Transfer, Washington, D.C. 20460, 1974.

f. 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.

g. Nitrate - Brucine Colorimetric Method, "Methods for the Examination of Water and Wastewater," 14th Edition, pp. 427-429, 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.

h. 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.

i. Silver - Atomic Absorption Method, "Standard Methods for the Examination of Water and Wastewater", 14th Edition, pp. 143-151, or "Methods for Chemical Analysis of Water and Wastes", p. 146, Environmental Protection Agency, Office of Technology Transfer, Washington, D.C. 20460, 1974.

j. Fluoride - Electrode Method, "Standard Methods for the Examination of Water and Wastewater", 14th Edition, pp. 391-393, 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," 14th Edition, pp. 389-390, and 393-394, 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. If the result of an analysis made pursuant to paragraph D.1. of this rule indicates that the level of any contaminant listed in MHD 146 C. exceeds the maximum contaminant level, the supplier of water shall report to the board within 7 days from the time he receives the results and he shall collect and submit for analysis three additional samples taken at the same sampling point within one month from the time the board is notified.

5. When the average of four analyses made pursuant to paragraph D.4. of this rule, rounded to the same number of significant figures as the maximum contaminant level for the substance in question, exceeds the maximum contaminant level prescribed in MHD 146 C., the supplier of water shall notify the board within 48 hours pursuant to MHD 149 B. and give notice to the public pursuant to MHD 149 D. Monitoring after public notification shall be at a frequency designated by the board and shall continue until the maximum contaminant level has not been exceeded in two successive samples or until a new monitoring schedule prescribed as a condition to a variance, exemption, or enforcement action shall become effective.

6. The provisions of paragraphs 4 and 5 of part D of this rule notwithstanding, compliance with the maximum contaminant level for nitrate shall be determined on the basis of the mean of two analyses. When a level exceeding the maximum contaminant level for nitrate is found, a second analysis shall be initiated within 24 hours, and if the mean of the two analyses exceeds the maximum contaminant level, the supplier of water shall report his findings to the board within 48 hours pursuant to MHD 149 B. and shall notify the public pursuant to MHD 149 D.

E. Organic chemical contaminant sampling and analytical requirements:

1. An analysis of substances for the purpose of determining compliance with MHD 146 D. shall be made as follows:

   a. For all community water supplies utilizing surface water sources, analyses shall be completed before June 24, 1978. Samples analyzed shall be collected during the period of the year designated by the board as the period when contamination by pesticides is most likely to occur. These analyses shall be repeated at intervals specified by the board but in no event less frequently than at three year intervals.

   b. For community water supplies utilizing only ground water sources, analyses shall be completed by those supplies specified by the board.

2.

   a. Analyses made to determine compliance with MHD 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.

   b. Analyses made to determine compliance with MHD 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.

3. If the result of an analysis made pursuant to paragraph E.1. of this rule indicates that the level of any contaminant listed in MHD 146 D. exceeds the maximum contaminant level, the supplier of water shall report to the board within 7 days and collect and submit for analysis three additional samples taken at the same sampling point within one month from the time the board is notified.

4. When the average of four analyses made pursuant to paragraph D.3. of this rule, rounded to the same number of significant figures as the maximum contaminant level for the substance in question, exceeds the maximum contaminant level, the supplier of water shall report to the board pursuant to MHD 149.B. and give notice to the public pursuant to MHD 149.D. Monitoring after public notification shall be at a frequency designated by the board and shall continue until the maximum contaminant level has not been exceeded in two successive samples or until a monitoring schedule as a condition to a variance or exemption or enforcement action shall become effective.

F. Radiological contaminant sampling and analytical requirements for community water supplies:

1. Monitoring requirements for gross alpha particle activity, radium-226 and radium 228;

   a. Initial sampling to determine compliance with MHD 146 E.1. shall begin before June 24, 1979 and the analysis shall

be completed before June 24, 1980. Compliance shall be based on the analysis of an annual composite of four consecutive quarterly samples or the average of the analyses of four samples obtained at quarterly intervals.

(1) A gross alpha particle activity measurement may be substituted for the required radium-226 and radium-228 analyses provided that the measured gross alpha particle activity does not exceed 5 pCi/l at a confidence level of 95 percent (1.65 σ where σ is the standard deviation of the net counting rate of the sample.)

(2) In localities where radium-228 may be present in drinking water, analyses for radium-226 and/or radium-228 are required when the gross alpha particle activity exceeds 2 pCi/l at a confidence level of 95 percent.

(3) When the gross alpha particle activity exceeds 5 pCi/l, the same or an equivalent sample shall be analyzed for radium-226. If the concentration of radium-226 exceeds 3 pCi/l, the same or an equivalent sample shall be analyzed for radium-228.

b. Suppliers of water shall monitor at least once every four years following the procedure required by paragraph F.1.a. of this rule. When an annual record taken in conformance with paragraph F.1.a. has established that the average annual

concentration is less than half the maximum contaminant levels established by MHD 146 E.1., analysis of a single sample may be substituted for the quarterly sampling procedure required by MHD 147 F.1.a..

(1) More frequent monitoring shall be conducted when ordered by the board in the vicinity of mining or other operations which may contribute alpha particle radioactivity to either surface or ground water sources of drinking water.

(2) A supplier of water shall monitor in conformance with paragraph F.1.a. within one year of the introduction of a new water source for a community water supply. More frequent monitoring shall be conducted when ordered by the board in the event of possible contamination or when changes in the distribution system or treatment process occur which may increase the concentration of radioactivity in finished water.

(3) A community water supply using two or more sources having different concentrations of radioactivity shall monitor source water, in addition to water from a free-flowing tap, when ordered by the board.

(4) Monitoring for compliance with MHD 146 E.1. after the initial period need not include radium-228 except when required by the board, provided that the average annual concentration of radium-228 has been assayed at least once using the quarterly sampling procedure required by MHD F.1.a.

(5) Suppliers of water shall conduct annual monitoring of any community water supply in which the radium-226 concentration exceeds 3 pCi/l, when ordered by the board.

c. If the average annual maximum contaminant level for gross alpha particle activity or total radium as set forth in MHD 146 E.1. is exceeded, the supplier of a community water system shall give notice to the board pursuant to MHD 149 B and notify the public as required by MHD 149 D. Monitoring at quarterly intervals shall be continued until the annual average concentration no longer exceeds the maximum contaminant level or until a monitoring schedule as a condition to a variance, exemption or enforcement action shall become effective.

2. Monitoring requirements for man-made radioactivity in community water supplies using surface sources and serving more than 100,000 persons, and such other community water supplies as are designated by the board;

a. Before June 24, 1979, such supplies shall be monitored for compliance with MHD 146 E.2. by analysis of a composite of four consecutive quarterly samples or analysis of four quarterly samples. Compliance with MHD 146 E.2. may be assumed without further analysis if the average annual concentration of gross beta particle activity is less than 50 pCi/l and if the average annual concentrations of tritium and strontium-90 are less than those listed in Table A, provided that if both radionuclides are present the sum of their annual dose equivalents to bone marrow shall not

exceed 4 millirem/year.

(1) If the gross beta particle activity exceeds 50 pCi/l, an analysis of the sample must be performed to identify the major radioactive constituents present and the appropriate organ and total body doses shall be calculated to determine compliance with MHD 146 E.2.

(2) Suppliers of water shall conduct additional monitoring, as ordered by the board, to determine the concentration of man-made radioactivity in principal watersheds designated by the board.

b. At the discretion of the board suppliers of water utilizing only ground waters may be required to monitor for man-made radioactivity.

c. After the initial analysis required by MHD 147 F.2.a., these suppliers shall monitor at least every four years following the procedure given in paragraph F.2.a.

d. Before June 24, 1979 the supplier of any community water supply which is found by the board to be utilizing waters contaminated by effluents from nuclear facilities shall initiate quarterly monitoring for gross beta particle and iodine-131 radioactivity and annual monitoring for strontium-90 and tritium.

(1) Quarterly monitoring for gross beta particle activity shall be based on the analysis of monthly samples. If the gross beta particle activity in a sample exceeds 15 pCi/l, the same or an equivalent sample shall be analyzed for strontium-89 and

cesium-134. If the gross beta particle activity exceeds 50 pCi/l, an analysis of the sample must be performed to identify the major radioactive constituents present and the appropriate organ and total body doses shall be calculated to determine compliance with MHD 146 E.2.

(2) For iodine-131, a composite of five consecutive daily samples shall be analyzed once each quarter. As ordered by the board, more frequent monitoring shall be conducted when iodine-131 is identified in the finished water.

(3) Annual monitoring for strontium-90 and tritium shall be conducted by means of the analysis of four quarterly samples.

(4) The board may allow the substitution of environmental surveillance data taken in conjunction with a nuclear facility for direct monitoring of man-made radioactivity by the supplier of water where the board determines such data is applicable to a particular community water supply.

e. If the average annual maximum contaminant level for man-made radioactivity set forth in MHD 146 E.2. is exceeded, the supplier of a community water supply shall give notice to the board pursuant to MHD 149 B. and to the public as required by MHD 149 D. Monitoring at monthly intervals shall be initiated and continued until the concentration no longer exceeds the maximum contaminant level or until a monitoring schedule as a condition to a

variance, exemption or enforcement action shall become effective.

3. Analytical Methods:

a. Measurements made to determine compliance with MHD 146 E. shall be made in accordance with the following methods:

(1) Gross Alpha and Beta - Method 302 "Gross Alpha and Beta Radioactivity in Water" Standard Methods for the Examination of Water and Wastewater, 14th Edition, American Public Health Association, New York, N.Y., 1975.

(2) Total Radium - Method 304 "Radium in Water by Precipitation" Ibid.

(3) Radium - 226 - Method 305 "Radium - 226 by Radon in Water" Ibid.

(4) Strontium - 89.90 - Method 303 "Total Strontium and Strontium - 90 in Water" Ibid.

(5) Tritium - Method 306 "Tritium in Water" Ibid.

(6) Cesium - 134 - ASTM D-2459 "Gamma Spectrometry in Water," 1975 Annual Book of ASTM Standards, Water and Atmospheric Analysis, Part 31, American Society for Testing and Materials, Philadelphia, PA. (1975).

(7) Uranium - ASTM D-2907 "Microquantities of Uranium in Water by Fluorometry," Ibid.

When the identification and measurement of radionuclides other than those listed above is required, the following references are to be used, except in cases where alternative methods have been approved in accordance with MHD 147 G.

(8) Procedures for Radiochemical Analysis of Nuclear Reactor Aqueous Solutions, H. L. Krieger and S. Gold, EPA-R4-73-014. USEPA, Cincinnati, Ohio, May 1973.

(9) HASL Procedure Manual, Edited by John H. Harley. HASL 300, ERDA Health and Safety Laboratory, New York, N.Y., 1973.

b. For the purpose of monitoring radioactivity concentrations in drinking water, the required sensitivity of the radioanalysis is defined in terms of a detection limit. The detection limit shall be that concentration which can be counted with a precision of plus or minus 100 percent at the 95 percent confidence level (1.96 σ where σ is the standard deviation of the net counting rate of the sample).

(1) To determine compliance with MHD 146 E.1.a., the detection limit shall not exceed 1 pCi/l. To determine compliance with MHD 146 E.1.b., the detection limit shall not exceed 3 pCi/l.

(2) To determine compliance with MHD 146 E.2. the detection limits shall not exceed the concentrations listed in Table B.

Table B -- Detection Limits For Man-Made Beta Particle and Photon Emitters

Radionuclide	Detection Limit
Tritium	1,000 pCi/l
Strontium-89	10 pCi/l
Strontium-90	2 pCi/l
Iodine-131	1 pCi/l
Cesium-134	10 pCi/l
Gross beta	4 pCi/l
Other radionuclides	1/10 of the applicable limit

c. To judge compliance with the maximum contaminant levels listed in MHD 146 E.1. and MHD 146 E.2., averages of data shall be used and shall be rounded to the same number of significant figures as the maximum contaminant level for the substance in question.

G. Alternative analytical techniques:

With the written permission of the board, an alternative analytical technique may be employed. An alternative technique shall be acceptable 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 maximum contaminant level. The use of the alternative analytical technique shall not decrease the frequency of monitoring required by this rule.

H. Approved laboratories:

For the purpose of determining compliance with parts A through F of this rule, samples may be considered only if they have been analyzed by a laboratory certified by the board, except that measurements for turbidity and free chlorine residual may be performed by any person acceptable to the board.

I. Monitoring consecutive systems:

When a public water supply provides water to one or more other public water supplies, the monitoring requirements imposed by

MHD 147 A. through F. may be superseded by a special monitoring schedule prescribed by the board. Such a special monitoring schedule may be imposed to the extent that the interconnection justifies treating them as a single supply for monitoring purposes, and is enforceable just as any other monitoring requirement imposed by these rules. Such a special monitoring schedule shall include an agreement which names the supply or supplies responsible for monitoring, reporting, giving public notice, and maintaining records.

J. The board may impose additional monitoring requirements if the results of a sanitary survey indicate that a public health risk may exist. The board may impose a requirement for more frequent sampling if the analytical results of water tests show that a previously measured contaminant is approaching a maximum contaminant level as prescribed in MHD 146.

MHD 148. VARIANCES AND EXEMPTIONS.

A. Variances:

1. The board may grant one or more variances from a maximum contaminant level prescribed in MHD 146 or from a treatment required by these rules, pursuant to authority granted in Minn. Laws Chap. 66 §3(e)(1977), according to the procedure described below.

2. A supplier may request a variance whenever he determines that his supply is exceeding or will exceed a maximum contaminant level. A supplier who has not requested a variance or has not taken corrective action to bring his supply into compliance by the date specified in the notification of violation shall be subject to the penalties of Minn. Laws, Chap. 66 §3(e)(1977).

3. In deciding whether to grant a variance from a maximum contaminant level, the board shall consider --

   a. the availability and effectiveness of treatment methods for the contaminant for which the variance is requested; and

   b. cost and other economic considerations such as implementing treatment, improving the quality of the source water or using an alternative source.

4. The board may grant a variance from a maximum contaminant level upon finding that --

   a. because of the characteristics of the raw water sources which are reasonably available to the supply, the supply cannot meet the requirements respecting the maximum contaminant levels prescribed in MHD 146 despite the

application of the best known and economically feasible technology for treatment, and

b. the variance will not result in an unreasonable risk to health.

5. The board may grant a variance from any required treatment upon finding that the supply has demonstrated that such treatment is not necessary to meet a maximum contaminant level or to protect the health of persons, because of the nature of the raw water source of the supply.

6. Application Procedure: A request for a variance shall be submitted to the board in writing and shall contain the following information:

a. the nature and duration of the variance being requested;

b. relevant analytical results of water quality sampling of the supply, including results of relevant tests conducted pursuant to the requirements of these rules;

c. for any request for a variance from a maximum contaminant level, the notice shall also contain:

(1) an explanation in full and evidence of the best available treatment;

(2) economic and legal factors relevant to the ability to comply;

(3) analytical results of raw water quality relevant to the variance request;

(4) a proposed compliance schedule, including the date each step toward compliance will be achieved. Such a schedule shall include as a minimum the following dates:

(a) a date by which arrangement for alternative raw water source or improvement of existing raw water source will be completed;

(b) a date for initiation of the connection of the alternative raw water source or improvement of existing raw water source;

(c) a date by which final compliance is to be achieved;

(5) a plan for the provision of safe drinking water in the case of an excessive rise in the contaminant level for which the variance is requested;

(6) a plan for interim control measures during the effective period of variance.

d. for any request for a variance from a required treatment, the notice shall include a statement that the supply will perform monitoring and other reasonable requirements prescribed by the board as a condition to the variance;

e. such other information as the board may require;

f. any information which the supplier believes is pertinent to the request.

7. Disposition of a request for a variance:
Upon receipt of an application for a variance the board shall initiate, within 90 days, the procedure for a contested case. Notice and opportunity for hearing shall be given according to Minn. Stats. Chap. 15 (1976) and the rules of the office of hearing examiners.

8. The board shall within one year after the variance is granted,

impose a schedule for compliance with MHD 145 through 149, after notice and opportunity for hearing have been given.

9. a. A variance from a maximum contaminant level may be terminated by the board when the supply comes into compliance with the applicable rule, and may be terminated by the board upon a finding that the supply has failed to comply with any requirement of a final schedule imposed by the board pursuant to this rule.

   b. A variance from a required treatment may be terminated at any time upon a finding by the board that the nature of the raw water source is such that the required treatment for which the variance was granted is necessary to protect the health of persons, or upon a finding by the board that the supply has failed to comply with monitoring and other requirements prescribed as a condition to the granting of the variance.

10. A compliance schedule imposed by the board pursuant to the grant of a variance shall be enforceable as if it were a rule of the board.

B. Exemptions:

1. The board may grant one or more exemptions from a maximum contaminant level prescribed in MHD 146 or from a treatment required by these rules, pursuant to authority granted in Minn. Laws Chap. 66 §3(e)(1977), according to the procedure described below.

2. A supplier may request an exemption whenever he determines that his supply is exceeding or will exceed a maximum contaminant level. A supplier who has not requested an exemption or has not taken corrective action to bring his

supply into compliance by the date specified in the notification of violation shall be subject to the penalties of Minn. Laws, Chap. §3(e)(1977).

3. The board may grant an exemption from a maximum contaminant level or from a required treatment--

   a. after having considered the following:

      (1) construction, installation, or modification of treatment equipment or systems;

      (2) the time needed to put into operation a new treatment facility to replace an existing supply which is not in compliance;

      (3) economic feasibility of compliance;

   b. and upon finding that:

      (1) due to compelling factors (which may include economic factors), the supply is unable to comply with such contaminant level or required treatment;

      (2) the supply was in operation on the date on which such contaminant level or required treatment went into effect; and

      (3) the granting of the exemption will not result in an unreasonable risk to health.

4. Application Procedure: A request for an exemption shall be submitted to the board in writing and shall contain the following information:

   a. the nature and duration of the exemption being requested;

   b. relevant analytical results of water quality sampling of the supply, including results of relevant tests conducted pursuant to the requirements of these rules;

c. an explanation of the compelling factors such as time or economic factors which prevent the supply from complying with a maximum contaminant level or required treatment on the effective date of the applicable standard;

d. a proposed compliance schedule, including the date when each step toward compliance will be achieved;

e. such other information as the board may require;

f. any other information which the applicant believes is pertinent to the request.

5. Disposition of a request for an exemption:
Upon receipt of an application for an exemption the board shall initiate within 90 days, the procedure for a contested case. Notice and opportunity for hearing shall be given according to Minn. Stats. Chap. 15 (1976) and the rules of the office of hearing examiners.

6. The board shall within one year after the exemption is granted, impose a schedule for compliance with these rules. after notice and opportunity for hearing have been given.

7. An exemption may be terminated by the board when the supply comes into compliance with the applicable rule, and may be terminated by the board upon a finding by the board that the supply has failed to comply with any requirement of a final schedule imposed pursuant to this rule.

8. Any compliance schedule issued pursuant to an exemption shall require compliance with these rules before January 1, 1981. Compliance with the requirements of revised federal regulations will have to be achieved within seven years

of the date on which such federal regulations become effective.

9. If the supply which seeks the exemption has entered into an enforceable agreement to become a part of a regional system, as determined by the board, the compliance schedule shall require compliance by the supply with each maximum contaminant level or required treatment prescribed by these rules before January 1, 1983. For such a supply (which will become part of a regional system) compliance with the requirements of the revised federal regulations shall be required within nine years of the effective date of the revised federal regulations.

10. A compliance schedule imposed by the board pursuant to the grant of an exemption shall be enforceable as if it were a rule of the board.

MHD 149. Record Maintenance; Reporting; Public Notification.

A. Record Maintenance: Any owner or operator of a public water supply shall retain on the premises or at a convenient location near the premises, and shall make available for public inspection, the following records for the specified period of time:

1.

a. Records of bacteriological analyses and turbidity measurements made pursuant to MHD 147 B. and C. shall be kept for not less than 5 years.

b. Records of chemical analyses made pursuant to MHD 147 D., E., and F. shall be kept for not less than 10 years.

2. Actual laboratory reports may be kept, or data may be transferred to tabular summaries, provided that the following information is included:

a. the date, place, and time of sampling, and the name of the person who collected the sample;

b. identification of the sample as to whether it was a routine distribution system sample, check sample, raw or process water sample or other special purpose sample;

c. date of analysis;

d. laboratory and person responsible for performing analysis;

e. the analytical technique or method used; and

f. the results of the analysis.

3. Records of action taken by the supply to correct violations of rules dealing with public water supplies shall be kept for a period not less than 3 years after the last action taken with respect to the particular violation involved.

4. Copies of any written reports, summaries or communications relating to sanitary surveys of the supply conducted by the supply itself, by a private consultant, or by any local, state or federal agency, shall be kept for a period of not less than 10 years after completion of the sanitary survey involved.

5. Records concerning a variance or exemption granted to the supply shall be kept for a period ending not less than 5 years following the expiration of such variance or exemption.

B. Reporting Requirements:

1. All the results of analyses performed on samples which are to be tested pursuant to these rules shall be reported as follows:

   a. the certified laboratory shall submit all analytical results on reporting forms to be prescribed by the board. These forms shall be prepared in triplicate, with one copy being sent to the supplier, one copy being sent to the State Department of Health, Division of Environmental Health, Section of Public Water Supplies, and the third being retained by the laboratory;

   b. results of turbidity measurements shall be submitted by the supplier on the prescribed reporting forms.

2. Except where a shorter reporting period is specified, all results of tests, analyses or measurements shall be submitted on prescribed reporting forms to the board within 40 days.

3. A laboratory performing microbiological analyses pursuant to these rules shall report to the supplier and to the board

any positive test results within 24 hours of the time the positive result becomes available.

4. The supplier shall report to the board a positive bacteriological test result within 24 hours of the time the supplier learns of such a result.

5. The supplier of water shall report to the board within 48 hours the failure to comply with any of the rules relating to public water supplies, including the failure to comply with a monitoring requirement, as set forth in rule MHD 147.

C. Right of Inspection:

The board, or one of its authorized representatives, upon presenting appropriate credentials to any water supplier, is authorized to enter and inspect any establishment, facility or other property of such supplier, in order to determine whether such supplier has acted or is acting in compliance with the rules of the board relating to water supplies, including for this purpose, the inspection of records, files, papers, processes, controls, and facilities, or in order to test any feature of a public water supply, including its raw water source.

D. Public Notification:

1. Public notification must be made by a supplier of water whenever a public water supply--

   a. fails to comply with a maximum contaminant level prescribed in MHD 146;

   b. fails to comply with a prescribed monitoring schedule pursuant to MHD 147;

c. fails to submit timely reports pursuant to MHD 149 B;

d. is granted a variance or exemption from a maximum contaminant level pursuant to MHD 148; or

e. fails to comply with a schedule prescribed pursuant to such a variance or exemption.

2. A notice given pursuant to this rule shall be written in a manner reasonably designed to inform fully the user of the supply. The notice shall be conspicuous and shall not use unduly technical language, unduly small print or other methods which would frustrate the purpose of the notice. The notice shall disclose all material facts regarding the subject including the nature of the problem and, where appropriate, a clear statement that a rule dealing with public water supplies has been violated, and shall also disclose any preventive measures that should be taken by the public. Where appropriate, or where required by the board, bilingual notice shall be given. Notices may include a reasonable explanation of the subject of the notice and of its significance or seriousness to the public health, a fair explanation of steps taken by the supply to correct any problem, and the results of any additional sampling.

3. Notice by Community Water Supply:

a. In the case of a community water supply, the supplier shall give notification as referred to in MHD 149 D.1. and 2.:

(1) by including a notice in the first set of water bills issued after any of the conditions described in paragraph D.1 of this rule occurs;

(2) if the supply issues bills less frequently than every three months, or does not issue water bills, the supplier must give notice by direct mail to every residence served, within six weeks after the condition which gave rise to the need for such notice has occurred;

(3) in addition, a copy of every notice mailed pursuant to this rule shall be sent to the board, as part of the same mailing which is made to the supply's customers.

b. In the case of a failure to comply with a maximum contaminant level, such written notice shall be repeated according to the procedure prescribed in MHD 149 D.3.a. not less than once every three months after the initial notice. Such continuing notice must be given as long as the failure to comply continues, whether or not the supply has a variance or exemption relating to the maximum contaminant level which is being exceeded.

c. In the case of a failure to comply with a maximum contaminant level which is not corrected promptly after discovery, the supplier must give other general public notice of the failure, in addition to the notice by direct mail, in a manner to be prescribed by the board. Such additional notice may include announcements to communications media in the area served by the supply.

4. Notice by non-community water supply:

In the case of a non-community supply, the supplier must give notice by conspicuous posting. Notice must be posted at or near every tap or drinking fountain, or wherever the public

can draw the water. If the water is served to the consumer, then additional notice must be posted on the menu, or registration form, or in some other obvious location to assure adequate readibility of the notice, before the water is consumed. The board shall order the form and location for the posting of such notice. Such notice must remain posted as long as any one of the conditions cited in paragraph D.1. of this rule continues to exist.

5. Whenever the board determines that a supply is providing water which, if consumed, might create an imminent risk to the public health, the board may order the supplier to give a notice or warning of such risk in a prescribed manner.

6. The board may issue any notice or warning required by this rule on behalf of a supplier, but a supplier is not relieved of any responsibility to issue any notice or warning under this rule, unless he has been specifically relieved of the responsibility by the board, in writing.

A. This rule is adopted for the purpose of assuring that sanitary procedures are followed by those who distribute drinking water by tank truck and that the public health is thereby preserved. The authority for adopting this rule may be found in Minn. Stats. § 144.12 Subd. 1(5) (1976) as amended by Minn. Laws Chap. 66 §10 (1977) which states that the State Board of Health may regulate the "distribution of water by persons."

B. Definitions:

1. "Accessible" means capable of being exposed for cleaning and inspection.
2. "Approved source" means a public water supply which is in compliance with state rules relating to water supplies, and is equipped with a permanent overhead delivery system designed to prevent the introduction of biological or chemical contaminants.
3. "Board" means the State Board of Health or any authorized representative thereof;
4. "Corrosion-resistant" means capable of maintaining original surface characteristics under the prolonged influence of the use environment, including the expected water contact and normal use of cleaning compounds and sanitizing solutions.
5. "Easily cleanable" means readily accessible, and of such material and finish and so fabricated that cleaning can be accomplished by hand scrubbing.
6. "Sanitize" means the bactericidal treatment of the interior surfaces of the tank by a process which has proven effective

and does not leave a toxic residue.

7. "Smooth" means a surface free of pits and inclusions.
8. "Toxic" means having an adverse physiological effect on man.
9. "Water hauler" or "hauler" means a person engaged in bulk vehicular transportation of water to other than the hauler's household, which is intended for use or used for drinking or domestic purposes.

C. A water hauler shall be free of any infectious or communicable disease.

D. The water hauler shall consult with regional district personnel of the Minnesota Department of Health before implementing any questionable procedures.

E. Dipping into the filled tank is prohibited.

F. Tank Requirements:

1. The tank shall be constructed of stainless steel or be lined with glass or other acceptable, corrosion-resistant and non-toxic material, with rounded corners and a smooth surface so that the interior may be thoroughly cleaned and sanitized.
2. The system shall be completely closed except for vents which are properly constructed and screened.
3. Caps on inlets and outlets shall be hinged or chained to provide a permanent attachment.
4. The inlets and outlets shall be easy to clean and so located

and protected as to minimize the hazard of contamination.

5. Filters shall not be used.
6. The tank shall be filled only from the top.
7. The outlet hose from the tank shall be maintained in a sanitary condition at all times, shall be flushed clean prior to every delivery, and shall not impart any taste or odor to the water.
8. The tank shall be accessible internally, for proper cleaning, disinfection and inspection.
9. The tank shall never have been used to haul any materials which might have a deleterious effect on health or on the quality of the water being transported. If the tank has been used for transporting any materials other than water, the hauler shall obtain the approval of the board before using the tank to haul water for drinking or domestic use.

G. Cleaning and Disinfection:

1. The tank and all fittings shall be cleaned and sanitized according to the following procedures before they can be used to haul water, and thereafter once per week:
   a. The tank shall be cleaned by scrubbing manually with brushes and non-corrosive detergents, or
   b. by automation using a spray ball within the tank which provides cleaning solution with sufficient velocity to remove all soil from the tank interior;
2. The tank and fittings shall then be rinsed.
3. The tank and fittings shall be sanitized by any of the following methods:

a. filling with water from an approved source to which 50 parts per million chlorine has been added, mixing and allowing it to stand for 3-4 hours; or 100 parts per million chlorine for not less than 20 minutes;

b. The board may approve the use of an alternate sanitizing method if the supplier can show that the use of the alternate method assures a level of biocidal activity comparable to that provided by the use of chlorine.

4. The tank may be cleaned and sanitized in a single step by using a commercial detergent-sanitizer according to the manufacturer's directions.

5. After sanitizing, the tank shall be drained, and the tank and fittings shall be rinsed with water from an approved source.

6. The sanitized tank shall be filled with water from an approved source.

7. The hauler shall add sufficient chlorine to assure that there is one part per million free chlorine residual when the last remaining quantity of water is delivered to a user. The hauler shall test the chlorine residual in each tankful of water using the DPD method.

H. Testing:

Once each month the hauler shall collect a sample of water from each tank and shall submit the water sample to the State Department of Health Laboratory for a bacteriological analysis. Sample collecting bottles for this purpose may be obtained from any Minnesota Department of Health Regional District Office or by

writing to the Minnesota Department of Health, Section of Analytical Services, 717 Delaware Street S.E., Minneapolis, Minnesota 55440.

I. Records:

The hauler shall retain a written log for each tank and shall record therein:

1. the date when the tank is sanitized;
2. the date on which the tank is filled and the name of the approved source from which the water is obtained;
3. the chlorine residual and date on which it is measured;
4. date on which water samples are sent for analysis; and
5. customer's name, address, date and quantity delivered.

CHANGES TO RULES AS PROPOSED
(published in State Register June 6, 1977)

--replace "board" or "State Board" with commissioner in MHD 145A, 145B, 146A, 146B, 147, 148, 149B, 149C, 149D, 150A, 150B, 150F, 150G;

--replace "certified" with approved in MHD 147A, 147H, 149B;

In the following, words with lines drawn through them are to be stricken, and words with underlining are to be added:

MHD 145 B.1 ..., or ~~any~~ his or her authorized representative; ~~thereof;~~

MHD 145 B.2.a "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 ~~an average of~~ at least 25 year-round residents;

MHD 145 B.4 ...Such an exemption ~~waiver~~ must be conditioned...

MHD 145 B.13 "Public water supply" (supply) means... or serving ~~an average of~~ at least 25...

MHD 145 B.19 ...Such a variance ~~waiver~~ must be conditioned...
...and available technology for treatment or other means, and...

MHD 147 B.1 ...~~14th~~ 13th Edition, pp. ~~913-942~~ 662-688...

147 B.9 ...~~14th~~ 13th Edition, pp. ~~332-334~~ 129-132...

147 C.1 ...~~14th~~ 13th Edition, pp. ~~132-134~~ 350-353...

147 D.3.b ...~~14th~~ 13th Edition, pp. ~~143-155~~ 210-215...

147 D.3.c ...~~14th~~ 13th Edition, pp. ~~143-152~~ 210-215...

147 D.3.d ...~~14th~~ 13th Edition, pp. ~~143-152~~ 210-215...

MHD 147 D.3.e ...~~14th~~ 13th Edition, pp. ~~143-152~~ 210-215...

147 D.3.g ...~~14th~~ 13th Edition, pp. ~~427-429~~ 461-464...

147 D.3.i ...~~14th~~ 13th Edition, pp. ~~143-151~~ 210-215...

147 D.3.j ...~~14th~~ 13th Edition, pp. ~~391-393~~ 172-174... or Colorimetric Method...~~14th~~ 13th Edition, pp. ~~389-390~~ 171-172, and ~~393-394~~ 174-176...

147 F.3.a(1) ...~~Method~~ Section...~~14th~~ 13th Edition

147 F.3.a(2) ...~~Method~~ Section

147 F.3.a(3) ...~~Method~~ Section

147 F.3.a(4) ...~~Method~~ Section

147 F.3.a(5) ...~~Method~~ Section

MHD 148 A.4.a ...technology for treatment or other means,...

MHD 149 B.1.b ...turbidity and chlorine residual measurements...

MHD 149 D.1 f. fails to comply with an applicable testing method established in MHD 147.

MHD 150 B.3 "Commissioner" means the commissioner of health or ~~any~~ his or her authorized representative; ~~thereof;~~

MHD 145 B. Delete the definitions for "community" and "non-community water supply" in MHD 145 B.2 and insert them as subparts under the definition of "public water supply" (MHD 145 B.13). Renumber all the definitions starting with MHD 145 B.3.

CHANGES TO RULES AS PROPOSED
(published in State Register June 6, 1977)

--replace "board" or "State Board" with commissioner in MHD 145A, 145B, 146A, 146B, 147, 148, 149B, 149C, 149D, 150A, 150B, 150F, 150G;

--replace "certified" with approved in MHD 147A, 147H, 149B;

In the following, words with lines drawn through them are to be stricken, and words with underlining are to be added:

MHD 145 B.1 ..., or ~~any~~ his or her authorized representative; ~~thereof;~~

MHD 145 B.2.a "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 ~~an average of~~ at least 25 year-round residents;

MHD 145 B.4 ...Such an exemption ~~waiver~~ must be conditioned...

MHD 145 B.13 "Public water supply" (supply) means... or serving ~~an average of~~ at least 25...

MHD 145 B.19 ...Such a variance ~~waiver~~ must be conditioned...
...and available technology for treatment or other means, and...

MHD 147 B.1 ...~~14th~~ 13th Edition, pp. ~~913-942~~ 662-688...

147 B.9 ...~~14th~~ 13th Edition, pp. ~~332-334~~ 129-132...

147 C.1 ...~~14th~~ 13th Edition, pp. ~~132-134~~ 350-353...

147 D.3.b ...~~14th~~ 13th Edition, pp. ~~143-155~~ 210-215...

147 D.3.c ...~~14th~~ 13th Edition, pp. ~~143-152~~ 210-215...

147 D.3.d ...~~14th~~ 13th Edition, pp. ~~143-152~~ 210-215...

MHD 147 D.3.e ...~~14th~~ 13th Edition, pp. ~~143-152~~ 210-215...

147 D.3.g ...~~14th~~ 13th Edition, pp. ~~427-429~~ 461-464...

147 D.3.i ...~~14th~~ 13th Edition, pp. ~~143-151~~ 210-215...

147 D.3.j ...~~14th~~ 13th Edition, pp. ~~391-393~~ 172-174... or Colorimetric Method...~~14th~~ 13th Edition, pp. ~~389-390~~ 171-172, and ~~393-394~~ 174-176...

147 F.3.a(1) ...~~Method~~ Section...~~14th~~ 13th Edition

147 F.3.a(2) ...~~Method~~ Section

147 F.3.a(3) ...~~Method~~ Section

147 F.3.a(4) ...~~Method~~ Section

147 F.3.a(5) ...~~Method~~ Section

MHD 148 A.4.a ...technology for treatment or other means,...

MHD 149 B.1.b ...turbidity and chlorine residual measurements...

MHD 149 D.1 f. fails to comply with an applicable testing method established in MHD 147.

MHD 150 B.3 "Commissioner" means the commissioner of health or ~~any~~ his or her authorized representative; ~~thereof;~~

MHD 145 B. Delete the definitions for "community" and "non-community water supply" in MHD 145 B.2 and insert them as subparts under the definition of "public water supply" (MHD 145 B.13). Renumber all the definitions starting with MHD 145 B.3.

PROPOSED FOR REPEAL

MHD 195 Tourist camp sanitation - Registration of tourist camps

DEFINITION - A Tourist Camp shall constitute any area used on a daily, nightly or weekly basis for the accommodation of tents, expandable camp trailers, travel trailers under 19 feet in length, and converted buses or trucks; whether privately or publicly owned; and whether use of such accommodation is granted free of charge or for compensation.

This definition shall not include trailer coach parks as defined in MS 327.14, Children's Camps, Industrial Camps, Migrant Labor Camps, United States Forest Service Camps, State Forest Service Camps, State Wildlife Management Areas or State owned public access areas which are restricted in use to picnicking and boat landing.

REGISTRATION-

Every person, organization or municipality establishing or having control of a tourist camp shall annually on or before April 1st register with the State Board of Health on a form provided by the Board for such purpose. The name, location, ownership, person in charge, and such other data as the Board may require shall be provided.

GENERAL PROVISIONS -

Every person, organization or municipality establishing or having control of a tourist camp shall locate such camp on an adequate site. Each camp shall be provided with satisfactory water supply, toilet and refuse disposal facilities. Fish cleaning houses shall be installed where needed.

CAMP SITE -

Every tourist camp shall be located on a site that is well drained. No individual tent site shall be less than 25' x 50'. No vehicle shall be parked on such sites and off site parking shall be provided. Tent sites designed to accommodate cars and boat trailers shall not be less than 40 feet wide nor less than 50 feet long.

WATER SUPPLY -

Every tourist camp shall be provided with an adequate water supply system, the location, construction and operation of which complies with the standards of the Board. The water supply shall be easily accessible at a point not more than 400 feet from the farthest tent site. The well and pumping equipment where central toilets and showers are provided shall be capable of furnishing water at the rate of 25 gallons per person per day. Community drinking cups, i.e., cups or dippers at the well or hydrant, are not permitted.

TOILETS -

Every tourist camp shall be provided with adequate toilet facilities or privies. Water flush toilets shall be provided wherever a municipal sewerage system can be operated and where water under pressure is available for the operation of water flush toilets. When a central building with water under pressure is provided the ratio of fixtures to tent sites shall be as follows:

One water closet for each 10 sites

One lavatory for each 10 sites

One shower for each 15 sites

There shall be not less than one complete set of fixtures for each sex. No tent site shall be more than 400 feet from the nearest central building.

Privies may be used where no municipal sewerage system is available or where conditions are such that a sewage disposal system cannot be operated satisfactorily or water under pressure is not available. Such privies shall be located, constructed and operated in accordance with the standards of the Board. The ratio of privies to tent sites shall be as follows:

A separate one compartment privy for each sex for each ten sites or portion thereof. No tent sites shall be more than 400 feet from the nearest privy.

Toilet factilities shall be provided at the water front but shall not be located within 50 feet of the water's edge.

Toilet tissue shall be provided at each unit.

Toilets shall be cleaned daily.

All toilets and privies must be well ventilated and lighted. Artificial lighting shall be provided after daylight hours.

Separate toilets or privies shall be provided for men and women. The location of all toilets shall be indicated by suitable signs. Facilities shall be identified by sign for each sex. Privies for the sexes shall be spaced not less than 15 feet apart.

SEWAGE AND EXCRETA DISPOSAL -

Where water-flush toilets are used, a sewage disposal system acceptable to the Board shall be provided. Where water-flush toilets are not provided, privies of the pit type which conform to a standard of construction acceptable to the Board shall be used. Toilets of the privy or pit type hereinafter constructed shall be located at least 50 feet from the nearest tent site.

Whenever self-contained travel trailers, converted buses or trucks are accommodated, separate facilities for emptying the chemical toilets or reservoir tanks shall be provided in accordance with standards of the Board. All travel trailers, converted buses or trucks having sewage drains shall be connected to a sewerage system or all drains shall be sealed for the duration of stay in the camping area. No "post hole", shallow pits or buried metal drums shall be used for the disposal of liquid wastes.

LIQUID WASTE DISPOSAL -

Liquid wastes from the tent sites and other sources shall be combined with the liquid toilet waste or shall be disposed of separately by soil absorption in a manner which will not endanger the water supply, pollute any surface water, or create nuisances or otherwise constitute a hazard to public health and safety. Liquid waste disposal facilities shall be constructed for each four sites to receive dishwater and other liquid wastes.

GARBAGE AND REFUSE DISPOSAL -

All garbage and refuse shall be stored and disposed of in a manner that will not create or tend to create a nuisance, or provide a breeding place for flies. Garbage and refuse containers shall be constructed of non-absorbent materials with tight fitting lids. All containers shall be washed at least once each week and sprayed with effective insecticides. Garbage or refuse containers shall be supplied for each four tent sites and shall be not more than 200 feet from the farthest tent site. Containers shall be emptied twice weekly or more often if required. Garbage and refuse may be disposed of by incineration, burying or other means acceptable to the Board. Open refuse dumps are prohibited. Garbage pits constructed according to standards of the Board may be used for installations of less than 10 sites.

PICNIC AREAS -

Picnic areas shall be provided with suitable toilets, or privies and refuse containers consistent with the usage demands. Such facilities shall be constructed in accordance with standards of the Board.

DOGS - LEASHING, MUZZLING -

No dog shall be permitted within a tourist camp unless such dog is wearing an effective and satisfactorily adjusted muzzle; or is held in leash, the length of the leash not to exceed 6 feet; or is securely chained to the owner's car, the length of the chain not to exceed 6 feet.

For the purpose of this regulation the owner or, in his absence, the responsible head of the group with which the dog is traveling shall be held responsible for compliance with the requirements of this order. The operator of any tourist camp shall cause the above order to be posted in a conspicuous place at the entrance or entrances of each tourist camp, and further, shall see that the requirements of the above order are enforced.

SWIMMING AREAS -

Natural swimming areas shall be located only on lakes and streams which are relatively free from human, animal, and industrial pollution, and where swimming will not endanger the quality of a domestic water supply.

Swimming areas shall be located at least 75 feet (preferably 150 feet) from boat docks or boat landing slips and shall be "roped-off" by floats and cables to designate the safe limits of the swimming area. Artificial swimming and wading pools shall be constructed in accordance with standards of the Board.

CARETAKER -

A caretaker or tourist camp supervisor shall be available at all times to register guests and control the activities of the campers. This requirement shall not apply to non-commercial wilderness camp sites.

SUBMISSION OF PLANS -

No tourist camp shall be constructed nor shall any system of plumbing, sewerage system, water supply or swimming

pool for any tourist camp be installed or altered until plans have been submitted to and approved by the Board.

EFFECTIVE DATE -

The regulation shall become effective September 1, 1962.]

(a) Definition of "Camp." The term "camp," as used in this regulation, shall include any lumber camp, construction camp, or other industrial camp in which five or more men are employed and housed in temporary quarters, such as cars, wagons, tents, buildings, or other enclosures, but shall not include the bona fide homes of the employees, nor buildings used as hotels, restaurants, lodging houses, boarding houses, and places of refreshment, as are defined in Minnesota Statutes 1941, Section 157.01.

(b) Camp Site. Every camp shall be located on a site that is well drained, and if occupied during the months of June to October, inclusive, shall be as far as practical from any swamp or pool of stagnant water. No such camp shall be located along or near a road where excessive dust exists, unless such dust is controlled by the sprinkling of the road with water, oil, or other adequate dust control material.

(c) Arrangement of Buildings. The buildings shall be so arranged on the camp site that the stables shall be separated from the kitchen, dining, eating, living, and sleeping quarters by a distance of at least 100 feet. The stables shall be located so that the surface drainage from the stables will not be in the direction of the kitchen, dining, eating, living, or sleeping quarters. All kitchen and eating quarters shall be in separate buildings.

(d) Sleeping Quarters; Cubic Contents. Every temporary building, car, wagon, or other enclosure, except tents, occupied as sleeping quarters by the employes engaged in any camp shall contain at least 300 cubic feet of air space for every occupant thereof, and, with the exception of tents, shall be supplied with windows for purposes of light and ventilation. The windows shall be constructed so as to be easily opened, and so spaced that there will be a window on at least one side of each bunk. The windows shall be of such size that their total net area will be not less than ten per cent of the floor area of the room, and shall be so constructed as to readily open the equivalent of at least four per cent of the floor area. They shall be so located that all parts of the structure are properly ventilated. Tents having canvas walls and roof must be supplied with wooden floors corresponding in size to the dimensions of the tents. The canvas sides may be fastened to the edges of the floor. A door frame of wood must be set up at the entrances of the tent and fitted with a board and/or screen door, as the season demands. No windows will be required in tents. Provided that the provisions in this regulation for the location of windows shall not apply to lumber camps.

Provision must be made for the drying of clothes in a separate room, or otherwise in a place and manner which may be approved by the State Board of Health. A separate room or compartment also shall be provided for fumigating clothing and bedding, and proper fumigating material shall be furnished and available to the employees at all times.

Provided that if any deviations from the requirements set forth in this section appear to be justified in any special case, they may be granted by the Executive Officer of the State Board of Health upon written approval thereof by the State Industrial Commission.

(e) Screens. All kitchens, dining, eating, living, and sleeping quarters used during the months of June to October, inclusive, must be effectively screened with full screens on the windows and doors to keep out flies and mosquitoes. The screens shall not have larger than 16-mesh, and the doors shall be self-closing.

(f) Floors. All kitchens, dining, eating, living, and sleeping quarters hereafter constructed shall be provided with floors of wood, concrete, or some other satisfactory material. If the floors are of wood, they shall be constructed of matched lumber or shiplap, or in two layers of boards laid crosswise and made tight.

(g) Bunks. Bunks shall be at least 12 inches above the floor and shall be arranged so that at least one side is accessible for the purpose of being made up. All bunks hereafter purchased or acquired for use in camps shall be constructed of iron, and shall be not less than 42 inches wide and 6½ feet long. Bunk houses hereafter constructed shall house not more than 40 persons, and shall have two outside exits. Where two tier bunks are used, the distance between the ceiling over the upper bunks and the floor under the lower bunks shall be not less than 10 feet. Bunks shall be furnished with mattresses or with ticks filled with clean hay or straw. If mattresses are used, slips shall be provided. Clean, dry straw or hay for bedding shall be available at all times. Whenever a different individual occupies a bunk, clean mattress slips, blankets and clean hay or straw must be provided. If pillow slips are used, they shall be washed at least once each week. Cotton or cotton flannel blankets shall be washed at least every two weeks. Blankets, whether of wool or cotton, must be hung outside for airing at least once each week. Not more than one employee shall be required or permitted to sleep in a bunk at the same time, and all of them shall be required to sleep between cotton or cotton flannel blankets or sheets. Blankets or other covers suitable for the prevailing temperatures shall be provided.

(h) Cleaning of Quarters. The kitchen, dining, eating, living, and sleeping quarters must be scrubbed thoroughly at least once each week, and the floors must be swept daily. Dry sweeping is not permitted.

(i) Heating; Ventilation. Kitchens, dining, eating, living, and sleeping quarters that are occupied shall be heated by means of suitable stoves, furnaces, steam or hot water plant of sufficient capacity to heat such quarters to a temperature of not less than 70 degrees Fahrenheit during the coldest weather. Provisions for adequate ventilation of all camp quarters by means of windows, doors, or ceiling openings must be made.

(j) Water Supply. Every camp shall be provided with an adequate supply of good, sanitary water from a source which will meet the standards of the State Board of Health.

(k) Toilets. Wherever water under pressure is readily available and a municipal sewerage system is available for the camp site, water flush toilets shall be used. If a municipal sewerage system is not available and water flush toilets are used, a sewage treatment plant constructed and operated in accordance with the standards of the State Board of Health shall be provided. Where water flush toilets are not required, privies of the pit type may be used. Such privies hereafter constructed must be constructed and operated in accordance with the standards of the State Board of Health. All toilets and privies must be well ventilated and lighted and provided with some means of artificial lighting at night. All toilets and privies must be maintained in a clean and sanitary condition. Toilets and privies must be supplied with paper at all times. Toilets of the privy or pit type hereafter constructed must be located at least 100 feet from the kitchen, dining, eating, living, and sleeping quarters, and must be so located that the surface drainage from them is not in the direction of the water supply, or the kitchen, dining, eating, living, and sleeping quarters.

Toilet facilities shall be provided in the following ratio: where there are 100 or less persons employed on a shift, there shall be one seat for every 10 persons; where there are 100 to 500 persons on a shift, there shall be one seat to every 15 persons; where there are 500 to 1,000 persons on a shift, there shall be one seat to every 20 persons; and where there are over 1,000 persons on a shift, there shall be one seat to every 30 persons.

Where more than 100 men are employed on a shift, there shall, in addition to the seats required by this section, be provided one urinal for every 50 men. Urinals shall be either individual or slab urinals. Two feet of slab urinal shall be considered the equivalent of one individual urinal.

Separate toilet facilities shall be provided for men and wo[illegible]

NUISANCES
ANNUAL SANITARY INSPECTION

MHD 246 The health officer of each city and village in the State of Minnesota shall make a thorough sanitary inspection of his municipality in the month of May, and present a written report of such inspection, together with his recommendations, to the council on or before the first day of June of the year in which the inspection is made. The health officer shall send a copy of this report to the Minnesota State Board of Health before July 1st of the same year. Other sanitary inspection shall be made during each year if deemed necessary.

MHD 247 Preceding the regular May sanitary inspection, the health officer of each city and village shall publish in a local paper, or by means of bills posted in two or more conspicuous places, an order for the citizens to thoroughly clean all yards, vaults and cesspools, also all sheds or barns containing manure, on or before a given date. If upon inspection this general order is found not to have been carried out, then like individual notices shall be served.

MHD 248 CESSPOOLS AND PRIVIES

(a) All human excreta in cities and villages shall be deposited in sewers, cesspools and vaults. The cesspools and vaults must be made fly-proof.

(b) Permanent privy vaults which are of water-tight construction must be cleaned out at least once a year and at such other times as may be considered necessary by the local health officer. The contents of these vaults shall be disinfected with chloride of lime or some other equally efficient disinfectant before it is removed.

Earth pits used as privy vaults shall be abandoned before they are entirely filled. A new pit shall be dug, over which the privy building shall be moved, and the contents of the old privy vault shall be covered with at least one foot of earth.

MHD 249 DISPOSAL OF DEAD ANIMALS

No carcass of any dead animal shall be left unburied in the State of Minnesota, nor shall it be thrown into any stream, lake, pond, well, or other body of water therein.

Any such carcass shall be buried by the owner so that it will be covered by at least three feet of earth.

Burial shall be made within twenty-four (24) hours after death, and in all cases of death from a communicable disease the body shall be thoroughly enveloped in quicklime.

At all municipal dumping grounds where carcasses are disposed of, provision must be made for their immediate burial.

In lieu of the foregoing the dead bodies of animals may be burned.

MHD 250 GARBAGE FEEDING

(a) The collection of garbage in cities and villages in Minnesota must be carried on in water-tight receptacles with closed tops. Householders, whose garbage is to be collected under the supervision of a city or village board of health must provide covered water-tight cans or containers of such size and form as to permit of their being emptied into the collecting receptacle by one man.

(b) Garbage collected in cities and villages in Minnesota to be used as food for hogs, cattle and other animals must be kept in water-tight boxes or cans under cover and protected from the weather. These garbage receptacles must be scalded at least twice a week during the time from April 1st to October 1st, and once a week during the rest of the year, in a manner satisfactory to the local health officer or a representative of the Minnesota State Board of Health.

(c) Garbage collected in cities and villages in Minnesota and fed to hogs, cattle or other animals must be fed on or over water-tight floors built at least one foot above the ground, with water-tight sides to a height of one foot above the floor. Pens and floors constructed as a place for feeding of garbage must be approved as to their construction by the local health officer or a representative of the Minnesota State Board of Health.

(d) The word "garbage" as used in the preceding rules shall be construed to refer to the accumulation of animal or vegetable matter from kitchens, pantries, dining rooms or other parts of hotels, restaurants, boarding houses, tenement houses, dwelling houses, public institutions, market houses, fruit and vegetable stores, commission houses and grocery stores.

MHD 251 RENDERING ESTABLISHMENTS

(a) No person shall produce, manufacture or convert into any article of commerce, by any process, in any room wherein any article of human food is produced, manufactured or handled, any part of an animal carcass slaughtered when not in good health, or any butcher's offal as the same is defined in Regulation 11004, or any decaying or unwholesome animal matter.

(b) Butcher's offal, for the purpose of these rules and regulations, is defined to be all meat, tallow, fat, fish, and all scraps and odds and ends of the same, and all bones which have become in any degree decayed or unwholesome, or which have been put into any unclean receptacle or in contact with any tainted article of any kind.

MHD 252 SLAUGHTER HOUSES

(a) All slaughter houses must have an abundant supply of water from a well or other source which is not contaminated. This water must be applied with adequate pressure through a hose to all parts of the room or rooms used for the purpose of slaughtering or preparing meats for consumption as human food.

(b) All slaughter houses must have suitable water-tight floors and proper subdrainage. The floors must be thoroughly washed each day after the slaughtering is completed.

(c) The walls and all exposed surfaces on the inside of a slaughter house must be cleaned by washing or scraping as often as necessary in order to keep the premises in proper sanitary condition. If the walls are not painted they must be calcimined or white-washed at least once a month. Painted walls must be re-painted at least once a year.

MHD 253 KEEPING HOGS AT SLAUGHTER HOUSES

(a) Feeding with Offal. All offal and refuse must be removed from the slaughter house on the day of slaughtering and disposed of in a sanitary manner. The feeding of hogs or other animals on offal from or at a slaughter house is absolutely forbidden.

(b) All animals kept in yards near the slaughter house must be treated in a humane manner, and if kept over twelve (12) hours must be properly fed. The animals must be watered frequently. All pens and enclosures connected with any slaughter house must be kept in a sanitary condition.

(c) No slaughtering shall be done in barns, sheds, shipping pens or other buildings not designed or suitable for the slaughtering of animals and the handling, dressing and cooling of meats; nor shall any slaughtering be done outside of any building except in rural districts and for private consumption.

Cooling and storage rooms for meats must be properly ventilated.

MHD 254 HATTERS' FUR

(a) Definitions. For the purpose of carrying out the provisions of this regulation the following terms are defined:

Hatters' Fur is any animal fiber or other substance used in the manufacture of hats, which is treated or otherwise prepared by the process of, or, in a manner similar to that of carroting.

Carroting is a process of treating hatters' fur with mercury nitrate or any other solution or material for the purpose of rendering the hatters' fur suitable in the manufacture of hats.

Mercurial carrot is any solution or material containing mercury or its compounds in combination with nitric acid or other materials and used in the carroting or preparation of hatters' fur.

(b) Effective January 1, 1942, the use of mercurial carrot in the preparation of hatters' fur, or the use of mercurial carroted hatters' fur in the manufacture of hats, is prohibited; provided that any hat manufacturer or fur cutter having mercurial carroted hatters' fur on hand January 1, 1942 may use said fur until it is consumed.

MINNESOTA DEPARTMENT OF HEALTH

Division of Environmental Health

Adopting Rules Governing Public Water Supplies and Water Haulers, and Repealing Miscellaneous Rules

The rules published in the State Register Vol. 1 #48, p. 1732, June 6, 1977 (1 S.R. 1732) are adopted and are identical in every respect to their proposed form, with the following amendments:

--substitute "commissioner" for "board" or "State Board" wherever these terms appear in MHD 145 A, 145 B, 146 A, 146 B, 147, 148, 149 B, 149 C, 149 D, 150 A, 150 B, 150 F, 150 G;

MHD 145 B. Definitions:

1. [["Board"]] "Commissioner" means the [[state board]] commissioner of health, or [[any]] his or her authorized representative [[thereof]];

[[2.]] [[a. "Community water supply means a public water supply or system which serves 15 service connections or living units used by year-round residents, or regularly serves an average of 25 year-round residents;]]

[[b. "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 more than 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;]]

2. [[3.]] "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" means a waiver which may be granted by the [[board]] commissioner to a supply

--which is in operation on June 24, 1977;

--when a maximum contaminant level or required treatment cannot be complied with because of economic or other compelling factors, and

--if granting the waiver will not result in an unreasonable risk to health.

Such [[a waiver]] an exemption must be conditioned upon a schedule for compliance with these rules by the dates specified in MHD 148 B.8 and 9.

4. [[5.]] "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" 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" means the total radioactivity due to alpha particle emission as inferred from measurements on a dry sample;

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

a dry sample;

8. [[9.]] "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. [[10.]] "Maximum contaminant levels" 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;

10. [[11.]] "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. [[12.]] "Picocurie (pCi)" means that quantity of radioactive material producing 2.22 nuclear transformations per minute;

12. [[13.]] "Public water supply" (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 [[an average]] of 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 pretreatment 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. "Community water supply" means a public water supply or system which serves 15 service connections or living units used by year-round residents, or regularly serves [[an average of]] at least 25 year-round residents;

b. "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 more than 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. [[14.]] "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. [[15.]] "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 maintenace for producing and distributing safe drinking water;

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

16. [[17.]] "Supplier" means any person who owns, manages, or operates a public water supply, whether or not he is an operator certified pursuant to Minn. Stats. § 115.71, et. seq. (1976).

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

18. [[19.]] "Variance" means a waiver which may be granted by the [[board]] commissioner to a supply

--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 [[,and]] or other means, and

--if granting the waiver will not result in an unreasonable risk to health.

Such a [[waiver]] 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. [[20.]] "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.

MHD 147 MONITORING AND ANALYTICAL REQUIREMENTS:

A. 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 [[certified]] approved to test for coliform bacteria, such supplier shall follow the relevant procedures in the appropriate parts of this rule. If [[a certified]] an approved on-site laboratory is not available, the supplier of water shall send his water samples to an appropriate [[certified]] approved testing laboratory, according to procedures prescribed by the [[board]] 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 certified laboratory for testing.

B. Microbiological contaminant sampling and analytical requirements:

1. Analyses for coliform bacteria shall be made for the purpose of determining compliance with MHD 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, [[14th Edition, pp. 913-942]] 13th Edition, pp. 662-688 , except that a standard sample size as referred to below shall be employed;

9. A supplier of water of either a community or non-community water supply may, with the approval of the [[board]] commissioner and based upon a sanitary survey, substitute the use of free

chlorine residual monitoring for not more than 75 percent of the samples required to be taken by MHD 147 B.2 and B.3. A supplier of water who is allowed to substitute chlorine residual sampling must take such samples at points which are representative of the conditions within the distribution system at the frequency of at least four for each substituted microbiological sample required to be taken by MHD 147 B.2 and B.3. There shall be at least daily determinations of chlorine residual. When the supplier of water exercises the option of substituting chlorine residual samples, he shall maintain no less than 0.2 mg/1 free chlorine throughout the public water distribution system. When a particular sampling point has been shown to have a free chlorine residual less than 0.2 mg/1, the water at that location shall be retested as soon as practicable and in any event within one hour. If the original analysis is confirmed, this fact shall be reported to the [[board]] commissioner within 48 hours. Also, if the analysis is confirmed, a sample for coliform bacterial analysis must be collected from that sampling point as soon as practicable and preferably within one hour, and the results of such analysis reported to the [[board]] commissioner within 48 hours. Analyses for residual chlorine shall be made in accordance with "Standard Methods for the Examination of Water and Wastewater," [[14th Edition, pp. 332-334]] 13th Edition, pp. 129-132 . Compliance with the maximum contaminant levels for coliform shall be determined on the monthly mean or quarterly mean basis specified in MHD 146 A. including those samples taken

as a result of failure to maintain the required chlorine residual level. The [[board]] commissioner may withdraw [[its]] his or her approval of the use of chlorine residual substitution at any time.

C. Turbidity sampling and analytical requirements:

1. 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 MHD 146 B. 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, [[14th Edition, pp. 132-134]] 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. 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. If the result of a turbidity analysis indicates that the maximum allowable limit has been exceeded, the sampling and measurement shall be confirmed by resampling as soon as practicable and preferably within one hour. If the repeat sample confirms that the maximum allowable limit has been exceeded,

the supplier of water shall report to the [[board]] commissioner within 48 hours. The repeat sample shall be the sample used for the purpose of calculating the monthly average. If the monthly average of the daily samples exceeds the maximum allowable limit, or if the average of two samples taken on consecutive days exceeds five turbidity units, the supplier of water shall report to the [[board]] commissioner as prescribed in MHD 149 B. and shall notify the public as prescribed in MHD 149 D.

D. 3. Analyses conducted to determine compliance with MHD 146 C. shall be made in accordance with the following methods:

b. Barium - Atomic Absorption Method, "Standard Methods for the Examination of Water and Wastewater," [[14th Edition, pp. 143-155]] 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.

c. Cadmium - Atomic Absorption Method, "Standard Methods for the Examination of Water and Wastewater," [[14th Edition, pp. 143-152]] 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.

d. Chromium - Atomic Absorption Method, "Standard Methods for the Examination of Water and Wastewater," [[14th Edition, pp. 143-152]] 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.

e. Lead - Atomic Absorption Method, "Standard Methods for the Examination of Water and Wastewater," [[14th Edition, pp. 143-152]] 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.

g. Nitrate - Brucine Colorimetric Method, "Methods for the Examination of Water and Wastewater," [[14th Edition, pp. 427-429]] 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.

i. Silver - Atomic Absorption Method, "Standard Methods for the Examination of Water and Wastewater," [[14th Edition, pp. 143-151]] 13th Edition, pp. 210-215 , or "Methods for Chemical Analysis of Water and Wastes," p. 146, Environmental Protection Agency, Office of Techonolgy Transfer, Washington, D.C. 20460, 1974.

j. Fluoride - Electrode Method, "Standard Methods for the Examination of Water and Wastewater," [[14th Edition, pp. 391-393]] 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," [[14th Edition, pp. 389-390, and 393-394]] 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.

F. 3. Analytical Methods:

a. Measurements made to determine compliance with MHD 146 E. shall be made in accordance with the following methods:

(1) Gross Alpha and Beta - [[Method]] Section 302 "Gross Alpha and Beta Radioactivity in Water" Standard Methods for the Examination of Water and Wastewater, [[14]] 13th Edition, American Public Health Association, New York, N.Y., 1975.

(2) Total Radium - [[Method]] Section 304 "Radium in Water by Precipitation" Ibid.

(3) Radium-226 - [[Method]] Section 305 "Radium-226 by Radon in Water" Ibid.

(4) Strontium-89.90 - [[Method]] Section 303 "Total Strontium-90 in Water" Ibid.

(5) Tritium - [[Method]] Section 306 "Tritium in Water" Ibid.

H. Approved laboratories:

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

b. results of turbidity and chlorine residual measurements shall be submitted by the supplier on the prescribed reporting forms.

D. 1. f. fails to comply with an applicable testing method established in MHD 147.

MHD 150

B. 3. [["Board"]] "Commissioner" means the [[State Board]] Commissioner of Health or [[any]] his or her authorized representative [[thereof]];

STATE OF MINNESOTA

COUNTY OF HENNEPIN

BEFORE THE MINNESOTA

BOARD OF HEALTH

In the Matter of Proposed Rules Relating to Public Water Supplies, to Water Haulers, and to the Repeal of Rules Relating to Tourist Camps, Industrial Camps, Miscellaneous Nuisances and Hatters' Fur.

RULES AS PROPOSED FOR ADOPTION AND REPEAL

-- Proposed Minn. Rules MHD 145-150 (including changes proposed by agency at public hearing).

-- Proposed for repeal Minn. Rules MHD 195, 198, 246-254.

PROPOSED FOR ADOPTION

MHD 145. Rules Relating to Water Supplies

A. Justification:

These rules are adopted pursuant to legislative authority granted in Minnesota Laws, Chapter 66, Section 3(e) (1977), which requires that the State Board of Health adopt for all public water supplies rules which are at least as stringent as the federal regulations dealing with public water supplies adopted by the United States Environmental Protection Agency, in order for the board to be able to assume the primary responsibility for enforcing the Federal Act.

B. Definitions:

1. "Board" means the state board of health, or any authorized representative thereof;

2.

a. "Community water supply" means a public water supply or system which serves 15 service connections or living units used by year-round residents, or regularly serves an average of 25 year-round residents;

b. "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 more than 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;

3. "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" means a waiver which may be granted by the board to a supply

--which is in operation on June 24, 1977,

--when a maximum contaminant level or required treatment cannot be complied with because of economic or other compelling factors, and

--if granting the waiver will not result in an unreasonable risk to health.

Such a waiver must be conditioned upon a schedule for compliance with these rules by the dates specified in MHD 148 B.8 and 9.

5. "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" 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" means the total radioactivity due to alpha particle emission as inferred from measurements on a dry sample;

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

9. "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;

10. "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;

11. "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;

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

13. "Public water 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 an average of 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 pretreatment 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.

14. "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;

15. "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;

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

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

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

19. "Variance" means a waiver which may be granted by the board to a supply

-- 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, and

-- if granting the waiver will not result in an unreasonable risk to health.

Such a waiver 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.

20. "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 prescribe the procedures for reporting results, notifying the public and for maintaining records.

2. The standards and procedures adopted in MHD 145-149 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. A water supply which meets all of the following requirements:

a. consists only of distribution and storage facilities;

b. obtains all of its water from, but is not owned or operated by a public water supply to which such regulations apply;

c. does not sell water to any person; and

d. is not a carrier which conveys passengers in intrastate commerce,

shall not be a public water supply for the purpose of rules MHD 145 through 149, inclusive.

MHD 146. Maximum Contaminant Levels:

The 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 MHD 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 pursuant to MHD 147 B.2. or MHD 147 B.3.

   b. Four per 100 milliliters in more than one sample when less than 20 are examined per month; or

   c. Four per 100 milliliters in more than five percent of the samples when 20 or more are examined per month.

2.

   a. When the fermentation tube method and 10 milliliter standard portions pursuant to MHD 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 MHD 147 B.2. or MHD 147 B.3;

      (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 standards portions pursuant to MHD 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 MHD 147 B.2. or MHD 147 B.3.

(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 per month, compliance with paragraphs 1 or 2 of part A of this rule shall be based upon sampling during a 3 month period, except that, at the discretion of the board, compliance may be based upon sampling during a one-month period.

B. Turbidity:

The maximum contaminant levels for turbidity are applicable to both community and non-community water supplies using surface water sources in whole or in part. The maximum contaminant levels for turbidity in drinking water, measured at a representative entry point(s) to the distribution system, are:

1. One turbidity unit (TU), rounded off the nearest whole number, as determined by a monthly average pursuant to MHD 147 C.
2. Fived turbidity units based on an average for two consecutive days, pursuant to MHD 147 C.
3. A variance or exemption may be granted according to the procedure described in MHD 148, to permit the supplier to provide water which contains 5 or less turbidity units, if the supplier can demonstrate to the board that the higher turbidity does not do any of the following:
   a. interfere with disinfection;
   b. prevent maintenance of an effective disinfectant agent throughout the distribution system; or
   c. interfere with microbiological determinations.

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 MHD 147 D 3, 4, 5 and 6. The following are the maximum contaminant levels for inorganic chemicals:

Contaminant	Level, milligrams per liter
Arsenic	0.05
Barium	1.
Cadmium	0.010
Chromium	0.05
Fluoride	2.4
Lead	0.05
Mercury	0.002

Nitrate (as N)	10.
Selenium	0.01
Silver	0.05

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 MHD 147 E 2, 3 and 4.

	Level, milligrams per liter
1. Chlorinated hydrocarbons:	
Endrin (1,2,3,4,10, 10-hexachloro-6, 7-epoxy-1,4,4a,5,6,7,8,8a-octa-hydro-1,4-endo, endo-5,8 - dimethano-naphthalene).	0.0002
Lindane (1,2,3,4,5,6-hexachloro-cyclohexane, gamma isomer).	0.004
Methoxychlor (1,1,1-Trichloro 2,2 - bis [p-methoxyphenyl] ethane).	0.1
Toxaphene ($C_{10}H_{10}Cl_8$-Technical chlorinated camphene, 67-69 percent chlorine).	0.005
2. Chlorophenoxys:	
2,4-D, (2,4-Dichlorophenoxyacetic acid).	0.1
2,4,5-TP Silvex (2,4,5-Trichloro-phenoxypropionic acid).	0.01

E. Radiological:

Maximum contaminant levels for radiological materials shall apply only to community water supplies.

1. Maximum contaminant levels for radium-226, radium-228, and gross alpha particle radioactivity:
   a. Combined radium-226 and radium-228 -- 5 pCi/l.
   b. Gross alpha particle activity (including radium-226 but excluding radon and uranium) -- 15 pCi/l.
2. Maximum contaminant levels for beta particle and photon radioactivity from man-made radionuclides:
   a. The average annual concentration of beta particle and photon radioactivity from man-made radionuclides in drinking water shall not produce an annual dose equivalent to the total body or any internal organ greater than 4 millirem/year.
   b. Except for the radionuclides listed in Table A, the concentration of man-made radionuclides causing 4 or more millirem total body or organ dose equivalents shall be calculated on the basis of a 2 liter per day drinking water intake using the 168 hour data listed in "Maximum Permissible Body Burdens and Maximum Permissible Concentration of Radionuclides in Air or Water for Occupational Exposure," NBS Handbook 69 as amended August 1963, U.S. Department of Commerce. If two or more radionuclides are present, the sum of their annual dose equivalent to the total body or to any organ shall not exceed 4 millirem/year.

Table A. — Average annual concentrations assumed to produce a total body or organ dose of 4 millirem/year.

Radionuclide	Critical Organ	pCi/l
Tritium	Total body	20,000
Strontium-90	Bone marrow	8

MHD 147 MONITORING AND ANALYTICAL REQUIREMENTS:

A. 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 certified to test for coliform bacteria, such supplier shall follow the relevant procedures in the appropriate parts of this rule. If a certified on-site laboratory is not available, the supplier of water shall send his water samples to an appropriate certified testing laboratory, according to procedures prescribed by the board. 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 certified laboratory for testing.

B. Microbiological contaminant sampling and analytical requirements:

1. Analyses for coliform bacteria shall be made for the purpose of determining compliance with MHD 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, 14th Edition, pp. 913 - 942 , except that a standard sample size as referred to below shall be employed;

   a. The standard sample used in the membrane filter procedure shall be 100 milliliters;

b. 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 10 milliliters if compliance is to be determined according to the maximum contaminant level prescribed in MHD 146 A.2.a., and it is 100 milliliters if compliance is to be determined according to the maximum contaminant level prescribed in MHD 146 A.2.b. The samples shall be taken at points which are representative of the conditions within the distribution system.

2. The supplier of water for a community water supply shall take samples to be analyzed for coliform density.

a. The samples shall be taken at regular time intervals, and in number proportionate to the population served by the supply. In no event shall the frequency be less than as set forth below:

Population served:	*Minimum number of samples per month*
25 to 1,000	1
1,001 to 2,500	2
2,501 to 3,300	3
3,301 to 4,100	4
4,101 to 4,900	5
4,901 to 5,800	6
5,801 to 6,700	7
6,701 to 7,600	8
7,601 to 8,500	9
8,501 to 9,400	10
9,401 to 10,300	11
10,301 to 11,100	12
11,101 to 12,000	13
12,001 to 12,900	14
12,901 to 13,700	15
13,701 to 14,600	16
14,601 to 15,500	17
15,501 to 16,300	18
16,301 to 17,200	19
17,201 to 18,100	20
18,101 to 18,900	21
18,901 to 19,800	22
19,801 to 20,700	23
20,701 to 21,500	24
21,501 to 22,300	25
22,201 to 23,200	26
23,201 to 24,000	27
24,001 to 24,900	28
24,901 to 25,000	29
25,001 to 28,000	30
28,001 to 33,000	35
33,001 to 37,000	40
37,001 to 41,000	45
41,001 to 46,000	50
46,001 to 50,000	55
50,001 to 54,000	60
54,001 to 59,000	65
59,001 to 64,000	70
64,001 to 70,000	75
70,001 to 76,000	80
76,001 to 83,000	85
83,001 to 90,000	90
90,001 to 96,000	95
96,001 to 111,000	100
111,001 to 130,000	110
130,001 to 160,000	120
160,001 to 190,000	130
190,001 to 220,000	140
220,001 to 250,000	150
250,001 to 290,000	160
290,001 to 320,000	170
320,001 to 360,000	180
360,001 to 410,000	190
410,001 to 450,000	200
450,001 to 500,000	210
500,001 to 550,000	220
550,001 to 600,000	230
600,001 to 660,000	240
660,001 to 720,000	250
720,001 to 780,000	260
780,001 to 840,000	270
840,001 to 910,000	280
910,001 to 970,000	290
970,001 to 1,050,000	300
1,050,001 to 1,140,000	310
1,140,001 to 1,230,000	320
1,230,001 to 1,320,000	330
1,320,001 to 1,420,000	340
1,420,001 to 1,520,000	350
1,520,001 to 1,630,000	360
1,630,001 to 1,730,000	370
1,730,001 to 1,850,000	380
1,850,001 to 1,970,000	390
1,970,001 to 2,060,000	400
2,060,001 to 2,270,000	410
2,270,001 to 2,510,000	420
2,510,001 to 2,750,000	430
2,750,001 to 3,020,000	440
3,020,001 to 3,320,000	450
3,320,001 to 3,620,000	460
3,620,001 to 3,960,000	470
3,960,001 to 4,310,000	480
4,310,001 to 4,690,000	490
4,690,001 or more	500

Such sampling shall begin on the effective date of these rules.

b. Based on a history of no coliform bacterial contamination and on a sanitary survey by the board showing the water system to be supplied solely by a protected ground water source and free of sanitary defects, a community water supply serving 25 to 1,000 persons, with written permission from the board, may reduce this sampling frequency, except that in no case shall it be reduced to less than one per quarter. Such permission may be withdrawn at any time if changed conditions warrant monthly sampling.

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 board determines, on the basis of a sanitary survey, that it is more appropriate for the supply to sample on a frequency other than quarterly, the board 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 shall be confirmed or changed on the basis of subsequent surveys.

4. Whenever any coliform bacteria are found in a single standard sample, at least two consecutive daily check samples shall be collected and examined from the same sampling point.

a. Additional check samples shall be collected daily until the results obtained from at least two consecutive daily

check samples show no coliform bacteria in the case of the 100 milliliter membrane filter portions, or show no positive tubes in the case of the 10 or 100 milliliter portions analyzed by the fermentation method.

b. The location at which the check samples were taken pursuant to paragraph B.4.a. of this rule shall not be eliminated from future sampling without approval of the board.

5. The results from all coliform bacterial analyses performed pursuant to this rule, except those obtained from check samples as referred to in MHD 147 B.4.a. and b. and special purpose samples as referred to in MHD 147 B.8. shall be used to determine compliance with the maximum contaminant level for coliform bacteria as established in MHD 146 A. Check samples shall not be included in calculating the total number of samples taken each month to determine compliance with MHD 146 A.

6. When the presence of coliform bacteria in water taken from a particular sampling point has been confirmed by any check samples examined as directed in paragraph B.4.a. of this rule, the analytical laboratory shall notify the supplier and the board within 24 hours.

7. As soon as a maximum contaminant level set forth in MHD 146 A. is exceeded, the supplier of water shall report to the board and notify the public as prescribed in MHD 149 D.

8. Special purpose samples, such as those taken to determine whether disinfection practices following pipe placement, replacement, or repair have been sufficient, shall not be used

to determine compliance with paragraphs B.2 and B.3 of this rule.

9. A supplier of water of either a community or non-community water supply may, with the approval of the board and based upon a sanitary survey, substitute the use of free chlorine residual monitoring for not more than 75 percent of the samples required to be taken by MHD 147 B.2 and B.3. A supplier of water who is allowed to substitute chlorine residual sampling must take such samples at points which are representative of the conditions within the distribution system at the frequency of at least four for each substituted microbiological sample required to be taken by MHD 147 B.2 and B.3. There shall be at least daily determinations of chlorine residual. When the supplier of water exercises the option of substituting chlorine residual samples, he shall maintain no less than 0.2 mg/l free chlorine throughout the public water distribution system. When a particular sampling point has been shown to have a free chlorine residual less than 0.2 mg/l, the water at that location shall be retested as soon as practicable and in any event within one hour. If the original analysis is confirmed, this fact shall be reported to the board within 48 hours. Also, if the analysis is confirmed, a sample for coliform bacterial analysis must be collected from that sampling point as soon as practicable and preferably within one hour, and the results of such analysis reported to the board within 48 hours. Analyses for residual chlorine shall be made in accordance with "Standard Methods for the Examination of Water and Wastewater," 14th Edition, pp. 332 - 334. Compliance with the maximum contaminant levels for coliform

shall be determined on the monthly mean or quarterly mean basis specified in MHD 146 A. including those samples taken as a result of failure to maintain the required chlorine residual level. The board may withdraw its approval of the use of chlorine residual substitution at any time.

C. Turbidity sampling and analytical requirements:

1. 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 MHD 146 B. 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, 14th Edition, pp. 132-134 , or "Methods for Chemical Analysis of Water and Wastes," pp. 295-298, Environmental Protection Agency, Office of Technology Transfer, Washington, D.C. 20460, 1974. 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. If the result of a turbidity analysis indicates that the maximum allowable limit has been exceeded, the sampling and measurement shall be confirmed by resampling as soon as practicable and preferably within one hour. If the repeat sample confirms that the maximum allowable limit has been exceeded, the supplier of water shall report to the board within 48 hours. The repeat sample shall be the sample used

for the purpose of calculating the monthly average. If the monthly average of the daily samples exceeds the maximum allowable limit, or if the average of two samples taken on consecutive days exceeds five turbidity units, the supplier of water shall report to the board as prescribed in MHD 149 B. and shall notify the public as prescribed in MHD 149 D.

D. Inorganic chemical contaminant sampling and analytical requirements:

1. Analyses for the purpose of determining compliance with MHD 146 C. are required as follows:

   a. Analyses for all community water supplies utilizing surface water sources shall be completed before June 24, 1978. These analyses shall be repeated at yearly intervals.

   b. Analyses for all community water supplies utilizing only ground water sources shall be completed before June 24, 1979. These analyses shall be repeated at three year intervals.

   c. For non-community water supplies, whether supplied by surface or ground water sources, analyses for nitrate shall be completed before June 24, 1979. These analyses shall be repeated at least once every five years after the initial determination. The board may order more frequent sampling depending upon the geological formation, the level of nitrate present and the size of the population being served.

2. For the initial analyses required by paragraph D.1. of this rule, data for surface waters acquired within one year prior to June 24, 1977 and data for ground waters acquired within

3 years prior to June 24, 1977 may be substituted at the discretion of the board.

3. Analyses conducted to determine compliance with MHD 146 C. shall be made in accordance with the following methods:

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.

b. Barium - Atomic Absorption Method, "Standard Methods for the Examination of Water and Wastewater," 14th Edition, pp. 143-155, or "Methods for Chemical Analysis of Water and Wastes," pp. 97-98, Environmental Protection Agency, Office of Technology Transfer, Washington, D.C. 20460, 1974.

c. Cadmium - Atomic Absorption Method, "Standard Methods for the Examination of Water and Wastewater," 14th Edition, pp. 143-152, or "Methods for Chemical Analysis of Water and Wastes," pp. 101-103, Environmental Protection Agency, Office of Technology Transfer, Washington, D.C. 20460, 1974.

d. Chromium - Atomic Absorption Method, "Standard Methods for the Examination of Water and Wastewater," 14th Edition, pp. 143-152, or "Methods for Chemical Analysis of Water and Wastes," pp. 105-106, Environmental Protection Agency, Office of Technology Transfer, Washington, D.C. 20460, 1974.

e. Lead - Atomic Absorption Method, "Standard Methods for the Examination of Water and Wastewater," 14th Edition, pp. 143-152, or "Methods for Chemical Analysis of Water and Wastes," pp. 112-113, Environmental Protection Agency, Office of Technology Transfer, Washington, D.C. 20460, 1974.

f. 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.

g. Nitrate - Brucine Colorimetric Method, "Methods for the Examination of Water and Wastewater," 14th Edition, pp. 427-429, 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.

h. 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.

i. Silver - Atomic Absorption Method, "Standard Methods for the Examination of Water and Wastewater", 14th Edition, pp. 143-151, or "Methods for Chemical Analysis of Water and Wastes", p. 146, Environmental Protection Agency, Office of Technology Transfer, Washington, D.C. 20460, 1974.

j. Fluoride - Electrode Method, "Standard Methods for the Examination of Water and Wastewater", 14th Edition, pp. 391-393, 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," 14th Edition, pp. 389-390, and 393-394, 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. If the result of an analysis made pursuant to paragraph D.1. of this rule indicates that the level of any contaminant listed in MHD 146 C. exceeds the maximum contaminant level, the supplier of water shall report to the board within 7 days from the time he receives the results and he shall collect and submit for analysis three additional samples taken at the same sampling point within one month from the time the board is notified.

5. When the average of four analyses made pursuant to paragraph D.4. of this rule, rounded to the same number of significant figures as the maximum contaminant level for the substance in question, exceeds the maximum contaminant level prescribed in MHD 146 C., the supplier of water shall notify the board within 48 hours pursuant to MHD 149 B. and give notice to the public pursuant to MHD 149 D. Monitoring after public notification shall be at a frequency designated by the board and shall continue until the maximum contaminant level has not been exceeded in two successive samples or until a new monitoring schedule prescribed as a condition to a variance, exemption, or enforcement action shall become effective.

6. The provisions of paragraphs 4 and 5 of part D of this rule notwithstanding, compliance with the maximum contaminant level for nitrate shall be determined on the basis of the mean of two analyses. When a level exceeding the maximum contaminant level for nitrate is found, a second analysis shall be initiated within 24 hours, and if the mean of the two analyses exceeds the maximum contaminant level, the supplier of water shall report his findings to the board within 48 hours pursuant to MHD 149 B. and shall notify the public pursuant to MHD 149 D.

E. Organic chemical contaminant sampling and analytical requirements:

1. An analysis of substances for the purpose of determining compliance with MHD 146 D. shall be made as follows:

   a. For all community water supplies utilizing surface water sources, analyses shall be completed before June 24, 1978. Samples analyzed shall be collected during the period of the year designated by the board as the period when contamination by pesticides is most likely to occur. These analyses shall be repeated at intervals specified by the board but in no event less frequently than at three year intervals.

   b. For community water supplies utilizing only ground water sources, analyses shall be completed by those supplies specified by the board.

2.

   a. Analyses made to determine compliance with MHD 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.

   b. Analyses made to determine compliance with MHD 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.

3. If the result of an analysis made pursuant to paragraph E.1. of this rule indicates that the level of any contaminant listed in MHD 146 D. exceeds the maximum contaminant level, the supplier of water shall report to the board within 7 days and collect and submit for analysis three additional samples taken at the same sampling point within one month from the time the board is notified.

4. When the average of four analyses made pursuant to paragraph D.3. of this rule, rounded to the same number of significant figures as the maximum contaminant level for the substance in question, exceeds the maximum contaminant level, the supplier of water shall report to the board pursuant to MHD 149.B. and give notice to the public pursuant to MHD 149.D. Monitoring after public notification shall be at a frequency designated by the board and shall continue until the maximum contaminant level has not been exceeded in two successive samples or until a monitoring schedule as a condition to a variance or exemption or enforcement action shall become effective.

F. Radiological contaminant sampling and analytical requirements for community water supplies:

1. Monitoring requirements for gross alpha particle activity, radium-226 and radium 228;

   a. Initial sampling to determine compliance with MHD 146 E.1. shall begin before June 24, 1979 and the analysis shall

be completed before June 24, 1980. Compliance shall be based on the analysis of an annual composite of four consecutive quarterly samples or the average of the analyses of four samples obtained at quarterly intervals.

(1) A gross alpha particle activity measurement may be substituted for the required radium-226 and radium-228 analyses provided that the measured gross alpha particle activity does not exceed 5 pCi/l at a confidence level of 95 percent (1.65 σ where σ is the standard deviation of the net counting rate of the sample.)

(2) In localities where radium-228 may be present in drinking water, analyses for radium-226 and/or radium-228 are required when the gross alpha particle activity exceeds 2 pCi/l at a confidence level of 95 percent.

(3) When the gross alpha particle activity exceeds 5 pCi/l, the same or an equivalent sample shall be analyzed for radium-226. If the concentration of radium-226 exceeds 3 pCi/l, the same or an equivalent sample shall be analyzed for radium-228.

b. Suppliers of water shall monitor at least once every four years following the procedure required by paragraph F.1.a. of this rule. When an annual record taken in conformance with paragraph F.1.a. has established that the average annual

concentration is less than half the maximum contaminant levels established by MHD 146 E.1., analysis of a single sample may be substituted for the quarterly sampling procedure required by MHD 147 F.1.a.

(1) More frequent monitoring shall be conducted when ordered by the board in the vicinity of mining or other operations which may contribute alpha particle radioactivity to either surface or ground water sources of drinking water.

(2) A supplier of water shall monitor in conformance with paragraph F.1.a. within one year of the introduction of a new water source for a community water supply. More frequent monitoring shall be conducted when ordered by the board in the event of possible contamination or when changes in the distribution system or treatment process occur which may increase the concentration of radioactivity in finished water.

(3) A community water supply using two or more sources having different concentrations of radioactivity shall monitor source water, in addition to water from a free-flowing tap, when ordered by the board.

(4) Monitoring for compliance with MHD 146 E.1. after the initial period need not include radium-228 except when required by the board, provided that the average annual concentration of radium-228 has been assayed at least once using the quarterly sampling procedure required by MHD F.1.a.

(5) Suppliers of water shall conduct annual monitoring of any community water supply in which the radium-226 concentration exceeds 3 pCi/l, when ordered by the board.

c. If the average annual maximum contaminant level for gross alpha particle activity or total radium as set forth in MHD 146 E.1. is exceeded, the supplier of a community water system shall give notice to the board pursuant to MHD 149 B and notify the public as required by MHD 149 D. Monitoring at quarterly intervals shall be continued until the annual average concentration no longer exceeds the maximum contaminant level or until a monitoring schedule as a condition to a variance, exemption or enforcement action shall become effective.

2. Monitoring requirements for man-made radioactivity in community water supplies using surface sources and serving more than 100,000 persons, and such other community water supplies as are designated by the board;

a. Before June 24, 1979, such supplies shall be monitored for compliance with MHD 146 E.2. by analysis of a composite of four consecutive quarterly samples or analysis of four quarterly samples. Compliance with MHD 146 E.2. may be assumed without further analysis if the average annual concentration of gross beta particle activity is less than 50 pCi/l and if the average annual concentrations of tritium and strontium-90 are less than those listed in Table A, provided that if both radionuclides are present the sum of their annual dose equivalents to bone marrow shall not

exceed 4 millirem/year.

(1) If the gross beta particle activity exceeds 50 pCi/l, an analysis of the sample must be performed to identify the major radioactive constituents present and the appropriate organ and total body doses shall be calculated to determine compliance with MHD 146 E.2.

(2) Suppliers of water shall conduct additional monitoring, as ordered by the board, to determine the concentration of man-made radioactivity in principal watersheds designated by the board.

b. At the discretion of the board suppliers of water utilizing only ground waters may be required to monitor for man-made radioactivity.

c. After the initial analysis required by MHD 147 F.2.a., these suppliers shall monitor at least every four years following the procedure given in paragraph F.2.a.

d. Before June 24, 1979 the supplier of any community water supply which is found by the board to be utilizing waters contaminated by effluents from nuclear facilities shall initiate quarterly monitoring for gross beta particle and iodine-131 radioactivity and annual monitoring for strontium-90 and tritium.

(1) Quarterly monitoring for gross beta particle activity shall be based on the analysis of monthly samples. If the gross beta particle activity in a sample exceeds 15 pCi/l, the same or an equivalent sample shall be analyzed for strontium-89 and

cesium-134. If the gross beta particle activity exceeds 50 pCi/l, an analysis of the sample must be performed to identify the major radioactive constituents present and the appropriate organ and total body doses shall be calculated to determine compliance with MHD 146 E.2.

(2) For iodine-131, a composite of five consecutive daily samples shall be analyzed once each quarter. As ordered by the board, more frequent monitoring shall be conducted when iodine-131 is identified in the finished water.

(3) Annual monitoring for strontium-90 and tritium shall be conducted by means of the analysis of four quarterly samples.

(4) The board may allow the substitution of environmental surveillance data taken in conjunction with a nuclear facility for direct monitoring of man-made radioactivity by the supplier of water where the board determines such data is applicable to a particular community water supply.

e. If the average annual maximum contaminant level for man-made radioactivity set forth in MHD 146 E.2. is exceeded, the supplier of a community water supply shall give notice to the board pursuant to MHD 149 B. and to the public as required by MHD 149 D. Monitoring at monthly intervals shall be initiated and continued until the concentration no longer exceeds the maximum contaminant level or until a monitoring schedule as a condition to a

variance, exemption or enforcement action shall become effective.

3. Analytical Methods:

a. Measurements made to determine compliance with MHD 146 E. shall be made in accordance with the following methods:

(1) Gross Alpha and Beta - Method 302 "Gross Alpha and Beta Radioactivity in Water" Standard Methods for the Examination of Water and Wastewater, 14th Edition, American Public Health Association, New York, N.Y., 1975.

(2) Total Radium - Method 304 "Radium in Water by Precipitation" Ibid.

(3) Radium - 226 - Method 305 "Radium - 226 by Radon in Water" Ibid.

(4) Strontium - 89.90 - Method 303 "Total Strontium and Strontium - 90 in Water" Ibid.

(5) Tritium - Method 306 "Tritium in Water" Ibid.

(6) Cesium - 134 - ASTM D-2459 "Gamma Spectrometry in Water," 1975 Annual Book of ASTM Standards, Water and Atmospheric Analysis, Part 31, American Society for Testing and Materials, Philadelphia, PA. (1975).

(7) Uranium - ASTM D-2907 "Microquantities of Uranium in Water by Fluorometry," Ibid.

When the identification and measurement of radionuclides other than those listed above is required, the following references are to be used, except in cases where alternative methods have been approved in accordance with MHD 147 G.

(8) Procedures for Radiochemical Analysis of Nuclear Reactor Aqueous Solutions, H. L. Krieger and S. Gold, EPA-R4-73-014. USEPA, Cincinnati, Ohio, May 1973.

(9) HASL Procedure Manual, Edited by John H. Harley. HASL 300, ERDA Health and Safety Laboratory, New York, N.Y., 1973.

b. For the purpose of monitoring radioactivity concentrations in drinking water, the required sensitivity of the radioanalysis is defined in terms of a detection limit. The detection limit shall be that concentration which can be counted with a precision of plus or minus 100 percent at the 95 percent confidence level (1.96 σ where σ is the standard deviation of the net counting rate of the sample).

(1) To determine compliance with MHD 146 E.1.a., the detection limit shall not exceed 1 pCi/l. To determine compliance with MHD 146 E.1.b., the detection limit shall not exceed 3 pCi/l.

(2) To determine compliance with MHD 146 E.2. the detection limits shall not exceed the concentrations listed in Table B.

Table B -- Detection Limits For Man-Made Beta Particle and Photon Emitters

Radionuclide	Detection Limit
Tritium	1,000 pCi/l
Strontium-89	10 pCi/l
Strontium-90	2 pCi/l
Iodine-131	1 pCi/l
Cesium-134	10 pCi/l
Gross beta	4 pCi/l
Other radionuclides	1/10 of the applicable limit

c. To judge compliance with the maximum contaminant levels listed in MHD 146 E.1. and MHD 146 E.2., averages of data shall be used and shall be rounded to the same number of significant figures as the maximum contaminant level for the substance in question.

G. Alternative analytical techniques:

With the written permission of the board, an alternative analytical technique may be employed. An alternative technique shall be acceptable 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 maximum contaminant level. The use of the alternative analytical technique shall not decrease the frequency of monitoring required by this rule.

H. Approved laboratories:

For the purpose of determining compliance with parts A through F of this rule, samples may be considered only if they have been analyzed by a laboratory certified by the board, except that measurements for turbidity and free chlorine residual may be performed by any person acceptable to the board.

I. Monitoring consecutive systems:

When a public water supply provides water to one or more other public water supplies, the monitoring requirements imposed by

MHD 147 A. through F. may be superseded by a special monitoring schedule prescribed by the board. Such a special monitoring schedule may be imposed to the extent that the interconnection justifies treating them as a single supply for monitoring purposes, and is enforceable just as any other monitoring requirement imposed by these rules. Such a special monitoring schedule shall include an agreement which names the supply or supplies responsible for monitoring, reporting, giving public notice, and maintaining records.

J. The board may impose additional monitoring requirements if the results of a sanitary survey indicate that a public health risk may exist. The board may impose a requirement for more frequent sampling if the analytical results of water tests show that a previously measured contaminant is approaching a maximum contaminant level as prescribed in MHD 146.

MHD 148. VARIANCES AND EXEMPTIONS.

A. Variances:

1. The board may grant one or more variances from a maximum contaminant level prescribed in MHD 146 or from a treatment required by these rules, pursuant to authority granted in Minn. Laws Chap. 66 §3(e)(1977), according to the procedure described below.

2. A supplier may request a variance whenever he determines that his supply is exceeding or will exceed a maximum contaminant level. A supplier who has not requested a variance or has not taken corrective action to bring his supply into compliance by the date specified in the notification of violation shall be subject to the penalties of Minn. Laws, Chap. 66 §3(e)(1977).

3. In deciding whether to grant a variance from a maximum contaminant level, the board shall consider --

   a. the availability and effectiveness of treatment methods for the contaminant for which the variance is requested; and

   b. cost and other economic considerations such as implementing treatment, improving the quality of the source water or using an alternative source.

4. The board may grant a variance from a maximum contaminant level upon finding that --

   a. because of the characteristics of the raw water sources which are reasonably available to the supply, the supply cannot meet the requirements respecting the maximum contaminant levels prescribed in MHD 146 despite the

application of the best known and economically feasible technology for treatment, and

b. the variance will not result in an unreasonable risk to health.

5. The board may grant a variance from any required treatment upon finding that the supply has demonstrated that such treatment is not necessary to meet a maximum contaminant level or to protect the health of persons, because of the nature of the raw water source of the supply.

6. Application Procedure: A request for a variance shall be submitted to the board in writing and shall contain the following information:

   a. the nature and duration of the variance being requested;

   b. relevant analytical results of water quality sampling of the supply, including results of relevant tests conducted pursuant to the requirements of these rules;

   c. for any request for a variance from a maximum contaminant level, the notice shall also contain:

      (1) an explanation in full and evidence of the best available treatment;

      (2) economic and legal factors relevant to the ability to comply;

      (3) analytical results of raw water quality relevant to the variance request;

      (4) a proposed compliance schedule, including the date each step toward compliance will be achieved. Such a schedule shall include as a minimum the following dates:

(a) a date by which arrangement for alternative raw water source or improvement of existing raw water source will be completed;

(b) a date for initiation of the connection of the alternative raw water source or improvement of existing raw water source;

(c) a date by which final compliance is to be achieved;

(5) a plan for the provision of safe drinking water in the case of an excessive rise in the contaminant level for which the variance is requested;

(6) a plan for interim control measures during the effective period of variance.

d. for any request for a variance from a required treatment, the notice shall include a statement that the supply will perform monitoring and other reasonable requirements prescribed by the board as a condition to the variance;

e. such other information as the board may require;

f. any information which the supplier believes is pertinent to the request.

7. Disposition of a request for a variance:
Upon receipt of an application for a variance the board shall initiate, within 90 days, the procedure for a contested case. Notice and opportunity for hearing shall be given according to Minn. Stats. Chap. 15 (1976) and the rules of the office of hearing examiners.

8. The board shall within one year after the variance is granted,

impose a schedule for compliance with MHD 145 through 149, after notice and opportunity for hearing have been given.

9. a. A variance from a maximum contaminant level may be terminated by the board when the supply comes into compliance with the applicable rule, and may be terminated by the board upon a finding that the supply has failed to comply with any requirement of a final schedule imposed by the board pursuant to this rule.

   b. A variance from a required treatment may be terminated at any time upon a finding by the board that the nature of the raw water source is such that the required treatment for which the variance was granted is necessary to protect the health of persons, or upon a finding by the board that the supply has failed to comply with monitoring and other requirements prescribed as a condition to the granting of the variance.

10. A compliance schedule imposed by the board pursuant to the grant of a variance shall be enforceable as if it were a rule of the board.

B. Exemptions:

1. The board may grant one or more exemptions from a maximum contaminant level prescribed in MHD 146 or from a treatment required by these rules, pursuant to authority granted in Minn. Laws Chap. 66 §3(e)(1977), according to the procedure described below.

2. A supplier may request an exemption whenever he determines that his supply is exceeding or will exceed a maximum contaminant level. A supplier who has not requested an exemption or has not taken corrective action to bring his

supply into compliance by the date specified in the notification of violation shall be subject to the penalties of Minn. Laws, Chap. §3(e)(1977).

3. The board may grant an exemption from a maximum contaminant level or from a required treatment--

   a. after having considered the following:

      (1) construction, installation, or modification of treatment equipment or systems;

      (2) the time needed to put into operation a new treatment facility to replace an existing supply which is not in compliance;

      (3) economic feasibility of compliance;

   b. and upon finding that:

      (1) due to compelling factors (which may include economic factors), the supply is unable to comply with such contaminant level or required treatment;

      (2) the supply was in operation on the date on which such contaminant level or required treatment went into effect; and

      (3) the granting of the exemption will not result in an unreasonable risk to health.

4. Application Procedure: A request for an exemption shall be submitted to the board in writing and shall contain the following information:

   a. the nature and duration of the exemption being requested;

   b. relevant analytical results of water quality sampling of the supply, including results of relevant tests conducted pursuant to the requirements of these rules;

c. an explanation of the compelling factors such as time or economic factors which prevent the supply from complying with a maximum contaminant level or required treatment on the effective date of the applicable standard;

d. a proposed compliance schedule, including the date when each step toward compliance will be achieved;

e. such other information as the board may require;

f. any other information which the applicant believes is pertinent to the request.

5. Disposition of a request for an exemption:
Upon receipt of an application for an exemption the board shall initiate within 90 days, the procedure for a contested case. Notice and opportunity for hearing shall be given according to Minn. Stats. Chap. 15 (1976) and the rules of the office of hearing examiners.

6. The board shall within one year after the exemption is granted, impose a schedule for compliance with these rules. after notice and opportunity for hearing have been given.

7. An exemption may be terminated by the board when the supply comes into compliance with the applicable rule, and may be terminated by the board upon a finding by the board that the supply has failed to comply with any requirement of a final schedule imposed pursuant to this rule.

8. Any compliance schedule issued pursuant to an exemption shall require compliance with these rules before January 1, 1981. Compliance with the requirements of revised federal regulations will have to be achieved within seven years

of the date on which such federal regulations become effective.

9. If the supply which seeks the exemption has entered into an enforceable agreement to become a part of a regional system, as determined by the board, the compliance schedule shall require compliance by the supply with each maximum contaminant level or required treatment prescribed by these rules before January 1, 1983. For such a supply (which will become part of a regional system) compliance with the requirements of the revised federal regulations shall be required within nine years of the effective date of the revised federal regulations.

10. A compliance schedule imposed by the board pursuant to the grant of an exemption shall be enforceable as if it were a rule of the board.

MHD 149. Record Maintenance; Reporting; Public Notification.

A. Record Maintenance: Any owner or operator of a public water supply shall retain on the premises or at a convenient location near the premises, and shall make available for public inspection, the following records for the specified period of time:

1.

a. Records of bacteriological analyses and turbidity measurements made pursuant to MHD 147 B. and C. shall be kept for not less than 5 years.

b. Records of chemical analyses made pursuant to MHD 147 D., E., and F. shall be kept for not less than 10 years.

2. Actual laboratory reports may be kept, or data may be transferred to tabular summaries, provided that the following information is included:

a. the date, place, and time of sampling, and the name of the person who collected the sample;

b. identification of the sample as to whether it was a routine distribution system sample, check sample, raw or process water sample or other special purpose sample;

c. date of analysis;

d. laboratory and person responsible for performing analysis;

e. the analytical technique or method used; and

f. the results of the analysis.

3. Records of action taken by the supply to correct violations of rules dealing with public water supplies shall be kept for a period not less than 3 years after the last action taken with respect to the particular violation involved.

4. Copies of any written reports, summaries or communications relating to sanitary surveys of the supply conducted by the supply itself, by a private consultant, or by any local, state or federal agency, shall be kept for a period of not less than 10 years after completion of the sanitary survey involved.

5. Records concerning a variance or exemption granted to the supply shall be kept for a period ending not less than 5 years following the expiration of such variance or exemption.

B. Reporting Requirements:

1. All the results of analyses performed on samples which are to be tested pursuant to these rules shall be reported as follows:

   a. the certified laboratory shall submit all analytical results on reporting forms to be prescribed by the board. These forms shall be prepared in triplicate, with one copy being sent to the supplier, one copy being sent to the State Department of Health, Division of Environmental Health, Section of Public Water Supplies, and the third being retained by the laboratory;

   b. results of turbidity measurements shall be submitted by the supplier on the prescribed reporting forms.

2. Except where a shorter reporting period is specified, all results of tests, analyses or measurements shall be submitted on prescribed reporting forms to the board within 40 days.

3. A laboratory performing microbiological analyses pursuant to these rules shall report to the supplier and to the board

any positive test results within 24 hours of the time the positive result becomes available.

4. The supplier shall report to the board a positive bacteriological test result within 24 hours of the time the supplier learns of such a result.

5. The supplier of water shall report to the board within 48 hours the failure to comply with any of the rules relating to public water supplies, including the failure to comply with a monitoring requirement, as set forth in rule MHD 147.

C. Right of Inspection:

The board, or one of its authorized representatives, upon presenting appropriate credentials to any water supplier, is authorized to enter and inspect any establishment, facility or other property of such supplier, in order to determine whether such supplier has acted or is acting in compliance with the rules of the board relating to water supplies, including for this purpose, the inspection of records, files, papers, processes, controls, and facilities, or in order to test any feature of a public water supply, including its raw water source.

D. Public Notification:

1. Public notification must be made by a supplier of water whenever a public water supply--

   a. fails to comply with a maximum contaminant level prescribed in MHD 146;

   b. fails to comply with a prescribed monitoring schedule pursuant to MHD 147;

c. fails to submit timely reports pursuant to MHD 149 B;

d. is granted a variance or exemption from a maximum contaminant level pursuant to MHD 148; or

e. fails to comply with a schedule prescribed pursuant to such a variance or exemption.

2. A notice given pursuant to this rule shall be written in a manner reasonably designed to inform fully the user of the supply. The notice shall be conspicuous and shall not use unduly technical language, unduly small print or other methods which would frustrate the purpose of the notice. The notice shall disclose all material facts regarding the subject including the nature of the problem and, where appropriate, a clear statement that a rule dealing with public water supplies has been violated, and shall also disclose any preventive measures that should be taken by the public. Where appropriate, or where required by the board, bilingual notice shall be given. Notices may include a reasonable explanation of the subject of the notice and of its significance or seriousness to the public health, a fair explanation of steps taken by the supply to correct any problem, and the results of any additional sampling.

3. Notice by Community Water Supply:

a. In the case of a community water supply, the supplier shall give notification as referred to in MHD 149 D.1. and 2.:

(1) by including a notice in the first set of water bills issued after any of the conditions described in paragraph D.1 of this rule occurs;

(2) if the supply issues bills less frequently than every three months, or does not issue water bills, the supplier must give notice by direct mail to every residence served, within six weeks after the condition which gave rise to the need for such notice has occurred;

(3) in addition, a copy of every notice mailed pursuant to this rule shall be sent to the board, as part of the same mailing which is made to the supply's customers.

b. In the case of a failure to comply with a maximum contaminant level, such written notice shall be repeated according to the procedure prescribed in MHD 149 D.3.a. not less than once every three months after the initial notice. Such continuing notice must be given as long as the failure to comply continues, whether or not the supply has a variance or exemption relating to the maximum contaminant level which is being exceeded.

c. In the case of a failure to comply with a maximum contaminant level which is not corrected promptly after discovery, the supplier must give other general public notice of the failure, in addition to the notice by direct mail, in a manner to be prescribed by the board. Such additional notice may include announcements to communications media in the area served by the supply.

4. Notice by non-community water supply:

In the case of a non-community supply, the supplier must give notice by conspicuous posting. Notice must be posted at or near every tap or drinking fountain, or wherever the public

can draw the water. If the water is served to the consumer, then additional notice must be posted on the menu, or registration form, or in some other obvious location to assure adequate readibility of the notice, before the water is consumed. The board shall order the form and location for the posting of such notice. Such notice must remain posted as long as any one of the conditions cited in paragraph D.1. of this rule continues to exist.

5. Whenever the board determines that a supply is providing water which, if consumed, might create an imminent risk to the public health, the board may order the supplier to give a notice or warning of such risk in a prescribed manner.

6. The board may issue any notice or warning required by this rule on behalf of a supplier, but a supplier is not relieved of any responsibility to issue any notice or warning under this rule, unless he has been specifically relieved of the responsibility by the board, in writing.

A. This rule is adopted for the purpose of assuring that sanitary procedures are followed by those who distribute drinking water by tank truck and that the public health is thereby preserved. The authority for adopting this rule may be found in Minn. Stats. § 144.12 Subd. 1(5) (1976) as amended by Minn. Laws Chap. 66 §10 (1977) which states that the State Board of Health may regulate the "distribution of water by persons."

B. Definitions:

1. "Accessible" means capable of being exposed for cleaning and inspection.
2. "Approved source" means a public water supply which is in compliance with state rules relating to water supplies, and is equipped with a permanent overhead delivery system designed to prevent the introduction of biological or chemical contaminants.
3. "Board" means the State Board of Health or any authorized representative thereof;
4. "Corrosion-resistant" means capable of maintaining original surface characteristics under the prolonged influence of the use environment, including the expected water contact and normal use of cleaning compounds and sanitizing solutions.
5. "Easily cleanable" means readily accessible, and of such material and finish and so fabricated that cleaning can be accomplished by hand scrubbing.
6. "Sanitize" means the bactericidal treatment of the interior surfaces of the tank by a process which has proven effective

and does not leave a toxic residue.

7. "Smooth" means a surface free of pits and inclusions.
8. "Toxic" means having an adverse physiological effect on man.
9. "Water hauler" or "hauler" means a person engaged in bulk vehicular transportation of water to other than the hauler's household, which is intended for use or used for drinking or domestic purposes.

C. A water hauler shall be free of any infectious or communicable disease.

D. The water hauler shall consult with regional district personnel of the Minnesota Department of Health before implementing any questionable procedures.

E. Dipping into the filled tank is prohibited.

F. Tank Requirements:

1. The tank shall be constructed of stainless steel or be lined with glass or other acceptable, corrosion-resistant and non-toxic material, with rounded corners and a smooth surface so that the interior may be thoroughly cleaned and sanitized.
2. The system shall be completely closed except for vents which are properly constructed and screened.
3. Caps on inlets and outlets shall be hinged or chained to provide a permanent attachment.
4. The inlets and outlets shall be easy to clean and so located

and protected as to minimize the hazard of contamination.

5. Filters shall not be used.
6. The tank shall be filled only from the top.
7. The outlet hose from the tank shall be maintained in a sanitary condition at all times, shall be flushed clean prior to every delivery, and shall not impart any taste or odor to the water.
8. The tank shall be accessible internally, for proper cleaning, disinfection and inspection.
9. The tank shall never have been used to haul any materials which might have a deleterious effect on health or on the quality of the water being transported. If the tank has been used for transporting any materials other than water, the hauler shall obtain the approval of the board before using the tank to haul water for drinking or domestic use.

G. Cleaning and Disinfection:

1. The tank and all fittings shall be cleaned and sanitized according to the following procedures before they can be used to haul water, and thereafter once per week:
   a. The tank shall be cleaned by scrubbing manually with brushes and non-corrosive detergents, or
   b. by automation using a spray ball within the tank which provides cleaning solution with sufficient velocity to remove all soil from the tank interior;
2. The tank and fittings shall then be rinsed.
3. The tank and fittings shall be sanitized by any of the following methods:

a. filling with water from an approved source to which 50 parts per million chlorine has been added, mixing and allowing it to stand for 3-4 hours; or 100 parts per million chlorine for not less than 20 minutes;

b. The board may approve the use of an alternate sanitizing method if the supplier can show that the use of the alternate method assures a level of biocidal activity comparable to that provided by the use of chlorine.

4. The tank may be cleaned and sanitized in a single step by using a commercial detergent-sanitizer according to the manufacturer's directions.

5. After sanitizing, the tank shall be drained, and the tank and fittings shall be rinsed with water from an approved source.

6. The sanitized tank shall be filled with water from an approved source.

7. The hauler shall add sufficient chlorine to assure that there is one part per million free chlorine residual when the last remaining quantity of water is delivered to a user. The hauler shall test the chlorine residual in each tankful of water using the DPD method.

H. Testing:

Once each month the hauler shall collect a sample of water from each tank and shall submit the water sample to the State Department of Health Laboratory for a bacteriological analysis. Sample collecting bottles for this purpose may be obtained from any Minnesota Department of Health Regional District Office or by

writing to the Minnesota Department of Health, Section of Analytical Services, 717 Delaware Street S.E., Minneapolis, Minnesota 55440.

I. Records:

The hauler shall retain a written log for each tank and shall record therein:

1. the date when the tank is sanitized;
2. the date on which the tank is filled and the name of the approved source from which the water is obtained;
3. the chlorine residual and date on which it is measured;
4. date on which water samples are sent for analysis; and
5. customer's name, address, date and quantity delivered.

CHANGES TO RULES AS PROPOSED
(published in State Register June 6, 1977)

--replace "board" or "State Board" with commissioner in MHD 145A, 145B, 146A, 146B, 147, 148, 149B, 149C, 149D, 150A, 150B, 150F, 150G;

--replace "certified" with approved in MHD 147A, 147H, 149B;

In the following, words with lines drawn through them are to be stricken, and words with underlining are to be added:

MHD 145 B.1 ..., or ~~any~~ his or her authorized representative; ~~thereof;~~

MHD 145 B.2.a "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 ~~an average of~~ at least 25 year-round residents;

MHD 145 B.4 ...Such an exemption ~~waiver~~ must be conditioned...

MHD 145 B.13 "Public water supply" (supply) means... or serving ~~an average of~~ at least 25...

MHD 145 B.19 ...Such a variance ~~waiver~~ must be conditioned...
...and available technology for treatment or other means, and...

MHD 147 B.1 ...~~14th~~ 13th Edition, pp. ~~913-942~~ 662-688...

147 B.9 ...~~14th~~ 13th Edition, pp. ~~332-334~~ 129-132...

147 C.1 ...~~14th~~ 13th Edition, pp. ~~132-134~~ 350-353...

147 D.3.b ...~~14th~~ 13th Edition, pp. ~~143-155~~ 210-215...

147 D.3.c ...~~14th~~ 13th Edition, pp. ~~143-152~~ 210-215...

147 D.3.d ...~~14th~~ 13th Edition, pp. ~~143-152~~ 210-215...

MHD 147 D.3.e ...~~14th~~ 13th Edition, pp. ~~143-152~~ 210-215...

147 D.3.g ...~~14th~~ 13th Edition, pp. ~~427-429~~ 461-464...

147 D.3.i ...~~14th~~ 13th Edition, pp. ~~143-151~~ 210-215...

147 D.3.j ...~~14th~~ 13th Edition, pp. ~~391-393~~ 172-174... or Colorimetric Method...~~14th~~ 13th Edition, pp. ~~389-390~~ 171-172, and ~~393-394~~ 174-176...

147 F.3.a(1) ...~~Method~~ Section...~~14th~~ 13th Edition

147 F.3.a(2) ...~~Method~~ Section

147 F.3.a(3) ...~~Method~~ Section

147 F.3.a(4) ...~~Method~~ Section

147 F.3.a(5) ...~~Method~~ Section

MHD 148 A.4.a ...technology for treatment or other means,...

MHD 149 B.1.b ...turbidity and chlorine residual measurements...

MHD 149 D.1 f. fails to comply with an applicable testing method established in MHD 147.

MHD 150 B.3 "Commissioner" means the commissioner of health or ~~any~~ his or her authorized representative; ~~thereof;~~

MHD 145 B. Delete the definitions for "community" and "non-community water supply" in MHD 145 B.2 and insert them as subparts under the definition of "public water supply" (MHD 145 B.13). Renumber all the definitions starting with MHD 145 B.3.

CHANGES TO RULES AS PROPOSED
(published in State Register June 6, 1977)

--replace "board" or "State Board" with commissioner in MHD 145A, 145B, 146A, 146B, 147, 148, 149B, 149C, 149D, 150A, 150B, 150F, 150G;

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MHD 145 B.4 ...Such an exemption ~~waiver~~ must be conditioned...

MHD 145 B.13 "Public water supply" (supply) means... or serving ~~an average of~~ at least 25...

MHD 145 B.19 ...Such a variance ~~waiver~~ must be conditioned...
...and available technology for treatment or other means, and...

MHD 147 B.1 ...~~14th~~ 13th Edition, pp. ~~913-942~~ 662-688...

147 B.9 ...~~14th~~ 13th Edition, pp. ~~332-334~~ 129-132...

147 C.1 ...~~14th~~ 13th Edition, pp. ~~132-134~~ 350-353...

147 D.3.b ...~~14th~~ 13th Edition, pp. ~~143-155~~ 210-215...

147 D.3.c ...~~14th~~ 13th Edition, pp. ~~143-152~~ 210-215...

147 D.3.d ...~~14th~~ 13th Edition, pp. ~~143-152~~ 210-215...

MHD 147 D.3.e ...~~14th~~ 13th Edition, pp. ~~143-152~~ 210-215...

147 D.3.g ...~~14th~~ 13th Edition, pp. ~~427-429~~ 461-464...

147 D.3.i ...~~14th~~ 13th Edition, pp. ~~143-151~~ 210-215...

147 D.3.j ...~~14th~~ 13th Edition, pp. ~~391-393~~ 172-174... or Colorimetric Method...~~14th~~ 13th Edition, pp. ~~389-390~~ 171-172, and ~~393-394~~ 174-176...

147 F.3.a(1) ...~~Method~~ Section...~~14th~~ 13th Edition

147 F.3.a(2) ...~~Method~~ Section

147 F.3.a(3) ...~~Method~~ Section

147 F.3.a(4) ...~~Method~~ Section

147 F.3.a(5) ...~~Method~~ Section

MHD 148 A.4.a ...technology for treatment or other means,...

MHD 149 B.1.b ...turbidity and chlorine residual measurements...

MHD 149 D.1 f. fails to comply with an applicable testing method established in MHD 147.

MHD 150 B.3 "Commissioner" means the commissioner of health or ~~any~~ his or her authorized representative; ~~thereof;~~

MHD 145 B. Delete the definitions for "community" and "non-community water supply" in MHD 145 B.2 and insert them as subparts under the definition of "public water supply" (MHD 145 B.13). Renumber all the definitions starting with MHD 145 B.3.

PROPOSED FOR REPEAL

MHD 195 Tourist camp sanitation - Registration of tourist camps

DEFINITION - A Tourist Camp shall constitute any area used on a daily, nightly or weekly basis for the accommodation of tents, expandable camp trailers, travel trailers under 19 feet in length, and converted buses or trucks; whether privately or publicly owned; and whether use of such accommodation is granted free of charge or for compensation.

This definition shall not include trailer coach parks as defined in MS 327.14, Children's Camps, Industrial Camps, Migrant Labor Camps, United States Forest Service Camps, State Forest Service Camps, State Wildlife Management Areas or State owned public access areas which are restricted in use to picnicking and boat landing.

REGISTRATION-

Every person, organization or municipality establishing or having control of a tourist camp shall annually on or before April 1st register with the State Board of Health on a form provided by the Board for such purpose. The name, location, ownership, person in charge, and such other data as the Board may require shall be provided.

GENERAL PROVISIONS -

Every person, organization or municipality establishing or having control of a tourist camp shall locate such camp on an adequate site. Each camp shall be provided with satisfactory water supply, toilet and refuse disposal facilities. Fish cleaning houses shall be installed where needed.

CAMP SITE -

Every tourist camp shall be located on a site that is well drained. No individual tent site shall be less than 25' x 50'. No vehicle shall be parked on such sites and off site parking shall be provided. Tent sites designed to accommodate cars and boat trailers shall not be less than 40 feet wide nor less than 50 feet long.

WATER SUPPLY -

Every tourist camp shall be provided with an adequate water supply system, the location, construction and operation of which complies with the standards of the Board. The water supply shall be easily accessible at a point not more than 400 feet from the farthest tent site. The well and pumping equipment where central toilets and showers are provided shall be capable of furnishing water at the rate of 25 gallons per person per day. Community drinking cups, i.e., cups or dippers at the well or hydrant, are not permitted.

TOILETS -

Every tourist camp shall be provided with adequate toilet facilities or privies. Water flush toilets shall be provided wherever a municipal sewerage system can be operated and where water under pressure is available for the operation of water flush toilets. When a central building with water under pressure is provided the ratio of fixtures to tent sites shall be as follows:

One water closet for each 10 sites

One lavatory for each 10 sites

One shower for each 15 sites

There shall be not less than one complete set of fixtures for each sex. No tent site shall be more than 400 feet from the nearest central building.

Privies may be used where no municipal sewerage system is available or where conditions are such that a sewage disposal system cannot be operated satisfactorily or water under pressure is not available. Such privies shall be located, constructed and operated in accordance with the standards of the Board. The ratio of privies to tent sites shall be as follows:

A separate one compartment privy for each sex for each ten sites or portion thereof. No tent sites shall be more than 400 feet from the nearest privy.

Toilet factilities shall be provided at the water front but shall not be located within 50 feet of the water's edge.

Toilet tissue shall be provided at each unit.

Toilets shall be cleaned daily.

All toilets and privies must be well ventilated and lighted.

Artificial lighting shall be provided after daylight hours.

Separate toilets or privies shall be provided for men and women. The location of all toilets shall be indicated by suitable signs. Facilities shall be identified by sign for each sex. Privies for the sexes shall be spaced not less than 15 feet apart.

SEWAGE AND EXCRETA DISPOSAL -

Where water-flush toilets are used, a sewage disposal system acceptable to the Board shall be provided. Where water-flush toilets are not provided, privies of the pit type which conform to a standard of construction acceptable to the Board shall be used. Toilets of the privy or pit type hereinafter constructed shall be located at least 50 feet from the nearest tent site.

Whenever self-contained travel trailers, converted buses or trucks are accommodated, separate facilities for emptying the chemical toilets or reservoir tanks shall be provided in accordance with standards of the Board. All travel trailers, converted buses or trucks having sewage drains shall be connected to a sewerage system or all drains shall be sealed for the duration of stay in the camping area. No "post hole", shallow pits or buried metal drums shall be used for the disposal of liquid wastes.

LIQUID WASTE DISPOSAL -

Liquid wastes from the tent sites and other sources shall be combined with the liquid toilet waste or shall be disposed of separately by soil absorption in a manner which will not endanger the water supply, pollute any surface water, or create nuisances or otherwise constitute a hazard to public health and safety. Liquid waste disposal facilities shall be constructed for each four sites to receive dishwater and other liquid wastes.

GARBAGE AND REFUSE DISPOSAL -

All garbage and refuse shall be stored and disposed of in a manner that will not create or tend to create a nuisance, or provide a breeding place for flies. Garbage and refuse containers shall be constructed of non-absorbent materials with tight fitting lids. All containers shall be washed at least once each week and sprayed with effective insecticides. Garbage or refuse containers shall be supplied for each four tent sites and shall be not more than 200 feet from the farthest tent site. Containers shall be emptied twice weekly or more often if required. Garbage and refuse may be disposed of by incineration, burying or other means acceptable to the Board. Open refuse dumps are prohibited. Garbage pits constructed according to standards of the Board may be used for installations of less than 10 sites.

PICNIC AREAS -

Picnic areas shall be provided with suitable toilets, or privies and refuse containers consistent with the usage demands. Such facilities shall be constructed in accordance with standards of the Board.

DOGS - LEASHING, MUZZLING -

No dog shall be permitted within a tourist camp unless such dog is wearing an effective and satisfactorily adjusted muzzle; or is held in leash, the length of the leash not to exceed 6 feet; or is securely chained to the owner's car, the length of the chain not to exceed 6 feet.

For the purpose of this regulation the owner or, in his absence, the responsible head of the group with which the dog is traveling shall be held responsible for compliance with the requirements of this order. The operator of any tourist camp shall cause the above order to be posted in a conspicuous place at the entrance or entrances of each tourist camp, and further, shall see that the requirements of the above order are enforced.

SWIMMING AREAS -

Natural swimming areas shall be located only on lakes and streams which are relatively free from human, animal, and industrial pollution, and where swimming will not endanger the quality of a domestic water supply.

Swimming areas shall be located at least 75 feet (preferably 150 feet) from boat docks or boat landing slips and shall be "roped-off" by floats and cables to designate the safe limits of the swimming area. Artificial swimming and wading pools shall be constructed in accordance with standards of the Board.

CARETAKER -

A caretaker or tourist camp supervisor shall be available at all times to register guests and control the activities of the campers. This requirement shall not apply to non-commercial wilderness camp sites.

SUBMISSION OF PLANS -

No tourist camp shall be constructed nor shall any system of plumbing, sewerage system, water supply or swimming

pool for any tourist camp be installed or altered until plans have been submitted to and approved by the Board.

EFFECTIVE DATE -

The regulation shall become effective September 1, 1962.]

(a) Definition of "Camp." The term "camp," as used in this regulation, shall include any lumber camp, construction camp, or other industrial camp in which five or more men are employed and housed in temporary quarters, such as cars, wagons, tents, buildings, or other enclosures, but shall not include the bona fide homes of the employees, nor buildings used as hotels, restaurants, lodging houses, boarding houses, and places of refreshment, as are defined in Minnesota Statutes 1941, Section 157.01.

(b) Camp Site. Every camp shall be located on a site that is well drained, and if occupied during the months of June to October, inclusive, shall be as far as practical from any swamp or pool of stagnant water. No such camp shall be located along or near a road where excessive dust exists, unless such dust is controlled by the sprinkling of the road with water, oil, or other adequate dust control material.

(c) Arrangement of Buildings. The buildings shall be so arranged on the camp site that the stables shall be separated from the kitchen, dining, eating, living, and sleeping quarters by a distance of at least 100 feet. The stables shall be located so that the surface drainage from the stables will not be in the direction of the kitchen, dining, eating, living, or sleeping quarters. All kitchen and eating quarters shall be in separate buildings.

(d) Sleeping Quarters; Cubic Contents. Every temporary building, car, wagon, or other enclosure, except tents, occupied as sleeping quarters by the employes engaged in any camp shall contain at least 300 cubic feet of air space for every occupant thereof, and, with the exception of tents, shall be supplied with windows for purposes of light and ventilation. The windows shall be constructed so as to be easily opened, and so spaced that there will be a window on at least one side of each bunk. The windows shall be of such size that their total net area will be not less than ten per cent of the floor area of the room, and shall be so constructed as to readily open the equivalent of at least four per cent of the floor area. They shall be so located that all parts of the structure are properly ventilated. Tents having canvas walls and roof must be supplied with wooden floors corresponding in size to the dimensions of the tents. The canvas sides may be fastened to the edges of the floor. A door frame of wood must be set up at the entrances of the tent and fitted with a board and/or screen door, as the season demands. No windows will be required in tents. Provided that the provisions in this regulation for the location of windows shall not apply to lumber camps.

Provision must be made for the drying of clothes in a separate room, or otherwise in a place and manner which may be approved by the State Board of Health. A separate room or compartment also shall be provided for fumigating clothing and bedding, and proper fumigating material shall be furnished and available to the employees at all times.

Provided that if any deviations from the requirements set forth in this section appear to be justified in any special case, they may be granted by the Executive Officer of the State Board of Health upon written approval thereof by the State Industrial Commission.

(e) Screens. All kitchens, dining, eating, living, and sleeping quarters used during the months of June to October, inclusive, must be effectively screened with full screens on the windows and doors to keep out flies and mosquitoes. The screens shall not have larger than 16-mesh, and the doors shall be self-closing.

(f) Floors. All kitchens, dining, eating, living, and sleeping quarters hereafter constructed shall be provided with floors of wood, concrete, or some other satisfactory material. If the floors are of wood, they shall be constructed of matched lumber or shiplap, or in two layers of boards laid crosswise and made tight.

(g) Bunks. Bunks shall be at least 12 inches above the floor and shall be arranged so that at least one side is accessible for the purpose of being made up. All bunks hereafter purchased or acquired for use in camps shall be constructed of iron, and shall be not less than 42 inches wide and 6½ feet long. Bunk houses hereafter constructed shall house not more than 40 persons, and shall have two outside exits. Where two tier bunks are used, the distance between the ceiling over the upper bunks and the floor under the lower bunks shall be not less than 10 feet. Bunks shall be furnished with mattresses or with ticks filled with clean hay or straw. If mattresses are used, slips shall be provided. Clean, dry straw or hay for bedding shall be available at all times. Whenever a different individual occupies a bunk, clean mattress slips, blankets and clean hay or straw must be provided. If pillow slips are used, they shall be washed at least once each week. Cotton or cotton flannel blankets shall be washed at least every two weeks. Blankets, whether of wool or cotton, must be hung outside for airing at least once each week. Not more than one employee shall be required or permitted to sleep in a bunk at the same time, and all of them shall be required to sleep between cotton or cotton flannel blankets or sheets. Blankets or other covers suitable for the prevailing temperatures shall be provided.

(h) Cleaning of Quarters. The kitchen, dining, eating, living, and sleeping quarters must be scrubbed thoroughly at least once each week, and the floors must be swept daily. Dry sweeping is not permitted.

(i) Heating; Ventilation. Kitchens, dining, eating, living, and sleeping quarters that are occupied shall be heated by means of suitable stoves, furnaces, steam or hot water plant of sufficient capacity to heat such quarters to a temperature of not less than 70 degrees Fahrenheit during the coldest weather. Provisions for adequate ventilation of all camp quarters by means of windows, doors, or ceiling openings must be made.

(j) Water Supply. Every camp shall be provided with an adequate supply of good, sanitary water from a source which will meet the standards of the State Board of Health.

(k) Toilets. Wherever water under pressure is readily available and a municipal sewerage system is available for the camp site, water flush toilets shall be used. If a municipal sewerage system is not available and water flush toilets are used, a sewage treatment plant constructed and operated in accordance with the standards of the State Board of Health shall be provided. Where water flush toilets are not required, privies of the pit type may be used. Such privies hereafter constructed must be constructed and operated in accordance with the standards of the State Board of Health. All toilets and privies must be well ventilated and lighted and provided with some means of artificial lighting at night. All toilets and privies must be maintained in a clean and sanitary condition. Toilets and privies must be supplied with paper at all times. Toilets of the privy or pit type hereafter constructed must be located at least 100 feet from the kitchen, dining, eating, living, and sleeping quarters, and must be so located that the surface drainage from them is not in the direction of the water supply, or the kitchen, dining, eating, living, and sleeping quarters.

Toilet facilities shall be provided in the following ratio: where there are 100 or less persons employed on a shift, there shall be one seat for every 10 persons; where there are 100 to 500 persons on a shift, there shall be one seat to every 15 persons; where there are 500 to 1,000 persons on a shift, there shall be one seat to every 20 persons; and where there are over 1,000 persons on a shift, there shall be one seat to every 30 persons.

Where more than 100 men are employed on a shift, there shall, in addition to the seats required by this section, be provided one urinal for every 50 men. Urinals shall be either individual or slab urinals. Two feet of slab urinal shall be considered the equivalent of one individual urinal.

Separate toilet facilities shall be provided for men and wo[illegible]

NUISANCES
ANNUAL SANITARY INSPECTION

MHD 246 The health officer of each city and village in the State of Minnesota shall make a thorough sanitary inspection of his municipality in the month of May, and present a written report of such inspection, together with his recommendations, to the council on or before the first day of June of the year in which the inspection is made. The health officer shall send a copy of this report to the Minnesota State Board of Health before July 1st of the same year. Other sanitary inspection shall be made during each year if deemed necessary.

MHD 247 Preceding the regular May sanitary inspection, the health officer of each city and village shall publish in a local paper, or by means of bills posted in two or more conspicuous places, an order for the citizens to thoroughly clean all yards, vaults and cesspools, also all sheds or barns containing manure, on or before a given date. If upon inspection this general order is found not to have been carried out, then like individual notices shall be served.

MHD 248 CESSPOOLS AND PRIVIES

(a) All human excreta in cities and villages shall be deposited in sewers, cesspools and vaults. The cesspools and vaults must be made fly-proof.

(b) Permanent privy vaults which are of water-tight construction must be cleaned out at least once a year and at such other times as may be considered necessary by the local health officer. The contents of these vaults shall be disinfected with chloride of lime or some other equally efficient disinfectant before it is removed.

Earth pits used as privy vaults shall be abandoned before they are entirely filled. A new pit shall be dug, over which the privy building shall be moved, and the contents of the old privy vault shall be covered with at least one foot of earth.

MHD 249 DISPOSAL OF DEAD ANIMALS

No carcass of any dead animal shall be left unburied in the State of Minnesota, nor shall it be thrown into any stream, lake, pond, well, or other body of water therein.

Any such carcass shall be buried by the owner so that it will be covered by at least three feet of earth.

Burial shall be made within twenty-four (24) hours after death, and in all cases of death from a communicable disease the body shall be thoroughly enveloped in quicklime.

At all municipal dumping grounds where carcasses are disposed of, provision must be made for their immediate burial.

In lieu of the foregoing the dead bodies of animals may be burned.

MHD 250 GARBAGE FEEDING

(a) The collection of garbage in cities and villages in Minnesota must be carried on in water-tight receptacles with closed tops. Householders, whose garbage is to be collected under the supervision of a city or village board of health must provide covered water-tight cans or containers of such size and form as to permit of their being emptied into the collecting receptacle by one man.

(b) Garbage collected in cities and villages in Minnesota to be used as food for hogs, cattle and other animals must be kept in water-tight boxes or cans under cover and protected from the weather. These garbage receptacles must be scalded at least twice a week during the time from April 1st to October 1st, and once a week during the rest of the year, in a manner satisfactory to the local health officer or a representative of the Minnesota State Board of Health.

(c) Garbage collected in cities and villages in Minnesota and fed to hogs, cattle or other animals must be fed on or over water-tight floors built at least one foot above the ground, with water-tight sides to a height of one foot above the floor. Pens and floors constructed as a place for feeding of garbage must be approved as to their construction by the local health officer or a representative of the Minnesota State Board of Health.

(d) The word "garbage" as used in the preceding rules shall be construed to refer to the accumulation of animal or vegetable matter from kitchens, pantries, dining rooms or other parts of hotels, restaurants, boarding houses, tenement houses, dwelling houses, public institutions, market houses, fruit and vegetable stores, commission houses and grocery stores.

MHD 251 RENDERING ESTABLISHMENTS

(a) No person shall produce, manufacture or convert into any article of commerce, by any process, in any room wherein any article of human food is produced, manufactured or handled, any part of an animal carcass slaughtered when not in good health, or any butcher's offal as the same is defined in Regulation 11004, or any decaying or unwholesome animal matter.

(b) Butcher's offal, for the purpose of these rules and regulations, is defined to be all meat, tallow, fat, fish, and all scraps and odds and ends of the same, and all bones which have become in any degree decayed or unwholesome, or which have been put into any unclean receptacle or in contact with any tainted article of any kind.

MHD 252 SLAUGHTER HOUSES

(a) All slaughter houses must have an abundant supply of water from a well or other source which is not contaminated. This water must be applied with adequate pressure through a hose to all parts of the room or rooms used for the purpose of slaughtering or preparing meats for consumption as human food.

(b) All slaughter houses must have suitable water-tight floors and proper subdrainage. The floors must be thoroughly washed each day after the slaughtering is completed.

(c) The walls and all exposed surfaces on the inside of a slaughter house must be cleaned by washing or scraping as often as necessary in order to keep the premises in proper sanitary condition. If the walls are not painted they must be calcimined or white-washed at least once a month. Painted walls must be re-painted at least once a year.

MHD 253 KEEPING HOGS AT SLAUGHTER HOUSES

(a) Feeding with Offal. All offal and refuse must be removed from the slaughter house on the day of slaughtering and disposed of in a sanitary manner. The feeding of hogs or other animals on offal from or at a slaughter house is absolutely forbidden.

(b) All animals kept in yards near the slaughter house must be treated in a humane manner, and if kept over twelve (12) hours must be properly fed. The animals must be watered frequently. All pens and enclosures connected with any slaughter house must be kept in a sanitary condition.

(c) No slaughtering shall be done in barns, sheds, shipping pens or other buildings not designed or suitable for the slaughtering of animals and the handling, dressing and cooling of meats; nor shall any slaughtering be done outside of any building except in rural districts and for private consumption.

Cooling and storage rooms for meats must be properly ventilated.

MHD 254 HATTERS' FUR

(a) Definitions. For the purpose of carrying out the provisions of this regulation the following terms are defined:

Hatters' Fur is any animal fiber or other substance used in the manufacture of hats, which is treated or otherwise prepared by the process of, or, in a manner similar to that of carroting.

Carroting is a process of treating hatters' fur with mercury nitrate or any other solution or material for the purpose of rendering the hatters' fur suitable in the manufacture of hats.

Mercurial carrot is any solution or material containing mercury or its compounds in combination with nitric acid or other materials and used in the carroting or preparation of hatters' fur.

(b) Effective January 1, 1942, the use of mercurial carrot in the preparation of hatters' fur, or the use of mercurial carroted hatters' fur in the manufacture of hats, is prohibited; provided that any hat manufacturer or fur cutter having mercurial carroted hatters' fur on hand January 1, 1942 may use said fur until it is consumed.

STATE OF MINNESOTA

COUNTY OF HENNEPIN

BEFORE THE MINNESOTA

STATE BOARD OF HEALTH

In the Matter of Proposed
Rules Relating to Public
Water Supplies

ORDER FOR HEARING

To effectively implement Minn. Laws, Chap. 66 § 3(e)(1977), the Minnesota State Board of Health deems it necessary to consider adoption of the proposed rules captioned above pursuant to the authority vested in it by Minn. Laws, Chap. 66 § 3(e)(1977).

NOW, THEREFORE, IT IS ORDERED this 18th day of May, 1977 that a public hearing on the proposed rules captioned above be held in the Board Room, Minnesota Department of Health Building, 717 Delaware Street S.E., Minneapolis, Minnesota, on July 7, 1977, commencing at 9:30 a.m., and continuing until all persons or representatives of associations or other interested groups have had an opportunity to be heard.

IT IS FURTHER ORDERED, that notice of said hearing be published in the State Register and be given to all persons or representatives of associations or other interested groups who have registered their names with the Secretary of State for that purpose and to all persons who are presently members of the Minnesota Legislature.

STATE OF MINNESOTA

BOARD OF HEALTH

WARREN R. LAWSON, M.D.
Secretary and Executive Officer

STATE OF MINNESOTA

COUNTY OF HENNEPIN

BEFORE THE MINNESOTA

STATE BOARD OF HEALTH

In the Matter of Proposed
Rule Relating to Water
Haulers

ORDER FOR HEARING

To effectively implement Minn. Stat. § 144.12 Subd. 1(5)(1976) as amended by Minn. Laws, Chap. 66 § 9(1977), the Minnesota State Board of Health deems it necessary to consider adoption of the proposed rule captioned above pursuant to the authority vested in it by Minn. Stat. § 144.12 Subd. 1(5) (1976) as amended by Minn. Laws, Chap. 66 § 9(1977).

NOW, THEREFORE, IT IS ORDERED this 15th day of May, 1977, that a public hearing on the proposed rule captioned above be held in the Board Room, Minnesota Department of Health Building, 717 Delaware Street S.E., Minneapolis, Minnesota, on July 7, 1977, commencing at 9:30 a.m., and continuing until all persons or representatives of associations or other interested groups have had an opportunity to be heard.

IT IS FURTHER ORDERED, that notice of said hearing be published in the State Register and be given to all persons or representatives of associations or other interested groups who have registered their names with the Secretary of State for that purpose and to all persons who are presently members of the Minnesota Legislature.

STATE OF MINNESOTA

BOARD OF HEALTH

WARREN R. LAWSON, M.D.
Secretary and Executive Officer

STATE OF MINNESOTA

COUNTY OF HENNEPIN

BEFORE THE MINNESOTA

STATE BOARD OF HEALTH

In the Matter of Proposed
Repeal of Rules Relating to
Tourist Camps, Industrial
Camps,
Miscellaneous Nuisances,
and Hatters' Fur

ORDER FOR HEARING

To effectively implement Minn. Stat. § 144.05(g)(1976), the Minnesota State Board of Health deems it necessary to consider repealing the rules captioned above pursuant to authority vested in it by Minn. Stat. § 144.05(g), § 144.12 Subd. 1, § 15.0412 (1976).

NOW, THEREFORE, IT IS ORDERED this 18th day of May, 1977, that a public hearing on the proposed repeal of the rules captioned above be held in the Board Room, Minnesota Department of Health Building, 717 Delaware Street S.E., Minneapolis, Minnesota, on July 7, 1977, commencing at 9:30 a.m. , and continuing until all persons or representatives of associations or other interested groups have had an opportunity to be heard.

IT IS FURTHER ORDERED, that notice of said hearing be published in the State Register and be given to all persons or representatives of associations or other interested groups who have registered their names with the Secretary of State for that purpose and to all persons who are presently members of the Minnesota Legislature.

STATE OF MINNESOTA

BOARD OF HEALTH

WARREN R. LAWSON, M.D.
Secretary and Executive Officer

STATE OF MINNESOTA

COUNTY OF HENNEPIN

BEFORE THE MINNESOTA

BOARD OF HEALTH

In the Matter of Proposed Rules Relating to Public Water Supplies, to Water Haulers, and to the Repeal of Rules Relating to Tourist Camps, Industrial Camps, Miscellaneous Nuisances and Hatters' Fur

CERTIFICATE OF RESOLUTION

STATE OF MINNESOTA)
) ss
COUNTY OF HENNEPIN)

I, Warren R. Lawson, M.D., Secretary and Executive Officer of the Minnesota State Board of Health, hereafter the Board, first being duly sworn on oath, hereby certify that the following resolutions were passed by unanimous vote of the Board at its duly constituted meeting of April 14, 1977, at which a quorum was present:

RESOLVED that W.R. Lawson, M.D., Secretary and Executive Officer of the Minnesota State Board of Health be and he hereby is granted the authority and directed to call a hearing for the purpose of promulgating rules of the Board of Health relating to Public Water Supplies, as well as perform any and all acts incidental thereto, including but without being limited thereto, signing an order for hearing and notice of hearing as well as requesting the appointment of a hearing examiner for all hearings, as soon as the Safe Drinking Water Act of 1977 has been signed into law.

RESOLVED, that W.R. Lawson, M.D., Secretary and Executive Officer of the Minnesota State Board of Health be and hereby is granted the authority and directed to call a hearing for the purpose of promulgating rules of the Board of Health relating to Water Haulers as well as perform any and all acts incidental thereto, including but without being limited thereto, signing an order for hearing and notice of hearing as well as requesting the appointment of a hearing examiner for all hearings, as soon as the Safe Drinking Water Act of 1977 has been signed into law.

RESOLVED, that Warren R. Lawson, M.D., Secretary and Executive Officer of the Minnesota State Board of Health, be and hereby is granted the authority and directed to call a hearing for the purpose of repealing:

MHD 195 relating to tourist camps,
MHD 198 relating to industrial and lumber camps,
MHD 204 relating to migrant labor camps,
MHD 246 through 253 relating to nuisances,
MHD 254 relating to hatters' fur.

as well as perform any and all acts incidental thereto, including but without being limited thereto, signing an order for hearing and notice of hearing as well as requesting the appointment of a hearing examiner for all hearings.

STATE OF MINNESOTA

BOARD OF HEALTH

WARREN R. LAWSON, M.D.
Secretary and Executive Officer

Subscribed and sworn to
before me this 20 day of
May, 1977.

Louise Kaniuk
Henn Co.
Comm. Expires Feb. 23, 1984

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

STATE OF MINNESOTA

COUNTY OF RAMSEY

In the Matter of the Proposed Rules Relating to Public Water Supplies, to Water Haulers, and to the Repeal of Rules Relating to Tourist Camps, Industrial Camps, Miscellaneous Nuisances, and Hatters' Fur.

CERTIFICATE

I hereby certify that the 506 general labels and 6 page list for the Minnesota State Department of Health, all of which are attached and made a part hereof, constitute the complete lists of persons, associations, and other interested groups who as of 8:15 o'clock a.m., this 2nd day of June, 1977, have requested pursuant to Minn. Stat. § 15.0412 subd. 4(1976), that their names be placed on file with the Secretary of State for the purpose of receiving notice of public hearing on proposed rules and amendments thereto on the subject captioned above.

SECRETARY OF STATE

JOAN ANDERSON GROWE

Joan Anderson Growe

By Cecil Dunn

STATE OF MINNESOTA

COUNTY OF HENNEPIN

In the Matter of the Proposed Rules Relating to Public Water Supplies, to Water Haulers, and to the Repeal of Rules Relating to Tourist Camps, Industrial Camps, Miscellaneous Nuisances, and Hatters' Fur.

AFFIDAVIT OF MAILING

Carol H. Egan, being first duly sworn, deposes and says:

That on the 3rd day of June, 1977, 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 of the Secretary of State attached and made a part hereof as Exhibit A, to all persons and associations at the addresses listed on Exhibit B, attached and made a part hereof, as well as to all members of the Minnesota Legislature as of the date of mailing.

Carol H. Egan
CAROL H. EGAN

Subscribed and sworn to before me this 3 day of June, 1977.

Louise Kanuk

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

STATE OF MINNESOTA

COUNTY OF HENNEPIN

BEFORE THE MINNESOTA

STATE BOARD OF HEALTH

In the Matter of Proposed Rule Relating to Water Haulers

STATEMENT OF NEED

The need to adopt this rule arises because recent drought conditions in the state have resulted in the creation of an environmental health risk. A number of persons have entered the business of hauling drinking water in tank trucks which have been previously used to haul toxic substances and which have not been properly cleaned before filling them with drinking water. Residues of these toxic substances could cause serious illness in humans and this practice should be prohibited.

The authority to adopt this rule arises from a legislative mandate allowing the Minnesota State Board of Health to adopt rules which regulate the distribution of water by persons for drinking or domestic use (Minn. Stats. § 144.12 Subd. 1 (5) (1976), as amended by Minn. Laws 1977, Chap. 66, § 9)), and to establish and enforce environmental health standards for the protection of the public health. Minn. Stats. § 144.05 (c) (1976).

STATE OF MINNEOSTA

BOARD OF HEALTH

WARREN R. LAWSON, M.D.
Secretary and Executive Officer

STATE OF MINNESOTA

COUNTY OF HENNEPIN

BEFORE THE MINNESOTA

STATE BOARD OF HEALTH

In the Matter of Proposed
Rules Relating to
Public Water Supplies

STATEMENT OF NEED

The above-captioned rules are not amendments to existing rules of the State Board of Health.

The need to adopt these rules arises because of legislative mandate authorizing the State Board of Health to adopt rules which are no less stringent than federal regulations relating to public water supplies, contained in Minn. Laws Chap. 66 § 3(e)(1977).

STATE OF MINNESOTA

BOARD OF HEALTH

WARREN R. LAWSON, M.D.
Secretary and Executive Officer

STATE OF MINNESOTA

COUNTY OF HENNEPIN

BEFORE THE MINNESOTA

STATE BOARD OF HEALTH

In the Matter of Proposed
Repeal of Rules Relating to
Tourist Camps, Industrial Camps,
Miscellaneous Nuisances,
and Hatters' Fur.

STATEMENT OF NEED

The need to repeal these rules arises because of the fact that the protection of the public health no longer requires the above-captioned rules and because their retention creates needless confusion and makes the applicability of related rules difficult and unpredictable.

STATE OF MINNESOTA

BOARD OF HEALTH

WARREN R. LAWSON, M.D.
Secretary and Executive Officer

JUSTIFICATION

FOR PROPOSED MHD 145 - 150

and

FOR REPEAL OF MHD 195, 198, 246 - 254.

INTRODUCTION

In 1974, the U.S. Congress passed the Safe Drinking Water Act, PL 93-523. The Federal Act allows a state to assume the primary responsibility for enforcing the terms of the Federal Act, i.e., to assume primacy. A state may assume primacy if it has adopted standards and procedures which are as stringent as those adopted by the U.S. EPA pursuant to the Federal Act.

The Minnesota Legislature enacted a state statute, Minnesota Laws 1977, Chap. 66, § 1 - 11, for the purpose of allowing the state to assume primacy. Section 3(e) of the state statute authorizes the State Board of Health to adopt rules no less stringent than the comparable federal regulations. Further evidence of the fact that the Legislature intended that this statute was enacted specifically for the purpose of implementing the federal program may be found in the state statute. Section 8 states that the enabling provisions of the state law "shall expire 30 days after the conclusion of any fiscal year in which the federal government pays for less than 40 percent of the cost of administering [the enabling provisions] ". Minn Laws, 1977, Chap. 66, § 8.

The following rules, MHD 145-149, are proposed for adoption pursuant to Minnesota Laws, 1977, Chap. 66, § 3(e). These rules incorporate all the standards and procedures which the Federal Act requires of a state which seeks to assume primacy. 42 U.S.C. § 300f. et seq. (1975), 41 Fed Reg. 2918 (Jan. 20, 1976). Where noted below in the discussion for each of the proposed rules, this rationale will be referred to as the federal requirement. It serves as the principal justification for these rules. Each rule embodies only those procedures and standards which are required by the terms of the Federal Act. Therefore each rule is both reasonable -- a legislative determination made when the state statute was enacted, and necessary, because it is required by both the Federal Act and the state statute.

We will note those areas where the proposed rules prescribe a standard which is more strict than the comparable federal standard, or where the proposed rules prescribe a procedure which is optional or not even discussed in the federal regulations. If a section or a part of a rule is not commented upon, the reader can assume that the section or part repeats the language of a federal requirement.

MHD 145 A.

This section serves as an introduction to the implementation of the Minnesota Safe Drinking Water Act of 1977 and to the rules authorized thereunder, and states the rationale underlying the adoption of these rules. The subjects discussed below are introduced here in order to give the reader a broad overview of the context in which these rules will be interpreted. The information given here is necessary in order to alert both the general public, who will benefit from the policies promoted by the state statute, and the supplier, who must comply with the provisions of the statute, to the procedures the Board will follow in implementing and enforcing the statute. Because this section informs the reader as to the purposes and goals of these rules, it helps implement the statute and is therefore reasonable and necessary.

MHD 145 B.

MHD 145 B deals with 20 terms which are used with varying frequency throughout these rules. These definitions are proposed to inform the reader of the intended meaning of the terms being used. This part includes the definitions adopted in Minn. Laws Chap. 66 § 2 (1977) in order to eliminate the need for cross-referencing several documents, and to facilitate the supplier's task of reading and understanding the rules as they might apply to his facility. Many of the definitions were taken directly from the federal regulations because they define terms of art which have little or no meaning to persons outside the profession in which they are used. Inclusion of these terms serves to further a more consistent interpretation of the rules. These definitions are also necessary in that their adoption precludes the use of different or contrary meanings which might lead to a different interpretation of the rules than the one intended.

MHD 145 B.1.

"Board" is defined as including any authorized representative of the Board because most of the day-to-day activities of the water supply inspection and enforcement program will be carried on by delegates of the Board, e.g., engineers and sanitarians, rather than by the Board members themselves. This definition reflects a delegation of authority which is permitted by statute. Minn. Stats. § 144.03 (1976); Minn.

Stats. § 15.06 Subd. 2,3 (1976). However, since the state statute authorizes the Board to implement the legislative mandate, the Board is the only body with authority to carry out the assigned duties. Therefore, the Board must be named in the rules as the entity which is ultimately responsible for taking any such action.

MHD 145 B.2.a.

"Community water supply" incorporates the statutory definition for public water supply. Minn. Laws, Chap. 66 Sec. 2, Subd. 4 (1977). The term is similarly defined in the federal regulations. 40 Fed. Reg. 59570 § 141,2(e)(i) (Dec. 24, 1975).

MHD 145 B.2.b.

"Non-community water supply" is a type of public water supply as defined in Minn. Laws, Chap. 66 Sec. 2 Subd. 4 (1977), which serves only a transient or non-resident population. The federal regulations state that a non-community supply is a public water supply which is not a community supply. 40 Fed. Reg. 59570 Sec. 141.2(e)(ii) (Dec. 24, 1975).
The list of examples is added only for purposes of illustration.

MHD 145 B.3.

"Dose equivalent" is identically defined in the federal regulations. 41 Fed. Reg. 28403, § 141.2(j)(July 9, 1976). This definition is a term of art, a standard unit of measure used by experts in the field of radiation technology. The definition is reproduced because the term is one not generally found in the layman's vocabulary.

MHD 145 B.4.

"Exemption" is defined here as a separate term to supplement its working definition in MHD 148. It is believed that a separate, succinct definition of the term would be very helpful in distinguishing this kind of waiver from a variance. The conditions which are incorporated in this definition are imposed by the Federal Act and regulations upon any administrative body which grants such waivers. 42 USC § 300 g-5 (1975), 41 Fed. Reg. 2924, § 142.44 (Jan. 20, 1976).

MHD 145 B.5.

"Federal Act" is defined because this short hand term is frequently used in the rules in place of its full name, "Safe

Drinking Water Act of 1974," and because it is intended that the term shall mean only the federal "Safe Drinking Water Act" and amendments thereto.

MHD 145 B.6.

"Federal regulations" is defined as such because it is much easier to use the "short hand" name than to have to use the long phrase "the regulations promulgated by the U.S. EPA" every time the rules refer to those federal regulations.

MHD 145 B.7.

"Gross alpha particle activity" is so defined in the federal regulations (41 Fed. Reg. 28403 § 141.2(m) (July 9, 1976)) and is a standard unit of measure. See further explanation at B.3. above.

MHD 145 B.8.

"Gross beta particle activity" is so defined in the federal regulations (41 Fed. Reg. 28404 § 141.2(o) (July 9, 1976)) and is a standard unit of measure. See further explanation at B.3. above.

MHD 145 B.9.

"Man-made beta particle and photon emitters" is so defined in the federal regulations. 41 Fed. Reg. 28404 § 141.2(n) (July 9, 1976). See further explanation at B.3. above.

MHD 145 B.10.

"Maximum contaminant level" is so defined in the federal regulations. 40 Fed. Reg. 59570 § 141.2(c) (Dec. 24, 1975). The term and its definition for use in these rules has been proposed in order to assure uniformity wherever the term is used. The phrase "delivered to the free flowing outlet of the ultimate user" means that a public water supply is responsible for sufficiently stabilizing (treating) the water it is distributing to assure that no corrosion occurs and to assure that the maximum levels are not exceeded anywhere along the distribution system. However, the definition further states that the supplier will not be responsible for corrosion which might be caused by any process which the user himself has introduced, such as a water softener or filter. This is a reasonable allocation of responsibilities, in view of the fact that the supplier has no control over a process which the user has introduced. The

legislation seeks to regulate the activities of suppliers and not those of individual users. This definition is in accord with the legislative purpose.

MHD 145 B.11.

"Person" is similarly defined in Minn. Stats. § 645.44 subd. 1 (1976). The definition is included here merely as an aid to those who might read the rules without having a copy of the statutes readily at hand.

MHD 145 B.12.

"Picocurie" is so defined in the federal regulations, (41 Fed. Reg. 28403 § 141.2(l) (July 9,1976) and is a standard unit of measure. See further explanation at B.3. above.

MHD 145 B.13.

"Public water supply" is similarly defined in the federal regulations. 40 Fed. Reg. 59570 § 141.2(e) (Dec. 24, 1975). In deciding whether to adopt criteria similar to those incorporated in the federal regulations, the following was considered:

1) adoption of the federal definition is all that is required of a state which seeks to achieve primacy under the Federal Act;

2) expanding the federal definition to include systems which supply fewer than 15 service connections or living units or 25 people would increase the enforcement task of the Minnesota Department of Health far beyond its projected capability, without necessarily increasing the ultimate level of protection to the public health; and

3) current plan review and sanitary survey activities of the Minnesota Department of Health, under existing statutes, have applied a similar lower limit. A fair consideration of all the above points has led to the adoption of the criteria contained in the federal definition.

The use of the word "supply" is made throughout the rules as often as grammar and style would permit, rather than the word "system" which is used in the federal regulations, in order to maintain a continuity of terminology with existing state statutes and rules. However, in order to assure that the state rules are not found to be in conflict with the federal regulations, the definition of public water

supply states that the term "public water supply" means a "system for the provision of piped water...", thus incorporating the federal definition.

MHD 145 B.14.

"Rem" is so defined in the federal regulations (41 Fed. Reg. 28403 § 141.2(k), (July 9, 1976)) and is a standard unit of measure. See further explanation at B.3.

MHD 145 B.15.

"Sanitary survey" is so defined in the federal regulations. 40 Fed. Reg. 59570, § 141.2(f), (Dec. 24, 1975). We have chosen to define the term here because it is a term of art among the professionals in the field of water supply, and because it is not a phrase which is common to the layman's vocabulary.

MHD 145 B.16.

"Standard sample" is so defined in the federal regulations (40 Fed. Reg. 59570 § 141.2(g) (Dec. 24, 1975)) and is used in these proposed rules as a shorthand term in place of the longer working definition which is given in MHD 146.

MHD 145 B.17.

"Supplier" of water is similarly but more restrictively defined in the federal regulations. 40 Fed. Reg. 59570 § 141.2(i) (Dec. 24, 1975). "Managing" as an activity which will make a person a "supplier" for the purpose of the state rule, was added in order to assure that there will be one more identifiable person against whom an enforcement action could be brought. By including the term "manages" it is possible to name as a defendant one who might otherwise attempt to avoid being named as a party by calling himself a "mere manager."

The phrase "...whether or not he is an operator certified pursuant to Minn. Stats. ..." is included so that a person who is named as a supplier in an enforcement action cannot argue that he is not a supply operator and is therefore not a supplier only because he is not certified. Although the statutes require that an operator be certified, there are many uncertified operators in Minnesota, particularly in smaller communities. The purpose of the definition is to include these uncertified operators and to make them equally chargeable.

MHD 145 B.18.

"Turbidity unit" is defined here because, although the term is frequently used throughout the rules, there is no explanation of the term given anywhere. Since the term is not one which is common to the layman's vocabulary and because there is not an obvious point of reference, a definition was necessary in order to assure adequate notice to all concerned.

MHD 145 B.19.

"Variance" is separately defined here in addition to its working definition in MHD 148 because of a need for a succinct and understandable definition which would help distinguish this kind of waiver from an exemption. The conditions which are incorporated therein are those which the Federal Act and regulations impose upon any administrative authority which will grant such a waiver. 42 U.S.C. § 300, g-4 (1975); 41 Fed. Reg. 2925 § 142.54 (Jan. 20, 1976). Since the conditions listed are the same as those which would be considered if variances were to be issued without reference to the Federal Act, the conditions prescribed in the federal regulations and imposed here are reasonable.

MHD 145 B.20.

"Year-round resident" is used in the federal regulations but is not defined there. The term is defined to include those who reside in the area served for more than six months of the year, because it is believed that the Legislature intended that all Minnesotans should be entitled to the advantages sought to be achieved by the state statute. There are many thousands of Minnesota residents who spend a portion of the year in other states, but who nevertheless spend six months or more in Minnesota. Adoption of this expanded definition assures that at least for the six months that these people are spending in Minnesota, they will be drinking water of the same quality as that which is available to residents who spend the entire year here.

MHD 145 C.1.

MHD Rule 145 C.1. describes the scope of these rules. It helps inform one who is not familiar with the activities involved in water supply regulation or with the federal requirements of the activities which the Board is authorized to regulate pursuant to statutory authority. This paragraph

expands on the statutory language (Minn. Laws Chp. 66 § 3(e) (1977)) which requires that the Board promulgate rules no less stringent than the federal regulations. The federal regulations require that a state agency adopt rules in all the areas which are listed here, and the rule fulfills these federal requirements. 41 Fed. Reg. 2919, § 142.10, (Jan. 20, 1976).

MHD 145 C.2.

MHD 145 C.2. states that the rules apply to all public water supplies as defined earlier, and that the standards and procedures contained in these rules must be complied with regardless of any other standards or procedures which might be imposed on public drinking water supplies. This provision is necessary to alert suppliers to the fact that compliance with a water quality standard imposed by another agency of the state or federal government does not excuse him from complying with the standards and procedures prescribed in these rules. For example, a supplier may be subject to regulation under two sets of standards: 1) a water pollution maximum contaminant level of 10 bacteria per 100 ml, and 2) a drinking water quality maximum contaminant level of 4 bacteria per 100 ml. MHD 145 C.2 states that for the purpose of the state statutes, such a supplier must comply with the drinking water quality standard regardless of whether or not he is complying with the water pollution standard. Similarly, a supplier cannot be excused from monitoring according to the frequency specified in these proposed rules, even if he must monitor more or less frequently to satisfy the requirement of other rules which do not specifically deal with the quality of drinking water.

The exception for federal facilities is made because the U.S. Constitution does not allow for enforcement against federal facilities of state standards which are stricter than those adopted in the federal regulations without the acquiescense of the federal government. Because the proposed rules do include requirements which are stricter than those in the federal regulations, it is questionable whether the State has the authority to enforce any of the proposed public water supply rules against federal facilities in the state. Although this jurisdictional issue does not affect the rights and duties of the other supplies which will be regulated under these rules, and even though no duty exists towards the federal government to include such an exception in these rules, the statement of exemption is useful in that it puts all facilities on notice that federal facilities will not be required to comply with the rules.

MHD 145 C.3.

MHD 145 C.3. repeats an exception provided in the federal regulation. 40 Fed. Reg. 59570 § 141.3, Dec. 24, 1975. An example of such an exempted facility would be a pumping substation which does not separately treat or resell water coming from a regulated water supply owned by another entity. Such a pumping substation would not have to comply with these rules. The exception is really a narrow one since very few facilities will be able to meet all four criteria. Nevertheless, this exception is proposed because the alternative, i.e., to not exempt such a facility, would only result in needless duplication of effort without contributing at all to the preservation of health.

MHD 146. Justification -- General Remarks

MHD 146 adopts for drinking water distributed by all public water supplies regulated under MHD 145, maximum contaminant levels for bacteriological, chemical, and radioactive constituents and for turbidity. These standards are the same as those adopted by the U.S. EPA (40 Fed. Reg. 59569 subpart B, (Dec. 24, 1975; 41 Fed. Reg. 28403 § 141.15, 141.16 (July 9, 1976)) and are proposed for adoption pursuant to Minn. Laws, Chap. 66 , § 3(e) (1977) which authorizes the State Board of Health to "promulgate rules...no less stringent than federal regulation..." By adopting maximum contaminant levels identical with the federal standards we are complying with the statutory mandate. We have chosen to adopt the same maximum contaminant levels as those prescribed in the federal standards for several reasons:

1) It is the legislature's intention that the State Board of Health should assume primacy for enforcement of the federal regulations. In order to assume primacy, a state must be ready to enforce the federal regulations, by having adopted them as its own rules by June 24, 1977. It was clear as of April 4, 1977, that Minnesota will not be able to meet this deadline; however the state has been assured that its application for primacy will be given serious consideration if we can show that we have initiated the rule making process by June 24, 1977. In order to be able to do this, we do not have sufficient time in which to conduct independent studies of each of the maximum contaminant levels prescribed in the federal regulations, in order to evaluate whether we could justify the imposition of more stringent maximum contaminant levels. A review of the references cited in the justification which accompanied the proposed and final versions of federal regulations indicates that the federal standards which are incorporated in this rule assure that total lifetime exposures will remain well below the presently known toxic levels. Because the state statute requires that the board adopt standards which are at least as stringent as the federal standards, and because the remaining time is so short that adoption of the federal standards is both reasonable and necessary ;

2) Prior to passage of the state statute (Minn. Laws, Chap. 66 § 3 (1977) the State Board of Health did not have adequate statutory authority to assume primacy. Without statutory authority or adequate funding, no extensive research program could be initiated, especially since the results of such research would have no applicability if the state did not assume primacy;

3) The maximum contaminant levels which the U.S. EPA did adopt incorporate the 1962 U.S. Public Health Service standards for safe drinking water. These levels have met with wide acceptance among public health professionals who are concerned with drinking water quality. A review of these maximum contaminant levels was published in the U.S. EPA Advisory Committee Report on the Revision and Application of the Drinking Water Standards, in September 1973, which recommended adoption of the 1962 standards for purposes of the Federal Act. See Appendix A . That the federal standards have little opposition can be inferred from the fact that very few comments suggesting changes in maximum contaminant levels were received by the U.S. EPA after it published the proposed regulations. cf. comments 40 Fed. Reg. 59574, 12/24/75; 41 Fed. Reg. 28405, 7/9/76;

4) Congress intended that the 1962 U.S. Public Health Service standards should be adopted as the interim standards, to remain in effect until a set of revised standards, proposed pursuant to the results of a National Academy of Sciences study, would become effective. 42 U.S.C. 300 g-1, (1975). At such time these rules could be amended to conform to the revised federal standards. By then the state would have the opportunity to make an independent determination concerning each of the maximum contaminant levels and could better determine the need for the adoption of stricter standards than is possible at the present time.

5) Based on information presently available concerning water quality in Minnesota, it can be predicted that most community water supplies in the state will be able to comply with these standards. Therefore adoption of these standards will not impose any significant burdens on the state's water supplies;

6) Because the technology for removing some of the listed chemical and radiological constituents is still in the experimental stage, the adoption of lower maximum contaminant levels at this time could impose upon suppliers and the public removal costs which could not be justified when weighed against the potential benefits to health.

The reader will note that a distinction is made between those contaminants whose presence in drinking water can cause an immediate risk to the public health, such as bacteria, turbidity and nitrate, and the other contaminants, i.e., chemical and radiological constituents, the ill effects of which might only be observed after a lifetime of exposure. Where the maximum contaminant levels are based on a lifetime dose, community water supplies need sample for these substances only at infrequent intervals, and non-community water supplies are

not required to sample for these at all. Adopting this distinction can be justified on two grounds: first, not enough is known at this time about the level of each of these substances to require that non-community supplies should sample for these substances. During the first several years when community supplies are being monitored, information about local conditions will be gained. At some time in the future, this information will be reviewed to determine whether the presence of certain constituents in local waters creates enough of a health risk for transients that the imposition of additional monitoring requirements on non-community supplies could be justified. Secondly, the legislative mandate requiring the board to respond very quickly in the case of a public health emergency such as an accidental spill, or tracing the source of a sudden outbreak of illness, is adequate to inform the transient public of possible health hazards. Minn. Laws, Chp. 66 § 3(d)(1977). The timely exercise of this emergency authority probably does as much to protect the public health as would the imposition of very rigorous standards against a facility which serves only a small number of people on an infrequent basis.

MHD 146 A.

This section sets out the maximum contaminant level for microbiological contaminants as adopted in the federal regulations. 40 Fed. Reg. 59571 § 141.14 (Dec. 24, 1975). This level is one of the 1962 Public Health Service Standards referred to earlier. The maximum contaminant levels are given in terms of the surrogate coliform bacteria, although the purpose of the standard is to protect against additional disease-causing organisms such as viruses, protozoa, worms and fungi. Total coliform counts have been used for nearly 70 years as indicators, because coliform bacteria are present in large quantities in the intestinal tracts of humans and other warm-blooded animals, thus the number remaining in a water supply provides a good correlation with unsanitary practices.

There has been much discussion concerning the different standards used based on the different analytical techniques. cf MHD 147 A.1 and A.2. Unfortunately the federal agency has not chosen to impose a single standard regardless of the method used. Until the federal agency choses one or the other standard, we do not feel that we can justify the adoption of only one of them.

With respect to MHD 146 A.3, the state reserves the right to order a supplier to average his test results over a shorter interval than 3 months. This may be required if a recent sanitary survey rating indicated the existence of unsanitary conditions. The monthly averaging procedure might also be ordered when test results show that bacteria are regularly being found.

Such findings must be followed very closely in order to be able to order prompt public notification if the situation becomes serious.

The need to protect the public health adequately justifies the imposition of these standards. Each of the maximum contaminant levels prescribed in MHD 146 A.1. and A.2. has received wide support and has been used as a standard measure of sanitary conditions for many years throughout the world. These levels are therefore reasonable. With regard the the procedure described in MHD 146 A.3, as to when the board might order a supply to average its results on a more frequent basis, this discretionary procedure is also reasonable when one considers that but for this provision, a supplier would have to average his results on a monthly basis anyway, according to the procedure in MHD 147. Permission to average over a three month period allows the supplier to achieve greater reliability of measurement by allowing him to pool results from a greater number of analyses.

MHD 146 B.

This maximum contaminant level for turbidity is imposed in the federal regulations (40 Fed. Reg. 59571 (12/24/75)) because turbidity in water interferes with disinfection efficiency and because high turbidity often signals the presence of other conditions which are hazardous to health. The growth of micro-organisms in a distribution system is stimulated if excessive particulate or organic matter is present. The standard states that the supplier is allowed to have up to 5 turbidity units in the water only when he can satisfactorily show that an effective disinfective agent is present in the system in sufficient concentrations to protect the water users. The level of disinfectant at which such a supplier may operate is not stated in the rule because several factors will have to be considered in conjunction with the level of disinfection, before a decision can be made as to what is or is not a permissible level.

This standard applies only to supplies using surface sources in whole or in part. Imposing such a standard against ground source supplies is unnecessary. Adequately protected ground sources yield water which is relatively bacteria-free and which does not have to be disinfected. Since the purpose of measuring turbidity is to see whether there is potential interference with the disinfection process, it would be futile to require suppliers using only ground sources to check for turbidity when they are not even disinfecting. For this reason this standard is not proposed to be applied to ground source supplies.

As to the levels prescribed in the federal regulations, there has been insufficient time in which to conduct independent studies of this disinfection interference phenomenon. As a result it is appropriate to adopt the federal standard. 40 Fed. Reg. 59579 § 141.13 (12/24/75). Under the circumstances, the maximum contaminant levels that are proposed are reasonable. These levels are imposed because they fulfill the statutory requirement (Minn. Laws Chap. 66 § 3(e) (1977)) to adopt rules which are no less stringent than the federal regulations. These levels are equivalent to the levels in the federal regulations and are therefore necessary.

MHD 146 C.

With respect to inorganic chemicals, no attempt has been made here to prescribe limits for all the toxic or undesireable contaminants that might enter a public water supply. The rule is limited to those constituents listed in the federal regulations (40 Fed. Reg. 59570 § 141.11 (Dec. 24, 1975)) and for which a maximum contaminant level is required to be adopted pursuant to the state statute. In general the limits were set by U.S. EPA on the basis of the total environmental exposure of an adult person to a stated specific toxicant. The levels represent an attempt to set lifetime limits based on a 2 liter/day water consumption, at the lowest practical level, particularly when other sources such as food, milk, or air are known to represent a sizeable source of exposure to man. The guiding policy of the U.S. EPA in adopting these levels was to set limits that are not so low as to be impracticable nor so high as to encourage pollution of water. The levels chosen are those which were included in the 1962 U.S. Public Health Service standards. Comments received by U.S. EPA when that agency proposed these maximum contaminant levels did not contain new data sufficient to require the establishment of levels different from those contained in the 1962 standards. At the hearings at which these maximum contaminant levels were being disucssed, questions were raised about the fact that different safety factors are contained in the various maximum contaminant levels. The U.S. EPA replied that the levels it was proposing were not intended to have a uniform safety factor, at least partly because the knowledge about and the nature of the health risks of the various contaminants vary widely. Extensive discussion of the levels of each of the constituents included in the list of inorganics can be found in Appendix A and in the comments accompanying the federal standards at 40 Fed. Reg. 59576 et. seq. (Dec. 24, 1975).

The reader will note that only the level for nitrate is applicable to both community water supplies and non-community water supplies. The reason for imposing only this maximum contaminant level on both community and non-community water supplies is that

nitrate at certain levels can be acutely toxic to infants within one or two days. The need for informing consumers of its presence in all types of supplies is self-evident. In contrast, the maximum contaminant levels for the other chemicals are based upon a lifetime dose, with an additional safety factor built in. Because the levels of these chemicals are usually so low, and because the levels are based on lifetime doses, their enforcement against non-community water supplies which serve only non-resident populations on an infrequent basis, could not be reasonably justified.

There has been insufficient time in which to determine whether the imposition of more stringent maximum contaminant levels would protect the public health any better than do the levels prescribed in MHD 146 B. The levels which are prescribed have received considerable support from public health professionals. For want of better information regarding the health effects of these chemicals, the levels proposed in MHD 146 C are reasonable. The state statute requires that levels at least as stringent as the federal standards be adopted. The proposed levels are equivalent to the federal levels, they are authorized by the state statute and are therefore necessary.

MHD 146 D.

The pesticide contaminant levels listed in the proposed rule are the same as those prescribed in the federal regulations. 40 Fed. Reg. 59570 § 141.12 (Dec. 24, 1975). These constituents were not included among the 1962 U.S. Public Health Service Standards. The maximum contaminant levels for these substances were derived by U.S. EPA from recent data on effects of acute and chronic exposure to organo-chlorine and chlorophenoxy pesticides. More extensive justification with respect to the levels adopted can be found in Appendix A, pp. 132 et seq. For many biocidal chemicals, U.S. EPA felt that there was not sufficient need for, nor sufficient information on which to base a maximum contaminant level. Several chemicals were not included either because their use has been banned or because they have been subjected to suspension and cancellation proceedings. Others are the subject of an intensive current study. At the state level there has been no opportunity to conduct independent studies of these constituents, and therefore, imposing lower levels cannot be justified, nor could adopting maximum contaminant levels for constituents not listed in the federal regulations be justified.

The levels for organics apply only to community water supplies for the same reason that most of the inorganics apply only to community water supplies, i.e., because the levels are set on the basis of a lifetime dosage, which would not be markedly affected

by the occasional ingestion of water from a non-community water supply which might contain some of these chemicals. In addition the lack of information regarding toxicity in humans combined with the high cost of analyzing for these substances do not justify imposing such levels on non-community water supplies at the present time. For all the reasons described above, we feel that these levels and their imposition on community supplies only, is reasonable. The levels are necessary, based on the statutory requirement imposed on Minn. Laws, Chap. 66 § 3(e)(1977).

MHD 146 E.

This section of the rule adopts the federal maximum contaminant levels for radiological substances. 41 Fed. Reg. 28404, §§ 141.15, 141.16 (July 9, 1976). The federal regulation includes but is broader than the levels for radiological constituents which were adopted as part of the 1962 U.S. Public Health Service standards. The levels proposed in MHD 146 E. apply only to community water supplies for the same reasons which were noted earlier with respect to chemical constituents, i.e., that the maximum contaminant levels have been calculated on the basis of lifetime dose levels and that one who occasionally ingests water from a non-community water supply which contains an amount of radioactivity in excess of the stated maximum contaminant therefrom. Imposing such levels on non-community water supplies cannot be justified at this time. Because these levels reflect the best judgment which could be made, considering the information available at this time, they are reasonable. Pursuant to the legislative mandate given in Minn. Laws, Chap. 66 § 3(e)(1977) these rules are as stringent as the federal regulations and are therefore necessary.

MHD 147 Justification -- General Remarks:

The state statute authorizes the Board to adopt, with regard to water supplies, (Minn. Laws, 1977 Chap. 66 § 3(e)), rules which are no less stringent than federal regulations dealing with public water supplies. It is pursuant to this authority that this rule proposed to adopt the federal standards which deal with the monitoring of water distributed by a public water supply and with the analytical techniques which must be used in carrying out the tests for drinking water quality. The following general remarks apply to all the subparts of MHD 147 and are written here in order to avoid having to repeat them several times in the point-by-point discussion which follows.

The same standards are prescribed in the federal regulations dealing with monitoring and analytical techniques (40 Fed. Reg. 59571-59573 Subpart C, Dec. 24, 1975) are proposed for adoption here in all but a few instances which will be noted below. MHD 147 imposes the same sampling frequencies as those which are prescribed in the federal regulations because the state has not yet had the opportunity to assess whether more frequent sampling could be justified, i.e., whether it would ultimately result in a benefit to the public health. Once more data have been obtained it will be possible to decide whether sampling should be required on a more frequent basis.

With regard to analytical techniques prescribed in the federal regulations, the staff of the Minnesota Department of Health has reviewed the list of techniques in the federal regulations and found the techniques to be both acceptable in terms of scientific validity and compatible with the methods and equipment now in existence in laboratories in Minnesota. Therefore this rule proposes the adoption of the analytical methods prescribed in the federal regulations.

The distinctions which the federal regulations make between ground and surface source supplies, and between community and non-co mmunity supplies are also reasonable. With respect to source, it is eminently reasonable that surface supplies whose sources may be contaminated by air pollution, surface runoff or shallow disposal of wastes should have to sample more frequently for certain constituents than supplies using only ground sources, since ground sources have little likelyhood of being contaminated by these wastes. With respect to community vs. non-community supplies, the reason for the distinction lies in the type of population served. Non-community supplies, by definition, serve only transient populations. The risks which a transient population is exposed to when drinking from a non-community water supply are theoretically less serious than those created by a supply which serves one's residence where one is likely to consume greater quantities of water. The risks created by a non-community supply are small when compared to the total lifetime risk levels of the contaminants which are being adopted. When these factors are taken into account it seems reasonable that non-community supplies should not be subjected to all the requirements which are imposed on community supplies.

MHD 147 A.

This part of the rule states that the responsibility for assuring compliance with drinking water quality rules lies with the supplier. MHD 147 A states that the supplier must sample his water with the frequency and according to the methods prescribed elsewhere in this rule, and that the results of such analyses be submitted to the board within 40 days of the time the samples were to have been taken. The board will help facilitate compliance with these rules by notifying the supplier ahead of time as to when his next water sample must be analyzed and for which of the listed constituents.

MHD 147 B.1

The sampling procedures prescribed here are identical to those in the federal regulations. 40 Fed. Reg. 59571, 59572 Sec. 141.21(a) (Dec. 24, 1975). MHD 147 B.1 incorporates both the membrane filter and the fermentation tube techniques because testing laboratories throughout the state have already been certified pursuant to MHD 143 to use one or both methods. Since the two methods yield essentially the same information, no purpose would be served by our requiring that only one or the other method could be used. The phrase "points which are representative of conditions within the distribution system" means that samples should be taken at points which reflect different types of conditions, such as at a dead end, at a point farthest from the reservoir or elevated tank, or in an area which has a greater population of residents than other areas within the system. This sampling site requirement is imposed in the federal regulations.

MHD 147 B.2 states that a water supply serving a population of a certain size must analyze for bacteria with the frequency given in the table in 147 B.2.a. This is the minimum frequency imposed by the federal regulations. 40 Fed. Reg. 59571 Sec. 141.21(b) (Dec. 24, 1975). The staff of the Minnesota Department of Health believes that such a sampling frequency reasonably assures that the number of samples to be analyzed is properly balanced against the population to be protected. Therefore it is proposed to adopt the federal requirement and to not impose a requirement for more frequent sampling. The federal regulations require that the samples be taken at regular time intervals. This means for example that a supplier who must sample four times per month, should take one sample per week on the same day of the week until the four samples for that month have been taken.

In determining the reasonableness of these rules, it is important to keep in mind the fact that all suppliers who come within the purview of the Federal Act must comply with the terms imposed by the federal regulations which take effect on June 24, 1977. By the time the state rules take formal effect, suppliers will already be subject to the requirements of the federal regulations.

MHD B.2.b. allows a very small supply to reduce its sampling frequency to fewer than one per month as required in the table in 147 B.2.a., if the supply is fed exclusively by protected ground water sources and if the supply has a high operational rating based on a recent sanitary survey. The federal regulations make such a procedure optional. 40 Fed. Reg. 59571 Sec. 141.21(b) (Dec. 24, 1975). Since use of this option would result in reduced sampling costs for the small supplier without affecting the public health, such an option is reasonable. Reserved in the rule is the right to withdraw permission to do reduced sampling if, for instance, a sanitary survey discloses the presence of unsanitary conditions, if some bacteria are found, or if there should be some interruption or alteration in one of the treatment processes.

MHD 147 B.3. creates an exception for non-community water supplies. Such an exception is permitted by the federal regulations. 40 Fed. Reg. 59571 Sec. 141.21(c) (Dec. 24, 1975). These supplies need not sample as often as do community water supplies, nor do they have to start sampling as soon as do the community supplies. The federal regulation is flexible regarding different sampling frequencies, i.e.,

the enforcing agency can require sampling more or less frequently than once per operating quarter. This proposed rule sets a minimum sampling interval of once per year where the federal regulation sets no such lower limit. It would be a violation of the intent of the state statute if the board were to permit bacteriological sampling on anything less than an annual basis. Again, reserved is the right to increase the sampling frequency if sanitary conditions should change. The distinction here made between community and non-community water supplies is justified earlier in the general remarks.

MHD 147 B.4 states that the check sample procedure must be initiated whenever any bacteria are found. This is more restrictive than the comparable federal regulation (40 Fed. Reg. 59571, § 141.21(d), (Dec. 24, 1975)) which requires initiation of the procedure only when four bacteria per 100 ml are found, or when three out of five tubes are positive.

Any bacterial contamination should be traced to its source as soon as possible because the presence of even a single organism poses a potential threat to the public health. The questionable sample may or may not have been accidentally contaminated by improper handling techniques. If no organisms appear in the next two days' check samples, the supplier can discontinue the daily sampling. If the check samples yield positive results, steps will be taken to trace the source of contamination and correct the situation, as noted below at B.5. While the supplier is

additionally burdened by the requirement imposed here, the requirement may help to guarantee that samples are taken under aseptic conditions, in addition to assisting in tracing sources of contamination. If the procedure proposed here can assure adherence to proper sampling technique, then it will have saved the supplier some needless expense. If the more rigorous check sample procedure reveals the presence of bacteria, the supplier will be tracing the source of the contamination that much sooner.

MHD 147 B.4.b repeats a requirement imposed in the federal regulations. (supra, Sec. 141.21(d)(4)). The conditions which might warrant granting the approval to change a sampling site includes a recent history of negative samples, or the greater need to start sampling at another point.

MHD 147 B.5 states the requirements which are imposed by the federal regulations (40 Fed. Reg. 59572, Sec. 141.21(d)(4), Dec. 24, 1975) regarding calculation of the monthly average of bacteriological results to determine compliance with MHD 146 A.

MHD 147 B.6 This subpart requires that the Board be notified if any check samples are positive, whether or not a maximum contaminant level has been exceeded. This early notification helps alert the board of the fact that a health risk may be imminent and that corrective steps must be taken. The federal regulations (40 Fed. Reg. 59572 Sec. 141.21(e) (Dec. 24, 1975)) require

that the supplier notify the enforcing agency but MHD 147 B.6. puts this additional reporting burden on the laboratory which ran the test in question. This procedure assures the reporting of the occurrence of such a result sooner, and will permit the initiation of more promt action. Any delay in reporting will increase the probability that people who drink the water will become ill. Having the laboratory report a positive result to the board directly shortens the response time to the minimum which can be reasonably imposed.

MHD 147 B.7. repeats the federal requirement regarding notification, except that the rule puts the burden on the supplier to report "as soon as a maximum contaminant level...is exceeded." The language of the federal regulation is less specific in saying only "when a maximum contaminant level is exceeded." 40 Fed. Reg. 59572 Sec. 141.21(f) Dec. 24, 1975. The language of MHD 147 B.7. expresses greater urgency regarding the need to notify the board and the public than does that of the federal regulation.

MHD 147 B.8. repeats the federal prohibition that special purpose samples may not be substituted for those samples which must be routinely collected. 40 Fed. Reg. 59572 Sec. 141.21(g) Dec. 24, 1975.

MHD 147 B.9 repeats the federal requirement 40 Fed. Reg. 59572, Sec. 141.21(h) (Dec. 24, 1975). There is no objection to the use of the chlorine residual method as a substitute for bacteriological testing, as long as the supplier complies with all the procedures as prescribed. Because the measurement of chlorine residuals is not as reliable an indication of the purity of water as is a direct biological determination, the supplier must adhere to the prescribed procedure rigorously.

Because the analytical techniques involved herein may be easily carried out by any operator after a minimum of training, the rule imposes no restrictions on the types of persons who may conduct such tests. However, the results reported by these facilities will be reviewed very carefully and with the possibility of amending the rule in the future to narrow the class of persons who are eligible to run the tests for residual chlorine, should such be determined to be necessary at a future time.

147 C.

This part repeats the language of the federal regulations (40 Fed. Reg. 59572 Sec. 141.22(a), (Dec. 24, 1975)) with respect to the need for turbidity sampling by all supplies using surface sources. Representative point of entry into

the distribution system means a point just after the final treatment process, and just before the water enters the first water main. The methods recommended herein for the measurement of turbidity are reasonable because no more precise or reliable methods are available for every day use in the field. Nearly all existing community water supplies using surface sources have the necessary equipment and are already measuring for turbidity so that imposition of an early effective date by which they must initiate sampling for the purpose of complying with these rules will not be a significant burden on them. However, because operators of non-community water supplies are likely to have to purchase the equipment with which to measure turbidity, the imposition of the later effective date for these facilities is appropriate.

MHD 147 C.2 refers to a "maximum allowable limit" which means a measurement in excess of 1 T.U.*, or 5 T.U. for a supply which has a variance for turbidity. "Maximum allowable limit" has the same numerical value as maximum contaminant level, although the maximum contaminant level for turbidity is the monthly average of the daily measurements.

MHD 147 D.

This section states the sampling requirements for inorganic

* T.U. means Turbidity Unit

chemical testing and essentially repeats the language of the federal regulations. 40 Fed. Reg 59572, Sec. 141.23, Dec. 24, 1975. The justification for the distinctions made between surface and ground source supplies and between community and non-community water supplies with respect to the effective dates for compliance, are noted earlier in the general remarks to the effective dates for compliance. The federal compliance dates are proposed because of the need to launch this activity in an orderly fashion, and to allow existing laboratories to work all of these new samples into their existing schedules. The present information concerning the rate of movement in ground waters of the state, combined with the knowledge regarding existing levels of the inorganic constituents to be measured indicates that sampling every three years would yield satisfactory information with regard to protecting the public's health. Neither imposing a requirement of earlier compliance on ground source community supplies nor a requirement for them to sample more frequently than every three years could be justified.

MHD 147 D.1.c. states that non-community water supplies need sample only for nitrate. This requirement is justified earlier in the discussion of rule MHD 146 C. A 5-year limit is the least frequent sampling interval for nitrates. The federal regulations give the enforcing agency complete discretion in this matter. 40 Fed. Reg. 59572 Sec. 141.23(a)(3)

Dec. 24, 1975. The five year resampling interval is a reasonable one because it allows the board to get a nitrate measurement at least once every five years from those supplies which show very low levels in the initial determination, while allowing the board to set a more frequent sampling interval for supplies whose initial nitrate analysis reveals that the water approaches a maximum contaminant level, or where levels are known to fluctuate widely.

MHD 147 D.2 states that the board may accept results of tests made within the specified intervals if it is satisfied that the sampling and analytical techniques imposed by this rule were reasonably complied with when the tests were originally carried out. The federal regulations permit us to accept such results. (40 Fed. Reg. 59572, § 141.23(e) (Dec. 24, 1975) and the use of this option is reasonable.

MHD 147 D.3 lists the analytical methods prescribed in the federal regulations (40 Fed. Reg. 59572, 59573 § 141.23(f), (Dec. 24, 1975)) which must be followed in conducting tests for the purpose of complying with these rules. These methods are reasonable in terms of accuracy, cost to the supplier, and the protection of the public health.

MHD 147 D.4 incorporates the reporting and check sample procedure imposed in the federal regulations. 40 Fed. Reg. 59572, § 141.23(b)(Dec. 24, 1975). For the sake of clarity the phrase "seven days" is added to the phrase "from the time he

receives the results contained in the federal regulation.

MHD 147 D.5 and 6 described the method by which a supplier determines whether or not he has exceeded a maximum contaminant level, and how notification and subsequent monitoring shall be carried out. The procedures described in these two subparts restate those imposed in the federal regulations. 40 Fed. Reg. 59572, § 141.23(c)(d), Dec. 24, 1975. The reader will note that subpart 6 requires prompt action by the supplier when a nitrate level exceeding the maximum contaminant level is found.

MHD 147 E

MHD 147 E.1.a incorporates the federal requirements for sampling for organic chemical contaminants. 40 Fed. Reg. 59573, Sec. 141.24, (Dec. 24, 1975). The distinction between surface and ground sources is justified in the section of general remarks. The compliance deadline is the same as the federal deadline because it would not be possible for all the analyses to be done before that date. As for the time of year at which samples will be collected, that decision is best made after studying the results from a few years' sampling. Under the proposed rule the board will conduct random year-round sampling at first to see whether there are seasonal fluctuations and may later adopt a rule imposing more

specific sampling times at a later date. A similar reason underlies the choice of the three year interval. Under MHD 147 E.1.b, the Board will not order ground water supplies to sample for organics until some information is obtained from surface sources. Because the board lacks any information on which to base judgments regarding optimum sampling times, it cannot propose at this time, a more specific rule in this respect.

MHD 147 E.2. The analytical techniques prescribed in here are those imposed by the federal regulations. 40 Fed. Reg. 59573, Sec. 141.23(e)(f) (Dec. 24, 1975). Lack of experience with measurement of the constituents in question or with the prescribed methods preclude the board from adopting different techniques.

MHD 147 E.3 and E.4 This part of the rule incorporates the federal procedures for initiating check samples, reporting and calculation of results. 40 Fed. Reg. 59573 Sec. 141.23(c) (Dec. 24, 1975). Because the risk to the public health is relatively low when one of these maximum contaminant levels is exceeded, there seems to be little reason to require that the board be notified immediately. This low level of risk also explains the one-month interval within which check samples are to be taken and submitted for analysis. With regard to the special monitoring schedule which might be imposed after a maximum contaminant level has been exceeded, experience and a case by case examination of the facts will determine whether additional monitoring is helpful or necessary.

MHD 147 F

MHD 147 F repeats the language of the federal regulations almost exactly. 41 Fed. Reg. 28404, Sec. 141.26 (July 9, 1976). Because the board has had very little experience with sampling for these radiological constituents, it is not in a position to prescribe more stringent requirements at this time, nor can it prescribe a single procedure in instances where the federal regulations give the enforcing agency an option. This explains the frequent reliance in this part of the rule on the phrase "when required by the board." MHD 147 F applies only to community water supplies. The current knowledge about the effects of drinking water containing radioactive substances is not sufficient to justify imposing a requirement for the monitoring of such substances on non-community water supplies.

MHD 147 F.1.a repeats the requirements imposed in the federal regulation with regard to monitoring for alpha particle activity 41 Fed. Reg. 28404, Sec. 141.26(a) (July 9, 1976). MHD 147 F.1.b describes instances in which the federal regulations require that special monitoring be undertaken. MHD 147 F.1.c prescribes the procedure by which notice must be given when a maximum contaminant level for alpha particle activity or total radium is exceeded.

MHD 147 F.2

MHD 147 F.2 sets out the requirements for monitoring for man-made radioactivity by supplies using surface sources, in accordance with the federal regulations, 41 Fed. Reg. 28405, Sec. 141.26(b) (July 9, 1976). Lack of knowledge concerning the levels of man-made radioactivity in the supplies in question prevents the board from adopting different sampling intervals or different levels at this time. MHD 147 F.2.e. prescribes the notification procedure which a supplier must follow when a maximum contaminant level for man-made radioactivity is exceeded.

MHD 147 F.3 incorporates the analytical methods which a laboratory must use in measuring levels of radioactivity according to the federal regulations 41 Fed. Reg. 28404 § 141.25 (July 9, 1976).

147 G. This paragraph allows the Board to give written permission to a laboratory to adopt, for any drinking water quality constituent for which the laboratory is certified, an analytical technique different from the one prescribed in this rule, PROVIDED that the laboratory can show that the alternate technique is substantially equivalent to the method prescribed in this rule. The federal regulations permit

the use of alternative analytical techniques under the conditions stated in this paragraph. 40 Fed. Reg. 59573 Sec. 141.27 (Dec. 24, 1975). A laboratory which has been using a different method, but one with reliability equal to that of the prescribed method should be able to continue using it. It would seem unreasonable for the state to deny this opportunity to a laboratory, as long as the conditions of the rule are met.

147 H. The federal regulations state that only results of tests which have been run in certified laboratories are acceptable for purposes of complying with the reporting requirements. 40 Fed. Reg. 59573, Sec. 141,28 (Dec. 24, 1975). MHD 147 H. embodies that federal requirement.

147 I. The federal regulations allow a state to set up a modified monitoring schedule when the conditions stated in this paragraph are met. 40 Fed. Reg. 59573, Sec. 141.29, (Dec. 24, 1975). For example, such a modified schedule might require that only the "wholesaling supplier" must sample at certain frequencies, based on the total population served. The rule requires that the board shall make the final decision as to whether a modified schedule should be granted. The board must also approve an agreement between the parties as to how such a schedule should be implemented, in order to assure that the parties are aware of their respective responsibilities. A procedure which results in elimination of duplication and which reduces costs without sacrificing the health of the public is reasonable and should be adopted.

MHD 147 J allows the imposition of additional monitoring requirements in the named instances. This authority cannot be specified with any more precision at this time because of the large number of unknowns which exists and because of the variety of conditions and extenuating factors which must be considered.

MHD 147 prescribes the frequency at which water samples must be analyzed and the analytical methods which must be used in making the required measurements. The procedures prescribed in MHD 147 are in accord with the federal regulations. Minn. Laws, Chap. 66 § 3(e)(1977) authorizes the board to regulate public water supplies by adopting rules no less stringent than the federal regulations. This rule accomplishes that legislative purpose by requiring that suppliers test for water quality with the frequency and according to the methods prescribed in the federal regulations. Therefore the rule is necessary. The state statute requires that the rules to be adopted shall ultimately protect the public health. This rule achieves that purpose to the extent allowed by currently available information. In addition since MHD 147 does not impose on a supplier a duty which is any different from that which is imposed in the federal regulations, the rule is reasonable.

MHD 148 Justification -- General Remarks

This rule describes a procedure by which a supplier of drinking water who is unable to comply with the maximum contaminant levels set in MHD 146 may be able to stay the initiation of an enforcement action which might be brought against him either by the State Board of Health or by a private individual. The procedure described herein can result in a waiver from immediate compliance with a maximum contaminant level or with a treatment technique which might be imposed by the U.S. EPA at some time in the future. The Federal Act allows a state which has assumed primacy to grant variances and exemptions from compliance with a maximum contaminant level or with a required treatment. 42 U.S.C. 300 g-4 & 5 (1975). If a state does not choose to issue waivers, the Federal Act authorizes the U.S. EPA to issue them in place of the state. The Minnesota Safe Drinking Water Act authorizes the Board to grant waivers. Minn. Laws Chap. 66 § 3(e) (1977). This rule proposes the adoption of a formal waiver procedure because it is our opinion that variances and exemptions are necessary for the following reasons:

1. The board knows of several communities in the state where most of the water presently available to them exceeds one or more inorganic chemical maximum contaminant levels. It would be unreasonable for the rules to impose a requirement of immediate compliance when we know full well that test drilling for new sources takes considerable time and fiscal planning. By promulgating this rule the board will be able to avoid having to bring repeated enforcement actions in these types of situations;

2. The Federal Act permits the U.S. EPA to grant waivers in instances where a state does not grant them. Many suppliers have expressed a preference to deal with a single regulatory agency, rather than have to report some of their activities to a state agency and others to a federal agency. Since the Board will already be administering the other elements of the program, it is reasonable that it should also assume the responsibility for granting waivers.

3. The procedure described in this rule complies with the procedures imposed in the Federal Act. MHD 148 requires the same showing on the part of the applicant and it imposes an adiministrative procedure which is nearly identical to its federal counterpart.

MHD 148 A describes the procedure by which a variance may be granted. MHD 148 A.1 states the source of statutory authority by which the board may grant a variance. The term variance is defined in MHD 145 B.19.

MHD 148 A.2 merely states the time at which application for a variance would be appropriate. The filing of a request for a variance acts as a stay to any enforcement action the Board might take, assuming that the supplier is acting in good faith and that the request is for the kind of waiver which is permitted in MHD 148 B. The statute requires that a notification of violation be sent whenever the board becomes aware of the fact that a maximum contaminant level has been exceeded. Minn. Laws Chap. 66 § 4(1977). This portion of MHD 148 D states that once the supplier receives the notification of violation, he has a fixed amount of time, which will depend on the circumstances, within which to comply with the terms of the notification or be subject to suit. This procedure is useful to the board in avoiding the need to bring an enforcement action immediately, and it is useful to the supplier in warning him to consider the consequences of his operating a water supply which is in violation of the law and to take steps to initiate prompt corrective action.

MHD 148 A.3. The factors which the board must consider when deciding whether a variance should be granted are listed here. The Federal Act imposes the requirement that these factors be taken into account by the administrative agency which grants the variance. 42 USC 300 g-4 (1975). The adoption of these criteria does not preclude the consideration of other relevant facts. It merely assures that these matters will be taken into account.

MHD 148 A.4 states the grounds upon which the board may grant a variance, as required by the Federal Act. 42 USC 300 g-4. These are the ultimate criteria for decision against which all other relevant factors must be compared. Although the Board could probably impose additional criteria, the Federal Act requires that consideration be given to only the factors listed here. Because the board has had no experience in handling these waivers, the adoption of additional requirements cannot be justified at this time, nor could the board prescribe limits for any of the factors noted since each supply will be operating under very different conditions. Each waiver will necessarily have to be granted on a case by case basis, after a fair consideration of all the factors involved.

As to what constitutes a risk to health, here again a case-by-case determination will have to be made. Factors to be taken into account here would include age, size, health history of the affected population, likelihood and degree of risk, and existing knowledge concerning the health effects of the particular constituent in question. Any violation of the bacterial maximum contaminant level poses a clear risk to health and probably would not be waived under any circumstances. However, the health effects of the other constituents are more

remote and careful judgments will have to be made when dealing with violations of the levels for these substances.

The term "unreasonable" as it qualifies risk is included in both the Federal Act and regulations. The term is significant because it implies that there may be reasonable risks to health which will permit the granting of waivers. Arguably what could be an unreasonable risk to health if the condition were to be tolerated for an extended period of time would be deemed reasonable if the condition were allowed to continue only for a relatively short period of time. Here again, the nature of the information which will have to be considered does not lend itself to more precise description.

MHD 148 A.5 states the grounds upon which might be granted a variance from a treatment required by the federal regulations. These grounds are imposed in the Federal Act. 42 USC 300 g-4 (1975). The federal regulations have not yet prescribed any required treatment techniques although some may be prescribed in the revised standards. This paragraph is included in the rule in anticipation of future federal regulations which might impose such requirements. By proposing adoption of this portion at this time we eliminate the need for a separate amendment of the rule in the future and also make the benefit of the waiver procedure available to a supplier from the date on which such a requirement would take effect.

MHD 148 A.6 recites in as much detail as possible the kind of information which the Federal Act requires that a supplier submit when he requests a variance. 42 USC 300, g-4 (1975). By specifying in the rule that these particular facts must be supplied by an applicant, the board is assured of receiving at least a minimum of relevant information with which to start processing the application. In MHD 148 A.6.e, the board reserves the right to ask for additional information, because it is impossible to predict at this time every specific issue that might have to be resolved before a recommendation could be made. For instance, the board might ask whether the supplier knows of test wells drilled in the area and what the results of the analyses for those test wells were, or it might ask for population figures to see whether the demand for water is likely to increase or decrease. Both the supplier and his customers will be better served if the board's decisions are based on all the relevant facts, rather than on just a few fixed criteria. MHD 148 A.6.f. allows the supplier to give any additional information which he thinks might be helpful to us or to the board before a decision is reached.

MHD 148 A.7 sets a limit of 90 days within which the board will respond to an application for a variance. The Federal Act provides for a "reasonable time" (42 USC 300, g-4 (1975)). Ninety days will give the board sufficient time in which to gather and

evaluate all the information relevant to the application. Ninety days is also the time within which the U.S. EPA must act under the federal regulations. 41 Fed. Reg. 2923 § 142.42(a), Jan. 20, 1976.

The rule adopts the state contested case procedure specified in the state Administrative Procedure Act (Minn. Stats. § 15.0411 et. seq. (1976)), as the procedure to be followed in granting variances for three reasons:

1. it satisfies the requirements of the Federal Act for notice and opportunity for hearing;

2. no special administrative procedure was created for such waivers in the enabling state statute; and

3. it is very likely that a court would decide that the granting of this type of waiver falls within the statutory definition of a "contested case" in Minn. Stats. § 15.0411 Subd. 4 (1976) and therefore that such a case should be heard according to the procedures imposed in Minn. Stats. Chap. 15 (1976).

While for some instances it might be preferable to propose an informational and less costly procedure, the Federal Act imposes the requirement that notice and opportunity for public hearing be given on the matter of the compliance schedule. Since a compliance schedule must accompany every waiver that is granted, adoption of the state contested case procedure is the most reasonable alternative available to the board.

MHD 148 A.8 states that the board must issue a compliance schedule pursuant to a variance within 1 year after the variance has been granted. This requirement is imposed in the Federal Act. 42 USC 300, g-4 (1975). Such a compliance schedule might require that the supplier monitor with greater frequency and at certain prescribed sites and also that he must report all his results more frequently and within a shorter time than would be required by MHD 147, if no variance had been granted.
MHD 148 A.9 states the time within which a variance is effective and the conditions which might act to terminate the variance. These are dictated by the Federal Act, 42 USC § 300, g-4 (1975).

MHD 148 A.10. The Federal Act requires that the terms of a compliance schedule be separately enforceable. 42 USC § 300, g-4 (1975). This portion of MHD 148 restates that requirement. Since the compliance schedule will have been proposed in a manner comparable to that required for promulgating a rule, it is reasonable that the compliance schedule should be enforceable as a rule.

MHD 148 B.1 states that the Board may grant exemptions pursuant to statutory authority granted in Minn. Laws Chap. 66 § 3(e) (1977). "Exemption" is defined in MHD 145 B.4.

MHD 148 B.2. The explanation for this portion of the rule is the same as that which was given for MHD A.2.

MHD 148 B.3.a states the factors which the board must take into account when it considers whether an exemption should be granted. MHD 148 B.3.b states the grounds upon which the board must make a formal finding before it may grant an exemption. These requirements are imposed by the Federal Act, 42 USC § 300, g-5 (1975). Adoption of these criteria does not preclude the consideration of other relevant factors. These criteria serve as the basis against which all relevant factors must be evaluated.

The requirements for exemptions imposed by MHD 148 B.3 are different from those imposed when a variance is sought under MHD 148 A.3,4,5. An exemption differs from a variance in the following respects: 1) an exemption may be granted even when an alternative source of water which could comply with these rules is available. A variance can only be granted if there is no alternative raw water source which could comply with these rules, which is reasonably available to the supply; 2) an exemption can only be granted to a supply which was in operation on June 24, 1977, while a variance can be granted to a supply which will be constructed in the future. This means that any supplies which are built after that date will not be eligible for an exemption. Rather, such supplies will have to make the greater showing of need which is required for the granting of a variance; 3) an exemption has a finite time limit while a variance may be granted with the date for compliance being in the indefinite future. Because an exemption is only a temporary waiver, the board must consider those factors which will affect the rate of progress toward achieving eventual compliance. As an example, an exemption may be granted when an existing water supply is not financially able to explore for new sources right away, but might be able to develop such alternative sources after it has had the opportunity to seek funds for such development. The discussion under MHD 148 A.4 (supra) with regard to variances is also applicable to this section on exemptions.

MHD 148 B.4 recites in as much detail as possible the kind of information which the Federal Act requires that a supplier must submit when he requests an exemption. 42 USC § 300, g-5 (1975). By specifying in the rule that these particular facts must be supplied by an applicant, the board will receive at least a minimum of relevant information with which to start processing the application. In MHD 148 B.4.e the board reserves the right to ask for additional information, because it is impossible to

predict at this time every specific issue that might have to be resolved before the Board could reach a fair decision.

MHD 148 B.5. The procedure for disposition of an exemption request is justified in the discussion of MHD 148 A.7 (supra) for disposition of an application for a variance. The same considerations which were noted there are applicable here.

MHD 148 B.6 states the time within which the Board must impose a compliance schedule pursuant to the grant of an exemption. This requirement is imposed by the Federal Act, 42 USC § 300, g-5 (1975).

MHD 148 B.7 states the time during which an exemption is effective and states a condition which would act to terminate the exemption. The Federal Act imposes these restrictions. 42 USC § 300, g-5 (1975).

MHD 148 B.8 and B.9 impose deadlines beyond which an exemption is no longer effective. These are the deadlines which are imposed in the Federal Act. 42 USC § 300 g-5 (1975). Since they seem reasonable, given the types of corrections which might be called for in a compliance schedule, (e.g., adding on a filtration process or installaing a more reliable chlorination device), no shorter deadlines for compliance are proposed.

The deadline which the Federal Act would impose for compliance with the federal regulations is proposed for adoption here. Since the revised federal regulations have not even been proposed yet, and because they may contain maximum contaminant levels for certain organic chemicals for which removal techniques are costly, adoption of compliance deadlines which are the same as those prescribed in the federal regulations is reasonable.

MHD 148 B.10. The justification for this subpart is the same as that given above under MHD 148 A.10.

The procedure proposed in MHD 148 for the granting of waivers is both reasonable and necessary. Minn. Laws, Chap. 66 § 3(e) states that the board may adopt rules no less stringent than the federal regulations. With respect to the granting of waivers by a state, the federal regulations require (41 Fed. Reg. 2919, Sec. 142.10(d)(Jan. 20, 1976)) that a state comply with the terms of the Federal Act. 42 USC § 300, g-4, g-5 (1975). MHD 148 complies with all the terms of the Federal Act with regard to variances and exemptions and therefore complies with the stringency requirement of the federal regulations which is

imposed by Minn. Laws, Chap. 66 § 3(e) (1977). MHD 148 is reasonable because it incorporates only those procedures promulgated in the federal regulations which are required in order for a state which assumes primacy to be able to grant waivers. Similarly it incorporates those procedures which state statutes impose for the conduct of administrative proceedings.

The granting of these waivers is reasonable because it gives recognition to the fact that compliance with certain maximum contaminant levels will be impossible in certain areas of the state and that the state ought not impose requirements which would force local populations to move away because no public water supply is reasonably available to them. For these people the only alternative to moving would be to drill a well for their own private supply. Such a supply, because it would be private, would not have to comply with these rules. Yet the water they would be likely to obtain from such a well would not be any more healthful than that which was being provided by the non-complying public supply. In the end the forced closing of a non-complying supply would have few beneficial consequences to the people's health. The granting of waivers where such would not adversely affect the public health is a realistic accommodation to a situation which cannot be changed, and the rule is therefore reasonable.

The establishment of this waiver procedure at the state level is necessary to assure that the supplier will have to deal with only one regulatory agency, i.e., the Minnesota Department of Health, rather than both the Minnesota Department of Health for some aspects to the program and with the U.S. EPA for other aspects. This having to deal with a single agency should assure that the entire regulatory process will function more smoothly and that the same principles and attitudes will prevail over administration of the entire program.

MHD 149 JUSTIFICATION

MHD 149 A.

MHD 149 A lists the types of records which one who operates a public water supply must retain. The rule also requires that these records be kept at or near the premises of the facility for a specified period of time. These requirements are imposed by the federal regulations. 40 Fed. Reg. 59574, § 141.33 (Dec. 24, 1975); 41 Fed. Reg. 2919, §142.10 (Jan. 20, 1976). The federal requirements are adequate to satisfy the legislative purpose. The retention of additional information regarding each test, or the retention of records for longer periods of time would serve no useful purpose and would burden the supplier needlessly. This is particularly true in view of the fact that a state must also retain copies of all suppliers' reports, or submit them to the U.S. EPA for storage, for up to 40 years. 41 Fed. Reg. 2921 § 142.14 (Jan. 20, 1976). For all of these reasons, there does not seem to be any need to require the supplier to do more than is incorporated in the federal requirements.

The federal regulations require that water quality records must be available for inspection by the public, but they allow a state the option of making these records available at a central location, or of requiring that each supplier make his records available for public viewing on the premises of his supply. 41 Fed. Reg. 2921 § 142.14(f)(Jan. 20, 1976). The latter alternative is proposed rather than the former because it is more in keeping with the legislative intent that the public should be reasonably informed about the quality of the water they drink. It seems likely that the shorter the distance a customer or other member of the public must travel to inspect the records of a water supply, the more likely he is to take advantage of the right to examine those records and the better he will be informed concerning the quality of the water he drinks. Further, it would be unreasonable to require the public to travel hundreds of miles, e.g., to Minneapolis, to examine water supply records when the same information is being kept at or near the premises of the water supply.

MHD 149 A.1 requires that turbidity records be kept along with bacteriological records. A turbidity measurement reflects the likelihood of effectiveness of a disinfection process, and provides information which is just as valuable as is that being obtained from all of the other water quality test results. This is a reasonable requirement in that

it imposes a relatively minor additional burden on the supplier who is being made to keep records of other tests. It is more helpful for the public to have information on turbidity made available to them, than it is a burden on the supplier to be made to keep the records.

MHD 149 A.2 gives the supplier the option to keep actual laboratory results or to transcribe those results onto summary sheets. This option is permitted under the federal regulations. 40 Fed. Reg. 59574 § 141.33 (Dec. 24, 1975). Making this option available to the supplier is reasonable since it may help make the supplier's task easier if he chooses to exercise the option.

MHD 149 A serves the legislative purpose of ensuring safe drinking water in all public supplies by making available to the public, information about the quality of the water it drinks. MHD 149 A is therefore reasonable. MHD 149 A is also necessary, because the procedures prescribed therein are required by the federal regulations. Since the state statute authorizes the board to promulgate rules no less stringent than the federal regulations, and MHD 149 A fulfills that requirement, then MHD 149 A is necessary.

MHD 149 B .

The federal regulations require that the supplier report all results to the enforcing agency. 40 Fed. Reg. 59573 § 141.31 (Dec. 24, 1975). MHD 149 B adopts a slightly different reporting procedure from the federal one, by imposing on the certified analytical laboratory a duty to report to us the results of all samples it analyzes, for the purpose of complying with these rules. The procedure in MHD 149 B achieves the same result as that intended by the federal regulations, i.e., the enforcing agency gets the results. By requiring that the laboratory report directly to us, the board is assured of getting the results sooner and on a more systematic basis than if they come from the individual supplier.

Followup will be considerably easier if the board has to deal with only 55-60 certified laboratories rather than having to trace results from approximately 1300 community supplies. As for turbidity measurements noted in MHD 149 B.1.b, it is logical that the supplier should report these results since the supplier will be making these measurements.

The 40-day reportihg time specified in MHD 149 B.2 is imposed by the federal regulations. 40 Fed. Reg. 59573 § 141.31(a) (Dec. 24, 1975). In view of the fact that the board must be notified within 24 hours of the time when a positive bacterio-

logical result is found pursuant to MHD 149 B.3, or within 24 hours when a maximum contaminant level is exceeded pursuant to MHD 146 B.6 and 7, there seems to be no need to impose a shorter time in which routine results must be reported.

MHD 149 B.3 requires the certified laboratory to report any positive bacteriological result within 24 hours of the time it becomes available. The federal regulations do not impose such a requirement. This rule is proposed because of the urgency of the situation which is created when a positive result is found. Without such a requirement, the laboratory would be under no duty to report the positive result to the supplier any sooner than it reports routine results. If a laboratory did not notify the supplier for 7-10 days after it obtained the result, at which time the supplier would have to notify us within 48 hours pursuant to MHD 147 B, there is a possibility that people could be drinking unsafe water for many days before the board would be able to respond. It would be irresponsible for the to permit a procedure which could have such consequences.

MHD 149 B.4 imposes a similar requirement on the supplier who is made to serve as a backup for reporting a positive result. Should the laboratory fail to report to the board pursuant to MHD 149 B.3, the supplier has the responsibility to do so under MHD 149 B.4. This gives greater assurance that the board will indeed be notified soon after the positive result is discovered. The requirement that both the laboratory and the supplier must report to the board within 24-hours assures that corrective action will be initiated as early as possible. This requirement clearly helps to preserve the health of the public.

MHD 149 B.5 states that a supplier must report to the Board any failure to comply with the rules. This requirement may be very difficult to enforce. However, in those instances when a supplier notifies the board that he has committed a violation, particularly one which could have immediate public health consequences, it would be possible to initiate the necessary corrective action, whether it is the need to trace the source of contaminants, or the need to collect samples, or the need to notify the affected public. Because this requirement helps to assure that the public health will be preserved, it is reasonable.

The state statute authorizes the Board to adopt rules no less stringent than the federal regulations. Minn. Laws, Chap. 66 § 3(e) (1977). MHD 149 B incorporates the requirements imposed by the federal regulations and is no less stringent than the

federal regulations. MHD 149 B conforms to the state statute and is therefore necessary. In addition, MHD 149 B is an integral part of the procedure by which safe drinking water is provided. There is an obvious need for the enforcing state agency to know when the quality is or may be declining, and this part of MHD 149 helps assure the acquisition of information in time to be able to avert a widespread disease-producing condition.

MHD 149 C. Because a supplier might not have before him a copy of the statute, we have included this part in rule 149 to remind a supplier that representatives of the board have been given a statutory right to enter. This part nearly repeats § 3(b) of the Minnesota Safe Drinking Water Act which reads "...the board has the power ...(b) To enter the premises of a public water supply, or part thereof, to inspect the facilities and records kept pursuant to rules promulgated by the board, to conduct sanitary surveys and investigate the standard of operation and service delivered by public water supplies;" The federal regulations require (41 Fed. Reg. 2919 § 142.10(b)(6)(iii), (Jan. 20, 1976)) that the enforcing agency have the right to enter upon the premises of a water supply at any time, to take samples and to examine the entire facility including those records which the supplier is required to keep pursuant to MHD 149 A. MHD 149 C is reasonable and necessary because its inclusion facilitates the supplier's task of understanding the scope of the enforcement power of the board and thereby furthers the legislative purpose of insuring that drinking water is safe.

MHD 149 D.1 There is a federal requirement that the public must be notified when certain violations occur. 41 Fed. Reg. 2919 § 142.10(b)(6)(v),(Jan. 20, 1976). These are repeated in MHD 149 D.1.a., d., and e. MHD 149 D.1 includes two additional instances when the public must be notified: 1) when a supplier fails to comply with a monitoring schedule (MHD 149 D.1.b), and 2) when a supplier fails to submit timely reports (MHD 149 D.1.c). These requirements are proposed because the public deserves to be notified whenever the supplier is not monitoring at the prescribed frequency or is not submitting timely reports. If a supplier is not monitoring or submitting timely reports, the consuming public should be apprised of that fact since they may well be relying on the absence of notification for assurance that all is well with the water they are drinking. Such a requirement also serves to alert the supply's customers that the operation of the system may be inadequate in other respects, and this might

invite public pressure to upgrade the operation of the system. It is the legislature's intent that the public should be informed and the additional provisions that have been proposed, paragraphs b. and c. of MHD 149 D.1, are reasonable and necessary because they further the legislative intent in this respect.

MHD 149 D.2. The federal regulations prescribe a notification procedure which must be adopted by the state. 41 Fed. Reg. 2921 § 142.16 (Jan. 20, 1976). This portion of MHD 149 repeats the relevant language of the federal regulation. There is no need to require more in the proposed rule since both the state and federal requirements are satisfied thereby and further, because the need to inform the public generally is adequately addressed in the federal regulation.

MHD 149 D.3. This subpart incorporates the federal minimum notice requirement. 41 Fed. Reg. 2921 § 142.16(b) (Jan. 20, 1976). MHD 149 D.3 does not require more extensive notification than that imposed by the federal regulations for the following reasons:

1. the need to satisfy the primacy requirements would be met by the adoption of the federal minimum;

2. the legislative purpose of notifying the consuming public is also adequately met by the requirement of quarterly mail notice; and

3. the board is authorized (Minn. Laws, Chap. 66 § 3(d)(1977)) to issue emergency orders which would permit it to give immediate notice when such is necessary, or to require the supplier to give it.

A stricter requirement might be more punitive with regard to the supplier than it would be informative to the public.

The federal notification procedure is modified in the following two respects: 1) in 149 D.3.a.(2), six weeks is sufficient time in which to allow a supplier who bills less frequently than every 3 months, or who does not bill at all by mail, to give notice by mail to his customers. Because the legislative intent requires that the public should be adequately informed, and because the kind of information contained in such a notice is more useful if it is recent, imposing a time period which is midway in the total federally allowed interval for giving of mail notice is reasonable; 2) in 149 D.3.a.(3), the requirement that a copy of the notice to

customers should be mailed to the board serves the purpose of informing the board whether or not the supplier is conforming to the notification requirement both as to the timing and to the content of the notice. Further, the board could draw at least a negative inference from the lack of receipt of such copy of notice that no notice was mailed, and could initiate the steps necessary to give such notice if the violation was of such a nature that the public needed to be informed. Since the additional burden imposed on the supplier by this requirement is far outweighed by the value of the information in helping achieve the legislative purpose, this requirement is justified.

MHD 149 D.3.b and 3.c repeat the federal requirements exactly (41 Fed. Reg. 2921 § 142.16 (Jan. 20, 1976)) and thereby implement the authority granted in the state statute. (Minn. Laws, Chap. 66 § 3(e)(1977). The rule allows the Board to require additional notice, such as by newspaper, radio or TV, when a maximum contaminant level is not corrected promptly. Because of a lack of experience in this area, it is not possible to draft a more precise procedure at this time.

MHD 149 D.4. For non-community water supplies, the federal regulation requires only that notice be conspicuously posted in a location where it can be seen by consumers. 40 Fed. Reg. 2921, § 142.16(c)(Jan. 20, 1976). MHD 149 D.4 makes more specific the federal regulation with respect to the notice being posted "where it can be seen by consumers," by naming the types of locations which will generally best meet that requirement. Since the board cannot foresee every situation, and since many facilities will have rather different physical characteristics, the right is reserved to issue specific posting instructions to each supplier as the need arises. This part of the rule further reminds the supplier that his responsibility for giving public notification has not been fulfilled unless the notice remains posted for the duration of the condition which required posting of the notice. The form of notice required of non-community supplies is different from that to be given by a community supply because of the nature of the population served. A transient population obtaining water from a non-community water supply can be considered to be properly notified only if the notice is conspicuously posted for the duration of the condition. For such a population, mail notice or even newspaper publication would serve little or no purpose.

MHD 149 D.5. There is no specific federal requirement that a state agency which seeks to assume primacy must have the authority to issue emergency orders. However the state legislation does give the board such authority (Minn. Laws, Chap. 66 § 3(d)(1977)) and a rule relating to the issuance of an order to notify the public in an emergency

is entirely appropriate and reasonable pursuant to this statute.

MHD 149 D.6. The federal regulations permit a state agency to issue a notice in place of the supplier. 41 Fed. Reg. 2921 (Jan. 20, 1976). The federal option is proposed for adoption here. A supplier ought not be allowed to assume that he is thereby automatically relieved of his responsibility should he not have made timely public notification. This provision serves to preclude such an assumption by the supplier. This provision also conforms with the legislative goals that the supplier and not the state agency has the responsibility to inform the public concerning the quality of the water it consumes.

Authority to adopt MHD 149 D is derived from two statutory sources. Minn. Laws Chap. 66 § 5 (1977) states "If a public water supply has violated a rule of the board, has a variance or exemption granted, or fails to comply with the terms of the variance or exemption, the supplier shall provide public notice of the fact pursuant to the rules of the board." Section 3(e) authorizes the board to promulgate rules no less stringent than the federal regulations. As noted above, MHD 149 D incorporates all of the notification procedures which are prescribed in the federal rules and is therefore necessary. MHD 149 is also reasonable because it prescribes notification procedures which, by keeping the public informed of the quality of their water, fulfill the legislative purpose to insure safe drinking water in all public water supplies.

MHD 150 Justification

This rule is proposed for adoption because of a widely felt need among agency personnel, particular district office sanitarians, to regulate the hauling of water for drinking purposes. Recent drought conditions in certain parts of the state have led a number of people to go into the business of hauling water to families whose wells have run dry. It has come to the attention of the staff that certain haulers were using tanks which had previously been used for hauling agricultural chemicals such as pesticides or feed supplements. Residues of these materials might have unfavorable consequences if they were consumed by humans. Further there is a concern that haulers may be obtaining the water they resell from unapproved and unsanitary sources. For these reasons, it is appropriate to adopt a rule to regulate those aspects of the procedure which could ultimately have public health consequences.

This rule is proposed pursuant to statutory authority granted in Minn. Stats. § 144.05 which allows the State Board of Health to "(c) Establish and enforce health standards for the protection and the promotion of the public's health such as...environmental health hazards..." (1976). The board may also adopt and enforce reasonable regulations for the preservation of the public health. The board may control, by appropriate means "(5)...the distribution of water by private* persons for drinking or domestic uses." Minn. Stats. § 144.12 Subd. 1 (5)(1976). MHD 150 seeks to help preserve the public's health by regulating the distribution of water by private haulers. The authority to adopt such a rule is granted in Minn Stats. § 144.12 Subd. 1 (5)(1976). Water-borne diseases have traditionally been viewed as an environmental health hazard and the duty to prevent and control these diseases has been assigned to environmental health specialists. Since this rule seeks to prevent the distribution of contaminated water which could create an environmental health hazard, adoption of this rule is also authorized pursuant to Minn. Stats. § 144.05 (c)(1976).

MHD 150 A.

MHD 150 A explains the purposes which the rule is intended to achieve and cites the primary authority under which the rule is being promulgated.

MHD 150 B.

MHD 150 B lists a number of terms which are used throughout the rules and for which specific definitions were thought to be useful. MHD 150 B defines all of the terms which should have particular meanings ascribed to them. MHD 150 B helps to promote the uniform enforcement and interpretation of the rule.

* Minn. Laws 1977, Chap. 66, § 10 deleted the word "private."

MHD 150 B.1 ascribes a definition to the term "accessible" in order to assure that only the intended meaning is used by the reader. Because adequate cleaning is a necessary part of the process by which sanitary conditions are assured, it is necessary that the interior of a tank be cleaned and that it be "accessible" for that purpose.

MHD 150 B.2.

"Approved source" is also defined because of the need to assure that a water supply which is being used as a hauler's source is currently capable of providing water which is known to be safe for drinking. That is the reason for requiring that the source have an acceptable sanitary inspection rating. The reason for requiring that the source be equipped with a permanent delivery system is to preclude the use of a hose which can be dragged in the dirt where it might pick up contaminating organisms. The delivery system must be overhead in order to prevent any backflow from the tank back into the supply if the supply pump should fail and a negative pressure should form in the delivery line.

MHD 150 B.3.

"Board" is defined here to avoid the need to use the complete name Board of Health every time that entity is referred to in the rules. The term is defined to include its authorized representatives since these are the people who will be responsible for administering and enforcing the rules.

MHD 150 B.4.

"Corrosion-resistant" is given a very specific meaning here so that the reader will know what specific types of tank surfaces are permitted to be used pursuant to this rule. This term, the following one "easily cleanable," and "smooth" are defined because all three deal with the interior surface characteristics of the tank. These characteristics are of concern because the smoothness of the surface is directly related to its cleanability. If a tank surface is corroded and rough, the tank may be hard to clean and its walls may harbor disease causing organisms in the pits and crevices formed by the corrosion.

MHD 150 B.5.

"Easily cleanable" is defined so that the hauler will know the type of tank which is permitted for use. This definition relates closely to the definition explained under B.4.

MHD 150 B.6.

"Sanitize" is defined so that only the meaning given here will be given to the term when it is used elsewhere in the rule. Since guaranteeing that the interior of the tank is free of bacteria is one of the primary concerns underlying the need for this procedure and the rule, it is important that a precise definition be given to the term. As for effectiveness of treatment, the rule prescribes certain procedures as being acceptable. If the supplier wishes to substitute a different procedure, then the rule places upon him the burden to show that the method he proposes to use is equally effective and does not leave a residue which could dissolve into the water and eventually cause unhealthy consequences to those who would drink that water.

MHD 150 B.7.

"Smooth" is defined as such because of the need to inform the hauler of the specific meaning of the term in order to assure that the interior of the tank is easy to clean. Obviously a surface with pits and inclusions is less easy to clean than a really smooth one because the depressions can harbor disease-causing organisms. This term is used, along with "easily cleanable" and "corrosion-resistant" to assure that the physical characteristics of the interior of the tank will not contribute to the creation of an unhealthy condition for those who drink the water which was transported in that tank.

MHD 150 B.8.

"Toxic" is broadly defined to include any material which, even in the dilute concentrations present in the filled tank, might have unhealthy consequences for those who would drink the water. The term is used in the rule to qualify the types of agents which can be used for sanitizing. Since sanitizing is the last step in the process before the tank will be filled with drinking water it is important that the supplier avoid substituting a chemical contaminant for the bacteriological one the process is intended to eliminate.

MHD 150 B.9.

"Water hauler" or "hauler" is so defined in order to describe and limit the type of activity which the rule is intended to cover, and to alert those who might be affected by it, as to exactly which practices are regulated by the rule. The term bulk is intended to exclude those who deliver bottled water since these persons are regulated under rules of the Department of Agriculture. The definition covers only service which is provided to others because this is where the need is seen

to be the greatest. The term also excludes from coverage those who haul water for agricultural purposes only, such as for the watering of animals or the irrigation of crops.

MHD 150 C. through F. describe the manner in which a water hauler must proceed in order to comply with the requirements of the rule.

MHD 150 C. requires that a hauler be in such a condition of physical health that he is not likely to transmit, via the water he is delivering, any infectious disease organisms he might be carrying. This portion of MHD 150 may be very difficult to enforce directly. However, the proscription should be nevertheless adopted so that if any state Department of Health sanitarian or any member of the public observes that a hauler seems to be in an unhealthy condition , an action could be brought to enjoin him from making further deliveries. While a hauler could probably be made to stop deliveries under other conditions which might create a health risk, this portion of the rule assures at the very least that the hauler's own ill health can serve as the basis for prohibiting his continuing to deliver water. Because certain infectious diseases are known to be communicable through water and because an infected hauler could thereby infect hundreds of people to whom he delivered water, there is a need to protect the public from such sources of infection. MHD 150 C helps achieve this purpose.

MHD 150 D.

This section is proposed to help reduce the number of questionable and potentially unhealthful practices which a hauler might adopt. Because it is difficult for departmental staff to anticipate every possible practice which might be adopted by a hauler and to categorize these practices in the abstract as safe or harmful, this provision is proposed to help assure that a hauler will be encouraged to seek departmental advice before adopting a new practice.

MHD 150 E.

Dipping into the filled tank is prohibited in order to preclude the possibility that a hauler will introduce into the tank some

disease causing organisms which were on a contaminated dipping vessel. The staff does not foresee any reason why the hauler should have to dip into the tank, when he can easily obtain water by opening the outlet valve,

the public health is better protected if the practice of dipping is prohibited altogether.

MHD 150 F.

MHD 150 F.1. states the requirements for the construction, maintenance, and use of the tank in order to assure that the tank and all the parts of it which come in contact with the drinking water will be kept clean and free of sanitary defects. The requirement that the tank be constructed of stainless steel, glass, or other corrosion-resistant material is imposed in order to assure that the water carried in the tank does not corrode the tank wall. Corrosion of the tank must be avoided if the tank is to be kept clean and free of pits or depressions which could harbor disease-causing organisms.

MHD 150 F.2.

The rule requires that the system be closed and that vents be properly constructed and screened in order to prevent the entry into the tank of dust or other airborne particulate materials which might affect the healthfulness of the water.

MHD 150 F.3.

The rule requires that inlet and outlet caps be permanently attached in order to prevent their contaminating the water if they should be dropped to the ground. Adoption of this requirement eliminates another possible vehicle for contamination.

MHD 150 F.5.

The use of filters is prohibited because filters are generally known to accumulate large numbers of bacteria and to be serious sources of contamination. There are few methods by which a user could tell whether the filter had become so full of particles as to be unsafe. There are few effective methods for cleaning such filters. Because the continued healthfulness of the water cannot be guaranteed with any degree of certainty if filters are used, their use is prohibited altogether.

MHD 150 F.6.

This section requires that the tank be filled only from the top in order to minimize the possibility of back-siphonage from the tank back into the supply if a negative pressure should develop in the supply line. This section is really only a reminder, in view of the fact that the hauler is only supposed to obtain water from an "approved" source which is equipped with a fixed overhead delivery system.

MHD 150 F.7.

This section requires that the hose through which water flows from the tank into a customer's receiving tank shall be clean and not be a source of contamination for the water. Flushing of the hose prior to each delivery will help achieve the desired cleanliness. The admonition regarding the type of hose material to be used is included more for its aesthetic purpose than for the purpose of protecting the public health. Nevertheless its inclusion seems reasonable if it will contribute to the satisfaction of the consumer who is drinking the water.

MHD 150 F.8.

The requirement that the tank be accessible internally for cleaning and inspection is necessary to assure that the tank is to be kept as clean as possible. To be accessible internally means that a brush can be introduced to scour every surface and that a person can inspect the tank with a lamp in order to look for pits and cracks.

MHD 150 F.9.

The rule imposes certain limitations on permitted prior uses of the tank, primarily because the complete flushing out of these substances from the inside of the tank, is very difficult to assure. The first sentence in subsection 8 is intended to exclude tanks which have been used to fertilizer, pesticides, or similar substances and also to exclude tanks in which have been carried substances which would impart an unpleasant taste or odor to the water. The second sentence of this subdivision requires that the hauler seek approval of the board prior to using a tank in which was carried any substance other than water, whether the substance was harmful or not. By requiring this approval, the board can assure itself as to whether the tank can or cannot be properly cleaned, and whether its use for hauling drinking water ought or ought not be permitted, based on public health policies.

MHD 150 G.

MHD 150 G.1.

This section of the rule requires that the tank used to haul water be cleaned and sanitized once each week. This requirement is imposed so that if any contaminating organisms do get into the tank, they will not remain in there long enough to grow to substantial numbers before the tank is cleaned again. Ideally the tank should contain only water which is safe for drinking. Adoption of this procedure is reasonable because it minimizes tha possibility that organisms can grow, and thereby protects the public health. Any shorter interval between washings might impose a considerable burden on the hauler without necessarily preserving the public health. Any longer interval between washings allows enough time for bacteria to grow to dangerous numbers.

MHD 150 G.2.

The tank must be rinsed after washing to eliminate any traces of washing compound which might affect the health of those drinking the water.

MHD 150 G.3.

The sanitizing procedures which are given in this section are all known to kill most bacteria within the time specified. These are procedures which are in common use in all industries which must sanitize for public health purposes. cf. U.S. Food and Drug Administration Standards, 21C.F.R. § 128d.7(1975), § 1240.10(e)(1975).

MHD 150 G.4. permits the use of a detergent-sanitizer because these products have a demonstrated cleaning and biocidal activity which is comparable to the two-step procedure described earlier

MHD 150 G.5 and 6 require adequate rinsing after sanitizing to remove excessive quantities of the sanitizer and that the tank then be filled with water from an approved source which was defined earlier at MHD 150 B.2. Both of these requirements are in keeping with the remaining parts of the rule, i.e., that the tank not contribute any toxic materials to the water which will be carried in it.

MHD G.7. requires that the hauler add chlorine to the tankful of water to assure the maintenance of a 1 ppm free chlorine residual. Chlorination is generally accepted as the easiest and cheapest method of purifying drinking water. It is the disinfection method which is most commonly used in public water

supplies. The rule requires that the hauler determine how much chlorine he must add to a full tank to assure that 1 ppm remains in the last quantity of water to be delivered. This amount will have to be determined on a trial and error basis by each hauler, because the chlorine demand which is caused by the presence of certain compounds occuring naturally in most water will be different, depending on the source of the supply, and the time of year. The hauler is required to use the DPD test method for free chlorine. This method is inexpensive, reliable and relatively easy to use.

MHD 150 H. requires that the hauler sample the contents of his tank once each month for analysis for bacteria. The samples are to be analyzed at no cost to the hauler, except for the monthly mailing charge. Monthly sampling will allow the board to monitor the number of such haulers and the quality of the water they are providing. If any bacteria are found, we can notify the supplier and order him to disinfect the tank immediately and perhaps to change his operating procedures. This procedure, in conjunction with the requirement that a delivery record be kept pursuant to MHD 150 I, would allow the board to contact all of the hauler's recent customers to warn them to boil their water or to help the customers' physicians' diagnoses if there should be complaints indicative of water borne diseases.

MHD 150 I. imposes a requirement that a tank log be maintained by the hauler. As noted above the keeping of such a log would help trace the source and possible victims of any contamination which might be found. The hauler would probably be keeping a log in which to record his expenses and receivables. It is not unreasonable to require that he retain the type of information required in this rule since he would probably be recording some of the same information for his own financial purposes.

As noted earlier the board has statutory authority to promulgate rules which regulate the distribution of water for drinking or domestic use (Minn. Stats. § 144.12 Subd. 1(5)(1976)) and which help preserve the public health (Minn. Stats. § 144.05 (5)(1976)). MHD 150 F. prescribes standards and procedures which are reasonably achievable and which will help assure that the water hauled will remain clean and safe for human consumption, MHD 150 F. is therefore reasonable. Further the rule is necessary because it achieves the legislative purpose of helping to preserve the health of those who will drink the water.

JUSTIFICATION FOR REPEAL OF RULES

The State Board of Health seeks to repeal several rules which were adopted decades ago and which are no longer being enforced.

The Board of Health does not have the explicit authority to repeal its rules, however such authority can be inferred from a variety of sources. There is an implied power to repeal which derives from the authority to adopt and alter rules granted in Minnesota Statutes § 144.12 subdivision 1 (1976). The alteration of rules necessarily means that some standards can be changed, i.e., that new ones can be adopted which supersede the old. This can be viewed as a form of repeal of the language which has been superseded. If the legislature intended that such alterations could be made, then it must have intended that an entire rule could be repealed when the agency found it necessary to adopt a new rule to supersede an existing one. In Minnesota Statutes § 144.05(g)(1976) the Board is given the responsibility to develop and maintain an organized system of programs for protecting the public health, and to continually assess and evaluate the effectiveness and efficiency of public health efforts in the state. One can infer from this that evaluation must be done on a continuing basis in order to see if existing programs are satisfactory or should be replaced. The authority to replace outdated programs necessitates the replacement of antiquated rules which govern those programs.

The Administrative Procedures Act which sets out the rulemaking procedures for most state agencies specifies that the procedures contained therein must be followed whenever an agency adopts, amends, or repeals its rules Minnesota Statutes § 15.0412 subdivision 1 (1976). By adopting this language, the legislature clearly states that rules can be repealed. Elsewhere the Act states that any person may petition an agency to repeal any rule Minnesota Statutes § 15.0415 (1976). In view of the fact that any person may petition for repeal of "any rule," then certainly the Board of Health as the adopting agency ought to be able to repeal its own rules. It would be unreasonable to argue that the only way the Board of Health can have one of its rules repealed is to persuade a "person" outside of the agency to initiate the petition for repeal. Based on all of the reasons noted above that the Board of Health has the implied power to repeal its own rules.

The rules which are proposed for repeal are the following:

MHD 195 relating to sanitation and registration of tourist camps is proposed for repeal. This rule was adopted between 1921 and 1924. In 1969 the Board of Health adopted two new rules, MHD 187 and 188, relating to mobile home parks and recreational

camping areas which supersede MHD 195. MHD 187 is much more explicit and precise than was MHD 195, and the scope of coverage of MHD 187 is much broader than was that of MHD 195. MHD 188 establishes a licensing procedure which allows the staff to make periodic inspections of the sanitary conditions of all recreational camping areas in the state. Since MHD 187 and 188 supersede MHD 195, this rule is no longer enforced and should be repealed.

MHD 198 which is not printed in the Manual of State Agency Rules, deals with sanitation in industrial camps, which include lumber camps. This rule was adopted by the Minnesota State Board of Health in another form prior to 1921 and has remained in effect to date.

The repeal of this rule is necessary because there are no longer any such industrial or lumber camps in Minnesota and none have been known to exist for at least 15 years. The board does not anticipate that such industrial camps will be operated in the foreseeable future in Minnesota because the conditions which gave rise to them in the past no longer exist. The proximity of towns to most work areas, and the ease and availability of transportation have made such facilities unnecessary.

At this time, the rule serves no purpose whatsoever, and merely adds work to the task of periodic review and updating of the rules of the Minnesota Department of Health. Another reason why the repeal of this rule is proper is that the Department of Labor and Industry would have administrative and enforcement authority over such facilities just as it has over migrant labor camps because, like migrant labor camps, industrial camps are "places of work." The Department of Labor and Industry would enforce its own rules regarding such facilities, thus rendering MHD 198 useless and therefore superfluous. A copy of the Department of Labor and Industry rules is attached in Appendix 3.

The following rules which are proposed for repeal relate generally to certain unsanitary practices which are commonly called nuisances. None of the following rules have been published in the Manual of State Agency Rules:

MHD 246 and 247 respectively deal with the duty of a local health officer to issue notices to all citizens of a city or village to clean up their yards and cesspools, etc., and to conduct an annual sanitary inspection of his municipality in the month of May and to report the results thereof to the State

Board of Health before July 1 of the same year. These rules date back to approximately 1906 when county health officers were by law called together by the State Board of Health for an annual meeting, at which they discussed the sanitary conditions of their localities and worked for the adoption of new rules to deal with problems affecting sanitation.

These rules have not been invoked for many years because the purpose for which they were adopted is being met by other regulatory devices. Most counties and municipalities have adopted zoning and housing ordinances. These local units of government can assure that their communities are kept sanitary by invoking any of several statutes which categorize unsanitary practices as nuisances, e.g., Minn. Stats. § 145.22 and 145.23 (1976) authorizes a local health officer to order the removal of a nuisance or source of filth, and to abate such a nuisance. Minn. Stats. § 609.745(1976) makes it a misdemeanor for anyone to permit his property to be used or letting it be used to maintain a public nuisance. Minn. Stats. § 561.01(1976) states that anything which is injurious to health, or indecent or offensive to the senses which interferes with the comfortable enjoyment of life or property, is a nuisance, which may be abated in a civil action. Local units of government have taken over the regulation of unsanitary practices to such an extent that the retention of these rules is no longer necessary and cannot be justified. Because these rules no longer serve the purpose for which they were intended, and because they are no longer necessary, these rules should be repealed.

MHD 248 deals with the sanitary disposal of human excreta in cities and villages. This rule was adopted before 1910. The requirement that a permanent privy be cleaned out annually has since been found to create health hazards and sanitarians now recommend that these privies be cleaned out only when they are filled. The rule has not been invoked for decades. Cities and villages have adopted other means for regulating the use of privies. Because the statutory authority to abate nuisances is available to control these practices and because the rule is no longer useful, it should be repealed.

MHD 249 deals with the proper disposal of dead animals and was adopted in 1906. It is no longer enforced by the State Board of Health since both the Livestock Sanitation Board and the Solid Waste Division of the Pollution Control Agency have promulgated and do enforce rules governing the disposal of animal carcasses. Copies of the relevant rules are attached in Appendix C . In addition, it is a crime to unlawfully deposit dead animals. Minn. Stats. § 609.68 (1976). Because this practice is being controlled by other state agencies, the rule is no longer being enforced and it is reasonable that it be repealed.

MHD 250 deals with the collection of garbage in cities and villages and the feeding of garbage to animals. The rule was adopted around 1906. There are numerous statutes and local ordinances governing the disposal of garbage in cities and villages and by licensed facilities. The throwing or scattering of garbage is prohibited in § 609.68 of Minnesota Statutes (1976). As a result of action on this matter at the local level, there is no longer any need for the State Board of Health to retain this rule. With respect to the feeding of garbage to animals, the Livestock Sanitation Board currently regulates this practice, pursuant to Minn. Stats. Chap. 35 (1976). A copy of the Sanitation Board's rule is attached in Appendix B . Because another state agency now regulates this practice, there is no longer any need for the rule and it should be repealed.

MHD 251 prohibits the slaughter of unhealthy animals and the storage of butcher's offal in rooms where articles of food are prepared. MHD 252 requires that sanitary conditions be maintained at slaughter houses. MHD 253 prohibits the feeding of butcher's offal to hogs, requires that animals be treated in a humane manner and that animals be slaughtered in suitable rooms. These rules were adopted by the State Board of Health in 1906. They have not been enforced by the Board for many years because similar rules are now enforced by other state agencies. The Livestock Sanitary Board pursuant to Minn. Stats. Chap. 35 (1976) regulates the feeding of animals, while the U.S. Department of Agriculture and the Minnesota Department of Agriculture pursuant to Minn. Stats. Chap. 31, 31A (1976) regulate all the practices in slaughter and packing houses. The rules of the U.S Department of Agriculture are comparable to those of the Minnesota Department of Agriculture. Copies of all the relevant state rules are reproduced in Appendix C and D. Because the practices regulated in MHD 251, 252 and 253 are now being controlled by other agencies. these rules of the State Board of Health are no longer necessary.and should be repealed.

MHD 254 prohibits the making of hats with fur which has been treated with mercury compounds. The rule was adopted in the late 1930's to prevent the entry into Minnesota of the hatters' industry which was then being similarly regulated in other states. No such industry ever moved into the state and as a result, the rule has never had to be enforced. If the rule were repealed, departmental staff in the Section of Occupational Health do not anticipate that any industry would adopt the process which MHD 254 forbade, because of the current widespread knowledge concerning the health risks created by the use of mercury compounds. Since there is no longer any need for the rule, it is reasonable that it be repealed.

STATE OF MINNESOTA

COUNTY OF HENNEPIN

BEFORE THE MINNESOTA

BOARD OF HEALTH

In the Matter of Proposed Rules Relating to Public Water Supplies, to Water Haulers, and to the Repeal of Rules Relating to Tourist Camps, Industrial Camps, Miscellaneous Nuisances and Hatters' Fur.

STATEMENT OF EVIDENCE

Testimony regarding the adoption or repeal of the above-captioned rules shall be given at the public hearing to be held on July 7 and 8th. All of the testimony to be presented shall be based upon the matter contained in the Statement of Justification which is attached hereto and made a part hereof. The following persons will make presentations on behalf of the Minnesota Department of Health:

-- Richard L. Wade, Ph.D., M.P.H., Director, Division of Environmental Health, will testify on MHD 145, by giving a brief explanation of the overall content of the rules relating to water supplies, by discussing the terms as defined, and by explaining the scope and coverage of the rules.

-- Gary Englund, P.E., Chief, Section of Public Water Supplies, Division of Environmental Health, will testify on rules MHD 146 regarding maximum permissible levels of constituents which may be found in drinking water supplies, and on rule MHD 147, on the frequency at which drinking water must be analyzed and the methods by which such analyses must be conducted.

-- Pauline Bouchard, J.D., Consultant, will testify on rules MHD 148 regarding the procedure by which compliance with maximum contaminant levels can be waived, and on MHD 149 regarding reporting and record keeping requirements, and public notification which must be given in certain situations.

-- Charles B. Schneider, Chief, Section of Environmental Field Services, Division of Environmental Health, will give testimony on rule MHD 150 regarding procedures to be followed by persons who haul drinking water by tank truck. Mr. Schneider will also offer testimony regarding the repeal of rules MHD 195 relating to tourist camps, MHD 198 relating to sanitation in industrial and lumber camps, MHD 246 and 247 relating to annual sanitary inspections of cities and villages, MHD 249 relating to the disposal of dead animals, MHD 250 relating to the collection and feeding of garbage to animals, MHD 251, 252, and 253 relating to conditions in slaughter houses and rendering establishments, and MHD 254 relating to mercury-treated hatters' fur.

-- Paul B. Johnson, P.E., Senior Engineer, Section of Public Water Supply, Division of Environmental Health, will give testimony on the repeal of MHD 248 relating to sanitary practices for cesspools and privies.

It is not anticipated at this time that any outside experts will be called as witnesses at this hearing.

STATE OF MINNESOTA

BOARD OF HEALTH



WARREN R. LAWSON, M.D.
Secretary and Executive Officer

Stat. § 15.052. In the particular case of a rate-setting contested case involving the State Public Service Commission, one or more Commissioners may or may not be in attendance and thus, obviously, be subject to attempts to influence by the parties to the proceeding. Consistent with the rationale of distinguishing between formal and informal proceedings would be the inherent fact that all expenses involved in a contested rate case proceeding under the Minnesota Public Utilities Act are reported by the utility as part of the utilities business expense in the rate case and, therefore, are a matter of formal public record while those involving any informal unilateral attempt to influence would not be.

My specific question for which I have extrapolated what I believe to be the intended interpretations and rationale is whether an attorney of record and witnesses providing testimony for a party to a contested case rate proceeding before a hearing examiner assigned by the State Office of Hearing Examiners wherein the State Public Service Commission will make the final determination, are subject to the lobbyist registration and reporting requirements.

Very truly yours,
James R. Habicht

Department of Health
State Board of Health
Proposed Revision of Rules Relating to Various Subjects

Notice of Intent to Solicit Outside Opinion

Notice is hereby given, pursuant to the provisions of Minn. Stat. § 15.0412, subd. 6 (Supp. 1975) that the Minnesota State Board of Health will propose the adoption of new rules and the amendment and revision of existing rules.

All interested parties desiring to submit data or views relating to the proposed adoption, amendment or revision of the rules noted below should address their comments (either written or oral) to the Minnesota Department of Health, Division of Environmental Health, 717 Delaware Street S.E., Minneapolis, Minnesota 55440, by writing or calling the persons designated. Evidence submitted for consideration should be pertinent to the matter at hand. Any material received by the Department of Health will become part of the hearing record.

1. Proposed amendments to Minnesota Water Well Contractors Code relating to the use of plastic pipe by water well contractors in the construction of water wells:

Contact: Edwin Ross
Phone: (612) 296-5339

2. Rules relating to the licensing of water conditioner installers and contractors and the installation of water conditioning equipment.

Contact: Charles Settle
Phone: (612) 296-5325

3. Rule relating to the regulation with respect to sanitary conditions of mass gatherings.

Contact: Charles Schneider
Phone: (612) 296-5335

4. Amendment to MHD 151-160, Lodging Establishment, and MHD 161-170, Food and Beverage Establishments, will update standards.

Contact: Charles Schneider
Phone: (612) 296-5335

5. Proposed rules relating to all public drinking water supplies, pursuant to the Safe Drinking Water Act of 1974, P.L. 93-523, and rules amending MHD 136 relating to water supplies and MHD 217 relating to water well construction.

Contact: Gary Englund
Phone: (612) 296-5330

6. Proposed repeal of the following rules:

MHD 246 dealing with annual sanitary inspections,

MHD 247 dealing with notice of inspection,

MHD 248 dealing with cesspools and privies,

MHD 249 dealing with disposal of dead animals,

MHD 250 dealing with feeding of garbage to hogs,

MHD 251 dealing with rendering establishments,

MHD 252 dealing with slaughterhouses,

MHD 253 dealing with keeping hogs at slaughterhouses,

MHD 254 dealing with hatters' fur,

MHD 198 dealing with industrial camps,

MHD 195 dealing with tourist camps,

MHD 204 dealing with migrant labor camps.

Contact: David Giese
Phone: (612) 296-5362

7. Amendment of MHD 139, Plumbing, will include standards and qualifications for examination and licensing of journeyman and master plumbers.

Contact: Charles Settle
Phone: (612) 296-5325

Any materials submitted shall be reviewed and considered by the Department of Health during the preparation of the proposed rules. Notice of the public hearing on the proposed rules shall be published in the State Register and given to all interested parties who have registered with the Secretary of State's Office in accordance with the provisions of the Administrative Procedure Act.

Under the provisions of Minn. Stat. § 10A.01, subd. 11 (1974), any individual representing persons or associations attempting to influence administrative action, such as the promulgation of these proposed rules, must register with the State Ethics Commission as a lobbyist within five days of the commencement of such activity by the individual. The State Ethics Commission is located at Room 401, State Office Building, Saint Paul, Minnesota 55155.

Warren R. Lawson, M.D.
Secretary and Executive Officer

Department of Health

State Board of Health

Notice of Intent to Solicit Outside Opinion on Proposed Rules Governing Water Haulers

Notice is hereby given, pursuant to the provisions of Minn. Stat. § 15.0412, subd. 6 (Supp. 1975) that the Minnesota State Board of Health will propose the adoption of new rules relating to water haulers.

All interested parties desiring to submit data or views relating to the proposed adoption of such rules should address their comments (either written or oral) to the Minnesota Department of Health, Division of Environmental Health, 717 Delaware Street S.E., Minneapolis, Minnesota 55440, by writing or calling Gary Englund at 612-296-5330. Evidence submitted for consideration should be pertinent to the matter at hand. Any material received by the Department of Health will become part of the hearing record.

Any materials submitted shall be reviewed and considered by the Department of Health during the preparation of the proposed rules. Notice of the public hearing on the proposed rules shall be published in the *State Register* and given to all interested parties who have registered with the Secretary of State's Office in accordance with the provisions of the Administrative Procedure Act.

Under the provisions of Minn. Stat. § 10A.01 subd. 11 (1974), any individual representing persons or associations attempting to influence administrative action, such as the promulgation of these proposed rules, must register with the State Ethics Commission as a lobbyist within five days of the commencement of such activity by the individual. The State Ethics Commission is located at Room 401, State Office Building, St. Paul, Minnesota 55155.

Warren R. Lawson, M.D.
Secretary and Executive Officer

Department of Transportation

Public Meetings on State Transportation Plan

Public information meetings on the State Transportation Plan have been scheduled by the Minnesota Department of Transportation (Mn/DOT). One meeting will be held in each Regional Development Commission District. The purpose of the meetings is to identify the transportation issues, concerns, and problems which the plan must address. The meeting schedule is:

Region	Date	City	Time	Place
RDC 1*	March 29	Warren	7:00 pm	State Bank Building
RDC 2	April 14	Bemidji	7:30 pm	J. W. Smith Elmentary School 18th St. and America Ave.
RDC 3	April 12	Grand Rapids	7:30 pm	Rainbow Inn Motel Gold Room
RDC 3	April 13	Duluth	7:00 pm	First United Methodist Church Lakeview Room Skyline Parkway Central Entrance
RDC 4	April 7	Fergus Falls	7:30 pm	Fergus Falls Community College Old Highway 210 West
RDC 5	March 30	Staples	7:30 pm	North Campus of the Vocational School Airport Road
RDC 6E	April 26	Willmar	7:30 pm	Willmar Community College Rm. L-10 Library

Ex

CHANGES TO RULES AS PROPOSED
(published in State Register June 6, 1977)

--replace "board" or "State Board" with commissioner in MHD 145A, 145B, 146A, 146B, 147, 148, 149B, 149C, 149D, 150A, 150B, 150F, 150G;

--replace "certified" with approved in MHD 147A, 147H, 149B;

In the following, words with lines drawn through them are to be stricken, and words with underlining are to be added:

MHD 145 B.1 ..., or ~~any~~ his or her authorized representative; ~~thereof;~~

MHD 145 B.2.a "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 ~~an average of~~ at least 25 year-round residents;

MHD 145 B.4 ...Such an exemption ~~waiver~~ must be conditioned...

MHD 145 B.13 "Public water supply" (supply) means... or serving ~~an average of~~ at least 25...

MHD 145 B.19 ...Such a variance ~~waiver~~ must be conditioned...
...and available technology for treatment or other means, and...

MHD 147 B.1 ...~~14th~~ 13th Edition, pp. ~~913-942~~ 662-688...

147 B.9 ...~~14th~~ 13th Edition, pp. ~~332-334~~ 129-132...

147 C.1 ...~~14th~~ 13th Edition, pp. ~~132-134~~ 350-353...

147 D.3.b ...~~14th~~ 13th Edition, pp. ~~143-155~~ 210-215...

147 D.3.c ...~~14th~~ 13th Edition, pp. ~~143-152~~ 210-215...

147 D.3.d ...~~14th~~ 13th Edition, pp. ~~143-152~~ 210-215...

MHD 147 D.3.e ...~~14th~~ 13th Edition, pp. ~~143-152~~ 210-215...

147 D.3.g ...~~14th~~ 13th Edition, pp. ~~427-429~~ 461-464...

147 D.3.i ...~~14th~~ 13th Edition, pp. ~~143-151~~ 210-215...

147 D.3.j ...~~14th~~ 13th Edition, pp. ~~391-393~~ 172-174... or Colorimetric Method...~~14th~~ 13th Edition, pp. ~~389-390~~ 171-172, and ~~393-394~~ 174-176...

147 F.3.a(1) ...~~Method~~ Section...~~14th~~ 13th Edition

147 F.3.a(2) ...~~Method~~ Section

147 F.3.a(3) ...~~Method~~ Section

147 F.3.a(4) ...~~Method~~ Section

147 F.3.a(5) ...~~Method~~ Section

MHD 148 A.4.a ...technology for treatment or other means,...

MHD 149 B.1.b ...turbidity and chlorine residual measurements...

MHD 149 D.1 f. fails to comply with an applicable testing method established in MHD 147.

MHD 150 B.3 "Commissioner" means the commissioner of health or ~~any~~ his or her authorized representative; ~~thereof;~~

MHD 145 B. Delete the definitions for "community" and "non-community water supply" in MHD 145 B.2 and insert them as subparts under the definition of "public water supply" (MHD 145 B.13). Renumber all the definitions starting with MHD 145 B.3.

In the Matter of Proposed Rules Relating to Public Water Supplies, to Water Haulers, and to the Repeal of Rules Relating to Tourist Camps, Industrial Camps, Miscellaneous Nuisances and Hatters' Fur.

NOTICE TO HEARING EXAMINER REGARDING CHANGES IN PROPOSED RULES

In addition to the changes in the proposed rules which were introduced into the record at the public hearing of July 7, 1977, we wish to make the following change:

MHD 149 A ...retain on ~~the~~ its premises or...

With regard to the question raised at the hearing concerning the reference in proposed MHD 145-149 to methods contained in the 13th rather than the 14th Edition of Standard Methods for the Examination of Water and Wastewater, we offer the following explanation: the analytical methods in the 13th Edition are preceded by the recommendation that all water samples (both raw and finished) should be predigested with acid before analysis to remove certain impurities which might interfere with the final determination.

The comparable analytical methods in the 14th Edition are preceded by the recommendation that raw water samples should be acid-digested prior to analysis. The water quality standards which are being enforced by the Minnesota Pollution Control Agency are for raw water, and since raw water preparation and analytical methods in both the 13th and 14th Editions are the same, Minnesota Pollution Control Agency is being made to follow the 14th Edition. No mention is made in the 14th Edition of the need to acid-digest some finished water samples prior to analysis. Because no recommendation is made in the 14th Edition regarding the need to acid digest turbid samples of finished water, and because some finished water samples contain enough turbidity to interfere with subsequent analyses, chemists in the United States Environmental Protection Agency are insisting that the methods given in the 13th Edition be followed in the analysis of finished drinking water.

Dated: July 11, 1977

WARREN R. LAWSON, M.D.
Commissioner of Health

STATE OF MINNESOTA

COUNTY OF HENNEPIN

STATE OF MINNESOTA

COMMISSIONER OF HEALTH

In the Matter of Proposed Rules Relating to Public Water Supplies, to Water Haulers, and to the Repeal of Rules Relating to Tourist Camps, Industrial Camps, Miscellaneous Nuisances and Hatters' Fur

FINDINGS AND CONCLUSIONS

The above-entitled matter came on for hearing before me on the 7th of July, 1977 at 9:30 a.m. in the Board Room of the Minnesota Department of Health Building, after proper notice as required by Minn. Stat. § 15.0412 (1976) had been served upon all persons, associations and other interested groups registered with the Secretary of State for that purpose.

After affording interested persons an opportunity to present written and oral data, statements and arguments, having heard all of the testimony, having considered all of the evidence adduced and upon the records, files and proceedings herein, I hereby adopt as my own the Findings and Conclusions contained in the report submitted by the Hearing Examiner, herein on September 5, 1977, a copy of which is attached hereto and made a part hereof.

STATE OF MINNESOTA



WARREN R. LAWSON, M.D.
Commissioner of Health

DATE:

STATE OF MINNESOTA
OFFICE OF HEARING EXAMINERS

FOR THE MINNESOTA DEPARTMENT OF HEALTH

In the Matter of Proposed Rules relating to public water supplies, to water haulers, and to the repeal of rules relating to tourist camps, industrial camps, miscellaneous nuisances and hatters' fur.

REPORT OF HEARING EXAMINERS

The above-entitled matter came on for hearing before Hearing Examiner Howard L. Kaibel, Jr. of the Minnesota Office of Hearing Examiners in the Board Room of the Minnesota Department of Health Building, 717 Delaware Street Southeast, Minneapolis, Minnesota, on Thursday, July 7, 1977 commencing at 9:30 a.m.

William G. Miller, Special Assistant Attorney General, appeared as counsel for the Minnesota Department of Health (hereinafter "Department"). The hearing continued until all persons or representatives of interested persons or organizations desiring to be heard were heard.

Pursuant to Minn. Stat. § 15.0412, subd. 4, this Report shall be available for review to all affected individuals upon request for at least five days.

The Department shall, if it proposes to adopt the rules as originally proposed or amended, submit the complete hearing record, including its Findings and Order, to the Chief Hearing Examiner no earlier than five days subsequent to the receipt of this Report. This submission shall also clearly indicate any changes made to the rules as originally proposed, preferably in the format that will be submitted to the State Register for publication. The Chief Hearing Examiner shall complete his review and submit his report to the Department on the issues of substantial changes in the rule and compliance with Minn. Stat. § 15.0412 within ten calendar days. Thereafter, the Department shall be responsible for filing the rules with the Attorney General.

Based upon all the records and proceedings herein, the Examiner makes the following:

FINDINGS OF FACT

1. That on May 25, 1977 the Department filed the following

documents with the Hearing Examiner:

(A) The Notice of Hearing;

(B) Separate Orders for Hearing for each of the three sets of rules involved;

(C) Statements of Need for each of the three sets of rules involved;

(D) A Certificate of the Resolutions authorizing the holding of this hearing;

(E) A Statement of Evidence regarding all three sets of rules;

(F) A copy of each of the rules involved;

(G) A Statement of Justification for all three sets of rules involved together with appendixes A-D attached thereto; and

(H) A statement of the estimated length and number of people attending the hearing.

2. That on June 6, 1977 a Notice of Hearing and a copy of the proposed rules were published at 1 State Register 1732.

3. That on June 3, 1977 the Department mailed the Notice of Hearing to all persons and associations who had registered their name with the Secretary of State for the purpose of receiving such notice. A letter of June 10, 1977 also indicates that "Notices were sent to all known public water supplies as well as to all present members of the Minnesota Legislature."

4. That on June 10, 1977 the Department filed the following documents:

(A) The Affidavit of Receipt of the Secretary of State's List;

(B) The Secretary of State's Certificate;

(C) The Affidavit of Mailing; and

(D) A copy of the Notice of Intent to solicit outside opinion as published in the State Register at 1 State Register 900 and 1437.

5. That all of the documents listed in Findings 1 and 4 were available for inspection at the Office of Hearing Examiners from the date of filing to the date of the hearing.

6. That the record remained open through July 27, 1977 for the receipt of written comments and statements.

7. That there was no public objection or opposition of any kind expressed before, at or after the hearing to the proposed adoption and repeal of rules. Written comments submitted by the Department after the hearing (B) adequately explained the need to use the 13th Edition rather than the 14th Edition of "Standard Methods for Examination of Water and Waste Water" which was the only major unresolved concern at the hearing of the Pollution Control Agency. These comments also agreed to a recommended change of the League of Cities alleviating their only unresolved concern. In light of the evident acceptance by the affected public, the usual Office of Hearing Examiners detailed rule by rule examination in this report is clearly inappropriate. Moreover, in this case such a report would be largely simply a repetition or restatement of the excellent detailed 59 page justification submitted by the Department (Exhibit 2). It is specifically found upon a careful review of this justification and the remainder of the record, that the Department has adequately met its responsibility to make a prima facie showing of statutory authority, need for and reasonableness of the proposed adoption and repeal of rules by an affirmative presentation of facts.

8. That the revisions proposed by the Department at and after the hearing, if adopted, would not appear to constitute a substantial change pursuant to uniform rule HE 108. Final determination of that matter is of course left to the Chief Hearing Examiner subsequent to adoption.

9. That the Department's attention is directed to revisions of the Administrative Procedures Act (Laws of 1977 Chapter 443) prohibiting incorporation by reference where the material incorporated is less than 3,000 words or not readily available to affected persons.

CONCLUSIONS

1. That the Minnesota Department of Health duly acquired and now has jurisdiction over the within proceeding.

2. That all relevant, legal and procedural requirements of statute and rule have been properly complied with.

3. That the Department has the statutory authority to promulgate and repeal the rules as proposed.

4. That the Department has adequately documented the need for the repeals and promulgations herein proposed.

5. That the Department has adequately documented the reasonableness of the repeals and promulgations herein proposed.

RECOMMENDATIONS

It is hereby recommended: That the proposed rule promulgations and repeals herein be approved by the Minnesota Department of Health.

Dated this 25TH day of August, 1977.

HOWARD L. KAIBEL, JR.
Hearing Examiner

STATE OF MINNESOTA

COUNTY OF HENNEPIN

STATE OF MINNESOTA

COMMISSIONER OF HEALTH

In the Matter of Proposed Rules Relating to Public Water Supplies, to Water Haulers, and to the Repeal of Rules Relating to Tourist Camps, Industrial Camps, Miscellaneous Nuisances and Hatters' Fur

ORDER ADOPTING AND REPEALING RULES

The above-entitled matter came on for hearing before me on the 7th day of July, 1977 at 9:30 a.m. in the Board Room of the Minnesota Department of Health Building, after proper notice as required by Minn. Stat. § 15.0412 (1976) had been served upon all persons, associations and other interested groups registered with the Secretary of State for that purpose.

After affording interested persons an opportunity to present written and oral data, statements and arguments, having heard all of the testimony, having considered all of the evidence adduced and upon the records, files and proceedings herein, and applicable statutory standards and criteria, and having confirmed the need for the above-captioned rules,

NOW, THEREFORE, IT IS ORDERED that Minn. Rules MHD 145 through 150, copies of which are attached to this order and made a part hereof, are adopted, and that Minn. Rules MHD 195, 198, and 246 through 254 are repealed, this 5th day of October, 1977, pursuant to authority vested in me by Minn. Stat. § 144.12 (1976) and Minn. Laws 1977, Chap. 66 § 3.

STATE OF MINNESOTA

WARREN R. LAWSON, M.D.
Commissioner of Health