STATE OF MICHIGAN
SAFE DRINKING WATER ACT

Act 399, P.A. 1976, as amended

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Act 399 of 1976, as amended

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AS AMENDED SEPTEMBER 16, 1993
SAFE DRINKING WATER ACT

Act 399, 1976, as amended

AN ACT to amend the title and sections 2, 7, 9, 10, 13, 15, and 17 of Act No. 399 of the Public Acts of 1976, entitled "An act to protect the public health; to provide for supervision and control over public water supplies; to prescribe the powers and duties of the department of public health; to provide for the submission of plans and specifications for waterworks systems and the issuance of construction permits therefor; to provide for the classification of public water supplies and the examination, certification and regulation of persons operating those systems; to provide for continuous, adequate operation of privately owned, public water supplies; to authorize the promulgation of rules to carry out the intent of the act; and to provide penalties," section 2 as amended by Act No. 34 of the Public Acts of 1989, being sections 325.1002, 325.1007, 325.1009, 325.1010, 325.1013, 325.1015, and 325.1017 of the Michigan Compiled Laws; and to add sections 5a, 11a, 11b, 11c, and 11d.

The People of the State of Michigan enact:

325.1001 Title.

Section 1. The title and sections 2, 7, 9, 10, 13, 15, and 17 of Act No. 399 of the Public Acts of 1976, section 2 as amended by Act No. 34 of the Public Acts of 1989, being sections 325.1002, 325.1007, 325.1009, 325.1010, 325.1013, 325.1015, and 325.1017 of the Michigan Compiled Laws, are amended and sections 5a, 11a, 11b, 11c, and 11d are added to read as follows:

TITLE

An act to protect the public health; to provide for supervision and control over public water supplies; to prescribe the powers and duties of the department of public health; to provide for the submission of plans and specifications for waterworks systems and the issuance of construction permits therefor; to provide for the classification of public water supplies and the examination, certification and regulation of persons operating those systems; to provide for continuous, adequate operation of privately owned, public water supplies; to authorize the promulgation of rules to carry out the intent of the act; to create the water supply fund; to provide for the administration of the water supply fund; and to provide penalties.

325.1002 Definitions.

Sec. 2. As used in this act:
(a) "Bottled drinking water" means water that is ultimately sold, provided, or offered for human consumption in a closed container.
(b) "Community supply" means a public water supply that provides year-round service to not fewer than 15 living units or which regularly provides year-round service to not fewer than 25 residents.
(c) "Contaminant" means a physical, chemical, biological, or radiological substance or matter in water.
(d) "Customer service connection" means the pipe between a water main and customer site piping or building plumbing system.
(e) "Customer site piping" means an underground piping system owned or controlled by the customer that conveys water from the customer service connection to building plumbing systems and other points of use on lands owned or controlled by the customer. Customer site piping does not include any system that incorporates treatment to protect public health.
(f) "Department" means the department of public health or its authorized agent or representative.
(g) "Director" means the director of public health or his or her authorized agent or representative.
(h) "Imminent hazard" means that in the judgment of the director there is a violation, or a condition that may cause a violation, of the state drinking water standards at a public water supply requiring immediate action to prevent endangering the health of people.
(i) "Living unit" means a house, apartment, or other domicile occupied or intended to be occupied on a day to day basis by an individual, family group, or equivalent.
"Noncommunity supply" means a public water supply that is not a community supply, but that has not less than 15 service connections or that serves not fewer than 25 individuals on an average daily basis for not less than 60 days per year.

"Nontransient noncommunity water supply" means a noncommunity public water supply that serves not fewer than 25 of the same individuals on an average daily basis over 6 months per year. This definition includes water supplies in places of employment, schools, and day-care centers.

"Person" means an individual, partnership, copartnership, cooperative, firm, company, public or private association or corporation, political subdivision, agency of the state, agency of the federal government, trust, estate, joint structure company, or any other legal entity, or their legal representative, agent, or assigns.

"Plans and specifications" means drawings, data and a true description or representation of an entire waterworks system or parts of the system as it exists or is to be constructed, and a statement on how a waterworks system is to be operated.

"Political subdivision" means a city, village, township, charter township, county, district, authority or portion or combination thereof.

"Public water supply" means a waterworks system that provides water for drinking or household purposes to persons other than the supplier of the water, and does not include either of the following:

(i) A waterworks system that supplies water to only 1 living unit.
(ii) A waterworks system that consists solely of customer site piping.

"State drinking water standards" means quality standards setting limits for contaminant levels or establishing treatment techniques to meet standards necessary to protect the public health.

"Service connection" means a direct connection from a distribution water main to a living unit or other site to provide water for drinking or household purposes.

"Transient noncommunity water supply" means a noncommunity supply that does not meet the definition of nontransient noncommunity water supply.

"Water hauler" means a person engaged in bulk vehicular transportation of water to other than the water hauler's own household which is intended for use or used for drinking or household purposes. Excluded from this definition are those persons providing water solely for employee use.

"Water main" means a pipe owned or controlled by a supplier that may convey water to a customer service connection or to a fire hydrant.

"Waterworks system" or "system" means a system of pipes and structures through which water is obtained and distributed, including but not limited to wells and well structures, intakes and cribs, pumping stations, treatment plants, storage tanks, pipelines and appurtenances, or a combination thereof, actually used or intended for use for the purpose of furnishing water for drinking or household purposes.

"Year-round service" means the ability of a supplier of water to provide drinking water on a continuous basis to a living unit or facility.

325.1003 Power and control over public water supplies and supplier of water; inspection of waterworks system.

Sec. 3. Subject to limitations contained in this act, the department shall have power and control over public water supplies and suppliers of water. The director may enter upon the waterworks system of a supplier of water at reasonable times for the purpose of inspecting the system and carrying out this act and rules promulgated under this act.

Sec. 3a. (1) An agricultural employer using a well to provide water for employee use is exempt from any well inspection fees that may be or are imposed under this act or rules promulgated under this act.

(2) As used in this section:

(a) "Agricultural employer" means a person, corporation, association, or other legal entity that employs 1 or more persons in hand labor operations for the production of food, fiber, or other agricultural products including seed, seedlings, plants, or parts of plants.

(b) "Hand labor operations" means agricultural activities performed by hand or with hand tools and includes the cultivating, weeding, planting, and harvesting of vegetables, nuts, fruits, seedlings, and other crops, including mushrooms; packing produce by hand into containers, whether done on the ground, on a
moving machine, or in a temporary packing shed located in a field; and operations performed in conjunction with hand labor operations. Hand labor operations does not include logging operations, the care or feeding of livestock, or activities conducted in permanent structures, including canning facilities or packing houses.

325.1004 Filing plans and specifications of waterworks system; general plan of waterworks system; evaluation of proposed system; return or rejection of plans and specifications; plans and specifications for improvements; permit for construction; violation; permit as condition to expenditures.

Sec. 4. (1) A supplier of water shall file with the department the plans and specifications of the entire waterworks system owned or operated by the supplier, unless the department determines that its existing records are adequate. A general plan of the waterworks system for each public water supply shall be provided to the department by a supplier of water and shall be updated as determined necessary by the department.

(2) Upon receipt of the plans and specifications for a proposed waterworks system, the department shall evaluate the adequacy of the proposed system to protect the public health by supplying water meeting the state drinking water standards. If upon evaluation the department determines the plans and specifications to be inadequate, the department may return the plans and specifications to the applicant and require additions or modifications as may be appropriate. The department may reject plans and specifications for a waterworks system which it determines will not satisfactorily provide for the protection of the public health.

(3) Before commencing the construction of a waterworks system or an alteration, addition, or improvement to a system, a supplier of water shall submit the plans and specifications for the improvements to the department and secure from the department a permit for construction of the same as provided by rule. Plans and specifications submitted to the department shall be prepared by a professional engineer registered under Act No. 240 of the Public Acts of 1937, as amended, being sections 338.551 to 338.576 of the Michigan Compiled Laws. A contractor, builder, or supplier of water shall not engage in or begin the construction of a waterworks system or an alteration, addition, or improvement thereto until a valid permit for the construction has been secured from the department. A contractor, builder, or supplier of water who permits or allows construction to proceed without a valid permit, or in a manner not in accordance with the plans and specifications approved by the department, violates this act. A supplier of water shall not issue a voucher, check, or in any other way expend money or provide consideration for construction of a waterworks system unless a valid permit issued by the department is in effect.

325.1005 Rules.

Sec. 5. (1) The department shall promulgate and enforce rules to carry out this act pursuant to Act No. 306 of the Public Acts of 1969, as amended, begin sections 24.201 to 24.315 of the Michigan Compiled Laws. The rules, as a minimum, shall include the following:

(a) Requirements for the submission of reports, plans, and specifications for the design and construction of a waterworks system or a part thereof, and a plan for operating and maintaining all or a part of the waterworks system, including the protection of water quality within the distribution system as necessary to protect the public health.

(b) State drinking water standards and associated monitoring requirements, the attainment and maintenance of which are necessary to protect the public health.

(c) The classification of waterworks systems or portions thereof, the examination for certification of the operators of those systems including shift operators of water treatment systems, and for the issuance, suspension, and revocation of certificates.

(2) Rules governing public water supplies which have been promulgated by authority granted the director under Act No. 98 of the Public Acts of 1913, as amended, being sections 325.201 to 325.214 of the Michigan Compiled Laws, and which are in effect on the effective date of this act are continued in accordance with section 31 of Act No. 306 of the Public Acts of 1969, as amended, being section 24.231 of the Michigan Compiled Laws, and may be amended or rescinded by the director under this act.

(3) No rule promulgated may require the addition of any substance for preventive health care purposes unrelated to contamination of drinking water.
Sec. 5a. (1) A supplier of water for a community supply shall not use customer site piping as a means to convey water to other portions of the supplier's system.

(2) A supplier of water for a community supply shall not provide water service to customer site piping if an impact on the water quality of the public water supply has occurred or could reasonably be expected to occur as a result of the service. A supplier of water may discontinue water service to customer site piping as the supplier of water or the department considers necessary to protect the health of the public water supply customers.

325.1006 Maximum contaminant levels; incorporation by reference.

Sec. 6. The maximum contaminant levels for inorganic and organic chemicals, microbiological contaminants and turbidity, which are part of the national interim primary drinking water regulations, and which have been promulgated by the United States environmental protection agency under authority of Public Law 93-523 (1974) before this act taking effect, are hereby incorporated by reference and shall have the same force and effect as a rule promulgated pursuant to this act. A standard which is incorporated by reference pursuant to this subsection shall remain effective until a rule is promulgated pursuant to this act which covers the same or similar subject or the standard is rescinded by rule promulgated pursuant to this act.

325.1007 Collecting and analyzing water samples; reporting results of analyses; fees.

Sec. 7. (1) The supplier of water shall collect water samples or have them collected on a schedule at least equal to that outlined in the rules, shall cause those samples to be analyzed in the state laboratory or a laboratory certified by the department or by the United States environmental protection agency for contaminants listed in the state drinking water standards, and shall report the results of the analyses to the department in a timely manner as specified in the rules. If the supplier fails to meet this responsibility, the department may do any of the following:

(a) Impose against that supplier a civil fine of $200.00 for each failure to collect and have analyzed a water sample required under this act.

(b) For each failure to collect and have analyzed a water sample required under this act within the 12-month period following a failure described in subdivision (a), impose against that supplier a civil fine of $400.00.

(c) In addition to a penalty described in subdivision (a) or (b), obtain a sampling or analysis or both required under this act at the supplier's cost.

(d) Proceed pursuant to section 22.

(2) A supplier may appeal a civil penalty pursuant to the administrative procedures act of 1969, Act No. 306 of the Public Acts of 1969, being sections 24.201 to 24.328 of the Michigan Compiled Laws.

325.1008 Design and operation standards of public water supplies; considerations.

Sec. 8. The department shall give due consideration to the size, type, location, and other conditions at public water supplies for the purpose of specifying design and operation standards.

325.1009 Classification of water treatment and distribution systems; advisory board of examiners; certificates of competency; supervision of water treatment and distribution system; individuals eligible for certificate.

Sec. 9. (1) The department shall classify water treatment and distribution systems with regard to size, type, location, and other physical conditions for the purpose of establishing the skill, knowledge, and experience that individuals need to maintain and operate the systems effectively.

(2) The director shall appoint an advisory board of examiners which shall assist the department in the examination of individuals as to their competency to operate water treatment systems and water distribution systems. The advisory board shall make recommendations to the department relative to the certification of those individuals.
(3) The membership of the advisory board shall consist of 2 certified water treatment operators, 2 certified water distribution operators, 1 superintendent or manager of a supplier of water, 1 representative of the administrative branch of a local governmental agency, 2 members of the public at large, and 1 professor of sanitary or environmental engineering at a university in the state. A representative of the department shall be the nonvoting secretary for the board.

(4) For individuals meeting the requirements, the department shall issue certificates acknowledging their competency to operate a specified class of waterworks system or portion of waterworks system. The department may suspend or revoke a certificate as specified by rule.

(5) A water treatment and distribution system shall be under the supervision of a properly certified operator as specified in the rules.

(6) Those individuals now certified to operate water treatment systems under the existing mandatory certification rules being R325.551 through R325.572 of the Michigan administrative code, and those meeting the requirements of the voluntary distribution system operator certification program administered by the department, shall be considered to meet the requirements of this section and shall be issued a certificate in an appropriate class in accordance with the certifications system established under this act.

(7) Those individuals who are superintendents of distribution systems shall be considered to meet the requirements of this section only for the waterworks system by which they are now employed, and shall be issued a certificate for continuing operation of that distribution system upon receipt by the department of a completed application by January 4, 1978.

(8) Operators certified under this act shall be required to renew their certificates in accordance with rules promulgated under this act, including mandatory continuing education or competency demonstration.

325.1010 Approval of privately owned public water supply; escrow account to correct deficiencies in public water supply.

Sec. 10. (1) The department shall not approve a privately owned public water supply that serves a group of living units, unless by resolution of its governing body the city, village, or township in which the water supply is to be located refuses to accept ownership and operational responsibility of the public water supply.

(2) If a local governmental agency does not accept ownership and operational responsibility of a public water supply that serves a group of living units, the department may issue a construction permit or other approval for an acceptable project requiring as a condition of the permit an appropriate amount, but not more than $50,000.00, based on the size, type, and complexity of the waterworks system, to be placed in escrow by the developer or private owner. The department may remove funds from this escrow account to cause deficiencies to be corrected if the public water supply is not operated, maintained, and expanded as necessary to protect the public health. If it is necessary for the department to withdraw funds from an escrow account, the funds shall be replaced within 90 days by the developer, private owner, or organization then responsible for the public water supply.

(3) The department may reduce or eliminate any escrow account established under this section after 5 years of operation and maintenance considered satisfactory by the department.

(4) Before the transfer of ownership of a privately owned public water supply, a private purchaser shall comply with subsections (1) and (2) of this section.

325.1011 Review and certification of laboratories testing water.

Sec. 11. The department shall review and certify laboratories used or intended for use in the testing of water from public water supplies.

325.1011a Community supply annual fees; payment procedures; penalties.

Sec. 11A. (1) The department shall impose an annual fee on each community supply provider in accordance with the following fee schedule:
<table>
<thead>
<tr>
<th>Number of residents served</th>
<th>Annual fee</th>
</tr>
</thead>
<tbody>
<tr>
<td>More than 500,000</td>
<td>$83,800.00</td>
</tr>
<tr>
<td>100,001 - 500,000</td>
<td>$17,400.00</td>
</tr>
<tr>
<td>50,001 - 100,000</td>
<td>$11,000.00</td>
</tr>
<tr>
<td>25,001 - 50,000</td>
<td>$6,500.00</td>
</tr>
<tr>
<td>10,001 - 25,000</td>
<td>$3,500.00</td>
</tr>
<tr>
<td>5,001 - 10,000</td>
<td>$1,900.00</td>
</tr>
<tr>
<td>1,001 - 5,000</td>
<td>$800.00</td>
</tr>
<tr>
<td>401 - 1000</td>
<td>$500.00</td>
</tr>
<tr>
<td>101 - 400</td>
<td>$400.00</td>
</tr>
<tr>
<td>25 - 100</td>
<td>$250.00</td>
</tr>
</tbody>
</table>

(2) The annual fee in this section shall be adjusted on October 1 each year following the effective date of this section by applying a percentage adjustment using the Detroit consumer price index. The fee may also be adjusted as the result of increased federal funding or a reduction in actual costs, as determined by the department.

(3) Each community supply provider shall pay the annual fee by November 30 each year. Failure to submit timely payment will result in assessment of a penalty of 9% per annum until the fee and assessment are paid in full. The department of treasury shall collect each penalty.

325.1011b. Noncommunity supply annual fees; payment procedures; penalties.

Sec. 11b. (1) The department shall impose an annual fee on each noncommunity supply provider in accordance with the following fee schedule:

<table>
<thead>
<tr>
<th>Type of noncommunity supply</th>
<th>Annual fee</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nontransient noncommunity water supply</td>
<td>$360.00</td>
</tr>
<tr>
<td>Transient noncommunity supply</td>
<td>$85.00</td>
</tr>
</tbody>
</table>

(2) The annual fee in this section shall be adjusted on October 1 each year following the effective date of this section by applying the percentage adjustment using the Detroit consumer price index.

(3) For 5 or more noncommunity supplies under the same ownership on contiguous properties, the annual fee per noncommunity supply is 75% of the fee identified in subsection (1).

(4) A noncommunity supply provider shall pay the annual fee by November 30 each year. After November 30 of each year that a fee is not paid, the department of treasury shall collect from the nonpaying noncommunity supply provider a penalty of $25.00 for each month or portion of a month.

(5) A noncommunity supply provider that has completed construction of a new well or replacement well in compliance with a construction permit issued by a local health department is exempt from paying the first annual fee described in subsection (1) after final approval of the well is received.

(6) The department is not required to perform sanitary surveys or other services to maintain compliance with this act on behalf of a noncommunity supply provider who has not paid the current annual fee or appropriate penalties.

325.1011c. Review and certification of laboratories testing water; fees.

Sec. 11c. (1) The department shall review and certify laboratories used or intended for use in the testing of water from public water supplies where analyses are used to determine compliance with state drinking water standards. The department shall impose a fee for this service in accordance with the following fee schedule:
<table>
<thead>
<tr>
<th>Type of Laboratory Certification Service</th>
<th>Fee Per Laboratory</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bacteriology, including chlorine residual and turbidity</td>
<td>$1,621.00</td>
</tr>
<tr>
<td>Inorganic chemistry</td>
<td>$2,435.00</td>
</tr>
<tr>
<td>Organic chemistry</td>
<td>$2,435.00</td>
</tr>
<tr>
<td>Inorganic and organic chemistry (both), or either combined with bacteriology</td>
<td>$3,045.00</td>
</tr>
<tr>
<td>Bacteriology, inorganic chemistry and organic chemistry (all three)</td>
<td>$4,285.00</td>
</tr>
<tr>
<td>Nitrate, nitrite, sulfate, cyanide and fluoride only</td>
<td>$520.00</td>
</tr>
<tr>
<td>Lead and copper</td>
<td>$1,220.00</td>
</tr>
<tr>
<td>Laboratory water suitability test (required annually)</td>
<td>$260.00</td>
</tr>
</tbody>
</table>

(2) The fees in this section shall be adjusted on October 1 each year following the effective date of this section by applying a percentage adjustment using the Detroit consumer price index.

(3) Unless otherwise noted, a certification under this section is valid for 3 years from the date of certification and the fee per laboratory is for the entire 3 year period.

325.1011d. Water supply fund.
Sec. 11d. (1) The water supply fund is created in the state treasury and shall be administered by the department. The fund is capitalized by revenues collected pursuant to sections 11a, 11b, and 11c. The fund shall additionally receive money as otherwise provided by law, and shall receive any gift or contribution to the fund.

(2) The state treasurer shall retain money in the fund at the close of the fiscal year, and shall not return that money to the general fund.

(3) The department shall expend 75% of money in the fund at the close of the fiscal year to offset, on a pro rata basis, each fee described in sections 11a, 11b, and 11c for the following year.

(4) The department shall expend money in the water supply fund only to implement this act and the administrative rules promulgated under this act.

325.1012 Laboratory capability to test for contaminants.
Sec. 12. The department shall maintain a laboratory capability to test for those contaminants in water which are included in the state drinking water standards and any other contaminant which may be of concern to the director.

325.1013 Product approval; list; prohibition.
Sec. 13. (1) As used in this section, "product" means any chemical or substance added to a public water supply, any materials used in the manufacture of public water supply components or appurtenances, or any pipe, storage tank, valve, fixture or other materials which come in contact with water intended for use in a public water supply.

(2) The department may promulgate rules setting standards of quality, composition, safety, or design of products. Until the department promulgates rules setting standards for products, all products that may come in contact with water intended for use in a public water supply shall meet American national standards institute/national sanitation foundation standards, specifically ANSI/NSF standard 60-1988 and ANSI/NSF standard 61-1988 which are hereby incorporated by reference. Adoption of a product standard by rule supersedes the standard incorporated by reference in this section.

(3) Only products that meet the standards provided for in subsection (2) shall be used by a supplier of water in a public water supply. Certification that a product meets the standards provided for in subsection (2) by a laboratory accredited by American national standards institute to test and certify products shall be prima facie evidence that a product meets the standards. The department shall make a list of products meeting the standards available at no charge.

(4) A supplier of water shall compile and maintain on file for inspection by the department a list of all products used by the supplier of water. Prior to using a product not previously listed, a supplier of water shall either determine that the product has been certified in accordance with subsections (2) and (3) or shall notify the department of the type, name, and manufacturer of a product.
(5) Upon request of the department, a supplier of water shall, prior to making use of a product, supply to the department all documents and materials, including samples of a product, needed to review the type, quality and nature of a product that will come in contact with the public water supply. The supplier of water shall provide sufficient information to enable the department to determine whether a product meets the standard provided for in subsection (2).

(6) If a product is reviewed by the department and found not to comply with the standards provided for in subsection (2), the department shall notify the supplier of water and shall be given an opportunity to request a hearing on whether the product meets the standards. At a hearing, the supplier of water must demonstrate that the product meets the standards before the product can be used by the supplier of water.

(7) A person shall not willfully introduce or permit or allow the introduction of a product into a public water supply that has not first been determined by the department to meet standards provided for in subsection (2).

325.1014 Reports; records.

Sec. 14. A supplier of water shall file with the department such reports and shall maintain such records as the department may by rule require.

325.1015 Protection of public health; notice to supplier of water; inspection of waterworks system; order; public hearing; emergency order; action limiting water use.

Sec. 15. (1) When considered necessary for protection of the public health, the department shall notify a supplier of water of the need to make changes in operations, to provide treatment, to make structural changes in existing systems, or to add additional capacity as necessary to produce and distribute an adequate quantity of water meeting the state drinking water standards.

(2) The department shall inspect a waterworks system or a part of a waterworks system, and the manner of operation of the system or part. If upon inspection the department determines the waterworks system to be inadequate or so operated as to not adequately protect the public health, the department may order the supplier of water to make alterations in the waterworks system or its method of operation as may be required or considered advisable by the department to assure the public water supply is adequate, healthful, and in conformance with state drinking water standards. If the supplier does not request a public hearing within 30 days after receipt of the order, the order shall be final and binding on the supplier of water. If the department receives a request for a public hearing within the specified 30 days, the public hearing shall be immediately arranged. A supplier of water shall comply with a final order of the department.

(3) If a public water supply poses an imminent hazard to the public health, the department may issue an emergency order immediately, without notice or hearing, requiring such action as the department determines is necessary to protect the public health. Normal administrative procedures as required by the administrative procedures act of 1969, Act No. 306 of the Public Acts of 1969, as amended, being sections 24.201 to 24.328 of the Michigan Compiled Laws, shall proceed concurrently with an emergency order upon written request of the supplier of water received within 15 days. An emergency order shall be effective immediately and binding until modified or rescinded by the department or a court of competent jurisdiction.

(4) The department may take appropriate action to limit water system expansion or limit water use from a public water supply until such time as satisfactory improvements are made in the system or operation to provide for a continuous, adequate supply of water meeting the state drinking water standards.

325.1016 Agreements, contracts, or cooperative arrangements for purpose of administering act; grants of money or other aid.

Sec. 16. The department may enter into agreements, contracts, or cooperative arrangements under terms and conditions appropriate with other state agencies, federal agencies, interstate agencies, political subdivisions, educational institutions, local health departments, or other organizations or individuals for the purpose of administering this act. The department may solicit and receive grants of money or other aid from federal and other public or private agencies or individuals for the administration of this act or a portion thereof, to conduct research and training activities or cause them to be conducted, to cause waterworks systems or portions thereof to be constructed, or for other program purposes.
Sec. 17. (1) A person engaged in producing bottled drinking water shall utilize a water source meeting the requirements of this act. Bottling or packaging facilities and their operation shall remain under the supervision of the Michigan department of agriculture as provided for in the Michigan food law of 1968, Act No. 39 of the Public Acts of 1968, as amended, being sections 289.701 to 289.727 of the Michigan Compiled Laws and regulation no. 549, being sections R285.549.1 through R285.549.29 of the Michigan administrative code, and other pertinent rules and laws.

(2) A person producing bottled drinking water from an out-of-state source shall submit proof to the director that the source and bottling facilities were approved by the agency having jurisdiction. The director may withhold approval of the bottled water if the other agency's inspection, surveillance, and approval procedures and techniques are determined to be inadequate.

Sec. 18. Water haulers shall obtain an annual license from the department for their containers, equipment, and operation. The source of water shall be acceptable to the department and the water quality shall meet the state drinking water standards.

Sec. 19. (1) If water delivered by or the operation of a public water supply is found not to be in compliance with the state drinking water standards, the department shall require the supplier of water to notify its users of the extent and nature of the noncompliance. Notification of users shall be in a form and manner prescribed or otherwise approved by the department.

(2) Notification received pursuant to this section or information obtained from the notification may not be used against a person in a litigation, except a prosecution for perjury or for giving a false statement.

Sec. 20. The department may authorize variances or exemptions from the state drinking water standards in accordance with Public Law 93-523 (1974) and the federal rules and regulations.

Sec. 21. A person who violates this act or the rules promulgated hereunder or an order issued pursuant to this act is guilty of a misdemeanor and shall be punished by a fine of not more than $5,000.00 for each day of violation, or by imprisonment for not more than 1 year, or both.

Sec. 22. At the request of the department, the attorney general may bring an injunctive action or other appropriate action in the name of the people of the state to enforce this act, rules promulgated under this act, or an order issued pursuant to this act or the rules. In addition to other relief granted under this section, the court may impose a civil penalty of not more than $5,000.00 for each day of violation.

Sec. 23. This act shall not take effect unless House Bill No. 6251 of the 1976 regular session of the legislature is enacted into law.

This act is ordered to take immediate effect.

Approved by the Governor September 16, 1993. Filed with the Secretary of State September 16, 1993.
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As amended July 1, and November 1, 1993.
DEPARTMENT OF PUBLIC HEALTH
HEALTH SERVICES ADMINISTRATION
SUPPLYING WATER TO THE PUBLIC


R 325.10101 Purpose

Rule 101. These rules are promulgated by the department for the purpose of protecting the public health and implementing the act, and to specify certain standards and criteria for public water supplies which are consistent and compatible with the provisions of the act and the federal act.

R 325.10102 Definitions; A, B.

Rule 102. As used in these rules:

(a) "Act" means Act No. 399 of the Public Acts of 1976, being §§325.1001 et seq. of the Michigan Compiled Laws, and known as the safe drinking water act.
(b) "Actively working in a waterworks system" means being currently or routinely involved in the operation of a waterworks system or in the supervision of waterworks system operators.
(c) "Advisory board" means the advisory board of examiners appointed by the director pursuant to the provisions of section 9(2) of the act.
(d) "Alteration" means the modification of, or addition to, an existing waterworks system, or portion thereof, which affects any of the following:
   (i) Flow.
   (ii) Capacity.
   (iii) System service area.
   (iv) Source.
   (v) Treatment.
   (vi) Reliability.

**AS AMENDED 7/1/93** PART 1. GENERAL PROVISIONS

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(d) "Alteration" means the modification of, or addition to, an existing waterworks system, or portion thereof, which affects any of the following:
   (i) Flow.
   (ii) Capacity.
   (iii) System service area.
   (iv) Source.
   (v) Treatment.
   (vi) Reliability.
(e) "Approved analytical technique" means a calculation, determination, or other laboratory examination or procedure that has been approved by the United States environmental protection agency pursuant to the provisions of 40 C.F.R. part 141.

(f) "Approved basement" means a basement which has walls and a floor that are constructed of concrete or its equivalent, which is essentially watertight, which is effectively drained, and which is in daily use.

(g) "Aquifer" means an underground water-bearing formation which is saturated and which transmits water in sufficient quantities to serve as a water supply.

(h) "Artesian" means a condition of internal pressure which causes the water level in a well to rise above the aquifer used to supply water at the well location.

(i) "Bottled drinking water" means water which is ultimately sold, provided, or offered for human consumption in a closed container.

R 325.10103 Definitions: C.

Rule 103. As used in these rules:

(a) "C" in "CT calculation" means the residual disinfectant concentration measured in milligrams per liter in a representative sample of water.

(b) "Casing" means a durable pipe that is placed in a well to prevent the soil from caving in and to seal off surface drainage or undesirable water, gases, contaminants, or other fluids and prevent them from entering the well and the aquifer supplying the well.

(c) "Casing vent" means an outlet at the upper terminal of a well casing which provides atmospheric pressure in the well and which allows the escape of gases when present.

(d) "Certificate" means a document that is issued by the department to a person who meets the qualification requirements for operating a treatment system or for operating or maintaining a distribution system, or a portion thereof.

(e) "Certified operator" means an operator who holds a certificate.

(f) "Community supply" means a public water supply which provides year-round service to not less than 15 living units or which regularly provides year-round service to not less than 25 residents.

(g) "Complete treatment system" means a treatment system that employs disinfection, coagulation, sedimentation, and filtration units which function collectively to effect control over water quality characteristics to produce a finished water that meets the requirements of the state drinking water standards.

(h) "Compliance cycle" means the 9-year calendar year cycle during which public water systems are required to monitor. Each compliance cycle consists of 3 3-year compliance periods. The first calendar year cycle begins January 1, 1993, and ends December 31, 2001; the second begins January 1, 2002, and ends December 31, 2010; the third begins January 1, 2011, and ends December 31, 2019.

(i) "Compliance period" means a 3-year calendar year period within a compliance cycle. Each compliance cycle has 3 3-year compliance periods. Within the first compliance cycle, the first compliance period runs from January 1, 1993, to December 31, 1995; the second from January 1, 1996, to December 31, 1998; the third from January 1, 1999, to December 31, 2001.

(j) "Confluent growth" means a continuous bacterial growth that covers the entire filtration area of a membrane filter, or portion thereof, in which bacterial colonies are not discrete.

(k) "Construction" means the erection, installation, or alteration of a waterworks system, or any portion thereof, which affects any of the following:

(i) Flow.
(ii) Capacity.
(iii) System service area.
(iv) Source.
(v) Treatment.
(vi) Reliability.
(l) "Contested cases" means matters that are within the definition of a contested case as set forth by section 5(3) of Act No. 306 of the Public Acts of 1969, as amended, being §24.203 of the Michigan Compiled Laws, and matters of issue that involve any of the following which are issued by the director, the department, or the division pursuant to the act and these rules:
   (i) Orders.
   (ii) Exemptions.
   (iii) Variances.
   (iv) Stipulations.
   (v) Consent agreements.
   (vi) Permits.
   (vii) Licenses.
   (viii) Certificates.
(m) "Contested case hearing" means a hearing that is initiated by the department or a person pursuant to the provisions of chapters 4, 5, and 6 of Act No. 306 of the Public Acts of 1969, as amended, being §§24.271 to 24.306 of the Michigan Compiled Laws.
(n) "Contaminant" means a physical, chemical, biological, or radiological substance or matter in water.
(o) "Contingency plan" means a plan for use by a supplier of water in the event of an emergency.
(p) "Cross connection" means a connection or arrangement of piping or appurtenances through which a backflow could occur.
(q) "CT calculation" means the product of residual disinfectant concentration (C) in milligrams per liter determined at or before the first customer and the corresponding disinfectant contact time (T) in minutes; C * T is calculated at rated capacity. The total CT shall be the sum of individual CT's of each disinfectant sequence.
(r) "Customer service connection" means the pipe between a water main and customer site piping or building plumbing system.
(s) "Customer site piping" means an underground piping system which is owned or controlled by the customer and which conveys water from the customer service connection to building plumbing systems and other points of use.

R 325.10104 Definitions; D, E.

Rule 104. As used in these rules:

(a) "Department" means the department of public health or its authorized agent or representative.
(b) "Deviation" means an exception to a department rule establishing minimum standards or requirements issued in writing or as a condition to a permit to a supplier of water.
(c) "Director" means the director of the department of public health or his or her authorized agent or representative.
(d) "Disinfectant contact time" (T in CT calculations) means the time in minutes that it takes for water to move from the point of disinfectant application or the previous point of disinfectant residual measurement to a point at or before the point where residual disinfectant concentration (C) is measured. Disinfectant contact time in pipelines shall be calculated based on plug flow by dividing the internal volume of the pipe by the maximum hourly flow rate through that pipe. Disinfectant contact time within mixing basins and storage reservoirs shall be determined by tracer studies or an equivalent demonstration.
(e) "Distribution system" means a system that consists of the following components through which water is distributed and used or intended for use for drinking or household purposes:
   (i) Piping.
   (ii) Transmission or distribution mains.
   (iii) Pumps.
   (iv) Pumping stations.
   (v) Storage tanks.
   (vi) Controls.
   (vii) Associated appurtenances.
(f) "Division" means the division of water supply of the bureau of environmental and occupational health of the department.

(g) "Domestic or other non-distribution system plumbing problem" means a coliform contamination problem in a public water system with more than 1 service connection that is limited to the specific service connection from which the coliform-positive sample was taken.

(h) "Drawdown" means the difference between the static water level and the pumping water level in a well or, for a flowing artesian well, the difference between an established datum above ground and the pumping water level.

(i) "Emergency" means a situation in a public water supply that results in contamination, loss of pressure, lack of adequate supply of water, or other condition which poses an imminent hazard or danger to the public health.

(j) "EPA" means the United States environmental protection agency.

(k) "Established ground surface" means the intended or actual finished grade or elevation of the surface of the ground at the site of a water supply facility.

(l) "Exemption" means an order, with appropriate conditions, time schedules, and compliance requirements, that is issued by the director to a supplier of water permitting a public water supply to be in temporary noncompliance with a state drinking water standard, including a specified treatment technique.

R 325.10105 Definitions; F to L.

Rule 105. As used in these rules:

(a) "Federal act" means the safe drinking water act, 42. U.S.C. 300f, and 40 C.F.R., part 35, § 35.600f; 40 C.F.R., part 141; and 40 C.F.R., part 142, promulgated by EPA pursuant thereto, or any subsequent revisions, modifications, or additions thereto.

(b) "Finished water" means water which is ready for distribution to the customers or users of a public water supply.

(c) "Firm capacity", as applied to wells, pumping stations, or units of treatment systems, means the production capability of each respective part of the waterworks system with the largest well, pump, or treatment unit out of service.

(d) "Gravity storage tank" means an elevated or ground level finished water storage reservoir which, during normal use, operates under atmospheric pressure.

(e) "Ground water" means the water in the zone of saturation in which all of the pore spaces of the subsurface material are filled with water.

(f) "Grout" means neat cement, concrete, or other sealing material approved by the department used to seal a well casing in a well.

(g) "Imminent hazard" means in the judgment of the director, there is a violation, or a condition which may cause a violation of the state drinking water standards at a public water supply requiring immediate action to prevent endangering the health of the people.

(h) "License" means the license issued by the department to a water hauler, or for a water hauling tank, pursuant to section 18 of the act.

(i) "Living unit" means a house, apartment, or other domicile occupied or intended to be occupied on a day to day basis by an individual, family group, or equivalent.

R 325.10106 Definitions; M to O.

Rule 106. As used in these rules:

(a) "Maximum TTHM potential" means the maximum concentration of total trihalomethanes produced in a given water containing a disinfectant residual after 7 days at a temperature of 25 degrees Centigrade or above.

(b) "MCL" means the maximum permissible level of a contaminant in water which is delivered to any user of a public water supply.
"Monitoring requirement" means a schedule, frequency, and location for sampling and analysis of water required by the provisions of part 7 of these rules to determine whether a public water supply is in compliance with the state drinking water standards.

"Near the first service connection" means at 1 of the 20% of all service connections in the entire system that are nearest the water supply treatment facility, as measured by water transport time within the distribution system.

"Noncommunity supply" means a public water supply which is not a community supply, but which has not less than 15 service connections or which serves not less than 25 individuals on an average daily basis for not less than 60 days per year.

"Nontransient noncommunity water supply" means a noncommunity public water supply which serves not less than 25 of the same individuals over 6 months per year. This phrase includes water supplies in places of employment, schools, and day-care centers.

"NTU" means nephelometric turbidity unit.

"One hundred-year drought elevation" means the minimum projected water surface elevation which would occur at a location once in a period of 100 years.

"One hundred-year flood elevation" means the maximum projected water surface elevation which would occur at a location once in a period of 100 years.

"Operator" means an individual who operates a treatment system or who operates or maintains a distribution system or a portion thereof.

"Operator in charge" means an individual who is designated by the owner of a public water supply as the responsible individual in overall charge of a treatment system or distribution system.

Rule 107. As used in these rules:

(a) "Permit" means a public water supply construction permit that is issued to a supplier of water by the department pursuant to the provisions of section 4 of the act.

(b) "Person" means any of the following:

(i) An individual.
(ii) A partnership.
(iii) A copartnership.
(iv) A cooperative.
(v) A firm.
(vi) A company.
(vii) A public or private association or corporation.
(viii) A political subdivision.
(ix) An agency of the state.
(x) An agency of the federal government.
(xi) A trust.
(xii) An estate.
(xiii) A joint structure company.
(xiv) Any other legal entity.
(xv) A legal representative, agent, or assignee of any of the entities specified in this subdivision.

(c) "Pitless adapter" means a device or assembly of parts which permits water to pass through the wall of a well casing or extension thereof and which provides access to the well and to the parts of the water system within the well in a manner that prevents the entrance of contaminants into the well and the water produced.

(d) "Plans and specifications" means drawings, data, and a true description or representation of an entire waterworks system, or parts thereof, as it exists or is to be constructed and, in addition, a statement of how a waterworks system will be operated.
"Political subdivision" means any of the following:

(i) A city.
(ii) A village.
(iii) A township.
(iv) A charter township.
(v) A county.
(vi) A district.
(vii) An authority.
(viii) A portion or combination of any of the entities specified in this subdivision.

(f) "Production well" means a well that has been approved for use for a public water supply in accordance with the provisions of part 8 of these rules.

(g) "Public hearing" means a hearing which is conducted by the director of the department on matters relating to the functions and responsibilities of the division and which seeks public input relevant to such functions and responsibilities.

(h) "Public water supply" means a waterworks system which provides water for drinking or household purposes to persons other than the supplier of the water, except for those waterworks systems which supply water to only 1 living unit.

(i) "Pumping water level" means the distance measured from an established datum at or above ground to the water surface in a well being pumped at a known rate for a known period of time.

(j) "Raw water" means water that is obtained from a source by a public water supply before a supplier of water provides any treatment or distributes the water to its customers.

(k) "Regional administrator" means the EPA region V administrator.

(l) "Regulated VOCs" means a group of volatile organic chemicals for which state drinking water standards have been promulgated, but does not include total trihalomethanes.

(m) "Removed from service" means physically disconnected from the waterworks system in a manner that would prevent inadvertent use of the well and would require specific authorization from the supplier of water to reconnect.

(n) "Repeat sample" means a sample that is collected and analyzed in response to a previous coliform-positive sample.

(o) "Resident" means an individual who owns or occupies a living unit.

(p) "Routine sample" means a water sample that is collected and analyzed to meet the monitoring requirements for total coliform, as outlined in the written sampling plan.

R 325.10108 Definitions; S.

Rule 108. As used in these rules:

(a) "Sanitary survey" means an evaluation, including an on-site review of a waterworks system or a portion thereof, for existing or potential health hazards, including sampling, design, operation, and maintenance, for the purpose of determining the ability of the public water supply to produce, treat, and distribute adequate quantities of water meeting state drinking water standards.

(b) "Service connection" means a direct connection from a distribution water main to a living unit or other facility for the purpose of providing water for drinking or household purposes. A service connection is not designed to be an integral part of the network of distribution water mains.

(c) "Shift operator" means an operator, other than the operator in charge, who is in charge of a work shift of a treatment system at a surface water supply.

(d) "SOC" means synthetic organic chemical.

(e) "Source" means the point of origin of raw water or means treated water that is purchased or obtained by a public water supply, by a water hauler, or by a person who provides bottled water.

(f) "State drinking water standards" means quality standards which set limits for contaminant levels or which establish treatment techniques to meet standards necessary to protect the public health.

(g) "Static water level" means the distance measured from an established datum at or above ground level to the water surface in a well which is not being pumped, which is not under the influence of pumping, and which is not flowing under artesian pressure.

(h) "Suction line" means a pipe or line that is connected to the inlet side of a pump or pumping equipment.
(i) “Supplier of water” or “supplier” means a person who owns or operates a public water supply and includes a water hauler.

(j) “Surface water” means water that rests or flows on the surface of the ground.

(k) “System with a single-service connection” means a public water supply that supplies drinking water to consumers through a single-service line.

Section R 325.10109 Definitions; T to Y.

Rule 109. As used in these rules:

(a) “Test well” means a well that is drilled on a site which has not been approved for use as a production well in accordance with the provisions of part 8 of these rules.

(b) “Too numerous to count” means that the total number of bacterial colonies is more than 200 on a 47-millimeter diameter membrane filter.

(c) “Total trihalomethanes” or “TTHM” means the sum of the concentration in milligrams per liter, rounded to 2 significant figures, of all of the following:

(i) The trihalomethane compounds.
(ii) Trichloromethane (chloroform).
(iii) Dibromochloromethane.
(iv) Bromodichloromethane.
(v) Tribromomethane (bromoform).

(d) “Treatment system” means a facility or structure and associated appurtenances installed for the purpose of treating drinking water before delivery to a distribution system.

(e) “Treatment technique” means a minimum treatment requirement or a necessary methodology or technology that is employed by a supplier of water for the control of the chemical, physical, biological, or radiological characteristics of the public water supply.

(f) “Trihalomethane” or “THM” means 1 of the family of organic compounds named as derivatives of methane, wherein 3 of the 4 hydrogen atoms in methane are each substituted by a halogen atom in the molecular structure.

(g) “Unregulated contaminants” means a group of contaminants for which state drinking water standards have not been promulgated, but for which monitoring requirements apply. This group of contaminants is hereby adopted by reference and is contained in the provisions of 40 C.F.R. §141.40 (July 8, 1987), and is available at no cost from the Michigan Department of Public Health, Division of Water Supply, 3423 North Logan Street/Martin Luther King Jr. Boulevard, P.O. Box 30195, Lansing, Michigan 48909. It is also available at no cost from the United States Environmental Protection Agency, Region V, 77 West Jackson Boulevard (SWD-17J), Chicago, Illinois 60604.

(h) “Variance” means an order, with appropriate conditions and compliance schedules and requirements, which is issued by the director to a supplier of water and which permits a public water supply to be in noncompliance with a state drinking water standard, including a specified treatment technique.

(i) “VOC” means volatile organic chemical.

(j) “Water hauler” means a person who is engaged in bulk vehicular transportation of water which is for other than the water hauler’s own household and which is intended for use or used for drinking or household purposes.

(k) “Water transportation tank” means a tank that is associated with an over-the-road vehicle that is used for the bulk transport of drinking water.

(l) “Waterworks system” or “system” means a system of pipes and structures through which water is obtained and distributed and includes any of the following that are actually used or intended to be used for the purpose of furnishing water for drinking or household purposes:

(i) Wells and well structures.
(ii) Intakes and cribs.
(iii) Pumping stations.
(iv) Treatment plants.
(v) Storage tanks.
(vi) Pipelines and appurtenances.
(vii) A combination of any of the items specified in this subdivision.

(m) "Year-round service" means the ability of a supplier of water to provide drinking water on a continuous basis to any living unit or facility.

R 325.10110 Definitions; parts 6 and 7.

Rule 110. As used in part 6 and part 7 of these rules.

(a) "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 ICRU.

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

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

(d) "ICRU" means the international commission on radiological units and measurements.

(e) "Man-made beta particle and photon emitters" means all radionuclides emitting beta particles or photons, or both, 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 product of thorium-232, uranium-235, and uranium-238.

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

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

R 325.10111 Authorized agents or representatives of department and director.

Rule 111. (1) The chief of the bureau of environmental and occupational health of the department, the division chief, the technical staff of the division, and other persons specifically designated by the division chief are authorized agents or representatives of the department and the director for the purpose of implementing the act.

(2) For the purposes of implementing the act, the chief of the bureau of environmental and occupational health of the department is designated as the authorized agent or representative of the director to initiate contested cases and to appoint hearing officers pursuant to chapters 4 and 5 of Act No. 306 of the Public Acts of 1969, as amended, being §§ 24.271 to 24.292 of the Michigan Compiled Laws, and pursuant to part 2 of these rules. The director shall make the final department decision in all contested cases arising under the act.

(3) The chief of the bureau of environmental and occupational health of the department is designated by the director as his representative to seek the initiation of injunctive action or other action by the department of the attorney general to enforce the act, a condition or provision of an order, permit, license, certificate, variance, exemption or these rules.

R 325.10112 Adoption by reference.

Rule 112. The department incorporates by reference, and adopts as a part of these rules, the publication entitled "Maximum Permissible Body Burdens and Maximum Permissible Concentration of Radionuclides in Air and Water for Occupational Exposure," NBS Handbook 69, as referred to in parts 1 and 6 of these rules. Copies of the adopted matter are available for inspection at the offices of the department in Escanaba and Lansing. Copies may be purchased from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. at a cost of 35 cents and from the Department of Public Health, 3500 North Logan Street, P.O. Box 30035, Lansing, Michigan 48909, at no cost.
R 325.10113 Compliance with rules; guidance information.

Rule 113. Suppliers of water may use the information set forth in the following publications for general guidance in complying with the provisions of these rules:

(a) "Recommended Standards for Water Works," prepared by the Great Lakes-Upper Mississippi River Board of State Sanitary Engineers, is available for inspection at the department offices in Lansing and Escanaba, and may be purchased at a cost of $1.50 from the Health Education Service, P.O. Box 7283, Albany, New York 12224.

(b) The American Water Works Association Manual M-19 Emergency Planning for Water Utility Management, 1973, as referred to in part 23, is available for inspection at the department offices in Lansing and Escanaba, and may be purchased at a cost of $8.00 from the American Water Works Association, 6666 West Quincy Avenue, Denver, Colorado 80235.

R 325.10114 Rescissions.

Rule 114. The following rules of the department are rescinded:


(e) Rules entitled "Water Supply Cross-Connections", being R 325.431 to R 325.440 of the Michigan Administrative Code, and appearing on pages 6129 to 6131 of the 1972 Annual Supplement to the Code.

R 325.10115 Remedies and penalties.

Rule 115. A person who violates any of the provisions of these rules shall be subject to the remedies and penalties as prescribed by sections 21 and 22 of the act.
PART 2. HEARINGS AND CONTESTED CASES

R 325.10201 Public hearings; applicable law.

Rule 201. Public hearings conducted by the division pursuant to the act and these rules shall be in accordance with, and subject to, Act No. 306 of the Public Acts of 1969, as amended, being §§ 24.201 to 24.315 of the Michigan Compiled Laws.

R 325.10202 Requests for public hearings.

Rule 202. (1) If a person requests the division to schedule a public hearing, the request shall be made in writing and shall include all of the following information:
   (a) The name, address, and telephone number of the person requesting the public hearing.
   (b) A brief statement of the reason for the request and the relationship of the person to the subject for which the public hearing is requested.
   (c) A brief statement of the information that the person requesting the public hearing intends to submit at the public hearing.

(2) After receipt of the request for public hearing, the chief of the bureau of environmental and occupational health shall make a determination as to the need for a hearing. If the chief of the bureau grants the public hearing, it shall be scheduled and conducted in accordance with, and subject to, Act No. 306 of the Public Acts of 1969, as amended.

(3) If the chief of the bureau denies the public hearing, he shall notify the person requesting the public hearing in writing of his decision and shall state his reasons for denial of the hearing.

R 325.10203 Contested cases; applicable law; appearances; service of notices and orders.

Rule 203. (1) Division administrative procedures in contested cases and judicial review thereof shall be in accordance with, and subject to, chapters 4, 5 and 6 of Act No. 306 of the Public Acts of 1969, as amended, being §§ 24.271 to 24.306 of the Michigan Compiled Laws.

(2) Appearances at a contested case hearing shall be either in person or by duly authorized agent. Legal counsel may represent a person in a contested case.

(3) Service of notices, orders, and final orders shall be by personal service or by certified mail, or both, upon the parties named in the proceedings.

R 325.10204 Initiation of contested case hearing.

Rule 204. (1) Contested case hearings may be initiated by the chief of the bureau of environmental and occupational health. Except in the case of suspension or revocation of a license, permit, order, variance, or exemption, the chief of the bureau shall initiate a contested case hearing by notice mailed by certified mail not less than 21 days prior to the hearing.

(2) A person requesting a contested case hearing shall file a petition with the division in Lansing, Michigan. The petition shall state the legal authority under which the hearing is requested, a brief statement of the matters asserted, a statement of the relationship of the petitioner to the issue, and a statement of relief sought.

R 325.10205 Notice of contested case hearing.

Rule 205. When a contested case hearing is initiated, the division shall provide notice to those known persons who may be materially affected by the proceedings. The notice shall be by mail or by publication, or both, as may be necessary.
Rule 206. That portion of a contested case hearing in which testimony and evidence is to be taken may be referred to a hearing officer who shall be designated and authorized by the director to preside at the hearing. The hearing officer shall hear the evidence and prepare a record of the proceedings and a proposal for decision, including findings of fact and conclusions of law. The record of the proceedings and proposal for decision shall be filed at the office of the director as soon as possible after completion of the hearing. A copy of the proposal for a decision shall be served by certified mail on all other parties to the proceedings.

Rule 207. The files and records of the division specified in notices of determination and hearing, except those materials exempted by section 13 of Act No. 442 of the Public Acts of 1976, being § 15243 of the Michigan Compiled Laws, shall be available before or at contested case hearings held by the director or by the hearing officer, and the whole, or a part thereof, may be offered at a hearing as evidence on behalf of the division.

Rule 208. (1) A person cited to appear at a hearing noticed by the division, and who desires to dispose of the contested case by stipulation or consent order, may mail to the director not later than 10 days before the date set for hearing his written consent to the terms and conditions of the proposed order or other form of action as set forth in the notice of determination and hearing. Agreement between the parties on the terms and conditions of a stipulation or consent order shall constitute sufficient cause for the director to dispose of the contested case without further hearing.

(2) After the hearing officer has submitted his proposal for decision, the director shall issue a final order on the matter. A certified copy of the final order shall be prepared and served by certified mail on the contesting parties or their attorneys together with the director's finding containing a resume of the facts and grounds for decision.
PART 3. VARIANCES AND EXEMPTIONS

**AS AMENDED 7/1/93**

R 325.10301 Purpose.

Rule 301. The purpose of this part is to prescribe procedures by which the department may grant or deny a variance or exemption from a state drinking water standard pursuant to the provisions of section 20 of the act and in accordance with the federal act.

R 325.10302 Form.

Rule 302. If a variance or exemption is granted by the department to a supplier of water, it shall be in the form of an enforceable administrative order, approved as to form by the department of the attorney general. The order shall contain applicable conditions, specific compliance requirements, and time schedules for compliance.

R 325.10303 Request for variance or exemption from state drinking water standards generally.

Rule 303. (1) A variance or exemption from a state drinking water standard shall not be granted with respect to any of the following:
   (a) Total coliform MCL violations.
   (b) Filtration requirements.
   (c) Disinfection requirements.
   (2) A supplier of water who wishes to request a variance or exemption from a state drinking water standard shall make that request, in writing, to the department not less than 90 days before the date on which the supplier of water wishes the variance or exemption to be effective. The request shall be made in a manner prescribed by the department and shall contain all information required by this part and the federal act.
   (3) Requests for variances or exemptions from state drinking water standards for more than 1 MCL or treatment technique shall be made separately.

R 325.10304 Variance from MCL or treatment technique; required finding.

Rule 304. Variances from an MCL other than total coliform or from a treatment technique other than filtration and disinfection may be granted by the director only upon his or her specific finding that either of the following conditions exists:
   (a) The supplier of water demonstrates that the characteristics of the raw water source or sources which are reasonably available to the public water supply do not permit the public water supply to meet the maximum contaminant level specified in a state drinking water standard despite application of the best available treatment technology, techniques, or other means which the department finds are generally available, taking costs into consideration, and that the granting of a variance will not result in an unreasonable risk to the health of persons served by the public water supply.
   (b) The supplier of water demonstrates that a specific treatment technique is not necessary to protect the health of persons served by the public water supply, and that the granting of the variance will not result in an unreasonable risk to the health of persons served by the public water supply.

R 325.10305 Request for variance; included information.

Rule 305. A supplier of water who requests a variance from the department shall include on the request for variance the following information, where applicable:
   (a) The nature and duration of the variance requested.
   (b) Relevant water quality data of the public water supply, including the results of tests conducted pursuant to part 7 of these rules and the act.
   (c) An explanation and evidence of the best available treatment technology and techniques, where applicable.
(d) Economic and legal factors relevant to the ability to comply with an MCL or treatment technique.

(e) Raw water quality data relevant to the variance requested.

(f) A proposed compliance schedule including the date by which each step toward compliance shall be achieved. A compliance schedule shall include, but not necessarily be limited to, all of the following:
   (i) The date by which an arrangement for an alternative raw water source or improvement of the existing raw water source shall be completed.
   (ii) The anticipated date of initiation of the connection to the alternative raw water source or the improved existing raw water source.

(g) A plan for interim control measures during the duration of the variance requested, including the provision of safe drinking water in the case of a rise in the contaminant level.

(h) A statement that the supplier of water shall perform monitoring and other reasonable requirements as may be prescribed by the director as a condition to a variance.

(i) Other information believed to be pertinent to the request for variance by the director or the supplier of water.

R 325.10306 Exemption from MCL or treatment technique; required finding.

Rule 306. Exemptions from an MCL other than total coliform or from a treatment technique other than filtration or disinfection may be granted by the director only upon his or her specific finding that all of the following conditions exist:
   (a) Due to compelling factors, including economic factors, a public water supply is not able to comply with an MCL or treatment technique.
   (b) A public water supply for which an exemption is requested was in operation on the effective date of the state drinking water standard.
   (c) The supplier of water demonstrates that the granting of an exemption will not result in an unreasonable risk to the health of persons using the public water supply.

R 325.10307 Request for exemption; included information.

Rule 307. A supplier of water who requests an exemption from the department shall include on the request for an exemption all of the following information:
   (a) The nature and duration of the exemption requested.
   (b) Relevant water quality data of the public water supply, including the results of tests conducted pursuant to part 7 of these rules and the act.
   (c) The date the public water supply was put into operation.
   (d) A complete explanation of the compelling factors, including, but not limited to, time and economic factors which prevent the public water supply from achieving compliance.
   (e) A proposed compliance schedule, including a date by which each step toward compliance shall be achieved.
   (f) The date by which final compliance is to be achieved.
   (g) Other information believed by the director or the supplier of water to be pertinent to the request for exemption.

R 325.10308 Review of request for variance or exemption.

Rule 308. In his review of a request for a variance or an exemption, the director shall take at least the following into consideration:
   (a) The availability and effectiveness of all methods which may be employed by the supplier of water to comply with the MCL or treatment technique for which the variance or exemption is requested.
   (b) Cost and other economic considerations such as implementing treatment, improving the quality of the raw water source, using an alternative raw water source, or otherwise bringing the public water supply into compliance.
   (c) The quality of the raw water source, including water quality data and pertinent sources of contamination.
(d) Source protection measures employed by the public water supply.
(e) Construction or modification of treatment equipment or systems.
(f) The time required to put into operation a new treatment system to replace an existing treatment system which is not in compliance, or other facilities or other means to bring the public water supply into compliance.
(g) Risk to health of persons served by the public water supply.

R 325.10308a Variances from MCL for total trihalomethanes.

Rule 308a. (1) The department identifies all of the following as the best technology, treatment technique, or other means generally available for achieving compliance with the maximum contaminant level for total trihalomethanes as established in R 325.10604a:
(a) Use of chloramines as an alternate or supplemental disinfectant or oxidant.
(b) Use of chlorine dioxide as an alternate or supplemental disinfectant or oxidant.
(c) Improved existing clarification for THM precursor reduction.
(d) Moving the point of chlorination to reduce TTHM formation and, where necessary, substituting chloramines, chlorine dioxide, or potassium permanganate for the use of chlorine as a pre-oxidant.
(e) Use of powdered, activated carbon for THM precursor or TTHM reduction seasonally or intermittently at dosages not to exceed 10 milligrams per liter on an annual average basis.

(2) The department shall require a community supply to install or use, or both, any treatment method identified in subrule (1) of this rule as a condition for granting a variance, unless the department determines that the treatment method identified in subrule (1) of this rule is not available and effective for TTHM control for the system. A treatment method shall not be considered to be available and effective for a community supply if the treatment method would not be technically appropriate and technically feasible for that supply or would only result in a marginal reduction in TTHM for the community supply. Upon application by a supplier of water for a variance, if the department determines that none of the treatment methods identified in subrule (1) of this rule is available and effective for the community supply, the supplier of water shall be entitled to a variance pursuant to section 20 of the act. The department's determination as to the availability and effectiveness of the treatment methods shall be based upon studies by the supplier of water and other relevant information. If a supplier of water submits information to demonstrate that a treatment method is not available and effective for TTHM control for that supply before requiring installation or use, or both, of the treatment method.

(3) Pursuant to R 325.10305, the department shall require a schedule of compliance to be established that may require the community supply being granted the variance to examine any or all of the following treatment methods to determine the probability that any of the methods will significantly reduce the level of TTHM for that community supply:
(a) Introduction of off-line water storage for THM precursor reduction.
(b) Aeration for TTHM reduction, where geographically and environmentally appropriate.
(c) Introduction of clarification where not currently practiced.
(d) Consideration of alternative sources of raw water.
(e) Use of ozone as an alternate or supplemental disinfectant or oxidant. If the probability exists, the supplier of water shall determine whether any of the treatment methods is technically feasible and economically reasonable, and that the TTHM reductions obtained will be commensurate with the costs incurred with the installation and use of the treatment methods for that community supply.

(4) If the department determines that a treatment method Identified in subrule (3) of this rule is technically feasible, economically reasonable, and will achieve TTHM reductions commensurate with the costs incurred with the installation or use, or both, of such treatment method for the community supply, the supplier of water shall be requested to install or use, or both, that treatment method in connection with a compliance schedule pursuant to R 325.10310. The department's determination shall be based upon studies by the supplier of water and other relevant information. The supplier of water shall not install or use a treatment method not described in subrule (1) or (3) of this rule to obtain or maintain a variance from the requirements of R 325.10604a or in connection with any variance compliance schedule.
R 325.10308b Variances from maximum contaminant level for regulated VOCs and fluoride.

Rule 308b. (1) The department identifies the following as the best technology, treatment technique, or other means generally available for achieving compliance with the MCL:

(a) For regulated VOCs that are referenced in R 325.10604b and 325.10604d, the best available technologies, treatment techniques, or other means available for achieving compliance within the MCLs are either granular activated carbon (GAC) or packed tower aeration (PTA), or both, as listed in table 3.1.

Table 3.1
Best Available Technologies for Organic Contaminants

<table>
<thead>
<tr>
<th>Chemical</th>
<th>GAC</th>
<th>PTA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alachlor</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Aldicarb</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>Aldicarb sulfone</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>Aldicarb sulfoxide</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>Atrazine</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Benzene</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>Carbofuran</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Carbon tetrachloride</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>Chlordane</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2,4-D</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Dibromochloropropane (DBCP)</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>0-dichlorobenzene</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>1,2-dichloroethane</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>cis,1,2-dichloroethylene</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>trans,1,2-dichloroethylene</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>1,1-dichloroethylene</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>1,2-dichloropropene</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Ethylene dibromide (EDB)</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Ethylbenzene</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Heptachlor</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Heptachlor epoxide</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lindane</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>Methoxychlor</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Monochlorobenzene</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>para-dichlorobenzene</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Polychlorinated biphenyls (PCB)</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Pentachlorophenol</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Styrene</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>2,4,5-TP (silvex)</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Tetrachloroethylene</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>1,1,1-trichloroethane</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Trichloroethylene</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Toluene</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Toxaphene</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Vinyl chloride</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>Xylene</td>
<td></td>
<td>x</td>
</tr>
</tbody>
</table>

(b) For inorganic contaminants that are referenced in R 325.10604c, the best available technologies, treatment techniques, or other means available for achieving compliance with the MCLs are listed in table 3.2.
### Table 3.2
Best Available Technologies for Inorganic Contaminants

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Best Available Technologies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asbestos</td>
<td>2,3,8</td>
</tr>
<tr>
<td>Barium</td>
<td>5,6,7,9</td>
</tr>
<tr>
<td>Cadmium</td>
<td>2,5,6,7</td>
</tr>
<tr>
<td>Chromium</td>
<td>2,5,6,7</td>
</tr>
<tr>
<td>Fluoride</td>
<td>1,7</td>
</tr>
</tbody>
</table>
| Mercury       | 2',4,6,7,7'
| Nitrate       | 5,7,9                      |
| Nitrite       | 5,7                        |
| Selenium      | 1,2,6,7,9                  |

1 Best available technology only if influent Hg concentrations are less than 10 µg/l.
2 Best available technology for chromium III only.
3 Best available technology for selenium IV only.

Key to best available technologies in table:
1 = activated alumina
2 = coagulation/filtration
3 = direct and diatomite filtration
4 = granular activated carbon
5 = ion exchange
6 = lime softening
7 = reverse osmosis
8 = corrosion control
9 = electrodialysis

(2) The department shall require type I water systems and nontransient, noncommunity water supplies to employ a treatment method identified in subrule (1) of this rule as a condition for granting a variance, except as provided in subrule (3) of this rule. If, after the treatment method is installed in the system, the system cannot meet the MCL, that system shall be eligible for a variance under the provisions of this part and section 20 of the act.

(3) If a supplier of water can demonstrate through comprehensive engineering assessments, which may include pilot plant studies, that the treatment methods identified in subrule (1) of this rule would only achieve a de minimis reduction in contaminants, the department may issue a schedule of compliance that requires the supplier of water being granted the variance to examine other treatment methods as a condition of obtaining the variance.

(4) If the department determines that a treatment method identified in subrule (3) of this rule is technically feasible, the department may require the supplier of water to use that treatment method in connection with a compliance schedule issued under the provisions of section 20 of the act. The department’s determination shall be based upon studies by the supplier of water and other relevant information.
Rule 309. (1) Prior to issuing an order granting a variance from an MCL, the director shall provide public notice of his intent and shall provide an opportunity for any person to request a public hearing on the proposed order and the proposed compliance schedule.

(2) Prior to finalizing a compliance schedule which is to be a part of an exemption from an MCL or treatment technique or a variance from a specified treatment technique, the director shall provide public notice thereof and shall provide an opportunity for any person to request a public hearing on the compliance schedule.

(3) Public notices issued by the director pursuant to subrules (1) and (2) shall be circulated in a manner designed to inform interested persons of the proposed order or compliance schedule, or both.

(4) The public notice issued by the director pursuant to subrules (1) and (2) shall contain a summary of proposed conditions, compliance programs, compliance schedules, restrictions, and other information relating to the request for a variance or exemption.

(5) Notices issued and public hearings conducted pursuant to this rule may include more than 1 order or compliance schedule, or both.

(6) Public hearings conducted by the director pursuant to this rule shall be in accordance with, and subject to, R 325.10201 and R 325.10202.

Rule 310. After receipt of a request for a variance or exemption from a supplier of water, or following a public hearing conducted by the director pursuant to R 325.10309, the director shall issue an administrative order to the supplier of water granting a variance or exemption or prescribing a compliance schedule, or both, or shall deny the request.

Rule 311. An exemption granted by the director to a supplier of water shall have a fixed term not to exceed 5 years. A supplier of water who wishes to extend an exemption beyond the date specified in the administrative order shall submit a request for reissuance of an exemption pursuant to R 325.10307. Exemptions issued or reissued by the director pursuant to this part shall not be inconsistent in any manner with the provisions of the federal act.

Rule 312. A supplier of water who submits false information in connection with a request for a variance or exemption, or who violates any of the provisions of an order issued by the director granting a variance or exemption, shall be subject to immediate revocation of the order and to the remedies and penalties specified by the act.
PART 4. PUBLIC NOTIFICATION

**AS AMENDED 7/1/93**

R 325.10401 Purpose.

Rule 401. The purpose of this part is to prescribe requirements of suppliers of water to provide public notification to customers or users of a public water supply when the public water supply is not in compliance with a state drinking water standard, a monitoring requirement, or the requirements of a compliance schedule prescribed by a variance or exemption or while a variance or exemption is in effect.

R 325.10402 Public notices, generally.

Rule 402. (1) Public notices issued pursuant to this part shall be conspicuous and shall not have unduly technical language, unduly small print, or employ other methods that frustrate the purpose of the notice.

(2) Notices shall include all of the following information:
   (a) A discussion of the population at risk.
   (b) The steps that the water system is taking to correct the problem.
   (c) The necessity for seeking alternate water supplies, if any.
   (d) Any preventive measures the consumer should take until the violation is corrected.
   (e) The telephone number where additional information may be obtained.

(3) Where appropriate, the notice shall be multilingual.

(4) Except for monitoring violations, notices shall provide information on potential adverse health effects in accordance with language specified by the department and EPA for those parameters for which such wording is available.

(5) A supplier of water shall provide, to the department within 30 days of issuance, a copy of any public notice that is issued pursuant to this part.

R 325.10403 Public notices for violations of state drinking water standard; failure to comply with variance or exemption schedule.

Rule 403. (1) If the supplier of water violates a state drinking water standard or fails to comply with a variance or exemption schedule, the supplier of water shall provide public notice of such violation or failure by publishing such notice in a daily or weekly newspaper of general circulation, whichever method will provide the most direct notification to customers, as soon as possible, but within 14 days of the violation or failure. For acute violations specified in subrule (4) of this rule, the supplier of water shall, in addition, furnish a copy of the notice to the radio and television stations serving the area as soon as possible, but not later than 72 hours after the violation. Where newspaper notice is not feasible, or if the public water supply is a noncommunity public water supply or small privately owned community public water supply, newspaper notice may be replaced by hand delivery or continuous posting of the notice within 14 days after the violation or failure, whichever method will provide the most direct notification to customers, or, for acute violations specified in subrule (4) of this rule, within 72 hours.

(2) In addition to the requirements of subrule (1) of this rule, those suppliers that give newspaper notice shall also provide notice by direct mail, with the water bill or by hand delivery, not later than 45 days after the violation or failure. The department may waive, in writing, the requirements of this subrule if the department determines that the supplier of water has corrected the violation or failure within the 45-day period.

(3) Repeat notice of a violation of a state drinking water standard or the failure to comply with a variance or exemption schedule shall be made by mail or hand delivery every 3 months for as long as the violation or failure exists. If posting is used in place of newspaper notice, it shall continue for as long as the violation or failure exists.

(4) Acute violations covered by subrule (1) of this rule are violations of the MCL for nitrate, nitrite, the MCL for total coliform as defined in R 325.10602(c), and other violations or conditions that the department has determined to be an imminent hazard.
(5) In determining compliance with the inorganic chemical, volatile organic chemical, or synthetic organic chemical MCLs, if a public water supply has a distribution system which is separable from other parts of the distribution system and which does not have interconnections, the department may allow the owners or operators of the system to give public notice to only the area that is served by that portion of the system which is not in compliance.

R 325.10404 Public notice for failure to monitor or for issuance of an order of exemption or order of variance.

Rule 404. (1) If a supplier of water fails to comply with a monitoring requirement at the point of entry or from the distribution system or has been issued an order of exemption or order of variance, the supplier of water shall issue public notice by publishing such notice in a daily or weekly newspaper of general circulation, whichever method will provide the most direct notification to customers, within 3 months of the violation or the date the order was issued. Where newspaper notice is not feasible, or if the public water supply is a noncommunity public water supply or a small privately owned community public water supply, newspaper notice may be replaced by hand delivery or continuous, for the duration of the violation, posting of the notice within 3 months of the violation or the date the order was issued.

(2) If a supplier of water fails to comply with the coliform monitoring requirement specified in part 7 of these rules, the supplier of water shall report the violation to the department within 10 days after discovering the violation.

(3) Repeat notice shall be provided by the supplier of water by mail or hand delivery every 3 months for the duration of the violation or as long as the variance or exemption remains in effect.

(4) In lieu of the requirements specified in subrule (1) of this rule, a supplier of water may, with the approval of the department, give less frequent notice for monitoring violations if a MCL or monitoring violation has not occurred in any of the 3 preceding months. Notice of monitoring violations shall be given at least annually.

R 325.10405 Notification of customers of public water supply that imminent hazard exists.

Rule 405. In situations where the director determines that an imminent hazard to the public health exists, the director may order the owner of a public water supply to make immediate notification to all customers or users of that public water supply. The notice shall contain the preventive or precautionary measures that should be taken by the customers or users of the public water supply to protect the public health.

R 325.10406 Notice to new customers.

Rule 406. For community public water supplies, the supplier of water shall give a copy of the most recent public notice for any uncorrected violation of a state drinking water standard or for failure to comply with any variance or exemption schedule to all new billing units or new hookups before or at the time service begins.

R 325.10407 Other Required Notices.

Rule 407. Special reporting and public notice requirements apply to those suppliers of water that are required to monitor for unregulated contaminants pursuant to the provisions of R 325.10717(b). The suppliers of water shall notify persons who are served by the system of the availability of results of sampling conducted pursuant to the provisions of R 325.10717(b) by including a notice in the first set of water bills issued by the supplier of water after receipt of the results or written notice or newspaper notice within 3 months. The notice shall identify a person and telephone number to contact for information on the monitoring results. Where appropriate, the department may publish the monitoring results or the availability of the results on behalf of a water supplier or group of water suppliers in a manner intended to reasonably inform persons who are served by the water supply.
R 325.10408 Periodic progress reports; correction of violations and notification of customers.

Rule 408. The department may require an owner of a public water supply to submit periodic reports on progress being made to correct a violation of an MCL, order, or a variance or exemption, and to notify the customers or users of the public water supply of that progress.

R 325.10409 Failure of owner to provide adequate public notice.

Rule 409. If deemed necessary by the department, when an owner of a public water supply fails to provide adequate public notice within the required time period, the department may do so and may charge costs incurred by the department to the owner of the public water supply. Action taken by the department pursuant to this rule shall not provide immunity to an owner of a public water supply from the remedies and penalties prescribed by the act.
PART 5. TYPES OF PUBLIC WATER SUPPLIES

R 325.10501 Purpose.

Rule 501. The purpose of this part is to implement section 8 of the act by establishing a basic classification system for public water supplies. The basic classification system established by this part may be modified in other parts of these rules, as applicable, to reflect the need for further breakdown due to specific criteria, requirements, or standards which may apply within a public water supply.

R 325.10502 Classification of public water supplies.

Rule 502. (1) For purposes of implementing the act, public water supplies are classified by the department into 3 types as follows:
   (a) Type I: All community supplies are classified as type I public water supplies.
   (b) Type II: All noncommunity supplies are classified as type II public water supplies.
   (c) Type III: All water supplies which are not type I nor type II public water supplies shall be classified as type III public water supplies.

   (2) Type II public water supplies are further classified by the department as follows:
      (a) Type IIa: Type IIa public water supplies are type II public water supplies with an average daily water production for the maximum month equal to or greater than 20,000 gallons per day.
      (b) Type IIb: Type IIb public water supplies are type II public water supplies with an average daily water production for the maximum month of less than 20,000 gallons per day.

   (3) When a supplier of water is unable to determine average daily water production, the department may use other criteria based on similar public water supplies to make a determination of classification for purposes of subrule (2).

R 325.10503 Two or more waterworks systems under same ownership or operation.

Rule 503. Two or more waterworks systems owned or operated by the same person at the same general location, not individually meeting the definition of a community or a noncommunity supply, but collectively meeting the definition of a community supply or a noncommunity supply, shall be considered by the department to be a single public water supply.

R 325.10504 General requirements of type I public water supplies.

Rule 504. Suppliers of water of type I public water supplies shall meet the following general requirements and other specific requirements as prescribed by the act and these rules.
   (a) Certified operators of treatment systems and distribution systems are required.
   (b) Suppliers of water shall monitor for contaminants at prescribed frequencies as required by part 7 of these rules.
   (c) Suppliers of water shall submit waterworks system operation reports and shall maintain records.
   (d) Except for type I public water supplies serving facilities which are licensed annually by the department including, but not limited to, mobile home parks and health care facilities, suppliers of water shall comply with the provisions of part 14 of these rules, and suppliers of water of all type I public water supplies shall comply with all applicable state and local plumbing codes.
   (e) Owners of type I public water supplies shall submit plans and specifications and obtain permits from the department in accordance with the provisions of the act and part 13 of these rules, except those type I public water supplies serving less than 15 living units.
R 325.10505 Type II public water supplies generally.

Rule 505. A supplier of water of a type II public water supply shall meet all of the following general requirements and other specific requirements as prescribed by the act and these rules:

(a) Operators of treatment systems where treatment is employed to protect the public health shall be certified.

(b) A supplier of water shall provide a source of water that is in compliance with the requirements of part 8 of these rules or a source that is approved by the department. In either case, the source of water shall be in compliance with all of the requirements of parts 10 and 19 or parts 24, 25, and 26 of these rules.

(c) A supplier of water shall monitor for contaminants at prescribed frequencies as required by part 7 of these rules.

(d) A supplier of water shall submit waterworks system operation reports where treatment is employed to protect the public health and shall maintain records as required in part 15 of these rules.

(e) A supplier of water shall comply with all applicable state and local plumbing codes.

(f) An owner of a type II public water supply shall obtain permits from the department in accordance with the provisions of the act and part 13 of these rules.

R 325.10506 Type III public water supplies generally.

Rule 506. A supplier of water of a type III public water supply shall meet all of the following general requirements and other specific requirements as prescribed by the act and these rules:

(a) A supplier of water shall provide groundwater sources that are in compliance with the requirements of part 8 of these rules or, alternatively, if approved by the department, the applicable sections of parts 24, 25, and 26 of these rules.

(b) If required by the department, a supplier of water shall monitor for contaminants at prescribed frequencies as required by part 7 of these rules.

(c) A supplier of water shall comply with all applicable state and local plumbing codes.
PART 6. STATE DRINKING WATER STANDARDS
AND ANALYTICAL TECHNIQUES

**AS AMENDED 7/1/93 AND 11/1/93**

R 325.10601 Purpose.

Rule 601. Maximum contaminant levels for organic and inorganic chemicals, microbiological contaminants, and turbidity contained in the federal act are incorporated by reference in section 6 of the act. This part establishes drinking water standards for specific contaminants which are not adopted by reference by section 6 of the act or which are different than the drinking water standards contained in the federal act and which shall be met by a supplier of water to assure the protection of the public health. In addition, this part specifies methods to be used in the analyses of water samples from public water supplies to determine compliance with the state drinking water standards.

R 325.10601a Compliance with standards to be determined in accordance with monitoring requirements; analytical results to be performed by certain laboratories; duration of applicability of MCL for turbidity.

Rule 601a. (1) Compliance with the drinking water standards specified in this part shall be determined in accordance with the monitoring requirements set forth in part 7 of these rules.

(2) Analytical results that are used to determine compliance with the MCLs established in this part shall be performed by department or EPA-certified or provisionally certified laboratories.

(3) The MCL for turbidity applies to complete treatment systems until June 29, 1993.

R 325.10602 MCLs for total coliform bacteria.

Rule 602. All of the following provisions apply to the MCLs for total coliform bacteria for all public water supplies:

(a) For a water supply that collects 40 or more samples per month pursuant to the provisions of R 325.10705(2) and R 325.10706(2), the supply is in compliance with the MCL for total coliforms if not more than 5.0% of the samples collected during a month are total coliform-positive.

(b) For a water supply that collects less than 40 samples per month, the supply is in compliance with the MCL for total coliforms if not more than 1 sample collected during a month is total coliform-positive.

(c) Any fecal coliform-positive repeat sample, an E. coli-positive repeat sample, or any total coliform-positive repeat sample following a fecal coliform-positive or E. coli-positive routine sample constitutes a violation of the MCL for total coliforms.

(d) In addition to the requirements of subdivision (a) of this rule, the department may determine an MCL violation has occurred, and shall notify a supplier of water, when the concentration of positive total coliform samples in a portion of the water system constitutes a public health hazard.

(e) Samples that are collected to meet the repeat monitoring requirements of R 325.10707 are not considered special purpose samples and shall be used to determine compliance with the MCL for total coliform.

R 325.10603 MCLs for radium-226, radium-228, and gross alpha particle radioactivity in type I public water supplies.

Rule 603. The MCLs for radium-226, radium-228, and gross alpha particle radioactivity for type I public water supplies are as follows:

(a) Combined radium-226 and radium-228 -- 5 pCi per liter.

(b) Gross alpha particle activity, including radium-226, but excluding radon and uranium -- 15 pCi per liter.
R 325.10604 MCLs for beta particle and photon radioactivity from man-made radionuclides in type I public water supplies.

Rule 604. (1) The average annual concentration of beta particle and photon radioactivity from man-made radionuclides in drinking water of type I public water supplies shall not produce an annual dose equivalent to the total body or any internal organ greater than 4 millirems per year.

(2) Except for the radionuclides listed in table 6.1, the concentration of man-made radionuclides in type I public water supplies causing 4 millirems 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 the publication entitled "Maximum Permissible Body Burdens and Maximum Permissible Concentration of Radionuclides in Air or Water for Occupational Exposure," NBS handbook 69, as amended August, 1963, United States department of commerce, which is adopted in these rules by reference and is available from the Michigan Department of Public Health, Division of Water Supply, 3423 North Logan/Martin Luther King Jr. Boulevard, P.O. Box 30195, Lansing, Michigan 48909 at no cost. If 2 or more radionuclides are present, the sum of their annual dose equivalent to the total body or to any organ shall not be more than 4 millirem per year. Table 6.1 reads as follows:

<table>
<thead>
<tr>
<th>Radionuclide</th>
<th>Critical organ</th>
<th>pCi per liter</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tritium</td>
<td>Total body</td>
<td>20,000</td>
</tr>
<tr>
<td>Strontium-90</td>
<td>Bone marrow</td>
<td>8</td>
</tr>
</tbody>
</table>

R 325.10604a MCL for total trihalomethanes.

Rule 604a. The MCL for total trihalomethane for all type I public water supplies that add a disinfectant to the water as a normal part of the treatment system shall be 0.10 milligrams per liter.

R 325.10604b MCLs for volatile organic chemicals other than total trihalomethanes.

Rule 604b. (1) The MCLs for volatile organic chemicals shall be as shown in table 6.2. The MCLs and effective dates listed in table 6.2 apply to community and nontransient, noncommunity water supplies. Table 6.2 reads as follows:
Table 6.2

<table>
<thead>
<tr>
<th>Contaminant</th>
<th>Maximum Contaminant Level in mg/l</th>
<th>Effective Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benzene</td>
<td>0.005</td>
<td>January 9, 1989.</td>
</tr>
<tr>
<td>Vinyl chloride</td>
<td>0.002</td>
<td>January 9, 1989.</td>
</tr>
<tr>
<td>Carbon tetrachloride</td>
<td>0.005</td>
<td>January 9, 1989.</td>
</tr>
<tr>
<td>1,2-dichloroethane</td>
<td>0.005</td>
<td>January 9, 1989.</td>
</tr>
<tr>
<td>Trichloroethylene</td>
<td>0.005</td>
<td>January 9, 1989.</td>
</tr>
<tr>
<td>1,1-dichloroethylene</td>
<td>0.007</td>
<td>January 9, 1989.</td>
</tr>
<tr>
<td>1,1,1-trichloroethane</td>
<td>0.20</td>
<td>January 9, 1989.</td>
</tr>
<tr>
<td>para-dichlorobenzene</td>
<td>0.075</td>
<td>January 9, 1989.</td>
</tr>
<tr>
<td>cis-1,2-dichlorobenzene</td>
<td>0.07</td>
<td>July 30, 1992.</td>
</tr>
<tr>
<td>1,2-dichloropropane</td>
<td>0.005</td>
<td>July 30, 1992.</td>
</tr>
<tr>
<td>Ethylbenzene</td>
<td>0.7</td>
<td>July 30, 1992.</td>
</tr>
<tr>
<td>Monochlorobenzene</td>
<td>0.1</td>
<td>July 30, 1992.</td>
</tr>
<tr>
<td>0-dichlorobenzene</td>
<td>0.6</td>
<td>July 30, 1992.</td>
</tr>
<tr>
<td>Styrene</td>
<td>0.1</td>
<td>July 30, 1992.</td>
</tr>
<tr>
<td>Tetrachloroethylene</td>
<td>0.005</td>
<td>July 30, 1992.</td>
</tr>
<tr>
<td>Toluene</td>
<td>1</td>
<td>July 30, 1992.</td>
</tr>
<tr>
<td>trans-1,2-dichloroethylene</td>
<td>0.1</td>
<td>July 30, 1992.</td>
</tr>
<tr>
<td>Xylenes (total)</td>
<td>10</td>
<td>July 30, 1992.</td>
</tr>
</tbody>
</table>

(2) Compliance with the MCLs for volatile organic chemical contaminants shall be determined based on the analytical results obtained at each sampling point.

(3) For suppliers that conduct monitoring more than once each year, compliance is determined by a running annual average of all samples taken at each sampling point. If the annual average of any sampling point is more than the MCL, then the system is out of compliance. If the initial sample or a subsequent sample would cause the annual average to be exceeded, then the system is out of compliance immediately.

(4) If monitoring is conducted annually, or less frequently, the system is out of compliance if the level of a contaminant at any sampling point is more than the MCL. If a confirmation sample is required by the department, the determination of compliance will be based on the average of the 2 samples.

R 325.10604c MCL for inorganic chemicals.

Rule 604c. (1) The MCLs for inorganic chemicals shall be as shown in table 6.3. Except as specified, the MCLs and effective dates for inorganic chemicals apply to community water supplies and nontransient, noncommunity water supplies. The MCL for fluoride applies only to community water supplies. The MCLs for nitrate, nitrite, and total nitrate and nitrite apply to community; nontransient, noncommunity; and transient, noncommunity water supplies. The MCL for silver is rescinded. The MCLs listed in the interim primary drinking water regulations promulgated by the United States environmental protection agency under authority of public law 93-523 (1974) for cadmium, chromium, mercury, nitrate, and selenium remain effective until July 30, 1992. The MCL for lead shall remain effective until December 7, 1992. The MCL for barium of 1.0 mg/l shall remain effective until January 1, 1993. The MCL for arsenic applies only to community water supplies. Table 6.3 reads as follows:

Part 6, Page 3
Table 6.3

<table>
<thead>
<tr>
<th>Contaminant</th>
<th>Maximum Contaminant Level in mg/l</th>
<th>Effective Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arsenic</td>
<td>0.05</td>
<td>June 24, 1977</td>
</tr>
<tr>
<td>Asbestos</td>
<td>7 million fibers per liter (longer than 10 µm)</td>
<td>July 30, 1992</td>
</tr>
<tr>
<td>Barium</td>
<td>2</td>
<td>January 1, 1993</td>
</tr>
<tr>
<td>Cadmium</td>
<td>0.005</td>
<td>July 30, 1992</td>
</tr>
<tr>
<td>Chromium</td>
<td>0.1</td>
<td>July 30, 1992</td>
</tr>
<tr>
<td>Fluoride</td>
<td>4</td>
<td>October 2, 1987</td>
</tr>
<tr>
<td>Mercury</td>
<td>0.002</td>
<td>July 30, 1992</td>
</tr>
<tr>
<td>Nitrate (as Nitrogen)</td>
<td>10</td>
<td>July 30, 1992</td>
</tr>
<tr>
<td>Nitrite (as Nitrogen)</td>
<td>1</td>
<td>July 30, 1992</td>
</tr>
<tr>
<td>Total Nitrate and Nitrite</td>
<td>10</td>
<td>July 30, 1992</td>
</tr>
<tr>
<td>Selenium</td>
<td>0.05</td>
<td>July 30, 1992</td>
</tr>
</tbody>
</table>

(2) Compliance with the MCL requirements of this rule shall be determined based on the analytical results that are obtained at each sampling point as specified in R 325.10710.

(3) For suppliers that conduct monitoring more than once each year, compliance with the MCLs for asbestos, barium, cadmium, chromium, fluoride, mercury, and selenium is determined by a running annual average at each sampling point. If the average at any sampling point is more than the MCL, then the system is out of compliance. If any 1 sample would cause the annual average to be exceeded, then the system is out of compliance immediately. Any sample that is below the detection limit shall be calculated at zero for the purpose of determining the annual average.

(4) For suppliers that monitor annually or less frequently, the system is out of compliance with the MCLs for asbestos, barium, cadmium, chromium, fluoride, mercury, or selenium if the level of a contaminant at any sampling point is more than the MCL. If a confirmation sample is required by the department, the determination of compliance will be based on the average of the 2 samples.

(5) Compliance with the MCLs for nitrate and nitrite is determined based on 1 sample if the levels of these contaminants are below the MCLs. If the level of nitrate or nitrite or the combination of nitrate and nitrite is more than the MCLs in the initial sample, a confirmation sample is required pursuant to the provisions of R 325.10710(9)(b) and (c), and compliance shall be determined based on the average of the initial and confirmation samples.

R 325.10604d MCLs for synthetic organic chemicals.

Rule 604d. (1) The MCLs for synthetic organic chemicals shall be as shown in table 6.4. The MCLs are effective beginning on the dates indicated. Except for the MCL for endrin, which applies only to community water systems, the MCLs for the synthetic organic chemicals contained in this rule apply to community and nontransient, noncommunity water supplies. Table 6.4 reads as follows:
Table 6.4

<table>
<thead>
<tr>
<th>Contaminant</th>
<th>Maximum Contaminant Level in mg/l</th>
<th>Effective Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alachlor</td>
<td>0.002</td>
<td>July 30, 1992.</td>
</tr>
<tr>
<td>Aldicarb</td>
<td>0.003</td>
<td>January 1, 1993.</td>
</tr>
<tr>
<td>Aldicarb sulfoxide</td>
<td>0.004</td>
<td>January 1, 1993.</td>
</tr>
<tr>
<td>Aldicarb sulfone</td>
<td>0.002</td>
<td>January 1, 1993.</td>
</tr>
<tr>
<td>Atrazine</td>
<td>0.003</td>
<td>July 30, 1992.</td>
</tr>
<tr>
<td>Carbofuran</td>
<td>0.04</td>
<td>July 30, 1992.</td>
</tr>
<tr>
<td>Chlor dane</td>
<td>0.002</td>
<td>July 30, 1992.</td>
</tr>
<tr>
<td>Dibromochloropropane</td>
<td>0.0002</td>
<td>July 30, 1992.</td>
</tr>
<tr>
<td>Endrin</td>
<td>0.002</td>
<td>June 24, 1977.</td>
</tr>
<tr>
<td>Ethylene dibromide</td>
<td>0.00005</td>
<td>July 30, 1992.</td>
</tr>
<tr>
<td>Heptachlor</td>
<td>0.0004</td>
<td>July 30, 1992.</td>
</tr>
<tr>
<td>Heptachlor epoxide</td>
<td>0.0002</td>
<td>July 30, 1992.</td>
</tr>
<tr>
<td>Lindane</td>
<td>0.0002</td>
<td>July 30, 1992.</td>
</tr>
<tr>
<td>Methoxychlor</td>
<td>0.04</td>
<td>July 30, 1992.</td>
</tr>
<tr>
<td>Pentachlorophenol</td>
<td>0.001</td>
<td>January 1, 1993.</td>
</tr>
<tr>
<td>Polychlorinated biphenyls</td>
<td>0.0005</td>
<td>July 30, 1992.</td>
</tr>
<tr>
<td>Toxaphene</td>
<td>0.003</td>
<td>July 30, 1992.</td>
</tr>
<tr>
<td>2,4-D</td>
<td>0.07</td>
<td>July 30, 1992.</td>
</tr>
<tr>
<td>2,4,5-TP silvex</td>
<td>0.05</td>
<td>July 30, 1992.</td>
</tr>
</tbody>
</table>

(2) Compliance with the MCLs for synthetic organic chemicals shall be determined based on the analytical results obtained at each sampling point.

(3) For suppliers that conduct monitoring more than once each year, compliance is determined by a running annual average of all samples taken at each sampling point. If the annual average of any sampling point is more than the MCL, then the system is out of compliance. If the initial sample or a subsequent sample would cause the annual average to be exceeded, then the system is out of compliance immediately. Any samples that are below the detection limit shall be calculated as zero for purposes of determining the annual average.

(4) If monitoring is conducted annually or less frequently, the system is out of compliance if the level of a contaminant at any sampling point is more than the MCL. If a confirmation sample is required by the department, the determination of compliance will be based on the average of 2 samples.

R 325.10604e Treatment techniques for acrylamide and epichlorohydin.

Rule 604e. Each public water supply that uses acrylamide or epichlorohydin in its drinking water system shall provide annual written certification to the department, using third party or manufacturer’s certification, that the combination, or product, of dose and monomer level is not more than 0.05% acrylamide dosed at 1 part per million, or equivalent, and not more than 0.01% epichlorohydin dosed at 20 parts per million, or equivalent. This rule establishes treatment techniques for acrylamide and epichlorohydin in place of maximum contaminant levels.

R 325.10605 Analytical techniques for turbidity and radioactivity; adoption of standards by reference.

Rule 605. The analytical techniques for turbidity and radioactivity which are contained in the national primary drinking water regulations contained in 40 C.F.R. part 141, (June 29, 1989, and December 24, 1975), and which have been promulgated by EPA under authority of the federal act before the effective date of these rules are adopted by reference in these rules. Copies of the adopted material may be obtained from the United States Environmental Protection Agency, Region V, Water Supply Branch, 77 West Jackson
R 325.10605a Analytical techniques for total trihalomethanes; adoption of standards by reference.

Rule 605a. (1) The techniques that are utilized in the collection and analysis of samples to meet monitoring requirements for total trihalomethanes as prescribed by part 7 of these rules or to determine compliance with the provisions of this part shall be pursuant to either of the following EPA-approved methods:

(a) "The Analysis of Trihalomethanes in Drinking Waters by the Purge and Trap Method," method 501.1, EMSL, EPA, Cincinnati, Ohio.
(b) "The Analysis of Trihalomethanes in Drinking Water by Liquid/Liquid Extraction," method 501.2, EMSL, EPA, Cincinnati, Ohio.

(2) Samples for TTHM analysis shall be dechlorinated upon collection to prevent further production of trihalomethanes according to the procedures prescribed by the 2 methods in subrule (1)(a) and (b) of this rule. Samples for maximum TTHM potential shall not be dechlorinated and shall be held for 7 days at or above 25 degrees centigrade before analysis according to the procedures described in the 2 methods in subrule (1)(a) and (b) of this rule.

(3) The department adopts, by reference in these rules, the publications entitled "The Analysis of Trihalomethanes in Drinking Waters by the Purge and Trap Method," method 501.1, EMSL, EPA, Cincinnati, Ohio, and "The Analysis of Trihalomethanes in Drinking Water by Liquid/Liquid Extraction," method 501.2, EMSL, EPA, Cincinnati, Ohio. Copies of the adopted publications are available for inspection at the offices of the department in Escanaba and Lansing. Copies may be obtained free of charge from the United States Environmental Protection Agency, Region V, 77 West Jackson Boulevard (5WD-17J), Chicago, Illinois 60604, and from the Michigan Department of Public Health, Division of Water Supply, 3423 North Logan Street/Martin Luther King Jr. Boulevard, P.O. Box 30195, Lansing, Michigan 48909.

R 325.10605b. Analytical techniques for VOCs; adoption of standards by reference.

Rule 605b. (1) The techniques that are utilized in the collection and analysis of samples to meet the monitoring requirements for VOCs prescribed by part 7 of these rules or to determine compliance with the provisions of this part shall be conducted using the following EPA methods or their equivalent as approved by EPA:

(a) "Volatile halogenated organic chemicals in water by purge and trap gas chromatography," 502.1.
(b) "Volatile aromatic and unsaturated organic compounds in water by purge and trap gas chromatography," 503.1.
(c) "Measurement of purgeable organic compounds in water by purged column gas chromatography/mass spectrometry," 524.1.
(d) "Measurement of purgeable organic compounds in water by capillary column gas chromatography/mass spectrometry," 524.2.
(e) "Volatile organic compounds in water by purge and trap capillary column gas chromatography with photoionization and electrolytic conductivity detectors in series," 502.2.

(2) The methods specified in subrule (1)(a) to (e) of this rule are contained in the publication entitled "Methods for the Determination of Organic Compounds in Drinking Water," ORD Publications, CERI, EPA/600/4-88/039, December, 1988, which is adopted in these rules by reference and which is available from the National Technical Information Service (NTIS), United States Department of Commerce, 5285 Port Royal Road, Springfield, Virginia 22161. The toll-free number is 800-336-4700. The cost at the time of adoption of these rules is $39.00. Copies of the adopted publication are available from the Michigan Department of Public Health, Division of Water Supply, 3423 North Logan Street/Martin Luther King Jr. Boulevard, P.O. Box 30195, Lansing, Michigan 48909. The cost at the time of adoption of these rules is $50.00. Method 504 entitled "Measurement of 1,2-dibromo-3-chloropropane (DBCP) in drinking water by
microextraction and gas chromatography," September, 1986, is adopted in these rules by reference and is available from Environmental Monitoring and Support Laboratory (EMSL), EPA, Cincinnati, Ohio 45268, at no cost or from the Michigan Department of Public Health, Division of Water Supply, 3423 North Logan Street/Martin Luther King Jr. Boulevard, P.O. Box 30195, Lansing, Michigan 48909, at no cost.

R 325.10605c Analytical techniques for total coliform, fecal coliform, and E. coli; adoption of standards by reference.

Rule 605c. (1) The analytical techniques for total coliform shall utilize a minimum sample volume of 100 milliliters. These techniques are summarized as follows:
   (a) Membrane filter technique (MF).
   (b) Presence-absence technique (P-A).
   (c) Minimal medium ONPG-MUG technique (MMO-MUG).
   (d) Multiple tube fermentation technique using 10 tubes with 10 milliliters of sample per tube, 5 tubes with 20 milliliters of sample per tube (MTF), or a single tube with 100 milliliters of sample.

(2) The techniques that are utilized in the collection and analysis of samples to meet the monitoring requirements for total coliform prescribed by part 7 of these rules or to determine compliance with the provisions of this part shall be conducted using the following EPA methods, which are adopted in these rules by reference:
   (a) Multiple-tube fermentation (MTF) technique, as set forth in the publication entitled "Standard Methods for the Examination of Water and Wastewater," 1985, American Public Health Association et al., 16th edition, method 908, 908a, and 908b - pp. 870-878, except that 10 fermentation tubes shall be used, or the publication entitled "Microbiological Methods for Monitoring the Environment, Water and Wastes," United States EPA, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio 45268, (EPA-600/8-78-017, December, 1978, available from ORD Publications, CERI, United States EPA, Cincinnati, Ohio 45268), part iii, section b.4.1 - 4.6.4, pp. 114-118, except that 10 fermentation tubes shall be used.
   (d) Minimal medium ONPG-MUG (MMO-MUG) test, as set forth in the article entitled "National Field Evaluation of a Defined Substrate Method for the Simultaneous Detection of Total Coliforms and Escherichia coli from Drinking Water: Comparison with Presence-Absence Techniques" (Edberg et al.), Applied and Environmental Microbiology, volume 55, pp. 1003-1008, April, 1989. (Note: The autoanalysis Colilert system is a MMO-MUG test.) The MMO-MUG test with hepes buffer in place of phosphate buffer is an acceptable minor revision. If the MMO-MUG test for total coliform detection is used, all total coliform-positive cultures shall be tested for fluorescence. To test for fluorescence, use an ultraviolet light (366 nanometers) in the dark after incubating the tube or container at 35 plus or minus 0.5 degrees Centigrade, for 24 to 28 hours. If fluorescence is observed, the sample is E. coli-positive. If fluorescence is not observed, transfer a 0.1-milliliter, 28-hour culture to EC medium plus MUG with a pipet. The formulation and incubation conditions of EC medium plus MUG, and observation of the results are described in subrule (5)(b) of this rule.
   (e) In place of the 10-tube MTF technique specified in subdivision (a) of this subrule, a public water system may use the MTF technique using either 5 tubes (20-milliliter sample portions) or a single-culture bottle containing the culture medium for the MTF technique, lauryl tryptose broth, formulated as described in the publication entitled "Standard Methods for the Examination of Water and Wastewater," 1985, American Public Health Association et al., 16th edition, method 908a - pp. 872, if a 100-milliliter water sample is used in the analysis.
(3) Copies of the analytical methods cited in the publication entitled "Standard Methods for the Examination of Water and Wastewater" may be obtained from the American Public Health Association et al., 1015 Fifteenth Street, NW, Washington, DC 20005. The cost at the time of adoption of these rules is $120.00. Copies of the methods set forth in the publication entitled "Microbiological Methods for Monitoring the Environment, Water and Wastes" may be obtained from ORD Publications, United States EPA, 26 Martin Luther King Drive, Cincinnati, Ohio 45268. This publication is provided at no cost as of the time of adoption of these rules. Copies of the MMO-MUG test as set forth in the publication entitled "National Field Evaluation of a Defined Substrate Method for the Simultaneous Enumeration of Total Coliforms and Escherichia coli from Drinking Water: Comparison with the Standard Multiple Tube Fermentation Method" (Edberg et al.) may be obtained from the American Water Works Association Research Foundation, 6666 West Quincy Avenue, Denver, CO 80235. This publication is provided at no cost as of the time of adoption of these rules. Copies may be inspected at EPA's Drinking Water Docket, 401 M Street, SW, Washington, DC 20460, or at the Office of the Federal Register, 1100 L Street, NW, Room 8401, Washington, DC 20408. Copies of the analytical techniques referenced in this subrule are available, at no cost, from the Michigan Department of Public Health, Division of Water Supply, 3423 North Logan Street/Martin Luther King Jr. Boulevard, P.O. Box 30195, Lansing, Michigan 48909.

(4) Analytical results for total coliform are invalid in any of the following situations:
(a) In the absence of gas, any turbid culture in the MTF or P-A techniques.
(b) Confluent growth.
(c) Any sample that is inoculated 30 hours or more after it was collected.
(d) Improper sample analysis caused a total coliform-positive result.

(5) All positive total coliform tests shall be analyzed for either fecal coliform or E. coli. The department may require fecal coliform or E. coli analysis of any invalid total coliform sample. The department may allow the public water supplier to forgo fecal coliform or E. coli testing on a total coliform-positive sample if the water supplier assumes that the total coliform-positive sample is fecal coliform-positive or E. coli-positive.

(6) Public water suppliers shall conduct fecal coliform analysis in accordance with the procedure set forth in this subrule. When the MTF technique or presence-absence (P-A) coliform test is used to test for total coliforms, shake the lactose-positive presumptive tube or P-A bottle vigorously and transfer the growth with a sterile 3-millimeter loop or sterile applicator stick into brilliant green lactose bile broth and EC medium to determine the presence of total and fecal coliforms, respectively. For EPA-approved analytical methods that use a membrane filter, transfer the total coliform-positive culture by 1 of the following methods:
(a) Remove the membrane containing the total coliform colonies from the substrate with a sterile forceps and carefully curl and insert the membrane into a tube for EC medium. The laboratory may first remove a small portion of selected colonies for verification.
(b) Swab the entire membrane filter surface with a sterile cotton swab and transfer the inoculum to EC medium. Do not leave the cotton swab in the EC medium.
(c) Inoculate individual total coliform-positive colonies into EC medium. Gently shake the inoculated tubes of EC medium to insure adequate mixing and incubate in a water bath at 44.5 degrees, plus or minus 0.2 degrees, Centigrade for 24 hours, plus or minus 2 hours. Gas production of any amount in the inner fermentation tube of the EC medium indicates a positive fecal coliform test. The preparation of EC medium is described in the publication entitled "Standard Methods for the Examination of Water and Wastewater," 1985, American Public Health Association, 16th edition, method 908c-p. 879, paragraph 1a. Public water suppliers need only determine the presence or absence of fecal coliforms. A determination of fecal coliform density is not required.

(7) Analysis of Escherichia coli shall be conducted in accordance with any of the following analytical methods:
(a) EC medium supplemented with 50 μg/ml of 4-methylumbelliferyl-beta-d-glucuronide (MUG) (final concentration). EC medium is described in the publication entitled "Standard Methods for the Examination of Water and Wastewater," 1985, American Public Health Association et al., 16th edition, p. 879. MUG may be added to EC medium before autoclaving. EC medium supplemented with 50 μg/ml of MUG is commercially available. Not less than 10 milliliters of EC medium supplemented with MUG shall be used. The inner inverted fermentation tube may be omitted. The procedure for transferring a total coliform-positive culture to EC medium supplemented with MUG shall be as specified in subrule (6) of this...
rule for transferring a total coliform-positive culture to EC medium. Observe fluorescence with an ultraviolet light (366 nanometers) in the dark after incubating the tube at 44.5°C, plus or minus 0.2°C Centigrade for 24 hours plus or minus 2 hours.

(b) Nutrient agar supplemented with 100 μg/ml 4-methylumbelliferyl-beta-d-glucuronide (MUG) (final concentration). Nutrient agar is described in the publication entitled "Standard Methods for the Examination of Water and Wastewater," 1985, American Public Health Association et al., 16th edition, p. 874. This test is used to determine if a total coliform-positive sample, as determined by the membrane filter technique or any other method in which a membrane filter is used, contains E. coli. Transfer the membrane filter containing a total coliform colony or colonies to nutrient agar supplemented with 100 μg/ml (final concentration) of MUG. After incubating the agar plate at 35°C Centigrade for 4 hours, observe the colony or colonies under ultraviolet light (366 nanometers) in the dark for fluorescence. If fluorescence is visible, E. coli are present.

(C) Minimal medium ONPG-MUG (MMO-MUG) test, as set forth in the article entitled "National Field Evaluation of a Defined Substrate Method for the Simultaneous Detection of Total Coliforms and Escherichia coli from Drinking Water: Comparison with Presence-Absence Techniques" (Edberg et al.), Applied and Environmental Microbiology, volume 55, pp. 1003-1008, April, 1989, which is adopted in subrule (2) of this rule by reference and is available as stated in subrule (3) of this rule. (Note: The autoanalysis Colilert System is a MMO-MUG test). If the MMO-MUG test is total coliform-positive after a 24-hour incubation, test the medium for fluorescence with a 366-nanometer ultraviolet light preferably with a 6-watt lamp, in the dark. If fluorescence is observed, the sample is E. coli positive. If fluorescence is questionable, that is cannot be definitively read, after 24 hours of incubation, incubate the culture for an additional 4 hours, but not for more than 28 hours total, and again test the medium for fluorescence. The MMO-MUG test with hepes buffer in place of phosphate buffer is the only approved formulation for the detection of E. coli.

(D) As an option to a system with a total coliform-positive, MUG-negative, a MMO-MUG TEST may further analyze the culture for the presence of E. coli by transferring a 0.1-milliliter, 28-hour MMO-MUG culture to EC medium plus MUG with a pipet. The formulation and incubation conditions of EC medium plus MUG and observation of the results are described in subdivision (a) of this subrule.

R 325.10605d Analytical techniques and sample collection procedures for inorganic contaminants.

Rule 605d. (1) The techniques that are utilized in the collection and analysis of samples to meet the monitoring requirements for inorganic chemical contaminants prescribed by part 7 of these rules or to determine compliance with the provisions of this part shall be conducted using the EPA methods or their equivalents as approved by EPA outlined in table 6.5. Table 6.5 Reads as follows:
<table>
<thead>
<tr>
<th>Contaminant</th>
<th>Methodology</th>
<th>Reference (Method No.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arsenic</td>
<td>Atomic absorption furnace technique</td>
<td>EPA1 206.2</td>
</tr>
<tr>
<td></td>
<td>Atomic absorption--gaseous hydride</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Spectrophotometric, silver</td>
<td></td>
</tr>
<tr>
<td></td>
<td>diethylthiocarbamate</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Inductively coupled plasma technique</td>
<td>EPA2 206.4</td>
</tr>
<tr>
<td>Asbestos</td>
<td>Transmission Electron Microscopy</td>
<td>EPA3 200.7A</td>
</tr>
<tr>
<td>Barium</td>
<td>Atomic absorption; furnace technique</td>
<td>EPA4 208.2</td>
</tr>
<tr>
<td></td>
<td>Atomic absorption; direct aspiration</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Inductively-coupled plasma</td>
<td></td>
</tr>
<tr>
<td>Cadmium</td>
<td>Atomic absorption; furnace technique</td>
<td>EPA5 213.2</td>
</tr>
<tr>
<td></td>
<td>Inductively-coupled plasma</td>
<td></td>
</tr>
<tr>
<td>Chromium</td>
<td>Atomic absorption; furnace technique</td>
<td>EPA6 218.2</td>
</tr>
<tr>
<td></td>
<td>Inductively-coupled plasma</td>
<td></td>
</tr>
<tr>
<td>Fluoride</td>
<td>Colorimetric SPADNS, with distillation</td>
<td>EPA7 340.1</td>
</tr>
<tr>
<td></td>
<td>Potentiometric ion selective electrode</td>
<td>EPA8 340.2</td>
</tr>
<tr>
<td></td>
<td>Automated alizarin fluoride blue, with</td>
<td></td>
</tr>
<tr>
<td></td>
<td>distillation (complexone)</td>
<td>EPA9 340.3</td>
</tr>
<tr>
<td></td>
<td>Automated ion selective electrode</td>
<td>EPA10 413E</td>
</tr>
<tr>
<td></td>
<td>Mercury Manual cold vapor technique</td>
<td>EPA11 245.1</td>
</tr>
<tr>
<td></td>
<td>Automated cold vapor technique</td>
<td>EPA12 245.2</td>
</tr>
<tr>
<td>Nitrate</td>
<td>Manual cadmium reduction</td>
<td>EPA13 353.3</td>
</tr>
<tr>
<td></td>
<td>Automated hydrazine reduction</td>
<td>EPA14 353.1</td>
</tr>
<tr>
<td></td>
<td>Automated cadmium reduction</td>
<td>EPA15 353.2</td>
</tr>
<tr>
<td></td>
<td>Ion selective electrode</td>
<td></td>
</tr>
<tr>
<td>Nitrite</td>
<td>Spectrophotometric</td>
<td>EPA16 354.1</td>
</tr>
<tr>
<td></td>
<td>Automated cadmium reduction</td>
<td>EPA17 353.2</td>
</tr>
<tr>
<td></td>
<td>Manual cadmium reduction</td>
<td>EPA18 353.3</td>
</tr>
<tr>
<td></td>
<td>Ion chromatography</td>
<td></td>
</tr>
<tr>
<td>Selenium</td>
<td>Atomic absorption; gaseous hydride</td>
<td>EPA19 270.2</td>
</tr>
<tr>
<td></td>
<td>Atomic absorption; furnace technique</td>
<td></td>
</tr>
</tbody>
</table>

3 "Standard Methods for the Examination of Water and Wastewater," 16th edition, American Public Health Association, American Water Works Association, Water Pollution Control Federation, 1985. $120.00.


7 The addition of 1 mL of 30% H₂O₂ to each 100 mL of standards and samples is required before analysis.

8 Before dilution of the Se calibration standard, add 2 mL of 30% H₂O₂ for each 100 mL of standard.


11 For approved analytical procedures for metals, the technique applicable to total metals shall be used.


(2) Sample collection shall be conducted using the sample preservation, container, and maximum holding time procedures outlined in table 6.7. Table 6.7 Reads as follows:

<table>
<thead>
<tr>
<th>Contaminant</th>
<th>Preservative</th>
<th>Container¹</th>
<th>Time¹</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asbestos</td>
<td>Cool, 4°C</td>
<td>P or G</td>
<td></td>
</tr>
<tr>
<td>Barium¹</td>
<td>Con HNO₃ to pH &lt;2</td>
<td>P or G</td>
<td>6 months.</td>
</tr>
<tr>
<td>Cadmium¹</td>
<td>Con HNO₃ to pH &lt;2</td>
<td>P or G</td>
<td>6 months.</td>
</tr>
<tr>
<td>Chromium¹</td>
<td>Con HNO₃ to pH &lt;2</td>
<td>P or G</td>
<td>6 months.</td>
</tr>
<tr>
<td>Fluoride</td>
<td>None</td>
<td>P or G</td>
<td>1 month.</td>
</tr>
<tr>
<td>Mercury¹</td>
<td>Con HNO₃ to pH &lt;2</td>
<td>P or G</td>
<td>28 days.</td>
</tr>
<tr>
<td>Nitrate: Chlorinated</td>
<td>Cool, 4°C</td>
<td>P or G</td>
<td>28 days.</td>
</tr>
<tr>
<td>Nonchlorinated</td>
<td>Con H₂SO₄ to pH &lt;2</td>
<td>P or G</td>
<td>14 days.</td>
</tr>
<tr>
<td>Nitrite</td>
<td>Cool, 4°C</td>
<td>P or G</td>
<td>48 hours.</td>
</tr>
<tr>
<td>Selenium¹</td>
<td>Con HNO₃ to pH &lt;2</td>
<td>P or G</td>
<td>6 months.</td>
</tr>
</tbody>
</table>

¹If HNO₃ cannot be used because of shipping restrictions, the sample may be initially preserved by icing and immediately shipping it to the laboratory. Upon receipt in the laboratory, the sample shall be acidified with Con HNO₃ to pH <2. At the time of analysis, the sample container shall be thoroughly rinsed with 1:1 HNO₃; washings shall be added to the sample.

²P = plastic, hard or soft; G = glass, hard or soft.
In all cases, samples shall be analyzed as soon after collection as possible.

R 325.10605e Analytical techniques for synthetic organic contaminants; adoption of standards by reference.

Rule 605e. (1) The techniques utilized in the collection and analysis of samples to meet the monitoring requirements for synthetic organic contaminants prescribed by part 7 of these rules or to determine compliance with the provisions of this part shall be conducted using the following EPA methods or their equivalents as approved by EPA:

(a) Method 504 entitled "1,2-Dibromoethane (EDB) and 1,2-Dibromo-3-Chloropropane (DBCP) in Water by Microextraction and Gas Chromatography." Method 504 can be used to measure dibromochloropropane (DBCP) and ethylene dibromide (EDB).

(b) Method 505 entitled "Analysis of Organohalide Pesticides and Commercial Polychlorinated Biphenyl Products (Aroclors) in Water by Microextraction and Gas Chromatography." Method 505 can be used to measure any of the following:
   (i) Alachlor.
   (ii) Atrazine.
   (iii) Chlordane.
   (iv) Endrin.
   (v) Heptachlor.
   (vi) Heptachlor epoxide.
   (vii) Lindane.
   (viii) Methoxychlor.
   (ix) Toxaphene.

Method 505 can be used as a screen for PCBs.

(c) Method 507 entitled "Determination of Nitrogen- and Phosphorus-Containing Pesticides in Ground Water by Gas Chromatography with a Nitrogen-Phosphorous Detector." Method 507 can be used to measure alachlor and atrazine.

(d) Method 508 entitled "Determination of Chlorinated Pesticides in Water by Gas Chromatography with an Electron Capture Detector." Method 508 can be used to measure any of the following:
   (i) Chlordane.
   (ii) Toxaphene.
   (iii) Heptachlor.
   (iv) Heptachlor epoxide.
   (v) Lindane.
   (vi) Methoxychlor.
   (vii) Endrin.

Method 508 can be used as a screen for PCBs.

(e) Method 508a entitled "Screening for Polychlorinated Biphenyls by Perchlorination and Gas Chromatography." Method 508a is used to quantitate PCBs as decachlorobiphenyl if detected in method 505 or 508.

(f) Method 515.1, Revision 5.0, entitled "Determination of Chlorinated Acids in Water by Gas Chromatography with an Electron Capture Detector" as revised May 1991. Method 515.1 can be used to measure 2,4-D, 2,4,5-TP (silvex), and pentachlorophenol.

(g) Method 525.1, Revision 3.0, entitled "Determination of Organic Compounds in Drinking Water by Liquid-Solid Extraction and Capillary Column Gas Chromatography/Mass Spectrometry" as revised May 1991. Method 525.1 can be used to measure any of the following:
   (i) Alachlor.
   (ii) Atrazine.
   (iii) Chlordane.
   (iv) Heptachlor.
   (v) Heptachlor epoxide.
   (vi) Lindane.
   (vii) Methoxychlor.
   (viii) Pentachlorophenol.

(h) Method 531.1 entitled "Measurement of n-Methyl Carbamoyloximes and n-Methyl Carbamates in Water by Direct Aqueous Injection HPLC with Post-Column Derivatization." Method 531.1 can be used to measure any of the following:
   (i) Aldicarb.
(ii) Aldicarb sulfoxide.
(iii) Aldicarb sulfone.
(iv) Carbofuran.

(i) Each supplier that monitors for PCBs shall analyze each sample using either method 505 or method 508. If PCBs, as 1 of 7 aroclors, are detected, as designated in table 6.8, in any sample analyzed using methods 505 or 508, the supplier shall reanalyze the sample using method 508a to quantitate PCBs as decachlorobiphenyl. Compliance with the pcb MCL shall be determined based upon the quantitative results of the analyses using method 508a. Table 6.8 reads as follows:

<table>
<thead>
<tr>
<th>Aroclor</th>
<th>Detection Limit (mg/l)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1016</td>
<td>0.00008</td>
</tr>
<tr>
<td>1221</td>
<td>0.02</td>
</tr>
<tr>
<td>1232</td>
<td>0.0005</td>
</tr>
<tr>
<td>1242</td>
<td>0.0003</td>
</tr>
<tr>
<td>1248</td>
<td>0.0001</td>
</tr>
<tr>
<td>1254</td>
<td>0.0001</td>
</tr>
<tr>
<td>1260</td>
<td>0.0002</td>
</tr>
</tbody>
</table>

(2) The methods specified in subrule (1) of this rule are contained in the publication entitled "Methods for the determination of organic compounds in drinking water," ORD Publications, CERI, EPA/600/4-88/039, December 1988 which is adopted in these rules by reference and which is available from the National Technical Information Service (NTIS), United States Department of Commerce, 5285 Port Royal Road, Springfield, Virginia 22161, toll-free number 1-800-336-4700, or from the Michigan Department of Public Health, Division of Water Supply, 3423 North Logan Street/Martin Luther King Jr. Boulevard, P.O. Box 30195, Lansing, Michigan 48909. The cost at the time of adoption of these rules is $39.00.

R 325.10606 Alternative analytical techniques.

Rule 606. With the written permission of the department, and upon approval by EPA, an alternative analytical technique may be employed. The use of the alternative analytical technique shall not decrease the frequency of monitoring required by part 7.

R 325.10607 List of approved alternative analytical techniques; maintenance and availability.

Rule 607. A list of those alternative analytical techniques approved pursuant to R 325.10606 shall be maintained by the department and shall be available from the department offices in Lansing and Escanaba.

R 325.10608 Analytical techniques for residual disinfectant concentration determination.

Rule 608. The techniques that are utilized in the collection and analysis of samples for the determination of residual disinfectant concentration shall be conducted using the following EPA-approved methods, which are adopted in these rules by reference, or their equivalent as approved by EPA:

(a) Residual disinfectant concentrations for free chlorine and combined chlorine (chloramines) shall be measured by method 408c (amperometric titration method), pp. 303-306, method 408d (DPD ferrous titrimetric method), pp. 306-309, method 408e (DPD colorimetric method) pp. 309-310, or method 408f (leuco crystal violet method), pp. 310-313, as set forth in the publication entitled "Standard Methods for the Examination of Water and Wastewater," 1985, American Public Health Association et al., 16th edition. Residual disinfectant concentrations for free chlorine and combined chlorine may also be measured by using DPD colorimetric test kits if approved by the department. Residual disinfectant concentrations for ozone shall be measured by the indigo method as set forth in the publication by Bader, H., Hoigne, J. entitled "Determination of Ozone in Water by the Indigo Method: A Submitted Standard Method," Ozone Science and Engineering, vol. 4, pp. 169-176, Pergamon Press Ltd., 1982, or automated methods that are calibrated in reference to the results obtained by the indigo method on a regular basis, if approved by the department.

Note: This method will be published in the 17th edition of the publication entitled "Standard Methods for the Examination of Water and Wastewater," American Public Health Association et al. The iodometric method in the 16th edition shall not be used.
(b) Residual disinfectant concentrations for chlorine dioxide shall be measured by method 410b (amperometric method) or method 410c (DPD method), pp. 322-324, as set forth in the publication entitled "Standard Methods for the Examination of Water and Wastewater," 1985, American Public Health Association et al., 16th edition.

Copies of the methods published in the publication entitled "Standard Methods for the Examination of Water and Wastewater" may be obtained from the American Public Health Association et al., 1015 Fifteenth Street, NW, Washington, DC 20005. Copies of the indigo method as set forth in the publication entitled "Determination of Ozone in Water by the Indigo Method," (Bader and Hoigne), may be obtained from Ozone Science and Engineering, Pergamon Press Ltd., Fairview Park, Elmsford, New York 10523. Copies of the methods may be inspected at the United States Environmental Protection Agency Room EB15, 401 M Street, SW, Washington, DC 20460, or may be obtained from the Michigan Department of Public Health, Division of Water Supply, 3423 North Logan Street/Martin Luther King Jr. Boulevard, P.O. Box 30195, Lansing, Michigan 48909, at no cost.
PART 7. SURVEILLANCE, INSPECTION, AND MONITORING

**AS AMENDED 7/1/93 AND 11/1/93**

R 325.10701 Purpose.

Rule 701. The purpose of this part is to specify inspection and surveillance activities by the department to assure compliance by a public water supply with the act and these rules; to prescribe certain monitoring requirements and procedures for suppliers of water in accordance with the act and the federal act; and to establish a schedule of fees for the collection and analysis of water samples by the department as required by the act.

R 325.10702 Evaluation of adequacy and condition of public water supplies; sanitary surveys.

Rule 702. (1) In accordance with the provisions of section 3 of the act, the department shall make sanitary surveys, on-site inspections, surveillance observations, or special purpose investigations for the purpose of evaluating the adequacy and condition of public water supplies at a frequency which may be determined by the department.

(2) The facilities of type I and type II public water supplies which are not required to have 5 or more routine samples per month collected pursuant to the provisions of R 325.10705(2) and R 325.10706(2) shall undergo an initial sanitary survey by June 29, 1994, for type I public water supplies and by June 29, 1999, for type II water supplies. The facilities of these water supplies shall undergo another sanitary survey every 5 years, except that the facilities of type II public water supplies that use only disinfected groundwater meeting the requirements of R 325.11004(1) shall undergo subsequent sanitary surveys at least once every 10 years after the initial sanitary survey. Based on the results of each sanitary survey, the department shall determine whether the existing monitoring frequency is adequate and what additional measures, if any, the water supplier needs to undertake to improve drinking water quality.

R 325.10703 On-site inspections and surveillance observations.

Rule 703. On-site inspections and surveillance observations of public water supplies may include, but are not necessarily limited to, a review of all the following:

(a) Waterworks system physical facilities and equipment.
(b) Administration and record keeping.
(c) Sampling techniques, and monitoring activities for water quality.
(d) The maintenance program for the waterworks system.
(e) The design and operation of the waterworks system.
(f) Compliance with operator certification requirements for treatment systems and distribution systems.
(g) A cross connection control program.
(h) The reliability of the waterworks system.
(i) Security measures provided to protect water quality and the operation of the waterworks system.

R 325.10704 Collection and analysis of samples for coliform bacteria, generally.

Rule 704. (1) Suppliers of water of type I and type II public water supplies shall collect samples and cause analyses to be made for coliform bacteria to determine compliance with the state drinking water standards.

(2) The department may require samples to be collected and analyzed for coliform bacteria for type III public water supplies at a frequency as may be deemed necessary by the department.
R 325.10705 Collection and analysis of samples for coliform bacteria; type I public water supplies.

Rule 705. (1) A supplier of water of a type I public water supply shall collect samples of water to be analyzed for the presence of coliform bacteria at sites which are representative of water throughout the distribution system according to a written sample siting plan that is subject to department review and revision.

(2) The monitoring frequency for total coliforms for a type I water supply is based on the population served by the supply as set forth in table 7.1:

<table>
<thead>
<tr>
<th>Population Served</th>
<th>Minimum Number of Samples Per Month</th>
</tr>
</thead>
<tbody>
<tr>
<td>25 to 1,000</td>
<td>1</td>
</tr>
<tr>
<td>1,001 to 2,500</td>
<td>2</td>
</tr>
<tr>
<td>2,501 to 3,300</td>
<td>3</td>
</tr>
<tr>
<td>3,301 to 4,100</td>
<td>4</td>
</tr>
<tr>
<td>4,101 to 4,900</td>
<td>5</td>
</tr>
<tr>
<td>4,901 to 5,800</td>
<td>6</td>
</tr>
<tr>
<td>5,801 to 6,700</td>
<td>7</td>
</tr>
<tr>
<td>6,701 to 7,600</td>
<td>8</td>
</tr>
<tr>
<td>7,601 to 8,500</td>
<td>9</td>
</tr>
<tr>
<td>8,501 to 12,900</td>
<td>10</td>
</tr>
<tr>
<td>12,901 to 17,200</td>
<td>15</td>
</tr>
<tr>
<td>17,201 to 21,500</td>
<td>20</td>
</tr>
<tr>
<td>21,501 to 25,000</td>
<td>25</td>
</tr>
<tr>
<td>25,001 to 33,000</td>
<td>30</td>
</tr>
<tr>
<td>33,001 to 41,000</td>
<td>40</td>
</tr>
<tr>
<td>41,001 to 50,000</td>
<td>50</td>
</tr>
<tr>
<td>50,001 to 59,000</td>
<td>60</td>
</tr>
<tr>
<td>59,001 to 70,000</td>
<td>70</td>
</tr>
<tr>
<td>70,001 to 83,000</td>
<td>80</td>
</tr>
<tr>
<td>83,001 to 96,000</td>
<td>90</td>
</tr>
<tr>
<td>96,001 to 130,000</td>
<td>100</td>
</tr>
<tr>
<td>130,001 to 220,000</td>
<td>120</td>
</tr>
<tr>
<td>220,001 to 320,000</td>
<td>150</td>
</tr>
<tr>
<td>320,001 to 450,000</td>
<td>180</td>
</tr>
<tr>
<td>450,001 to 600,000</td>
<td>210</td>
</tr>
<tr>
<td>600,001 to 780,000</td>
<td>240</td>
</tr>
<tr>
<td>780,001 to 970,000</td>
<td>270</td>
</tr>
<tr>
<td>970,001 to 1,230,000</td>
<td>300</td>
</tr>
<tr>
<td>1,230,001 to 1,520,000</td>
<td>330</td>
</tr>
<tr>
<td>1,520,001 to 1,850,000</td>
<td>360</td>
</tr>
<tr>
<td>1,850,001 to 2,270,000</td>
<td>390</td>
</tr>
<tr>
<td>2,270,001 to 3,020,000</td>
<td>420</td>
</tr>
<tr>
<td>3,020,001 to 3,960,000</td>
<td>450</td>
</tr>
<tr>
<td>3,960,001 or more</td>
<td>480</td>
</tr>
</tbody>
</table>

1Includes public water supplies which have not less than 15 service connections, but which serve less than 25 persons.
(3) If a type I water supply that serves 25 to 1,000 persons does not have a history of total coliform contamination in its current configuration and a sanitary survey conducted in the past 5 years shows that the water supply is supplied solely by a protected groundwater source and is free of sanitary defects, the department may reduce the monitoring frequency specified in table 1 of these rules, except that the department shall not reduce the monitoring frequency to less than 1 sample per quarter. To be valid, the reduced monitoring frequency shall be approved, in writing, by the department.

(4) Suppliers of water for all type I and type II water supplies shall collect samples at regular time intervals throughout the monitoring period, except for those groundwater supplies which serve less than 4,901 persons and which are not influenced by surface water. Groundwater suppliers that serve less than 4,901 persons may collect all required samples on a single day if the samples are taken from different sites.

R 325.10706 Collection and analysis of samples for coliform bacteria; type II public water supply.

Rule 706. (1) A supplier of water of a type II public water supply shall collect samples for total coliform analysis at sites which are representative of the water throughout the distribution system according to a written sample siting plan that is subject to department review and revision.

(2) A supplier of water for a type II water supply shall monitor according to the following provisions:

(a) A type II water system that serves more than 1,000 persons shall be monitored at the same frequency as a like-sized type I public water supply as specified in table 1 of this part.

(b) A supplier of water for a type II water supply that uses a source of water which requires complete treatment pursuant to the provisions of R 325.11004(1) shall monitor at the same frequency that a like-sized type I public water supply is monitored as specified by table 1 of this part.

(c) A supplier of water of a type II water supply which uses only groundwater and which serves less than 1,001 persons shall monitor each calendar quarter that the system provides water to the public.

(3) The department, based on a satisfactory sanitary survey of a type II public water supply serving less than 1,001 persons with a protected groundwater source, may vary the frequency of sampling. However, for systems that serve less than 1,001 persons beginning June 29, 1994, the frequency shall not be less than once per year. The decision to reduce the monitoring frequency shall be in writing.

R 325.10707 Repeat monitoring for coliform bacteria.

Rule 707. (1) If a routine sample is total coliform-positive, a supplier of water shall collect a set of repeat samples within 24 hours of being notified of the positive result. If a supplier of water is required to collect more than 1 routine sample per month, the supplier shall collect not less than 3 repeat samples for each total coliform-positive sample found. If a supplier of water is required to collect not more than 1 routine sample per month, the supplier shall collect not less than 4 repeat samples for each total coliform-positive sample found. The department may extend for a specified time the 24-hour limit on a case-by-case basis if the system has a logistical problem beyond its control in collecting the repeat samples within 24 hours. The requirements for a supplier of water to collect repeat samples shall not be waived.

(2) A supplier of water shall collect at least 1 repeat sample from the sampling tap where the original total coliform-positive sample was taken and at least 1 repeat sample at a tap within 5 service connections upstream and at least 1 repeat sample at a tap within 5 service connections downstream of the original sampling site.

(3) If a supplier of water collects a routine sample from within 5 adjacent service connections of a previous coliform-positive sample before being notified of this result, the most recent sample may be considered a repeat sample instead of a routine sample.
(4) A supplier of water shall collect all repeat samples on the same day, except that for a water supply with a single-service connection, a supplier of water may collect the required repeat samples once a day over a 4-day period or collect a large volume repeat sample or samples in 1 or more sample containers of any size if the total volume collected is not less than 400 milliliters or not less than 300 milliliters for suppliers of systems who collect more than 1 routine sample per month.

(5) If 1 or more repeat samples in the set is total coliform-positive, the public water supplier shall collect an additional set of repeat samples, as set forth in this subrule and subrules (1), (2), and (4) of this rule, and the owner of the public water supply shall notify the department not later than 24 hours or the next business day after learning of the results. The additional samples shall be collected within 24 hours of notification of the positive result, unless the department extends the limit as provided in subrule (1) of this rule. A supplier of water shall repeat this process until either total coliforms are not detected in 1 complete set of repeat samples or the supplier of water determines that the MCL for total coliforms has been exceeded and notifies the department.

(6) When it is determined that an MCL violation for coliform bacteria has occurred, a supplier of water shall do all of the following:
   (a) Initiate an investigation to determine the extent of the problem, which may include the collection of additional samples.
   (b) Initiate precautionary measures and appropriate corrective actions as required by the department until it is determined by the department that the problem has been resolved.
   (c) Conduct additional sampling at a frequency approved by the department until such time that it is determined the problem has been resolved.

(7) If a supplier of water who collects less than 5 routine samples per month has 1 or more total coliform-positive samples and the department does not invalidate the sample or samples pursuant to the provisions of R 325.10707a, the supplier shall collect not less than 5 routine samples during the next month that the supply provides water to the public.

(8) The department may waive the requirement to collect 5 routine samples during the next month that the supply provides water to the public if the department performs a site visit before the end of the next month that the supply provides water to the public. The site visit shall be sufficiently detailed to allow the department to determine whether additional monitoring or corrective action, or both, is needed. An employee of the supply is not eligible to perform this site visit.

(9) The department may waive the requirement to collect 5 routine samples during the next month that the supply provides water to the public if the department has determined why the sample was total coliform-positive and establishes that the supplier of water has corrected the problem or will correct the problem before the end of the next month that the supply provides water to the public. The department’s decision to waive the following month’s additional monitoring requirement shall be in writing and shall be available to the EPA and the public. The requirement to collect 5 routine samples during the next month that the supply provides water to the public shall not be waived solely because all repeat samples are total coliform-negative. A supplier of water shall collect and have analyzed at least 1 routine sample before the end of the next month the supplier serves water to the public and use it to determine compliance with the MCL for total coliform, unless the department has determined that the supplier of water has corrected the contamination problem before the supplier of water took the set of repeat samples and all repeat samples were total coliform-negative.

R 325.10707a Invalidation of total coliform samples.

Rule 707a. (1) A total coliform sample result may be invalidated by the department in any of the following instances:
   (a) A laboratory determines that analytical results are invalid pursuant to the provisions of R 325.10605c(4).
(b) The department, on the basis of the results of repeat samples, determines that the total coliform-positive sample resulted from a domestic or other nondistribution system plumbing problem. An invalidation under this subrule may occur if the repeat samples from the same sampling location ARE total coliform-positive and all other repeat samples are total coliform-negative.

(c) Substantial evidence suggests that a total coliform-positive result is due to a circumstance or condition that does not reflect water quality in the distribution system. The supplier of water shall still collect all required repeat samples.

(2) The decision to invalidate a total coliform-positive sample shall be in writing and available to EPA and the public.

(3) A total coliform-positive sample shall not be invalidated solely because all repeat samples are total coliform-negative.

(4) If a sample is invalidated pursuant to the provisions of subrule (1) of this rule, a supplier of water shall collect another sample from the same location as the original sample within 24 hours of being notified until a valid result is obtained. The department may waive the 24-hour time limit on a case-by-case basis.

R 325.10707b General notification requirements for total coliform and fecal coliform/Escherichia coli (E. coli).

Rule 707b. (1) A supplier of water of a public water supply which has exceeded the MCL for total coliform specified in R 325.10602 shall report the violation to the department not later than the end of the next business day after the supplier learns of the violation and shall notify the public pursuant to the provisions of R 325.10403, R 325.10405, and R 325.10406.

(2) If fecal coliform or E. coli are determined to be present in any routine or repeat sample, the owner of the water supply shall notify the department by the end of the day that the supplier of water is notified of the test result, unless the supplier of water is notified of the result after the department office is closed, in which case the supplier of water shall notify the department before the end of the next business day.

R 325.10708 Collection of additional samples.

Rule 708. If a sample which is needed to meet monitoring requirements is invalidated pursuant to the provisions of R 325.10707a, and the supplier of water does not learn of the invalidation until the following monitoring period, or if the department collects a sample for the purpose of enforcement when a supplier of water is delinquent in meeting a monitoring requirement, any samples collected pursuant to the provisions of R 325.10707a(4) may be used in determining compliance with the provisions of R 325.10705 and R 325.10706. However, a single sample shall not be attributed to more than 1 monitoring period.

R 325.10709 Special purpose and invalidated samples.

Rule 709. Special purpose samples, such as those taken following water main placement, replacement or repair, and samples invalidated pursuant to the provisions of R 325.10605 or R 325.10707a shall not be used to determine compliance with the provisions of R 325.10705 and R 325.10706.

R 325.10710 Collection and analysis of samples for inorganic chemicals.

Rule 710. (1) Suppliers of water of type I and type II public water supplies shall collect water samples and cause analyses to be made for inorganic chemicals to determine compliance with the state drinking water standards as set forth in R 325.10604c. Each public water supply shall monitor at the time designated by the department during each compliance period.

(2) The department may require samples to be collected and analyzed at a prescribed frequency for inorganic chemicals for type III public water supplies.
(3) Beginning in the compliance period starting January 1, 1993, type I and nontransient, noncommunity water suppliers shall conduct monitoring in accordance with this rule to determine compliance with the MCLs for inorganic contaminants outlined in R 325.10604c. Transient, noncommunity water suppliers shall conduct monitoring to determine compliance with the nitrate, nitrite, and total nitrate and nitrite MCLs in R 325.10604c, table 6.3, in accordance with this rule, beginning in the compliance period starting January 1, 1993.

(4) Monitoring shall be conducted as follows:
(a) Suppliers of water of groundwater systems shall take a minimum of 1 sample at every entry point to the distribution system that is representative of each well after treatment. The supplier shall take each sample at the same sampling point unless conditions make another sampling point more representative of each source or treatment plant.
(b) Suppliers of water of surface water systems, or combined surface water and groundwater systems, shall take a minimum of 1 sample at every entry point to the distribution system after any application of treatment or in the distribution system at a sampling point that is representative of each source after treatment. The supplier shall take each sample at the same sampling point unless conditions make another sampling point more representative of each source or treatment plant.
(c) If a system draws water from more than 1 source and the sources are combined before distribution, the supplier shall sample at an entry point to the distribution system during periods when water is representative of all sources being used.
(d) For systems serving more than 3,300 persons, the total number of samples that shall be analyzed to meet requirements of this rule may be reduced by the department when compositing of samples is utilized. All of the following provisions apply to compositing of samples:
(i) Composite samples from a maximum of 5 sampling points are allowed.
(ii) Compositing of samples shall be done in the laboratory.
(iii) If the concentration in the composite sample is greater than or equal to the detection limit of any inorganic chemical, then a follow-up sample shall be analyzed within 14 days from each sampling point included in the composite. These samples shall be analyzed for the contaminants that were detected in the composite sample. Detection limits for each analytical method are listed in table 7.2. Table 7.2 reads as follows:
Table 7.2
Detection Limits for Inorganic Contaminants

<table>
<thead>
<tr>
<th>Contaminant</th>
<th>MCL (mg/l)</th>
<th>Detection Limit (mg/l)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asbestos</td>
<td>7 MFL³</td>
<td>Transmission electron microscopy 0.01 MFL</td>
</tr>
<tr>
<td>Barium</td>
<td>2</td>
<td>Atomic absorption; furnace technique 0.002</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Atomic absorption; direct aspiration 0.1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Inductively coupled plasma 0.002(0.001)³</td>
</tr>
<tr>
<td>Cadmium</td>
<td>0.005</td>
<td>Atomic absorption; furnace technique 0.0001</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Inductively coupled plasma 0.001³</td>
</tr>
<tr>
<td>Chromium</td>
<td>0.1</td>
<td>Atomic absorption; furnace technique 0.001</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Inductively coupled plasma 0.007(0.001)³</td>
</tr>
<tr>
<td>Mercury</td>
<td>0.002</td>
<td>Manual cold vapor technique 0.0002</td>
</tr>
<tr>
<td>Nitrate</td>
<td>10 (as N)</td>
<td>Automated cold vapor technique 0.0002</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Manual cadmium reduction 0.01</td>
</tr>
<tr>
<td>Nitrite</td>
<td>1 (as N)</td>
<td>Automated hydrazine reduction 0.01</td>
</tr>
<tr>
<td>Selenium</td>
<td>0.05</td>
<td>Automated cadmium reduction 0.05</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Ion selective electrode 1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Ion chromatography 0.1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Specphotometric 0.01</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Automated cadmium reduction 0.05</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Ion chromatography 0.004</td>
</tr>
</tbody>
</table>

¹Using concentration technique in Appendix A to EPA method 200.7.
²MFL = million fibers per liter >10µM.

(iv) Compositing may only be performed with samples from within a single water system.

(5) The frequency of monitoring that is conducted to determine compliance with the MCLs in R 325.10604c for arsenic, barium, cadmium, chromium, fluoride, mercury, and selenium shall be as follows:

(a) Suppliers of water of groundwater systems shall take 1 sample at each sampling point during each compliance period. Suppliers of water of surface water systems or combined surface water and groundwater systems shall take 1 sample annually at each sampling point.

(b) A supplier of water may apply to the department for a waiver from the monitoring frequencies specified in subdivision (a) of this subrule. All of the following provisions apply to a waiver:

(i) A supplier shall take a minimum of 1 sample while the waiver is effective.

(ii) The term during which a waiver is effective shall not be more than 1 compliance cycle.

(iii) A waiver may be granted if a surface water supplier has monitored annually for not less than 3 years or a groundwater supplier has conducted not less than 3 rounds of monitoring. At least 1 sample shall have been taken since January 1, 1990. Both surface and groundwater suppliers shall demonstrate that all previous analytical results were less than the MCL. Supplies that use a new water source are not eligible for a waiver until 3 rounds of monitoring from the new source have been completed.

(iv) All of the following items shall be considered by the department in determining the appropriate reduced monitoring frequency:

(A) Reported concentrations from all previous monitoring.
(B) The degree of variation in reported concentrations.
(C) Other factors which may affect contaminant concentrations, such as changes in any of the following:

(1) Groundwater pumping rates.
(2) The system's configuration.
(3) The system's operating procedures.
(4) Stream flows or characteristics.

(v) A waiver shall be in writing and shall set forth the basis for the determination. The determination may be initiated by the department or upon an application by the public water supplier specifying the basis for its request. The determination may be revised by the department based on new data.

(c) Supplies that exceed the MCLs as determined in R 325.10604c shall be monitored quarterly beginning in the next quarter after the violation occurred. The department may decrease the quarterly monitoring requirement to the frequencies specified in R 325.10710(5)(a) and (b) if it has determined that the supply is reliably and consistently below the MCL. A groundwater supplier shall take not less than 2 quarterly samples and a surface water supplier shall take not less than 4 quarterly samples before the department's determination.

(6) The frequency of monitoring that is conducted to determine compliance with the MCL in R 325.10604c for asbestos shall be as follows:

(a) Each community and nontransient, noncommunity water supply shall monitor for asbestos during the first 3-year compliance period of each 9-year compliance cycle beginning in the compliance period starting January 1, 1993.

(b) If the supplier believes its water is not vulnerable to either asbestos contamination in its source water or asbestos contamination due to corrosion of asbestos-cement pipe, or both, it may apply to the department for a waiver of the monitoring requirement in subdivision (a) of this subrule. If the department grants the waiver, the supplier is not required to monitor. A waiver remains in effect until the completion of the 3-year compliance period. The department may grant a waiver based on a consideration of both of the following factors:

(i) Potential asbestos contamination of the water source.

(ii) The use of asbestos-cement pipe for finished water distribution and the corrosive nature of the water.

(c) A supplier of a system that is vulnerable to asbestos contamination due solely to the corrosion of asbestos-cement pipe shall take 1 sample at a tap that is served by asbestos-cement pipe and under conditions where asbestos contamination is most likely to occur.

(d) A supplier of a system that is vulnerable to asbestos contamination due solely to source water shall monitor in accordance with the provisions of subrule (4) of this rule.

(e) A supplier of a system that is vulnerable to asbestos contamination due both to its source water supply and corrosion of asbestos-cement pipe shall take 1 sample at a tap that is served by asbestos-cement pipe and under conditions where asbestos contamination is most likely to occur.

(f) A supplier of water that exceeds the MCLs as determined in R 325.10604c shall monitor quarterly beginning in the next quarter after a violation occurred.

(g) The quarterly monitoring requirement may be decreased by the department to the frequency specified in subdivision (a) of this subrule if the department determines that the supply is reliably and consistently below the MCL. A groundwater supplier shall take a minimum of 2 quarterly samples and a surface water or combined surface water and groundwater supplier shall take a minimum of 4 quarterly samples before this determination.

(h) If monitoring data collected after January 1, 1990, are generally consistent with the requirements of subdivision (6) of this subrule, then that data may be used to satisfy the monitoring requirement for the initial compliance period beginning January 1, 1993.

(7) The frequency of monitoring that is conducted to determine compliance with the MCLs in R 325.10604c for nitrate shall be as follows:

(a) Community and nontransient, noncommunity water supplies that are served by groundwater systems shall be monitored annually. Supplies that are served by surface water shall be monitored quarterly.

(b) For community and nontransient, noncommunity water systems, the repeat monitoring frequency for groundwater systems shall be quarterly for at least 1 year following any 1 sample in which the concentration is 50% or more than 50% of the MCL. The sampling frequency for groundwater systems may be reduced by the department to annually after 4 consecutive quarterly samples are reliably and consistently less than the MCL.

(c) For community and nontransient, noncommunity water systems, the department may allow a surface water supplier to reduce the sampling frequency to annually if all analytical results from 4
consecutive quarters are less than 50% of the MCL. A surface water supply shall return to being monitored quarterly if any 1 sample is 50% or more than 50% of the MCL.

(d) Each transient, noncommunity water supply shall be monitored annually.

(e) After the initial round of quarterly sampling is completed, each community and nontransient, noncommunity supply that is being monitored annually shall take subsequent samples during the quarter or quarters which previously resulted in the highest analytical result.

(8) The frequency of monitoring that is conducted to determine compliance with the MCLs in R 325.10604c for nitrite shall be as follows:

(a) A supplier of a type I or type II water supply shall take 1 sample at each sampling point in the compliance period beginning January 1, 1993, and ending December 31, 1995.

(b) After the initial sample, supplies where an analytical result for nitrite is less than 50% of the MCL shall be monitored at the frequency specified by the department.

(c) The repeat monitoring frequency for any water supply shall be quarterly for at least 1 year following any 1 sample in which the concentration is 50% or more than 50% of the MCL. The department may allow a supplier to reduce the sampling frequency to annually after determining the supply is reliably and consistently less than the MCL.

(d) Suppliers that are monitoring annually shall take each subsequent sample during the quarter or quarters which previously resulted in the highest analytical result.

(9) Confirmation samples are required as follows:

(a) where the results of sampling for arsenic, asbestos, barium, cadmium, chromium, fluoride, mercury, or selenium indicate a level that is more than the MCL, the department may require that 1 additional sample be collected as soon as possible after the initial sample was taken, but not more than 2 weeks later, at the same sampling point.

(b) Where nitrate or nitrite sampling results indicate a level that is more than the MCL, the supplier shall take a confirmation sample within 24 hours of the supplier's receipt of notification of the analytical results of the first sample. Suppliers that are unable to comply with the 24-hour sampling requirement shall immediately notify the consumers who are served by the area served by the public water system in accordance with the requirements of part 4 of these rules and shall analyze a confirmation sample within 2 weeks of notification of the analytical results of the first sample.

(c) If a confirmation sample that is required by the department is taken for any contaminant, then the results of the initial and confirmation sample shall be averaged. The resulting average shall be used to determine the supply's compliance in accordance with the provisions of R 325.10604c(2), (3), (4), and (5). Results of obvious sampling errors may be deleted by the department.

(d) The department may require more frequent monitoring than specified in this rule or may require confirmation samples for positive or negative results.

(e) Suppliers may apply to the department to conduct more frequent monitoring than the minimum monitoring frequencies specified in this rule.

R 325.10711 Rescinded.

R 325.10712 Rescinded.

R 325.10713 Rescinded.

R 325.10714 Rescinded.

R 325.10715 Rescinded.

R 325.10716 Collection and analysis of samples for VOCs.

Rule 716. (1) Beginning on January 1, 1993, suppliers of water of community and nontransient, noncommunity public water supplies shall collect samples and cause analyses to be made according to the provisions of this rule for volatile organic chemicals to determine compliance with the state drinking water standards listed in R 325.10604b. Each supplier shall monitor at the time designated by the department within each compliance period. The department may increase required monitoring where necessary to detect
variations within a water system.

(2) For transient, noncommunity and type III public water supplies, the department may require samples to be collected and analyzed at prescribed frequencies for organic chemicals.

(3) Suppliers of groundwater systems shall take a minimum of 1 sample at every entry point to the distribution system that is representative of each well after treatment. Each sample shall be taken at the same sampling point unless conditions make another sampling point more representative of each source, treatment plant, or within the distribution system.

(4) Suppliers of surface water systems or combined surface water and groundwater systems shall take a minimum of 1 sample at points in the distribution system that are representative of each source or at each entry point to the distribution system after treatment. Each sample shall be taken at the same sampling point unless conditions make another sampling point more representative of each source, treatment plant, or within the distribution system.

(5) If the system draws water from more than 1 source and the sources are combined before distribution, the supply shall be sampled at an entry point to the distribution system during periods of normal operating conditions when water that is representative of all sources is being used.

(6) Each community and nontransient, noncommunity water supplier shall take 4 consecutive quarterly samples for each contaminant, except for vinyl chloride, that is listed in R 325.10604b during each compliance period, beginning in the compliance period starting January 1, 1993. Monitoring data that are collected pursuant to R 325.10717 after January 1, 1988, for purposes of initial monitoring compliance may be used to satisfy the initial monitoring requirement of this subrule if the data are generally consistent with the other requirements of this rule. Systems which use grandfathered samples and which did not detect any VOCs listed in R 325.10604b, table 6.2, shall begin monitoring annually in accordance with the provisions of subrule (7) of this rule beginning January 1, 1993.

(7) If the initial monitoring has been completed by December 31, 1992, and the supplier did not detect any contaminant that is listed in R 325.10604b, then each groundwater and surface water supplier shall take 1 sample annually beginning January 1, 1993.

(8) After not less than 3 years of annual sampling, the department may allow groundwater suppliers that have not previously detected any contaminant that is listed in R 325.10604b to take 1 sample during each compliance period.

(9) Each community and nontransient groundwater supplier that does not detect, at or above 0.0005 milligrams per liter, a contaminant that is listed in R 325.10604b may apply to the department for a waiver from portions of the requirements of subrules (6) and (7) of this rule after completing the initial monitoring. A waiver shall be effective for not more than 6 years.

(10) The following factors will be evaluated to determine if a waiver will be granted:

(a) Knowledge of previous use, including transport, storage, or disposal, of the contaminant within the watershed or zone of influence of the system. A supplier is not eligible for waiver if it is determined that previous use of the contaminant within the watershed or zone of influence has occurred.

(b) If previous use of the contaminant is unknown or it has been used previously, then all of the following factors shall be used to determine whether a waiver is granted:

(i) Previous analytical results.

(ii) The proximity of the system to a potential point or non-point source of contamination. Point sources include spills and leaks of chemicals at or near a water treatment facility or at manufacturing, distribution, or storage facilities or from hazardous and municipal waste landfills and other waste-handling or treatment facilities.

(iii) The environmental persistence and transport of the contaminants.

(iv) The number of persons who are served by the public water system and the proximity of a
smaller system to a larger system.

(v) How well the water source is protected against contamination, such as whether it is a surface water or groundwater system. Groundwater supplies shall consider factors such as depth of the well, the type of soil, and wellhead protection. Surface water supplies shall consider watershed protection.

(11) As a condition of a waiver, a groundwater supplier shall take 1 sample at each sampling point during the time the waiver is effective and update its vulnerability assessment considering the factors listed in subrule (10) of this rule. If the department does not reconfirm that the system is nonvulnerable based on this vulnerability assessment within 3 years of the initial determination, then the waiver is invalidated and the supplier is required to sample annually as specified in subrule (7) of this rule.

(12) Each community and nontransient surface water supplier that does not detect a contaminant listed in R 325.10604bis may apply to the department for a waiver from the requirements of subrule (7) of this rule after completing the initial monitoring. Systems that do not detect a contaminant listed in R 325.10604bis shall be determined by the department to be nonvulnerable based on a vulnerability assessment, considering the factors listed in subrule (10) of this rule, during each compliance period. Each supplier that receives a waiver shall sample at the frequency specified by the department.

(13) If a contaminant, other than vinyl chloride, that is listed in R 325.10604bis detected at a level that is more than 0.0005 milligrams per liter in any sample, then all of the following provisions apply:
   (a) The supplier shall monitor quarterly at each sampling point that resulted in a detection.
   (b) The department may decrease the quarterly monitoring requirement specified in subdivision (a) of this subrule if it has determined that the system is reliably and consistently below the MCL. A groundwater supplier shall take not less than 2 quarterly samples and a surface water supplier shall take not less than 4 quarterly samples for this determination.
   (c) If the department determines that the supply is reliably and consistently below the MCL, the department may allow the supplier to monitor annually. Suppliers that monitor annually shall monitor during the quarter or quarters which previously yielded the highest analytical result.
   (d) Suppliers which conduct 3 consecutive annual samples and which do not detect a contaminant may apply to the department for a waiver as specified in subrule (9) of this rule.
   (e) Groundwater suppliers that have detected 1 or more of the following 2-carbon organic compounds shall monitor quarterly for vinyl chloride:
      (i) Trichloroethylene.
      (ii) Tetrachloroethylene.
      (iii) 1,2-dichloroethane.
      (iv) 1,1,1-trichloroethane.
      (v) cis-1,2-dichloroethylene.
      (vi) trans-1,2-dichloroethylene.
      (vii) 1,1-dichloroethylene.
      A vinyl chloride sample shall be taken at each sampling point at which 1 or more of the 2-carbon organic compounds was detected. If the results of the first analysis do not detect vinyl chloride, the department may reduce the quarterly monitoring frequency of vinyl chloride monitoring to 1 sample during each compliance period. Surface water suppliers are required to monitor for vinyl chloride as specified by the department.

(14) Suppliers that violate the requirements of R 325.10604bis shall monitor quarterly. After not less than 4 consecutive quarterly samples that show the supply is in compliance with the provisions of R 325.10604bis the department determines that the supply is reliably and consistently below the MCL, the supplier may monitor at the frequency and time specified in subrule (13)(c) of this rule.

(15) The department may require a confirmation sample for positive or negative results. If a confirmation sample is required by the department, the result shall be averaged with the first sampling result and the average shall be used for the compliance determination as specified by R 325.10604b. The department may delete results of obvious sampling errors from the calculation.
For systems serving more than 3,300 persons; the department may reduce the total number of samples a supplier shall analyze by allowing the use of compositing. Composite samples from not more than 5 sampling points within a single water system are allowed. Compositing of samples shall be done in the laboratory and analyzed within 14 days of sample collection. All of the following provisions apply to compositing:

(a) If the concentration in the composite sample is more than or equal to 0.0005 milligrams per liter for any contaminant that is listed in R 325.10604b then a follow-up sample shall be taken and analyzed within 14 days from each sampling point that is included in the composite.

(b) If duplicates of the original sample that is taken from each sampling point used in the composite are available, the supplier may use these instead of resampling. The duplicate shall be analyzed and the results reported to the department within 14 days of collection.

(c) The method for compositing samples specified in the provisions of 40 C.F.R. part 141, paragraph 141.24(f)(14)(iv) and (v), July 1, 1991, which are adopted by reference in these rules and which are available from the United States Government Printing Office, Superintendent of Documents, Washington, DC 20402-9325; the cost at the time of adoption of these rules is $1.50, or from the Michigan Department of Public Health, Division of Water Supply, 3423 North Logan Street/Martin Luther King Jr. Boulevard, P.O. Box 30195, Lansing, Michigan 48909, at no charge.

R 325.10717 Collection and analysis of samples for synthetic organic chemicals.

Rule 717. (1) Suppliers of water of community and nontransient, noncommunity public water supplies shall collect samples and cause analyses to be made according to the provisions of this rule for synthetic organic chemicals to determine compliance with the state drinking water standards outlined in R 325.10604d. Each supplier shall monitor at the time designated by the department within each compliance period.

(2) Groundwater suppliers shall take a minimum of 1 sample at every entry point to the distribution system that is representative of each well after treatment. Each sample shall be taken at the same sampling point unless conditions make another sampling point more representative of each source or treatment plant.

(3) Surface water suppliers shall take a minimum of 1 sample at points in the distribution system that are representative of each source or at each entry point to the distribution system after treatment. Each sample shall be taken at the same sampling point unless conditions make another sampling point more representative of each source or treatment plant. Surface water supplies include supplies with a combination of surface and ground sources.

(4) If the system draws water from more than 1 source and the sources are combined before distribution, the supplier shall sample at an entry point to the distribution system during periods of normal operating conditions when water that is representative of all sources is being used.

(5) Each community and nontransient, noncommunity water supplier shall take 4 consecutive quarterly samples for each contaminant that is listed in R 325.10604d during each compliance period beginning with the compliance period starting January 1, 1993.

(6) Suppliers that serve more than 3,300 persons and that do not detect a contaminant in the initial compliance period may reduce the sampling frequency to not less than 2 quarterly samples in 1 year during each repeat compliance period.

(7) Suppliers that serve less than 3,301 persons and that do not detect a contaminant in the initial compliance period may reduce the sampling frequency to a minimum of 1 sample during each repeat compliance period.

(8) Each community and nontransient water supply may apply to the department for a waiver from the requirements of subrule (5), (6), or (7) of this rule. A supplier shall reapply for a waiver for each compliance period.
(9) A waiver may be granted by the department if a determination by the department does not reveal previous use, including transport, storage, or disposal, of the contaminant within the watershed or zone of influence. If previous use of the contaminant is unknown or it has been used previously, then all of the following factors shall be used to determine whether a waiver is granted.

(a) Previous analytical results.
(b) The proximity of the system to a potential point or non-point source of contamination. Point sources include spills and leaks of chemicals at or near a water treatment facility or at manufacturing, distribution, or storage facilities or from hazardous and municipal waste-handling or treatment facilities. Non-point sources include the use of pesticides to control insect and weed pests in agricultural areas, forest lands, and homes and gardens and also includes other land application uses.
(c) The environmental persistence and transport of the pesticide or PCBs.
(d) How well the water source is protected against contamination due to such factors as depth of the well and the type of soil and the integrity of the well casing.
(e) Elevated nitrate levels at the water supply source.
(f) Use of PCBs in equipment that is used in the production, storage, or distribution of water.

(10) If a contaminant that is listed in R 325.10604 is detected, as defined in subdivision (e) of this subrule, in any sample, then all of the following provisions apply:

(a) Each supply shall be monitored quarterly at each sampling point that resulted in a detection. The department may decrease the quarterly monitoring requirement specified in this subrule if it has determined that the supply is reliably and consistently below the MCL. A groundwater supplier shall take not less than 2 quarterly samples and a surface water supplier shall take not less than 4 quarterly samples before this determination.
(b) After the department determines that the supply is reliably and consistently below the MCL, the department may allow the supply to be monitored annually. Suppliers that monitor annually shall monitor during the quarter that previously yielded the highest analytical result.
(c) A supplier that has conducted 3 consecutive annual samples and has not detected a contaminant may apply to the department for a waiver as specified in subrule (9) of this rule. (d) If monitoring results in detection of 1 or more of the following contaminants, then subsequent monitoring shall analyze for all related contaminants:

(i) Aldicarb.
(ii) Aldicarb sulfone.
(iii) Aldicarb sulfoxide.
(iv) Heptachlor.
(v) Heptachlor epoxide.
(e) As used in this rule, "detection" means finding more than or equal to the following concentrations for each contaminant:

<table>
<thead>
<tr>
<th>Contaminant</th>
<th>Detection Limit (mg/l)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(i) Alachlor</td>
<td>0.0002</td>
</tr>
<tr>
<td>(ii) Aldicarb</td>
<td>0.0005</td>
</tr>
<tr>
<td>(iii) Aldicarb sulfoxide</td>
<td>0.0005</td>
</tr>
<tr>
<td>(iv) Aldicarb sulfone</td>
<td>0.0008</td>
</tr>
<tr>
<td>(v) Atrazine</td>
<td>0.0001</td>
</tr>
<tr>
<td>(vi) Carbofuran</td>
<td>0.0009</td>
</tr>
<tr>
<td>(vii) Chlorodane</td>
<td>0.0002</td>
</tr>
<tr>
<td>(viii) Dibromochloropropane (DBCP)</td>
<td>0.00002</td>
</tr>
<tr>
<td>(ix) 2,4-D</td>
<td>0.0001</td>
</tr>
<tr>
<td>(x) Ethylene dibromide (EDB)</td>
<td>0.00001</td>
</tr>
<tr>
<td>(xi) Heptachlor</td>
<td>0.00004</td>
</tr>
<tr>
<td>(xii) Heptachlor epoxide</td>
<td>0.00002</td>
</tr>
<tr>
<td>(xiii) Lindane</td>
<td>0.00002</td>
</tr>
<tr>
<td>(xiv) Methoxychlor</td>
<td>0.0001</td>
</tr>
<tr>
<td>(xv) Polychlorinated biphenyls (PCBs)</td>
<td>0.0001</td>
</tr>
<tr>
<td>(as Decachlorobiphenyl)</td>
<td>0.0001</td>
</tr>
<tr>
<td>(xvi) Pentachlorophenol</td>
<td>0.00004</td>
</tr>
<tr>
<td>(xvii) Toxaphene</td>
<td>0.001</td>
</tr>
<tr>
<td>(xviii) 2,4,5-TP(silvex)</td>
<td>0.0002</td>
</tr>
</tbody>
</table>

(11) Suppliers that violate the requirements of R 325.10604d shall monitor quarterly. After not less than 4 quarterly samples show that the supply is in compliance and the department determines the supply is reliably and consistently below the MCL, the supply shall be monitored at the frequency specified in subrule (10)(b) of this rule.

(12) The department may require a confirmation sample for positive or negative results. If a confirmation sample is required, the result shall be averaged with the first sampling result and the average shall be used for the compliance determination. The department may delete results of obvious sampling errors from this calculation.

(13) For systems serving more than 3,300 persons, the department may reduce the total number of samples a supplier is required to analyze by allowing the use of compositing. Composite samples from not more than 5 sampling points within the same system are allowed. Compositing of samples shall be done in the laboratory and analyzed within 14 days of sample collections. All of the following provisions apply to compositing:

(a) If the concentration in the composite sample detects 1 or more contaminants that are listed in R 325.10604d, then a follow-up sample shall be taken and analyzed within 14 days from each sampling point included in the composite.

(b) If duplicates of the original sample taken from each sampling point that is used in the composite are available, the supplier may use these duplicates instead of resampling. The duplicate shall be analyzed and the results shall be reported to the department within 14 days of collection.

(14) If monitoring data that are collected after January 1, 1990, are generally consistent with the requirements of R 325.10717, R 325.10604(d), and R 325.10605(e), then the department may allow systems to use that data to satisfy the monitoring requirement for the initial compliance period beginning January 1, 1993.

(15) To detect variations within a system, due to fluctuations in concentration due to seasonal use, or changes in water source, the department may increase the required monitoring frequency.

(16) Compliance may be determined based upon analytical results and other information compiled by the department.
Rule 717a. (1) The requirements of this rule are in effect until January 1, 1993. Thereafter, the requirements of R 325.10716 take effect. A supplier of water of a type I public water supply or a nontransient, noncommunity public water supply shall collect water samples and cause analyses to be made for all of the following to determine compliance with state drinking water standards:

(a) Benzene.
(b) Vinyl chloride.
(c) Carbon tetrachloride.
(d) 1,2-dichloroethane.
(e) Trichloroethylene.
(f) 1,1-dichloroethylene.
(g) 1,1,1-trichloroethane.
(h) Para-dichlorobenzene.

Initial monitoring shall be completed according to the provisions of Table 7.3, which reads as follows:

<table>
<thead>
<tr>
<th>System size (population)</th>
<th>Begin not later than</th>
</tr>
</thead>
<tbody>
<tr>
<td>more than 10,000</td>
<td>January-March quarter 1988</td>
</tr>
<tr>
<td>3,300 to 10,000</td>
<td>January-March quarter 1989</td>
</tr>
<tr>
<td>less than 3,300</td>
<td>January-March quarter 1991</td>
</tr>
</tbody>
</table>

(2) The suppliers of water specified in subrule (1) of this rule shall monitor quarterly for the first year. However, if a groundwater source is determined to be nonvulnerable and regulated VOCs or unregulated contaminants are not detected in the first quarter monitoring, then monitoring for the 3 remaining quarters is not required.

(3) Suppliers of water shall monitor at entry points into the distribution system during normal operating conditions.

(4) The vulnerability status of each water system shall be determined by the department based on the factors specified in subrule (5) of this rule. Repeat monitoring after initial monitoring requirements have been met will depend on the vulnerability status of the supply and if regulated VOCs or unregulated contaminants were detected in the initial monitoring. Repeat monitoring shall be performed according to the provisions of Table 7.4, but at least once every 5 years. Table 7.4 reads as follows:
Table 7.4
Repeat Monitoring for Regulated VOCs and Unregulated Contaminants

<table>
<thead>
<tr>
<th>Status</th>
<th>Groundwater</th>
<th>Surface Water</th>
</tr>
</thead>
<tbody>
<tr>
<td>If neither regulated VOCs nor unregulated contaminants are detected in the first or any subsequent sample and the system is not vulnerable.</td>
<td>Repeat not less than 5 years</td>
<td>Department discretion</td>
</tr>
<tr>
<td>If neither regulated VOCs nor unregulated contaminants are detected and the system is vulnerable.</td>
<td>_repeat every 3 years</td>
<td>Repeat every 3 years</td>
</tr>
<tr>
<td>Systems of more than 500 connections</td>
<td>_repeat every 5 years</td>
<td>Repeat every 5 years</td>
</tr>
<tr>
<td>Systems of 500 or fewer connections</td>
<td>Quarterly</td>
<td>Quarterly</td>
</tr>
<tr>
<td>If regulated VOCs are detected in any sample</td>
<td>Department discretion</td>
<td>Department discretion</td>
</tr>
<tr>
<td>If unregulated contaminants are detected in any sample</td>
<td>_repeat every 3 years</td>
<td>Repeat every 3 years</td>
</tr>
</tbody>
</table>

3Must sample for 4 consecutive quarters.
2As required to protect public health.

(5) The vulnerability of each public water supply shall be determined by the department based upon an assessment of factors that include all of the following:
   (a) Previous results from compliance monitoring.
   (b) The number of persons served by the public water supply.
   (c) The proximity of a smaller system to a larger system.
   (d) The proximity to commercial or industrial use, disposal, or storage of chemicals.
   (e) Protection of the water source.
   (f) A system is deemed to be vulnerable for a period of 3 years after any positive measurement of 1 or more regulated VOCs or unregulated contaminants from an entry point to the distribution system.

(6) Compliance with the MCL will be based on the running annual average of the quarterly monitoring at each entry point. If 1 location's average concentration is more than the MCL, the system shall be deemed out of compliance.

(7) The department may require confirmation samples. If a confirmation sample is required by the department, the sample result or results shall be averaged with the original result for compliance determination. The department may delete results if they are obvious sampling errors.
(8) Monitoring at individual sources or locations representative of multiple wells before treatment or before being pumped to a central collection point may be required by the department if VOCs have been detected in previous samples or the sources are deemed to be vulnerable. All data available from the results of sampling shall be made available to the department. Analytical results obtained pursuant to this subrule shall not be used to determine compliance with state drinking water standards.

(9) A supplier of water that has removed a well from service due to the presence of organic chemicals shall obtain approval from the department as to the planned use of the well for potable use. In its approval, the department shall specify any monitoring and reporting that may be required of that source before or after being put into service.

(10) A supplier of water that has removed a well from service due to the presence of organic chemicals shall report any usage of the well for potable use to the department within 24 hours.

R 325.10717b Monitoring for unregulated contaminants.

Rule 717b. (1) All community and nontransient, noncommunity water supplies shall be monitored as required for contaminants on the most recent list of unregulated contaminants available from the department. The list specifies monitoring that is required of all systems, analytical techniques, and other monitoring that may be required. A community water system or nontransient, noncommunity water supply that serves less than 150 service connections shall be treated as being in compliance with the monitoring requirements if, in the absence of department-initiated sampling, the supplier of water notifies the department that the system is available for sampling.

(2) Initial monitoring for unregulated contaminants specified in subrule (1) of this rule shall be completed according to the following provisions and the provisions of Table 7.3:

(a) Surface water systems shall be sampled at entry points to the distribution system under normal operating conditions. The minimum frequency and number of samples is 1 year of quarterly samples per entry point.

(b) Groundwater systems shall be sampled at points of entry from each well or wells to the distribution system under normal operating conditions. The minimum number of samples is 1 sample per entry point to the distribution system.

(c) The department may require confirmation samples.

(d) Repeat monitoring for unregulated contaminants shall be performed according to the provisions of Table 7.4, but at least once every 5 years.

(3) Monitoring for unregulated contaminants that are listed in the provisions of 40 C.F.R. 141, part 141.40(n)(11) and (12), January 30, 1991, which is adopted by reference in R 325.10109(g), shall be conducted according to the following provisions, shall be completed by December 31, 1995, and the results shall be reported to the department:

(a) Each community and nontransient, noncommunity water supplier shall take 4 consecutive quarterly samples at each sampling point for each organic contaminant.

(b) Each community and nontransient, noncommunity water supplier shall take 1 sample at each sampling point for each inorganic contaminant.

(c) The department may grant a waiver for the requirements of subrule (3)(a) of this rule based on the criteria specified in R 325.10717(9). The department may grant a waiver from the requirements of subrule (3)(b) of this rule if previous analytical results indicate contamination would not occur and if this data was collected after January 1, 1990.

(d) Groundwater suppliers shall take at least 1 sample at every entry point to the distribution system that is representative of each well after treatment. Each sample shall be taken at the same sampling point unless conditions make another sampling point more representative of each source or treatment plant.

(e) A supplier of surface water and systems that have a combination of surface and ground sources shall take at least 1 sample at points in the distribution system that are representative of each source or at each entry point to the distribution system after treatment. Each sample shall be taken at the same sampling
point unless conditions make another sampling point more representative of each source or treatment plant.

(f) If a system draws water from more than 1 source and the sources are combined before distribution, the supplier shall sample at an entry point to the distribution system during periods of normal operating conditions when water that is representative of all sources is being used.

(g) The department may require a confirmation sample for positive or negative results.

(h) The total number of samples a supplier is required to analyze may be reduced by compositing according to the provisions of R 325.10717(13)(a).

R 325.10717c VOC; reporting.

Rule 717c. The owner of a system who is required to monitor under this part and who uses a
department-certified or provisionally certified laboratory other than the department's laboratory shall send a
copy of the results to the department within 30 days of the receipt of the results.

R 325.10718 Rescinded.

R 325.10719 SOC's; reporting and notification.

Rule 719. (1) If the result of an analysis made pursuant to the provisions of R 325.10717 indicates
that the concentration of a regulated pesticide or herbicide exceeds the MCL, the supplier of water shall report to the division within 7 days and shall initiate 3 additional analyses at the same sampling point within
1 month.

(2) When the average of 4 analyses that are made pursuant to the provisions of subrule (1) of this
rule for the chemical in question exceeds the MCL, the supplier of water shall notify the division within 48 hours and shall give notice to the public pursuant to the provisions of part 4 of these rules. Monitoring after public notification shall be at a frequency determined by the department and shall continue until the MCL has not been exceeded in 2 successive samples or until a monitoring schedule, as a condition to a variance, exemption, or enforcement action, becomes effective.

R 325.10719a Total trihalomethane; collection and analysis of samples, generally.

Rule 719a. (1) Type I public water supplies which serve a population of 10,000 or more individuals
and which add a disinfectant to the water as a normal part of the treatment process shall collect samples and
cause analyses to be performed for TTHM levels to determine compliance with the state drinking water
standards. For those public water supplies purchasing finished water from another public water supply, the
department may modify the monitoring requirements for TTHM in accordance with R 325.10733.

(2) Based on knowledge of the source and treatment, the department may require certain type I
public water supplies serving less than 10,000 individuals to monitor for TTHM as deemed necessary.

(3) The minimum number of samples required to be taken by public water supplies for total trihalomethane analysis shall be based on the number of treatment plants used by the public water supply, except that multiple wells drawing water from a single aquifer shall, with department approval, be considered 1 treatment plant for determining the minimum number of samples. All samples required to be taken within an established sampling frequency shall be taken within a 24-hour period.

R 325.10719b Total trihalomethane; collection and analysis of samples; frequency.

Rule 719b. For type I public water supplies subject to the provisions of R 325.10719a, analyses for
total trihalomethane shall be performed at quarterly intervals on not less than 4 water samples for each
treatment plant used by the water supply system. Not less than 25% of the samples shall be taken at
locations within the distribution system reflecting the maximum residence time of the water in the system.
The remaining samples shall be taken at representative locations in the distribution system, taking into
account the number of persons served, the different sources of water, and treatment methods employed.
Rule 719c. (1) Pursuant to a written determination by the department that the data from at least 1 year of monitoring in accordance with R 325.10719b and local conditions demonstrate that total trihalomethane concentrations will be consistently below the maximum contaminant level, the monitoring frequency required by R 325.10719b may be reduced by the department to a minimum of 1 sample analyzed for TTHM per quarter, taken at a point in the distribution system which reflects the maximum residence time of the water in the system.

(2) A type I public water supply using groundwater sources or surface water sources whose maximum TTHM potential is not likely to exceed the MCL for TTHM may have the monitoring frequency required by R 325.10719b changed to a minimum of 1 sample for maximum TTHM potential per year for each treatment plant used by the public water supply. The results of at least 1 sample analyzed for maximum TTHM potential for each treatment plant used by the public water supply shall be available to the department. The monitoring frequency may only be reduced upon a written determination by the department that, based on the data and an assessment of the local conditions, the public water supply is not likely to approach or exceed the MCL for TTHM.

(3) Based upon the provisions of R 325.10719c(2) and R 325.10719a(3), the department may reduce the frequency of monitoring for maximum TTHM potential to 1 sample per year.

(4) If at any time during which a reduced monitoring frequency prescribed under this rule applies, the result of an analysis exceeds the MCL for TTHM and the result is confirmed by at least 1 check sample taken promptly after the result is received, the public water supply shall immediately begin monitoring in accordance with the requirements of R 325.10719b and shall continue monitoring for at least 1 year before the frequency may be reduced again.

(5) If there is any significant change to the raw water or treatment system, any public water supply on a reduced monitoring frequency shall immediately analyze an additional sample for maximum TTHM potential for the purpose of determining whether the system shall be required to comply with the provisions of R 325.10719b.

(6) The monitoring frequency for a public water supply may be increased by the department above the minimum in those cases where it is necessary to detect variations of TTHM levels within the distribution system.

(7) If a type I public water supply serving less than 10,000 individuals is found to exceed the MCL for TTHM, the department shall require that the public be notified pursuant to part 4 of these rules and may require that modifications be made to the waterworks system, where economically feasible, to bring the water system into compliance with the MCL.

R 325.10719d Total trihalomethane; reporting and notification.

Rule 719d. (1) The results of all analyses performed to determine TTHM concentration pursuant to this part shall be reported to the department within 10 days following the month of record. All samples collected for TTHM analyses shall be used for determining compliance with the provisions of this part, unless analytical results are invalidated for technical reasons.

(2) Compliance with the MCL for TTHM shall be determined based on a running annual average of quarterly samples collected by the public water supply as prescribed in R 325.10719b or R 325.10719c(1). If the average of samples covering any 12-month period exceed the MCL, the supplier of water shall report to the division within 48 hours pursuant to this part and shall notify the public pursuant to part 4 of these rules. Monitoring after public notification shall be at a frequency designated by the department.
Rule 720. (1) Suppliers of water of all type I and type II public water supplies utilizing surface water sources shall collect samples and perform measurements for turbidity at representative entry points to the water distribution system. Measurements for turbidity shall be used to determine compliance with state drinking water standards until June 29, 1993. After June 29, 1993, turbidity measurements shall be used to determine compliance with treatment technique requirements. This rule applies to all suppliers of water that utilize sources of water which require complete treatment.

(2) This subrule and subrules (3) to (10) of this rule are effective June 29, 1993. A supplier of water that utilizes a source of water which requires complete treatment shall collect samples and perform measurements for turbidity at a representative entry point to the water distribution system to determine compliance with the treatment technique requirements pursuant to the provisions of R 325.11004(4).

(3) A supplier of water that utilizes a source of water which requires complete treatment shall collect and analyze samples at regular intervals at least once every 4 hours while the treatment plant is in operation to determine compliance with the treatment technique requirements pursuant to the provisions of R 325.11004(4).

(4) If any single measurement is more than 5.0 turbidity units, a supplier of water shall notify the division as soon as possible, but not later than the end of the next business day.

(5) A public water supplier may substitute continuous turbidity monitoring for grab sample monitoring if the continuous measurement is validated for accuracy on a regular basis using a protocol approved by the division. Readings taken from a continuous recording turbidimeter at regular intervals at least once every 4 hours may be used to determine compliance with the treatment technique requirements pursuant to the provision of R 325.11004(4).

(6) A supplier of water that utilizes a source of water which requires complete treatment and that serves more than 3,300 people shall monitor for residual disinfectant concentration at an entry point to the distribution system on a continuous basis.

(7) A supplier of water that utilizes a source of water which requires complete treatment and that serves less than 3,301 people shall monitor for residual disinfectant concentration at an entry point to the distribution system at a frequency to be established by the department. The required frequency shall be based on the anticipated source water quality, but the monitoring shall be at a frequency specified in table 7.5, which reads as follows:

<table>
<thead>
<tr>
<th>System Size by Population</th>
<th>Samples Per Day*</th>
</tr>
</thead>
<tbody>
<tr>
<td>500 or fewer persons</td>
<td>1</td>
</tr>
<tr>
<td>501 to 1,000 persons</td>
<td>2</td>
</tr>
<tr>
<td>1,001 to 2,500 persons</td>
<td>3</td>
</tr>
<tr>
<td>2,501 to 3,300 persons</td>
<td>4</td>
</tr>
</tbody>
</table>

*The day’s samples cannot be taken at the same time.

(8) When disinfection is required other than for a system where complete treatment is required, a supplier of water shall monitor for residual disinfectant concentration at locations and frequencies determined by the department.

(9) A supplier of water that utilizes a source of water which requires complete treatment shall maintain a residual disinfectant concentration entering the distribution system of not less than 0.2 milligrams per liter. If the residual disinfectant concentration drops below this level at any time, the supplier of water shall notify the department as soon as possible, but not later than the end of the next business day.
addition, the supplier of water shall notify the department by the end of the next business day whether or not the residual disinfectant concentration was restored to not less than 0.2 milligrams per liter within 4 hours.

(10) When disinfection is required, a supplier of water shall measure disinfectant residual concentrations on the distribution system at the same points in the distribution system and at such time as samples are collected for coliform analysis. The department may require additional distribution residual monitoring to demonstrate operation adequate to protect the public health.

R 325.10721 Turbidity resampling; reporting and notification; effective date of rule.

Rule 721. (1) This rule is effective until June 29, 1993.

(2) If the result of a turbidity measurement pursuant to the provisions of R 325.10720 indicates that the MCL has been exceeded, the sampling and measurement shall be confirmed by resampling as soon as possible, preferably within 1 hour. The repeat sample shall be the sample used for the purpose of calculating the daily average and the monthly average.

(3) Except as noted in subrule (2) of this rule, the daily average and monthly average shall be determined from the normally scheduled turbidity measurements and shall not include special purpose samples.

(4) If the daily average of turbidity measurements exceeds the MCL, the supplier of water shall notify the division within 48 hours. If the monthly average of the daily turbidity measurements is more than the MCL or if the average of turbidity measurements taken on 2 consecutive days is more than 5 turbidity units, a supplier of water shall report to the division within 48 hours and shall make public notification as prescribed by part 4 of these rules.

R 325.10722 Collection and analysis of samples for natural radionuclides.

Rule 722. (1) Suppliers of water of type I public water supplies shall collect samples of water and have analyses performed for natural radionuclides to determine compliance with the state drinking water standards.

(2) Suppliers of water of type I public water supplies shall initiate sampling to determine compliance with R 325.10603 of part 6 of these rules before June 24, 1979, and the analyses shall be completed before June 24, 1980. Compliance shall be based on the analysis of an annual composite of 4 consecutive quarterly samples or the average of the analyses of 4 samples obtained at quarterly intervals.

(3) 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%.

(4) In localities where radium 228 may be present in drinking water, the department may require radium 226 or radium 228 analyses, or both, when the gross alpha particle activity exceeds 2 pCi/l.

(5) 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.

R 325.10724 Rescinded.

R 325.10725 Radiological monitoring; additional requirements.

Rule 725. (1) After the initial analysis required by R 325.10722, suppliers of water of type I public water supplies shall monitor for radiological contaminants at least once every 4 years following the procedures prescribed by R 325.10722. When an annual record taken pursuant to the procedures in R 325.10722 has established that the average annual concentration is less than half the MCL, an analysis of a single sample may be substituted for the quarterly sampling procedure at the discretion of the department.
(2) The department may require more frequent monitoring by suppliers of water in the vicinity of operations which may contribute alpha particle radioactivity to either surface or ground water sources of drinking water, or in the event of possible contamination or when changes in the distribution system treatment processing occur which may increase the concentration of radioactivity in finished water. Annual monitoring may be required by the department of any public water supply in which the radium 226 concentration exceeds 3 pCi/l.

(3) A supplier of water of a type I public water supply which is new or which is introducing a new, completely different source shall monitor in conformance with R 325.10722 within 1 year of the introduction of the water source.

(4) A supplier of water of a type I public water supply using 2 or more sources of drinking water having different concentrations of radioactivity shall monitor source water in addition to water from a free flowing tap when determined necessary by the department to protect the public health.

(5) Monitoring for compliance with state drinking water standards after the initial period need not include radium 228 unless determined necessary by the department, provided that the average annual concentration of radium 228 has been assayed at least once using the quarterly sampling procedure required in subrule (1).

R 325.10726 Collection and analysis of samples for man-made radionuclides.

Rule 726. (1) Suppliers of water of type I public water supplies using surface water sources and serving more than 100,000 persons and such other type I public water supplies as may be designated by the department shall collect samples of water and have analyses performed for man-made radionuclides to determine compliance with the state drinking water standards.

(2) Suppliers of water of type I public water supplies utilizing surface water sources and serving more than 100,000 persons and such other type I public water supplies as may be designated by the department shall initiate sampling for beta particle and photon radioactivity from man-made radionuclides before June 24, 1979, and the analyses shall be completed before June 24, 1980. Compliance shall be based on the analysis of a composite of 4 consecutive quarterly samples or an average of the analysis of 4 quarterly samples. Compliance may be assumed without further analysis if the average annual concentration of beta 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 1 of this part, provided that if both radionuclides are present, the sum of their annual dose equivalents to bone marrow shall not exceed 4 millirems per year.

(3) If the gross beta particle activity exceeds 50 pCi/l, an analysis of the sample shall be required to identify the major radioactive constituents present and the appropriate organ and total body doses shall be calculated to determine compliance with the state drinking water standards.

(4) Suppliers of water utilizing only ground water sources may be required to monitor for man-made radioactivity as may be deemed necessary by the department.

R 325.10728 Acceptability of other data for man-made radionuclides.

Rule 728. The department may allow the substitution of environmental surveillance data taken in the vicinity of a nuclear facility for analyses required by R 325.10726 where the department determines that data is applicable to a particular type I public water supply.

R 325.10729 Additional monitoring requirements for man-made radioactivity.

Rule 729. (1) After the initial analysis, suppliers of water shall monitor at least every 4 years following the procedures prescribed by R 325.10726.

(2) Prior to June 24, 1979, suppliers of water of any type I public water supply designated by the state as using 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.

(3) Quarterly monitoring for gross beta particle activity shall be based on the analysis of monthly samples or the analysis of the composite of 3 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, analysis of the sample shall be required to identify the major
radioactive constituents present and the appropriate organ and total body doses shall be calculated to
determine compliance with the state drinking water standards.

(4) For iodine 131, a composite of 5 consecutive daily samples shall be analyzed once each quarter.
As ordered by the department, more frequent monitoring shall be conducted by a supplier of water when
iodine 131 is identified in the finished water.

(5) Annual monitoring for strontium 90 and tritium shall be conducted by means of an analysis of
composite of 4 consecutive quarterly samples or the average of the analysis of 4 quarterly samples.

R 325.10730 Radioactivity; reporting requirements.

Rule 730. (1) If the average annual MCL for gross alpha particle activity or total radium as set
forth in part 6 is exceeded, the supplier of water shall notify the division within 48 hours and shall notify the
public pursuant to part 4 of these rules. Monitoring at quarterly intervals shall be continued until the
average concentration no longer exceeds the state drinking water standard.

(2) If the average annual MCL for man-made radioactivity as prescribed in part 6 is exceeded, the
supplier of water shall notify the division within 48 hours and shall provide notice to the public pursuant to
part 4 of these rules. Monitoring at monthly intervals shall be continued until the concentration no longer
exceeds the state drinking water standard.

R 325.10731 Sample analyses; approved laboratories and personnel.

Rule 731. For the purpose of determining compliance with the monitoring requirements prescribed
by this part, samples shall be considered valid only if they have been analyzed by a laboratory approved by
the department, except that measurements for turbidity may be performed by personnel acceptable to the
department.

R 325.10732 Specific testing frequencies; sample locations and parameters.

Rule 732. (1) The department may require a supplier of water to monitor raw water, water during
stages in the treatment system if treatment is employed, and water from the distribution system at
frequencies and for parameters as specified by the department.

(2) Parameters required by subrule (1) may include other constituents than the MCL's including, but
not limited to, chlorine residual.

R 325.10733 Modification of monitoring requirements for type I public water supplies which supply water to
additional public water supplies.

Rule 733. When a type I public water supply supplies water to 1 or more other public water
supplies, the department may modify the monitoring requirements prescribed by this part to the extent that
the interconnection of the public water supplies justifies treating them as a single water supply for monitoring
purposes. Modified monitoring shall be conducted pursuant to a schedule specified by the department and
concurred in by the regional administrator.

R 325.10734 Required reporting to division.

Rule 734. (1) Except where a shorter reporting period is specified in this part, a supplier of water
shall report, to the division, within 40 days after a measurement or analysis, the results of a measurement or
analysis that is required by this part.

(2) Unless otherwise specified in this part, a supplier of water shall report, to the division, within 48
hours, failing to comply with an MCL, including failing to comply with a monitoring requirement as
prescribed by this part.

(3) A supplier of water shall not be required to report analytical results to the division in cases
where the department laboratory performs the analysis and reports the results to the division.
(4) A public water supply, upon discovering that a waterborne disease outbreak that is potentially attributable to that water system has occurred, shall report that occurrence to the department as soon as possible, but not later than the end of the next business day.

R 325.10735 Vigilance of threats or hazards; notification to division.

Rule 735. (1) A supplier of water shall maintain continued vigilance of activities posing threats or hazards of undue contamination to the source of water.

(2) In the event of a threat of contamination of a public water supply source, a supplier of water shall immediately notify the division.

R 325.10736 Schedule of fees.

Rule 736. The supplier of water shall collect and analyze water samples or have them collected and analyzed as specified in this part. If the supplier of water fails to meet this responsibility, the department shall collect and analyze the water samples routinely as specified in this part and charge the supplier for these services according to the fee schedule established in table 2 in R 325.10738.

R 325.10737 Rescinded.

R 325.10738 Table 2.

Rule 738. Table 2 reads as follows:

<table>
<thead>
<tr>
<th>Type of Sample</th>
<th>Fee per Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collected and Analyzed</td>
<td>When Collected by the Department</td>
</tr>
<tr>
<td>Bacteriologic</td>
<td>$35.00</td>
</tr>
<tr>
<td>Turbidity</td>
<td>$35.00</td>
</tr>
<tr>
<td>Others</td>
<td>No Fee</td>
</tr>
</tbody>
</table>
PART 8. GROUNDWATER SOURCES

R 325.10801 Purpose.

Rule 801. The purpose of this part is to establish certain requirements and objectives for the isolation and construction of wells which shall be met by public water supplies to provide a continuous, adequate quantity of water meeting the state drinking water standards.

R 325.10802 Applicability; approval of deviation from minimum standards and requirements.

Rule 802. (1) The provisions of this part apply to wells used to supply ground water for a public water supply. These rules are minimum standards and requirements which shall be considered by the department in the issuance of permits or approvals for waterworks systems.

(2) Deviations from the minimum standards and requirements prescribed by this part may be approved by the department upon a showing by an owner of a public water supply that a deviation will not adversely affect the public health. Deviations from this part shall be by permit condition for type I or type II public water supplies, and in writing by the department for type III public water supplies.

R 325.10804 Type III public water supplies; applicability of other rules.

Rule 804. Suppliers of water of type III public water supplies shall comply with the applicable provisions of rules of the department promulgated pursuant to Act No. 294 of the Public Acts of 1965, as amended, being §§325.221 to 325.240 of the Michigan Compiled Laws, and entitled, "Part 1. Well Construction Code," being R 325.1601 to R 325.1676 of the Michigan Administrative Code, except where specific requirements for type III public water supplies prescribed by this part are more restrictive.

R 325.10805 Retroactivity of rules; significant changes or major repairs made to existing well; utilization of well not in compliance with this part.

Rule 805. (1) This part is not retroactive for individual well installations constructed before the effective date of these rules except:

(a) When water quality from the well does not meet the state drinking water standards.
(b) Upon a determination by the department that continued use of a well represents a health hazard, or
(c) When a well is found to be in violation of previous rules of the department which were in effect at the time of construction.

(2) Significant changes or major repairs made to an existing well after the effective date of these rules shall conform to the provisions of this part. Those changes shall include, but are not necessarily limited to, replacing the casing, modifying the depth of a well, installing new pumping equipment of a different type or of higher capacity, or modifying the pump setting. In general, a significant change or major repair shall be considered to have occurred if the pumping capacity is increased above the original capacity as a result of the work. A significant change or major repair shall not include routine maintenance or incidental repairs.

(3) A supplier of water proposing to utilize water from a well or well field not in compliance with this part may be required to provide continuous treatment of the water in a manner acceptable to the department and shall obtain written approval from the department before utilizing that well or well field as a part of a public water supply.

(4) A supplier of water employing a complete treatment system to treat a ground water source may be granted special consideration by the department for the location and construction of wells used as a raw water source prior to treatment.

R 325.10806 Change in classification of public water supply.

Rule 806. Requirements or criteria prescribed by this part for the various types of public water supplies shall be based on the facilities which the public water supply is intended to serve. If the volume of water used or the type of facilities or number of units served by a public water supply changes in such a way
as to cause a change in the classification of a public water supply, the supplier of water shall meet requirements applicable to the new classification.

R 325.10807 Location of well.

Rule 807. A well shall be located with due consideration given to the extent of the property, the contour of the land, elevation of the site, the depth to the water table, other geological characteristics, local ground water conditions, and other factors necessary to provide a safe and reliable public water supply. A well shall meet all of the following requirements:

(a) Located so the well and its surrounding area is controlled and protected from potential sources of contamination.
(b) Adequate in size, design, and development for the intended use.
(c) Constructed to maintain existing natural protection against contamination of water bearing formations and to prevent all known sources of contamination from entering the well.
(d) Protected against the entry of surface water.

R 325.10808 Standard isolation area, generally.

Rule 808. The standard isolation areas from any existing or potential sources of contamination including, but not limited to, storm and sanitary sewers, pipelines, septic tanks, drain fields, dry wells, cesspools, seepage pits, leaching beds, barnyards, or any surface water, other area or facility from which contamination of the ground water may occur, are established for public water supplies as follows:

(a) For type I and type Ila public water supplies, the standard isolation area is an area measured with a radius of 200 feet in all directions from the well.
(b) For type Iib and type III public water supplies, the standard isolation area is an area measured with a radius of 75 feet in all directions from the well.

R 325.10809 Standard isolation area; modification; approval.

Rule 809. (1) Modifications of the standard isolation area, if any, shall be determined for a site based on a study of hydrogeological conditions provided to the department by a supplier of water pursuant to R 325.10813 and R 325.10814.

(2) The department may require an increase or approve a decrease in the standard isolation area of a well.

(3) Approval of the isolation area shall be obtained from the department before construction of a production well used for drinking or household purposes as part of a public water supply.

R 325.10810 Standard isolation area for type I public water supplies; ownership or control.

Rule 810. (1) A supplier of water of a type I public water supply shall be required to own the approved isolation area except as provided by subrule (2) to prevent use of the property which could result in contamination of the public water supply.

(2) If a supplier of water of a type I public water supply adequately demonstrates to the department that ownership of the isolation area is not possible, adequate control of the isolation area shall be required. Adequate control may be a long term lease or easement including provisions to prevent use of the isolation area which could result in contamination of the well.

R 325.10811 Sewers within approved isolation area.

Rule 811. (1) A storm or sanitary sewer shall not be located within the approved isolation area of a well for a type I or type Ila public water supply.

(2) A buried sewer, located within the approved isolation area for a type Iib or type III public water supply, shall be constructed with materials and joints as approved in writing by the department.
R 325.10812 Location of wells with respect to major sources of contamination.

Rule 812. Wells serving type I and type IIa public water supplies shall be located a minimum distance of 2,000 feet, and wells serving type IIb and type III public water supplies shall be located a minimum distance of 800 feet from known major sources of contamination including but not limited to, large scale waste disposal sites, land application of sanitary wastewater or sludges, sanitary landfills, and chemical or waste chemical storage or disposal facilities. Based on hydrogeological studies, the department may require an increase or approve a decrease in the 2,000 foot distance for type I or type IIa public water supplies or the 800 foot distance for type IIb or type III public water supplies.

R 325.10813 Study of hydrogeological conditions by supplier of water of type I and type IIa public water supplies.

Rule 813. (1) A supplier of water of a type I or type IIa public water supply shall prepare a study of hydrogeological conditions for determination of an isolation area and the acceptability of a proposed location of a well. The study shall be provided to the department and approval obtained.

(2) Previous studies of hydrogeological conditions shall be considered by the department in determining the scope of or need for a study required by this rule.

(3) A study of hydrogeological conditions shall mean investigations and a compilation and evaluation of data necessary to determine the isolation area, acceptability of a well location and construction, and the availability of water at that location. The study of hydrogeological conditions may include the following:

(a) The type of public water supply.

(b) The proposed well capacity.

(c) The proposed well depth and well construction features.

(d) Identification of geological formations including the thickness and characteristics of the aquifer, the number and thicknesses of protective layers, and if deemed necessary by the department, the areal extent of the protective formations.

(e) Location of the well relative to sources of contamination.

(f) Susceptibility of the area to flooding.

(g) Depth to the water table from the established ground surface.

(h) Proximity of the well to surface water.

(i) A yield test of the well in accordance with R 325.10830.

(j) Water quality analyses.

(4) The scope of the hydrogeological study may vary depending upon the capacity of the proposed well in relation to the aquifer capacity, the need for a modification of a standard isolation area, or other factors; and may include additional determinations required by the department, such as the general aquifer characteristics and interference relative to other wells in proximity to the well site.

R 325.10814 Studies of suppliers of water of type IIb and type III public water supplies.

Rule 814. If a modification of the standard isolation area is requested by a supplier of water of a type IIb or type III public water supply, the supplier shall submit to the department and obtain approval for a study of hydrogeological conditions consistent with the capacity of the well and the capacity of the aquifer.

R 325.10815 Procedures for department approval of a proposed well for type I and type II public water supplies.

Rule 815. (1) In reviewing the location and acceptability of a proposed well for a type I or type II public water supply, the department shall determine whether the following procedures have been followed by a supplier of water:

(a) Approval has been obtained from the department for each proposed land parcel on which a test well is to be located.
(b) For type I public water supplies, ownership or adequate control as required by R 325.10810 or an option for ownership or adequate control of the required isolation area has been secured.
(c) Where required, a study of hydrogeological conditions has been approved by the department.
(d) Satisfactory yield tests have been completed on the test well or the well capacity has been established to the satisfaction of the department.
(e) Water quality analyses show results meeting the state drinking water standards.
(2) When the department finds that a proposed well, its location, and its construction features meet the requirements of this part, the department shall authorize construction of a production well or conversion of a test well to a production well.

R 325.10816 Location of well in area subject to flooding.

Rule 816. (1) A well shall not be located in an area subject to flooding unless the well is protected as approved in writing by the department. The ground surface immediately adjacent to a well casing shall be graded so that surface water is diverted away from the casing. Surface flooding shall not be allowed closer than 24 feet from the well.
(2) The top of a well casing, any other opening into the well casing, well appurtenances, and controls shall be not less than 2 feet above the greater of the following:
   (a) One hundred year flood elevation.
   (b) The maximum recorded flood elevation.

R 325.10817 Top of well casing; elevation.

Rule 817. The top of a well casing shall terminate not less than 12 inches above the established ground surface, or the floor of a pump room, well room, or well house. In addition, for type IIb and type III public water supplies the top of a well casing may terminate not less than 12 inches above the floor of an approved basement offset.

R 325.10818 Minimum well casing depth.

Rule 818. Casings for all wells serving public water supplies shall extend not less than 25 feet below the established ground surface.

R 325.10819 Well casing in rock formation.

Rule 819. (1) In an area where a well is to be developed in fractured, jointed, or cavernous rock, the well shall not be approved as a production well unless all of the following conditions exist:
   (a) Adequate protective material above the aquifer.
   (b) No evidence of aquifer contamination.
   (c) No direct flow from surface or near surface sources to the rock aquifer.
(2) The department may also approve a well developed in fractured, jointed, or cavernous rock based on special well construction features and a hydrogeologic study.

R 325.10820 Water suction lines.

Rule 820. (1) A casing shall not be used as a suction line unless protected by a permanent outer casing.
(2) For type I and type IIa public water supplies, a buried water suction line extending outside the well casing is prohibited.
(3) For type IIb and type III public water supplies, a buried water suction line extending outside the well may be used if protected in a manner approved by the department.
(4) Any buried pump discharge line shall be under positive pressure at all times.

R 325.10821 Casing materials.
Rule 821. All casings used for wells serving a public water supply shall be of materials approved in writing by the department.

R 325.10822 Grouting.

Rule 822. All wells that serve public water supplies shall be grouted by a method approved by the department to obtain a tight bond between the well casing and the undisturbed natural earth formations, thus preventing the entrance of any surface water or near surface contaminants to the groundwater source.

R 325.10823 Flowing artesian wells; well construction.

Rule 823. In areas where flowing artesian wells are commonly encountered, the well construction methods proposed by a supplier of water to protect a flowing artesian aquifer and confining strata shall be submitted to the department by the supplier of water and approval obtained prior to the start of construction.

R 325.10824 Flowing artesian wells; flow control.

Rule 824. For flowing artesian wells, a direct connection between a discharge pipe for flow control and a sewer or other source of contamination is prohibited.

R 325.10825 Elevation of discharge from well casing; location of connection to well casing.

Rule 825. (1) For type I and type IIa public water supplies, a discharge from a well casing at an elevation less than 12 inches above the established ground surface is prohibited, except where an installation with an approved pitless adapter is permitted by the department.

(2) For type IIb and type III public water supplies, a connection to a well casing may be at least 12 inches above the floor of an approved basement offset, pump room, or well room, or the requirements of subrule (1) shall be met.

R 325.10826 Construction and location of room housing pumping equipment or room housing top of well casing.

Rule 826. (1) For type I and type IIa public water supplies, a room housing pumping equipment or a room housing the top of a well casing, where used, shall be constructed above the established ground surface allowing access to the pump for maintenance or repair.

(2) For type IIb and type III public water supplies, a room housing pumping equipment may be located below the established ground surface if it is located in or attached to an approved basement or is drained to the ground surface by gravity.

R 325.10827 Tail pipe or pump suction pipe; termination.

Rule 827. In screened wells, the bottom of a tail pipe or pump suction pipe shall terminate not less than 5 feet above the top of the screen.

R 325.10828 Casing vents; sampling tap; relief valves.

Rule 828. (1) Casing vents shall be:

(a) Provided on all wells and constructed to prevent the entrance of contaminants into the well.

(b) Extended to the outside atmosphere above the room level if toxic or flammable gases are present.

(2) Provisions shall be made for collection of water samples by installation of a proper sampling tap in a convenient location as close to each well as possible.

(3) Air-vacuum relief valves, where used, shall be constructed to prevent entrance of contaminants
into the well.

R 325.10829 Well appurtenances; type I public water supplies.

Rule 829. (1) The following is required of each well serving type I public water supplies:
(a) Each well shall be equipped with a meter or other acceptable means to measure the volume of water produced.
(b) Each well shall be provided with an electrical outlet energized with the pump motor, chemical injection taps, and space necessary for the addition of chemicals so that treatment equipment can be readily connected to the well discharge line in the event the department requires chemical treatment to protect the public health.
(c) Each well shall be equipped to allow pumping to waste without interrupting normal service in the distribution system.
(d) Each well shall be equipped with a means to measure the water level.
(2) Subdivisions (a) and (b) of subrule (1) do not apply to individual wells which are a part of a multiple well field serving a type I public water supply if the multiple well field is equipped in accordance with the provisions of subdivisions (a) and (b) or where a well is a raw water source for a treatment system when the treatment system is equipped with a meter or other acceptable means to measure the volume of water produced.

R 325.10830 Yield or performance testing requirements.

Rule 830. (1) Each well constructed to serve a public water supply shall be tested for yield or performance, by a method approved by the department, after installation of a production well and prior to use of a well to supply water to a waterworks system.
(2) For type I and type IIa public water supplies, yield tests or performance tests shall be performed on the test well or production well. The tests may be required to:
(a) Determine the adequacy of well depth and development.
(b) Secure water samples for quality analyses.
(c) Determine well capacity and production on a long term basis.
(d) Determine drawdown.
(e) Select permanent pumping equipment.
(f) Evaluate well efficiency.
(g) Assure proper utilization and protection of ground water aquifers.
(3) For type IIb and type III public water supplies, yield tests or performance tests of wells shall demonstrate that water can be safely withdrawn from an aquifer in sufficient quantity to provide water for drinking and household purposes and of a quality meeting the state drinking water standards.

R 325.10831 New or reconditioned well; disinfection; water samples.

Rule 831. (1) A new or reconditioned well or pump installation or well facility which is opened for maintenance or inspection shall be pumped to waste until the water is as clear as reasonably possible. Thereafter, the well and pumping equipment shall be properly disinfected.
(2) Before placing a new or reconditioned well or a well facility which is opened for maintenance or inspection into service, not less than 2 consecutive water samples for bacteriological analyses shall be collected from the installation and each analysis shall not indicate the presence of coliform. Analyses for other contaminants may be required by the department.
R 325.10832 Abandoned wells.

Rule 832. An abandoned well shall be properly filled and sealed to prevent it from becoming a hazard or serving as a channel for contamination of the ground water or the escape of subterranean gas.

R 325.10833 Rescinded.
PART 9. SURFACE WATER SOURCES

R 325.10901. Purpose

Rule 901. The purpose of this part is to establish certain requirements for the location and use of raw water intakes in surface water sources to assure a continuously adequate quantity of the best quality raw water available for treatment and distribution to the public.

R 325.10902. Applicability, approval of deviations from minimum standards and requirements.

Rule 902. (1) The provisions of this part apply to all public water supplies utilizing surface water sources. These rules are minimum standards and requirements which shall be considered by the department in the issuance of permits or approvals for waterworks systems or portions thereof.

(2) Deviations from the minimum standards and requirements prescribed by this part may be approved by the department upon a showing by an owner of a public water supply that a deviation will not adversely affect the public health. Deviations from this part shall be by permit condition for type I and type II public water supplies, and in writing by the department for type III public water supplies.

R 325.10904. Retroactivity of rules.

Rule 904. This part is not retroactive for intakes in surface water sources constructed before the effective date of these rules, except upon a determination by the department that continued use of the intake or surface water source poses a health hazard.

R 325.10905. Sanitary survey of proposed surface water source.

Rule 905. (1) A sanitary survey of a proposed surface water source shall be performed by the owner of a public water supply. The scope or need for the sanitary survey shall be established in advance by the department after consultation with the owner.

(2) All of the following shall be determined for each alternate location of a surface water intake:
   (a) The normal water quality.
   (b) Any significant variations in water quality.
   (c) Any existing or potential hazards to public health.
   (d) The suitability of the water for treatment.
   (e) The availability of an adequate and dependable source.

(3) Previous sanitary surveys of the same surface water source may be considered by the department in determining the scope or need for a sanitary survey required by subrule (1).

(4) The results of the sanitary survey shall be submitted to the department for review, and approval shall be obtained prior to the issuance of a permit for the construction or use of an intake in a surface water source.

(5) Where the water quality of the proposed surface water source is unknown, the department may require sampling and analysis by the supplier of water for a period not to exceed 1 year to determine water quality and suitability of the water for treatment.

R 325.10906. Intake from surface water source; design capacity.

Rule 906. An intake from a surface water source shall be designed to withdraw raw water in no greater quantity than the available yield at the 100 year drought elevation or flow.
R 325.10907. Intake inlet and pipeline.

Rule 907. (1) The intake inlet shall be submerged so that hazards of the source waters, including physical hazards, icing hazards, and shipping hazards are minimized.
(2) Approval of the intake inlet configuration and construction materials shall be based on protection of the structure and control of the inlet velocity.
(3) The intake pipeline shall be constructed to reasonably protect against physical hazards associated with the surface water source.

R 325.10908. Approval of intake materials.

Rule 908. Classes and types of materials used for intake pipelines, joints, and intake inlets shall be as approved by the department.

R 325.10909. Pressure testing required.

Rule 909. Pressure testing is required and the intake line shall meet the requirements of the pressure test prior to placing a new intake line into service.
PART 10. TREATMENT SYSTEMS AND PUMPING FACILITIES

R 325.11001. Purpose.

Rule 1001. The purpose of this part is to establish requirements to be met by suppliers of water providing treatment of surface water sources or other sources of water requiring treatment, and to establish requirements for water pumping facilities operated by suppliers of water to provide a continuously adequate quantity of water meeting the state drinking water standards.

R 325.11002. Applicability, approval of deviations from minimum standards and requirements.

Rule 1002. (1) The provisions of this part apply to all public water supplies that utilize sources of water requiring complete treatment, to certain other treatment systems, and to all water pumping facilities. These rules are standards and requirements which shall be considered by the department when issuing permits or approvals for waterworks systems.

(2) Deviations from the minimum standards and requirements prescribed by this part may be approved by the department upon a showing by an owner of a public water supply that the deviation will not adversely affect public health.

(3) Any deviations to the requirements for complete treatment of water sources shall not be in conflict with the provisions of 40 C.F.R. part 141 (June 29, 1989). For purposes of this subrule, the provisions of 40 C.F.R. part 141 (June 29, 1989) are adopted by reference. Copies of the adopted material may be obtained from the United States Environmental Protection Agency, Region V, Water Supply Branch, 230 South Dearborn Street, Chicago, Illinois, 60604, at no cost, or from the Michigan Department of Public Health, Division of Water Supply, 3423 North Logan Street, Lansing, Michigan, 48909, at no cost.

R 325.11004 Treatment technique requirements for surface water sources and other sources.

Rule 1004. (1) A public water source shall be in compliance with the requirements of R 325.10807, R 325.10808, R 325.10812, R 325.10813, R 325.10816, R 325.10817, R 325.10819, R 325.10820, R 325.10822, shall demonstrate a safe microbiological water quality history, and may be required to demonstrate stability in other measurements of water quality or the source shall be subjected to complete treatment.

(2) The department may grant a deviation from the provisions of subrule (1) of this rule where a treatment system which includes filtration is demonstrated to be capable of producing finished water that meets the state drinking water standards. A system for which such a deviation has been granted is considered a source of water that requires complete treatment for purposes of determining compliance with other rules.

(3) All treatment systems for public water supplies using a surface water source or any source of water requiring complete treatment shall provide sufficient disinfectant contact time at the rated treatment capacity before entry of the water to the distribution system to assure adequate disinfection. Beginning June 29, 1993, each public water system where complete treatment is required shall provide disinfection treatment as follows:

(a) The disinfection treatment shall be sufficient to ensure that the total treatment processes of that system achieve not less than 99.9% (3-Log) inactivation or the removal of Giardia lamblia cysts and not less than 99.99% (4-Log) inactivation or the removal of viruses.

(b) The residual disinfectant concentration in the water entering the distribution system, measured as specified in the approved analytical technique, shall not be less than 0.2 milligrams per liter for more than 4 hours.
(c) The residual disinfectant concentration in the distribution system, measured as total chlorine, combined chlorine, or chlorine dioxide, as specified in the approved analytical technique, shall not be undetectable in more than 5% of the samples each month for any 2 consecutive months that the system serves water to the public. Water in the distribution system with a heterotrophic bacteria concentration less than or equal to 500 per milliliter, measured as heterotrophic plate count (HPC) as specified in the approved analytical technique, is deemed to have a detectable disinfectant residual for purposes of determining compliance with this subdivision.

(d) If the department determines, based on site-specific considerations, that a system does not have means for having a sample transported and analyzed for HPC by a certified laboratory under the requisite time and temperature conditions specified in the approved analytical technique and that the system is providing adequate disinfection in the distribution system, the requirements of subdivision (c) of this subrule do not apply.

(4) The requirements of this subrule become effective June 29, 1993. The turbidity level of representative samples from the plant tap shall be taken at regular intervals and shall not be more than 5 NTU. For systems that use conventional filtration, the turbidity level of representative samples of a system's filtered water shall be less than or equal to 0.5 NTU in not less than 95% of the measurements taken each month, except that if the department determines that the system is capable of achieving a Giardia lamblia removal rate of not less than 99.9% or the inactivation of Giardia lamblia cysts at some turbidity level higher than 0.5 NTU in not less than 95% of the measurements taken each month, the department may substitute this higher turbidity limit for that system. However, a turbidity limit shall not be more than 1 NTU in more than 5% of the samples taken each month. For systems that use slow sand filtration or diatomaceous earth filtration, the turbidity level of representative samples of a system's filtered water shall be less than or equal to 1 NTU in not less than 95% of the measurements taken each month; however, if the department determines, for a slow sand filtration system, that there is no significant interference with disinfection at a higher turbidity level, the department may substitute this higher turbidity limit for that system. A public water system may use a filtration technology other than conventional filtration, slow sand filtration, or diatomaceous earth filtration if it demonstrates to the department, using pilot plant studies or other means, that the alternative filtration technology, in combination with disinfection treatment, consistently achieves a 99.9% removal rate of, or the inactivation of, Giardia lamblia cysts and a 99.99% removal rate of, or the inactivation of, viruses. Such a system shall meet the turbidity requirements of this subrule pertaining to slow sand filtration.

(5) A public water supply that is not excluded from the complete treatment requirements of subrule (1) of this rule shall provide complete treatment by June 29, 1993, or within 18 months of the determination by the department that complete treatment is required, whichever is later. The system shall provide interim disinfection and monitoring as deemed necessary by the department. The system shall collect at least 1 sample near the first service connection for each day that the turbidity level of the source water is more than 1 NTU. This sample shall be analyzed for total coliform. When 1 or more turbidity measurements in any day are more than 1 NTU, the system shall collect this sample for coliform analysis within 24 hours of the first determination that a turbidity measurement is more than 1 NTU. Sample results from this coliform monitoring shall be included in determining compliance with the total coliform standard.

(6) Disinfection shall be provided for public water supplies that employ phosphate treatment systems or certain iron removal treatment systems.

R 325.11005. Treatment system; measurement of volume and rate of finished water flow.

Rule 1005. Each treatment system shall be provided with a means to measure the volume and rate of finished water produced.
R 325.11006. Rated capacity of a complete treatment system.

Rule 1006. (1) The department shall establish the rated capacity of new or existing complete treatment systems.

(2) The department shall notify the supplier of water of its determination of rated capacity within 1 year from the effective date of these rules or on the permit for a complete treatment system or on the permit for an existing complete treatment system which undergoes alterations which affect rated capacity.

(3) The rated capacity of the complete treatment system is the smallest of the following rated capacities for each element or unit of the system:

(a) Intake -- The rated capacity of the intake is the lesser of the intake capacity at the 100 year drought elevation or the intake capacity at the time of the lowest recorded elevation of surface water at the point of intake.

(b) Raw water supply -- The rated capacity of the raw water supply is the firm capacity of raw water pumping units or the total flow from a system supplying raw water by gravity under minimum source water elevation conditions.

(c) Treatment processes -- The rated capacity of treatment processes including coagulation, precipitation, sedimentation, and filtration is the established maximum allowable treatment rate. Where less than 4 filters are provided, the rated capacity of the filters is the maximum allowable treatment rate with the largest filter removed from service.

(d) Finished water supply -- The rated capacity of the finished water supply to the distribution system or storage is the firm capacity of pumping systems or the total flow from a system supplying finished water by gravity under the limiting head condition.

R 325.11007. Retroactivity of rules.

Rule 1007. R 325.11008 is not retroactive for existing complete treatment systems except upon a determination by the department that continued use of the existing system represents a health hazard.

R 325.11008 Complete treatment system; design and operation requirements.

Rule 1008. (1) A minimum of 2 units shall be provided for each treatment process for coagulation, sedimentation, and filtration.

(2) A sufficient primary coagulant dose shall be added to create a settleable or filterable floe at all times that a complete treatment plant or direct filtration plant is in operation.

(3) Essential chemical systems for the application of disinfectants, primary coagulants, and other chemicals, as required by the department, shall be equipped to provide service at the maximum allowable treatment rate with the largest unit removed from service.

(4) Equipment provided for disinfection required under subrule (3) of this rule shall be capable of treatment at the rated treatment capacity with the largest unit removed from service.

(5) Application points for disinfection shall be provided, or be available, at all of the following locations:

(a) Before coagulation.

(b) Immediately preceding filtration.

(c) Immediately following filtration.

(d) Immediately before entry of finished water into the distribution system.

(6) Each unit or element of a complete treatment system shall be provided with a means to remove it from service without interrupting the treatment process. However, a complete bypass of the coagulation, sedimentation, or filtration processes is prohibited.

(7) Each unit or element of a complete treatment system shall be provided with a means to drain and with overflow control sufficient to prevent flooding of the facility.

(8) There shall be no common walls between finished water and water of lesser quality.
(9) Each complete treatment system shall be provided with a means to measure the volume and rate of raw water supplied and finished water produced.

(10) A complete treatment system shall be protected from the highest recorded flood elevation or the 100-year flood elevation, whichever is greater.

(11) Components of a complete treatment system which are essential for the protection of the public health and which are required for the production of drinking water on a continuous basis shall be protected from flooding.

R 325.11009. Treatment system operator.

Rule 1009. An operator certified in accordance with part 19 of these rules shall be present at all times during operation of the treatment processes at a complete treatment system or other treatment system using a surface water source.

R 325.11010. Applicability of pumping facility.

Rule 1010. R 325.11011 and R 325.11012 apply to all raw water, finished water, and distribution system pumping installations in type I and type IIA public water supplies, except distribution system pumping facilities where service is provided to less than 50 service connections or to less than 200 individuals.

R 325.11011. Pumping facility; capacity.

Rule 1011. (1) A pumping facility shall have sufficient capacity to meet the service area demands with the largest unit removed from service.

(2) Compliance with this rule for public water supplies in operation on the effective date of these rules shall be achieved by January 1, 1985.

R 325.11012. Pumping facility; servicing.

Rule 1012. Each unit of a pumping facility shall be provided with a means to remove it from service without interrupting service to the distribution system.

R 325.11013. Pumping facility; storage and demand.

Rule 1013. All pumping facilities operating with hydropneumatic storage systems or with less than adequate gravity storage systems shall have capacity equal to, or greater than, peak instantaneous demands. This rule shall apply to all public water supplies.

R 325.11014. Pumping facility; protection from flooding.

Rule 1014. (1) A pumping facility shall be protected from the highest recorded flood elevation or the 100 year flood elevation, whichever is greater.

(2) Components of a pumping facility essential for protection of public health and required for pumping water on a continuous basis shall be protected from flooding.

R 325.11015. Pumping facility; pressure.

Rule 1015. (1) All finished water pumping facilities shall be designed to maintain a minimum pressure of 5 p.s.i. gauge in all buried suction piping and suction piping subject to flooding.

(2) For finished water pumping facilities taking direct suction from a distribution system, an adequate pressure shall be maintained in the distribution system on the low pressure side of the facility.
R 325.11016. Protection of treatment systems and pumping facilities.

Rule 1016. Suppliers of water shall take reasonable precautions to protect treatment systems and pumping facilities from trespassers and to prevent introduction of contaminants into the waterworks system.
PART 11. DISTRIBUTION SYSTEMS AND STORAGE TANKS

R 325.11101. Purpose

Rule 1101. The purpose of this part is to establish certain requirements for distribution systems and water storage tanks to assure a continuously adequate quantity and quality of water for drinking and household purposes.

R 325.11102. Applicability; approval of deviations from minimum standards and requirements.

Rule 1102. (1) The provisions of this part apply to all public water supplies. These rules are minimum standards and requirements which shall be considered by the department in the issuance of permits or approvals for waterworks systems.

(2) Deviations from the minimum standards and requirements prescribed by this part may be approved by the department upon a showing by an owner of a public water supply that a deviation will not adversely affect the public health. Deviations from this part shall be by permit condition for type I public water supplies, and in writing by the department for type II and type III public water supplies.

R 325.11104. Retroactivity of rules.

Rule 1104. This part is not retroactive for existing distribution systems and water storage tanks except upon a determination by the department that continued use of a distribution system or storage tank poses a health hazard.

R 325.11105. Capacity of distribution system; fire hydrants; inadequately sized watermains.

Rule 1105. (1) Distribution systems shall have sufficient capacity to meet peak demands, including fire flow demands where fire protection is provided, while continuously maintaining positive pressure adequate for service.

(2) The department may prohibit installation of fire hydrants where watermain capacity, system source capacity, storage capacity, or pressure is inadequate to sustain fire flow demands in addition to normal user demands.

(3) Replacement of inadequately sized watermains with watermains of the same size is prohibited.

R 325.11106. Watermain and joint materials.

Rule 1106. Classes and types of materials used for watermains and joints shall be as approved in writing by the department.

R 325.11107. Isolation of watermains from sources of contamination.

Rule 1107. All public water supplies shall maintain adequate vertical and horizontal isolation of watermains from sources of contamination.

R 325.11108. Distribution system valves.

Rule 1108. (1) Sufficient valves shall be provided on distribution systems to minimize interruptions in service and minimize sanitary hazards during construction or repairs.
(2) Automatic air relief and automatic vacuum relief valves, if provided on the distribution system, shall be installed and maintained to prevent contaminants from entering the distribution system.

(3) Buried stop-and-waste valves on service lines and the installation of other valves with openings subject to flooding are prohibited.

R 325.1109. Type I public water supplies; pressure testing of new watermains.

Rule 1109. For type I public water supplies, pressure testing is required for new watermains, and the requirements of the pressure test shall be met prior to placing a new watermain in service.

R 325.11110 Distribution systems; flushing, disinfection, and water analysis.

Rule 1110. (1) Proper techniques shall be followed during construction to keep water mains clean and dry. New water mains shall be flushed thoroughly before disinfection.

(2) Disinfection of new water mains is required.

(3) Before placing a new water main in service, not less than 2 consecutive water samples for bacteriological analysis shall be collected and each analysis shall not indicate the presence of coliform. Analyses for other contaminants may be required if the department has reason to believe that these contaminants are present.

(4) The owner of a public water supply in which all or part of a distribution system is not in year-round service shall disinfect the distribution system before resuming use. Bacteriological sampling and analysis shall be performed and shall show results that meet the state drinking water standards before resuming use.

R 325.11111. Distribution system records.

Rule 1111. A supplier of water shall maintain adequate records on the operation of the water distribution system, on the location and type of maintenance performed, and on the type of materials and appurtenances used.

R 325.11112. Storage tanks, generally.

Rule 1112. All storage tanks including hydropneumatic or gravity storage tanks which are used for the storage of finished water shall meet all of the following requirements:

(a) Be watertight below the maximum water level elevation.

(b) Be constructed with materials and coatings approved by the department pursuant to part 21 of these rules.

(c) Have no unprotected openings.

(d) Be provided with access to the inside of the tank for inspection or repair.

(e) Be capable of being isolated from the distribution system and drained without interrupting service to users or customers.

(f) Prevent sediment or debris which may collect in the tank from entering the distribution system.

R 325.11113. Gravity storage tanks.

Rule 1113. All gravity storage tanks shall be provided with all of the following:

(a) A watertight and properly drained roof.

(b) A vent of sufficient size.

(c) An overflow line of sufficient size.

(d) A high and low level warning device.
Rule 1114. (1) The bottom of a ground level gravity storage tank shall be above the highest ground water level.

(2) The bottom of a ground level gravity storage tank shall be located at least 1 foot above the 100 year flood elevation or the maximum recorded flood elevation, whichever is greater.

(3) The site of a ground level gravity storage tank shall be graded to direct surface drainage away from the tank.

Rule 1115. Hydropneumatic storage tanks.

(1) For Type I and type IIa public water supplies, a hydropneumatic tank shall be located above the established ground surface and installed in a wellhouse, except it shall be acceptable to expose 1 end of the hydropneumatic tank and the controls in a wellhouse and mound earth cover material over the remainder of the tank.

(2) For type IIb and type III public water supplies, a hydropneumatic tank may be partially buried if controls are located in an approved basement or in a room or pit drained by gravity to the ground surface. A totally buried hydropneumatic tank may be used if manufactured and installed as approved by the department.

Rule 1116. Type I public water supplies; pressure testing of new storage tanks.

For type I public water supplies, hydrostatic pressure testing is required for new storage tanks, and the requirements of the pressure test shall be met prior to placing a new storage tank into service.

Rule 1117. Storage tanks; disinfection and water analysis.

(1) Proper techniques shall be followed during construction to keep storage tanks clean and dry.

(2) A finished water storage tank shall be disinfected before initial use and after any internal maintenance or repair activity.

(3) After construction, repair, or maintenance of a storage tank, not less than 2 consecutive water samples for bacteriological analysis shall be collected and each analysis shall not indicate the presence of coliform. Analyses for other contaminants may be required if the department has reason to believe that these contaminants are present.

Rule 1118. Protection of storage tanks.

Suppliers of water shall take reasonable precautions to protect storage tanks from trespassers and to prevent introduction of contaminants into the distribution system or storage tanks.
PART 12. RELIABILITY

R 325.11201. Purpose.

Rule 1201. The purpose of this part is to establish certain requirements for maintaining the reliability of public water supply systems to assure a continuous supply of water for drinking and household purposes.

R 325.11202. Applicability; approval of deviations from minimum requirements.

Rule 1202. (1) The provisions of this part apply to all type I public water supplies and are minimum requirements of the department.

(2) Deviations from the minimum requirements prescribed by this part may be approved in writing by the department.

R 325.11203. Study of water supply requirements for type I public water supply; proposal for compliance.

Rule 1203. (1) The owner of a type I public water supply shall conduct a study to determine the quantity of water supply needed for the waterworks system and shall propose a method of compliance in accordance with R 325.11204.

(2) The study required by subrule (1) shall be based upon 10 year projections of water use by the public water supply. The study shall be updated every 5 years unless this requirement is waived by the department.

(3) As a minimum, the information presented in this study shall include all of the following:

(a) The present and projected average daily demand.
(b) The present and projected maximum daily demand.
(c) The present and projected maximum hourly demand.
(d) The present and projected peak instantaneous demand for systems using hydropneumatic storage.
(e) The present and projected fire flow demand.
(f) The basis of demand projections.

(4) The initial study to determine the quantity of water supply needed, as required by subrule (1), shall be submitted to the department by January 1, 1981, or at the time a new finished water source is proposed.

(5) If the owner of a type I public water supply fails to provide an adequate study of water supply requirements, the department may determine the quantity of water supply needed for that public water supply and notify the owner of its determination. A permit shall not be issued by the department to a public water supply unless an approved study of water supply quantity requirements is available or unless a determination is made by the department pursuant to this subrule.

R 325.11204. Required capacity of waterworks system; compliance date; applicability.

Rule 1204. (1) A supplier of water of a type I public water supply shall provide sufficient capacity in the waterworks system to meet the approved finished water supply requirements. That capacity may be 1, or any combination of, the following:

(a) Rated capacity from an approved surface water supply or complete treatment system.
(b) Firm capacity from an approved ground water supply where firm capacity equals the flow with the largest producing well out of service.
(c) The available capacity obtained under contract and capable of delivery from another approved public water supply.
(d) Finished water storage capacity in excess of the established normal waterworks system requirements.
(2) Compliance with this rule by type I public water supplies in operation on the effective date of these rules is required by January 1, 1985. If compliance is achieved prior to January 1, 1985, the requirements of this rule shall be met thereafter.

(3) Compliance with this rule may be required by the department prior to January 1, 1985, pursuant to an administrative order issued by the director.

R 325.11205. Minimum number of wells; compliance date.

Rule 1205. (1) For type I public water supplies where ground water is the sole source of water supply, a minimum of 2 wells, with separate pumping units as required, shall be provided.

(2) Compliance with this rule for public water supplies in operation on the effective date of these rules is required within 5 years from the effective date of these rules.

R 325.11206. Interruption of power service; applicability; compliance date.

Rule 1206. (1) For a type I public water supply, a means shall be provided to continuously supply finished water to the entire distribution system during periods when the normal power service is interrupted.

(2) This rule does not apply to type I public water supplies serving less than 50 service connections or serving less than 200 individuals, or to those public water supplies serving facilities which are licensed annually by the department including, but not limited to, mobile home parks and health care facilities.

(3) Compliance with this rule is required by January 1, 1985.

R 325.11207. Interruption in water service to distribution system.

Rule 1207. If an interruption in water service to the distribution system occurs due to a failure in the source of supply, the water shall be disinfected in a manner approved by the department and compliance with the state drinking water standards shall be demonstrated by additional bacteriological monitoring. The department may require the supplier of water to provide notice to customers or users of the public water supply in accordance with the provisions of part 4.
PART 13. CONSTRUCTION PLANS AND SPECIFICATIONS AND PERMITS

R 325.11301. Purpose.

Rule 1301. The purpose of this part is to prescribe requirements of suppliers of water of type I and type II public water supplies regarding the submission of plans and specifications or other pertinent information for the construction or alteration of a waterworks system, or a portion thereof, and the procedures for issuance of permits by the department for that construction or alteration.

R 325.11302. Submission of plans and specifications for construction or alteration of waterworks system; guidance material.

Rule 1302. (1) For type I public water supplies, before the construction or alteration of any waterworks system, or a portion thereof, plans and specifications shall be submitted to the department by a supplier of water or his designated agent for review, approval, and issuance of a permit, unless otherwise excepted by subrule (2) of R 325.11304.

(2) A transmittal letter shall be submitted with the plans and specifications, shall identify and summarize plans or projects, and, if applicable, shall indicate the authorization of the designated agent for the supplier of water.

(3) A supplier of water shall use the materials set forth in the "Recommended Standards for Water Works", prepared by the Great Lakes-Upper Mississippi board of state sanitary engineers, whenever applicable, as guidance when preparing plans and specifications for submission to the department for a waterworks system, or portion thereof.

R 325.11303. Engineering report or basis of design; approval.

Rule 1303. (1) If requested by the department, a supplier of water shall submit an engineering report for a significant project or a basis of design, or both, for approval by the department, before plans and specifications are submitted for the construction or alteration of any portion of a waterworks system.

(2) The department may reject or return any plans and specifications submitted by a supplier of water for the construction or alteration of a waterworks system, or any portion thereof, unless an engineering report or basis of design, or both, as requested by the department, have been approved.

R 325.11304. Type I and type II public water supplies; construction details and sketch of proposed waterworks system; replacement of watermains and appurtenances; permit.

Rule 1304. (1) Suppliers of water of type II public water supplies shall submit construction details and an acceptable scaled drawing properly dimensioned showing important aspects of the general layout of a proposed waterworks system, or portion thereof, and shall obtain a permit for the construction or alteration of all source facilities and any treatment facilities which are to be employed for public health purposes prior to construction.

(2) Suppliers of water of type I public water supplies are not required to submit plans and specifications or to obtain a permit for the replacement of an adequately sized watermain or other appurtenance on a distribution system which does not affect flow or capacity.
R 325.11305. Review of plans and specifications by department.

Rule 1305. (1) Upon receipt of plans and specifications or other pertinent information for the construction or alteration of a waterworks system, or any portion thereof, the department shall review them as soon as practicable to determine their completeness with regard to the minimum requirements specified by these rules, and to determine their adequacy. In making its review, the department shall not approve the plans and specifications unless it determines that the waterworks system, or portion thereof, is designed to protect the public health.

(2) If the department determines that plans and specifications or other pertinent information are incomplete or inadequate, it shall notify the supplier of water or authorized agent and may request the submission of revised plans and specifications or other pertinent information with appropriate corrections or additions. The department shall not grant an approval of these submittals or issue a permit until the plans and specifications or other pertinent information are complete and are judged to be adequate.

(3) The department may designate an agent or representative, including a local health department, for the purposes of reviewing information submitted and issuing permits for type II public water supplies, where appropriate.

R 325.11306. Approval of plans and specifications; permit.

Rule 1306. (1) Upon a determination by the department that the plans and specifications or other pertinent information for the construction or alteration of a waterworks system, or portion thereof, are complete and accurate, the department shall make the plans or scaled drawing showing approval and shall issue a permit to the supplier of water.

(2) A permit issued pursuant to the act and these rules shall expire unless construction or alteration commences within 2 years from the date of issuance. A supplier of water may apply for a permit extension in accordance with these rules prior to expiration of a permit. A request for a permit extension shall be submitted in writing identifying the project and the number on the permit issued by the department for which the extension is requested, and the reason for requesting the extension.

R 325.11307. Denial of permit.

Rule 1307. The department may deny a permit request when it determines that a public water supply cannot provide a continuous and adequate supply of water meeting the state drinking water standards.

R 325.11308. Permit terms and conditions.

Rule 1308. The department may attach any term or condition to a permit issued pursuant to the act and these rules to a supplier of water that it deems necessary to assure proper construction, alteration, and operation of a waterworks system, or portion thereof, to protect the public health.

R 325.11309. Revision of approved plans and specifications.

Rule 1309. (1) Changes from approved plans or specifications or other pertinent information which would affect the well or watermain isolation or capacity, flow, treatment, or operation of the waterworks system, or portion thereof, shall be submitted to the department and approval obtained before construction of the changes. Changes from approved proposals shall be submitted in advance of any construction work which will be affected by the changes to allow sufficient time for review and approval by the department.

(2) Revisions or minor changes not affecting isolation, capacity, flows, treatment, or operation may be allowed during construction without the approval of the department.

(3) As built plans, clearly showing the work as constructed, shall be submitted to the department upon request.
R 325.11310. Construction program minimizing operational interference with existing waterworks system.

Rule 1310. The department may request a supplier of water to submit for approval a program for construction which minimizes operational interference with an existing waterworks system, and which allows the supplier of water to maintain continuous service of water to customers or users of that waterworks system in a safe and reliable manner. If requested, the program shall be submitted before commencing construction or an alteration of a waterworks system.

R 325.11311. Revocation of permit.

Rule 1311. The department may revoke a permit if it determines that a supplier of water or a designated agent thereof is not constructing or making an alteration to a waterworks system in accordance with approved plans and specifications, other approved information, or the act. The department shall notify the supplier of water prior to revocation of the permit and afford him the opportunity to take any corrective action as may be required. The department shall revoke the permit and simultaneously order the supplier of water to halt any construction authorized by that permit if the supplier of water does not effect the corrections within a reasonable period of time.
PART 14. CROSS-CONNECTIONS

R 325.11401. Definitions.

Rule 1401. As used in this part:

(a) "Backflow" means water of questionable quality, wastes, or other contaminants entering a public water supply system due to a reversal of flow.

(b) "Safe air gap" means the minimum distance of a water inlet or opening above the maximum high water level or overflow rim in a fixture, device, or container to which public water is furnished which shall be not less than 2 times the inside diameter of the water inlet pipe, but shall not be less than 1 inch and need not be more than 12 inches.

(c) "Secondary water supply" means a water supply system maintained in addition to a public water supply, including but not limited to, water systems from ground or surface sources not meeting the requirements of Act No. 399 of the Public Acts of 1976, being §§325.1001 to 325.1023 of the Michigan Compiled Laws, or water from a public water supply which in any way has been treated, processed, or exposed to any possible contaminant or stored in other than an approved storage facility.

(d) "Submerged inlet" means a water pipe or extension thereto from a public water supply terminating in a tank, vessel, fixture, or appliance which may contain water of questionable quality, waste or other contaminant, and which is unprotected against backflow.

(e) "Water utility" means a governmental unit, municipal or private corporation, association, partnership, or individual engaged in furnishing water to the public for household or drinking purposes.

R 325.11402. Compliance with regulations and local codes.

Rule 1402. A connection with a public water supply system shall comply with existing laws, ordinances, and rules including:

(a) Act No. 266 of the Public Acts of 1929, as amended, being §§338.901 to 338.917 of the Michigan Compiled Laws.

(b) Local ordinances or rules providing acceptable protection against cross-connections.

R 325.11403. Cross-connections prohibited.

Rule 1403. (1) A cross-connection shall not be made between a public water supply system and a secondary water supply.

(2) A cross-connection shall not be made by submerged inlet.

(3) A cross-connection shall not be made between a public water supply and piping which may contain sanitary waste or a chemical contaminant.

(4) A cross-connection shall not be made between a public water supply system and piping immersed in a tank or vessel which may contain a contaminant.

R 325.11404. Local cross-connection control programs.

Rule 1404. (1) A water utility shall develop a comprehensive control program for the elimination and prevention of all cross-connections. The plan for the program shall be submitted to the department of public health for review and approval within 1 year after the effective date of these rules. When the plan is approved, the water utility shall implement the program for removal of all existing cross-connections and prevention of all future cross-connections.
(2) The program shall include but not be limited to all of the following:

(a) A complete description of the method of administering the program, including the designation of inspection and enforcement agency or agencies. The local authority for implementation of the program shall be indicated, preferably by ordinance.

(b) A time schedule for inspection and reinspection of all water utility customers' premises for possible cross-connections. The periodic reinspection shall be to ascertain whether or not safe air gaps or required protective devices are in place and in working order.

(c) A description of the methods and devices, as approved by the department of public health, used to protect the public water supply.

R 325.11405. Corrections and protective devices.

Rule 1405. (1) A user of public water supply shall obtain written approval by the water utility or authorized inspection agency of any proposed corrective action or protective device before using or installing it.

(2) The total time allowed for completion of the necessary corrections shall be contingent upon the degree of hazard involved and include the time required to obtain and install equipment. If the cross-connection has not been removed, after a reasonable period of time, the water utility shall physically separate the public water supply from the onsite piping system in such a manner that the 2 systems cannot again be connected by any unauthorized person.

(3) A water utility shall report annually to the department of public health on the status of the cross-connection control program on a form provided by the department.

R 325.11406. Piping identification.

Rule 1406. When a secondary water source is used in addition to a public water supply system, exposed public water and secondary water piping shall be identified by distinguishing colors or tags and so maintained that each pipe may be traced readily in its entirety. If piping is so installed that it is impossible to trace it in its entirety, it will be necessary to protect the public water supply at the service connection in a manner acceptable to the department of public health.

R 325.11407. Private water storage tanks.

Rule 1407. A private water storage tank supplied from a public water supply system shall be deemed a secondary water supply unless it is designed and approved for potable water usage.
PART 15. OPERATION REPORTS AND RECORDKEEPING

R 325.11501. Purpose.

Rule 1501. The purpose of this part is to establish requirements of certain suppliers of water for the periodic submission of operation reports and for the retention of certain records as required by the provisions of the act and the federal act.

R 325.11502 Monthly operation reports required from suppliers of water employing treatment.

Rule 1502. (1) A supplier of water of a type I public water supply where treatment is employed, or of a type II public water supply where treatment is employed for public health purposes, shall prepare an operation report on a form provided by the department for each month of operation. The report shall identify areas where data entry is required pursuant to R 325.10720 and shall include all of the following information:

(a) General operation data, including turbidity determinations.

(b) A summary of samples analyzed, including distribution system sampling and residual disinfectant concentration.

(c) Information on daily treatment system pumpage.

(d) Information on chemical application.

(e) Analyses of general parameters relating to the quality of the treated drinking water.

(2) The operation report shall be submitted to the division during the month following the month for which the operation report was prepared, except that results of bacteriological analyses and turbidity measurements shall be submitted as required by R 325.11503.

(3) The department may waive the requirement that the owner of a type I public water supply submit a monthly operation report.

R 325.11503 Submission of results of sample analyses or measurements.

Rule 1503. (1) A supplier of water of a public water supply which monitors for bacteriological contamination, turbidity, or residual disinfectant concentration shall prepare and submit, to the department, the results of sample analyses or measurements on a form provided by the department as required by part 7 of these rules. Sample results shall not be submitted to the department more than 40 days from the date of analysis or measurement of the sample.

(2) Sample results of all contaminants that do not meet the MCLs shall be reported to the department in accordance with the provisions of part 7 of these rules.

R 325.11504. Annual reports.

Rule 1504. (1) At the end of the first calendar year after the effective date of these rules and each subsequent year, each type I public water supply which does not submit a monthly operation report shall submit an annual report on a form provided by the department. The department may require certain type II public water supplies to submit annual reports. The report shall include, but not necessarily be limited to, a summary of water pumpage and water use.

(2) The supplier of water shall submit the annual report to the division on or before March 31 following the year for which the report is prepared.
R 325.11505. Additional reports required by department.

Rule 1505. (1) The department may require a supplier of water to submit reports required pursuant to this part on a more frequent basis if the department finds that discrepancies, violations, or other problems are or may be occurring based on the department's review of a monthly or annual operation report or based on a sanitary survey, on-site inspection, surveillance observation, or special investigation conducted by the department.

(2) The department may require a supplier of water to submit other reports as it deems necessary to evaluate the adequacy of the public water supply.

R 325.11505a Submission of C*T calculations.

Rule 1505a. A supplier of water who employs a disinfectant shall, within 6 months of a written request from the department, submit a determination of the C*T calculations. The supplier of water shall submit such supporting data as necessary for the department to determine compliance with the provisions of R 325.11004(3)(a).

R 325.11506. Retention of records.

Rule 1506. (1) A supplier of water of a type I or type II public water supply shall retain on its premises, or at a convenient location near its premises, all of the following records:

(a) Records of bacteriological analyses required pursuant to part 7 of these rules shall be kept for not less than 5 years.

(b) Records of chemical analyses required pursuant to part 7 of these rules shall be kept for not less than 10 years.

(c) Records of turbidity analyses required pursuant to part 7 of these rules shall be kept for not less than 5 years.

(d) Records of radiological analyses required pursuant to part 7 of these rules shall be kept for not less than 10 years.

(2) Actual laboratory reports for chemical, bacteriological, turbidity, and radiological analyses shall be kept, or the data thereon may be transferred to tabular summaries, if all 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 a routine distribution system sample, check sample, raw or treated water sample, or other special purpose sample.

(c) The date of the analysis.

(d) The laboratory and the person responsible for performing the analysis.

(e) The analytical technique or method used.

(f) The results of the analysis.

(3) Records of action taken by a public water supply to correct violations of the state drinking water standards shall be kept for not less than 3 years after the last action taken with respect to the particular violation.

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

(5) Records concerning a variance or an exemption granted to a public water supply shall be kept for not less than 5 years following the expiration date of the variance or exemption.

(6) Records concerning any emergency or public notification regarding a public water supply shall be kept for not less than 3 years after the emergency or public notification.
PART 16. GENERAL PLANS

R 325.11601. Purpose.

Rule 1601. It is the purpose of this part to establish requirements of certain suppliers of water for the submission and updating of waterworks system general plans to satisfy the requirements of subsection (1) of section 4 of the act.

R 325.11602. Type I and type II public water supplies; submission of general plans to department.

Rule 1602. (1) General plans for type I public water supplies shall be submitted to the department within 2 years after the effective date of these rules, except that this subrule shall not apply to those type I public water supplies serving less than 50 service connections or less than 200 persons and those serving facilities which are licensed annually by the department including, but not limited to, mobile home parks and health care facilities.

(2) The department, by written notice, may require suppliers of water of specific type II public water supplies to provide a copy of a general plan of a waterworks system. A supplier of water so notified shall provide a copy of a general plan to the department within 1 year after receipt of the written notice.

R 325.11603. Acceptability of previous general plans; updating requirements.

Rule 1603. (1) Suppliers of water having previously provided a general plan to the department meet the requirements of this part unless the department determines that the plans previously submitted are inadequate.

(2) The department may require the updating of a waterworks system general plan required pursuant to this part on a periodic basis by providing written notice to the supplier of water. The supplier of water so notified shall provide an updated general plan to the department within 6 months after receipt of the written notice.

R 325.11604. Contents of general plans.

Rule 1604. (1) The required general plan for a waterworks system shall contain, at a minimum, all of the following information, where pertinent:

(a) The general layout of the entire waterworks system, including treatment systems and distribution systems, and the location of valves, hydrants, storage tanks, watermains, and their size, pumps, wells, and pumping facilities.

(b) An identification of locations in the distribution system where the pressure may be less than 20 p.s.i. during peak flow.

(c) An identification of the entire area served or proposed to be served by the public water supply.

(d) Rated capacity of the waterworks system, including capacity of the developed water source, treatment system, storage tanks, pumping facilities, and equipment to maintain system reliability.

(2) A supplier of water may include with the general plan additional information including, but not necessarily limited to, the number of service connections, fire fighting capabilities, location of access roads, chemical delivery features, standby power, laboratory facilities, location of sampling stations, and a description of the meter system.
PART 17. OWNERSHIP OF PUBLIC WATER SUPPLIES

R 325.11701. Purpose

Rule 1701. The purpose of this part is to prescribe certain requirements and procedures in accordance with section 10 of the act for private ownership of certain type I public water supplies when public ownership cannot be achieved.

R 325.11702. Intent.

Rule 1702. Regulatory jurisdiction over public water supplies in this state is for the declared purpose of protecting the public health and to assure that public water supplies and waterworks systems are properly planned, constructed, maintained, and operated. It is a well established principle in this state that type I public water supplies be operated and maintained in an effective manner at all times and that adequate provision be made for a continuing administrative authority to accomplish this objective. Department procedures which have been in effect have strongly encouraged public ownership of all type I public water supplies. Accordingly, it is the department’s belief that all avenues must be thoroughly explored with local governmental units to achieve public ownership of those public water supplies. If it is determined by the department that a local unit of government will not accept responsibility for ownership and operation of a type I public water supply, specific procedures must be established prior to issuance of a permit for construction of waterworks systems associated herewith.

R 325.11703. Applicability.

Rule 1703. (1) After January 4, 1979, these rules shall apply to all privately-owned type I public water supplies except those serving facilities which are licensed annually by the department including, but not limited to, mobile home parks and health care facilities.

(2) This part applies to all type I public water supplies which are proposed to be constructed after the effective date of these rules, and to any proposed substantial additions or modifications to a type I public water supply which is privately-owned on the effective date of these rules, if the department determines that the operation of that public water supply does not meet the requirements of the act or these rules.

R 325.11704. Delegation of acceptance of ownership and operational responsibility of water supply by city, village or township.

Rule 1704. A city, village, or township may delegate to a county, authority, district, or other public entity the acceptance of ownership and operational responsibility of any water supply within its jurisdiction. This delegation may be considered by the department to be adequate public ownership to meet the requirements of the act and these rules.

R 325.11705. Private ownership of type I public water supply permitted; proof of refusal to accept ownership or operational responsibility by governmental entity.

Rule 1705. (1) If the division determines that ownership and operation of a type I public water supply by a local governmental agency is not practical for a particular public water supply, private ownership shall be allowed with adequate provisions to assure a continuous operation of the public water supply which meets the requirements of the act and these rules.
(2) The department shall not accept plans and specifications from, nor shall a permit be issued to, an owner of a proposed type I public water supply which is to be privately-owned unless proof of refusal to accept ownership or operational responsibility of that public water supply is submitted in a formal resolution of the governing body of a city, county, village, township, or other governmental entity under whose jurisdiction the public water supply is included, or where proof of refusal is established to the satisfaction of the department.

R 325.11706. Stipulations by owner of privately-owned type I public water supply.

Rule 1706. (1) At the time an owner of a type I public water supply which is, or is proposed to be, privately-owned submits plans and specifications to the department, the owner shall stipulate that the public water supply shall be operated in such a manner as to assure the customers or users thereof a sufficient quantity of water under adequate pressure and a quality of water meeting the state drinking water standards.

(2) The owner of a type I public water supply, which is proposed to be privately-owned, shall stipulate to transfer the ownership and operation of the entire public water supply to a governing body of a city, village, or township, or its designated public entity, by an acceptable agreement between the parties, and with prior approval by the department.

R 325.11707. Escrow fund.

Rule 1707. (1) In accordance with section 10 of the act, the owner of a type I public water supply, which is proposed to be privately-owned, shall establish a continuing cash escrow fund prior to the issuance of a permit, which fund shall be available to the department for immediate repair or maintenance of the public water supply if the owner fails to meet the responsibilities under the act and these rules.

(2) The amount of the escrow fund required shall be calculated on the basis of $100 per living unit proposed to be served by the public water supply, but in no case shall the escrow fund amount be less than $5,000, or exceed $50,000.

(3) Upon establishment of a written agreement between the owner of a privately-owned public water supply and the governing body of a city, village, or township which establishes a date certain by which the privately-owned public water supply ownership shall be transferred to that governing body, the department may reduce the amount of the required escrow fund.

(4) When the ownership of a privately-owned public water supply is transferred to the governing body of a city, village, or township, the department shall authorize return of the escrow fund and accrued interest to the owner of the privately-owned waterworks system.

R 325.11708. Removal of funds from escrow account.

Rule 1708. (1) Upon a determination by the department that removal of funds from an escrow account is required, only the director or his designated agent may remove funds from the escrow account to make the necessary corrections.

(2) It is the responsibility of the owner of a privately-owned waterworks system to replace all funds removed from the account by the director or his designated agent as required for needed improvements or corrections to the waterworks system within 90 days after removal of the funds to maintain the account at the original level.

R 325.11709. Privately-owned public water supply; easements; isolation area for wells; abandonment of wells.

Rule 1709. (1) The owner of a public water supply which is proposed to be privately-owned shall provide or obtain all necessary easements for any portion of the waterworks system which is not located in the public right-of-way.
(2) The isolation area for wells serving a public water supply which is, or is proposed to be, privately-owned shall be defined in the plans and specifications submitted to the department pursuant to the act and part 13 of these rules and shall be considered to be a part of the waterworks system.

(3) If the wells associated with a privately-owned waterworks system are abandoned, ownership or easements shall be retained as may be necessary for the operation of the remainder of the waterworks system. The procedures for abandonment of wells shall be in accordance with the requirements of the act and part 8 of these rules.

R 325.11710. Privately-owned waterworks system; additional service connections.

Rule 1710. The owner of a privately-owned waterworks system shall not provide additional service connections to other living units or facilities in excess of the total number specified on, and approved by issuance of, a permit by the department. If an owner of a privately-owned waterworks system wishes to provide service to additional living units or facilities, a permit shall be obtained from the department.

R 325.11711. Transfer of ownership of a privately-owned waterworks system.

Rule 1711. If ownership of a privately-owned waterworks system is transferred to another private owner, the former owner shall notify and receive approval from the department not less than 90 days prior to the change in ownership. The escrow fund established for that waterworks system shall be maintained by the new owner.

R 325.11712. Filing names of operation personnel.

Rule 1712. The owner of a privately-owned waterworks system shall file with the department the name, address, and telephone number of not less than 2 persons having direct responsibility for the daily operation and maintenance of the waterworks system who can be contacted in the event of any emergency or requirement relative to its operation.

R 325.11713. Approval of a privately-owned public water supply.

Rule 1713. The department shall approve a privately-owned public water supply only by issuance of a permit, and in addition, shall stipulate with the owner for entry of a consent order outlining the specific operation and maintenance requirements of that waterworks system and the amount of the escrow fund required. If the owner of the privately-owned waterworks system refuses to stipulate to the entry of a consent order, the department shall not issue a permit for the privately-owned waterworks system.
PART 19. EXAMINATION AND CERTIFICATION OF OPERATORS

R 325.11901. Classification of treatment systems.

Rule 1901. (1) Complete treatment systems are classified in 4 classes based on population served by the public water supply or designated treatment capacity of the treatment system as follows:

(a) Class F-1: Complete treatment systems for type I public water supplies serving a population greater than 20,000, or with a designated treatment capacity greater than 5.0 million gallons of water per day.

(b) Class F-2: Complete treatment systems for type I public water supplies serving a population from 4,000 to 20,000, or with a designated treatment capacity from 2.0 to 5.0 million gallons of water per day.

(c) Class F-3: Complete treatment systems for type I public water supplies serving a population from 1,000 to 4,000, or with a designated treatment capacity from 0.5 to 2.0 million gallons of water per day.

(d) Class F-4: Complete treatment systems for type I public water supplies serving a population of less than 1,000, or with a designated treatment capacity less than 0.5 million gallons of water per day.

(2) Those treatment systems including, but not limited to, disinfection, fluoridation, iron removal, zeolite softening, phosphate application, or filtration other than complete treatment, are classified in 4 classes based on population served by the public water supply or designated treatment capacity of the treatment system; and a limited class as follows:

(a) Class D-1: Treatment systems for type I public water supplies serving a population greater than 20,000, or with a designated treatment capacity greater than 5.0 million gallons of water per day.

(b) Class D-2: Treatment systems for type I public water supplies serving a population from 4,000 to 20,000, or with a designated treatment capacity from 2.0 to 5.0 million gallons of water per day.

(c) Class D-3: Treatment systems for type I public water supplies serving a population from 1,000 to 4,000, or with a designated treatment capacity from 0.5 to 2.0 million gallons of water per day.

(d) Class D-4: Treatment systems for type I public water supplies serving a population of less than 1,000, or with a designated treatment capacity less than 0.5 million gallons of water per day.

(e) Class D-SL: A limited classification, and a special limited certificate for an operator of a treatment system for a specific type II public water supply where treatment is employed for health related purposes and where it is determined by the department that the public health will be adequately protected if an oral examination is given and an on-site evaluation of the operator's skill is conducted by the division. An operator with a D-SL certificate shall not be certified to operate a treatment system at another public water supply.

R 325.11902. Classification of distribution systems.

Rule 1902. The following 4 classifications are assigned to distribution systems for type I public water supplies:

(a) Class S-1: Distribution systems for type I public water supplies serving a population greater than 20,000.

(b) Class S-2: Distribution systems for type I public water supplies serving a population from 4,000 to 20,000.
(c) Class S-3: Distribution systems for type I public water supplies serving a population from 1,000 to 4,000.

(d) Class S-4: Distribution systems for type I public water supplies serving a population of less than 1,000.

R 325.11903. Change in classification of treatment system or distribution system.

Rule 1903. For purposes of this part, treatment systems and distribution systems in any classification established by R 325.11901 and R 325.11902 may be placed in a different classification by the department by reason of incorporation in the treatment system of special features of design, making operation different from usual, by reason of a particularly difficult type of raw water, upon a finding that the population served has changed or for other reasons deemed necessary by the department.

R 325.11904. Notification of change in classification.

Rule 1904. (1) A supplier of water of a public water supply affected by a change in classification shall be notified by the department by mail not less than 6 months prior to the next operator certification examination. A change in classification by the department shall be effective 6 months after the date of the next applicable examination.

(2) The classification of a newly constructed F-1, F-2, F-3, or F-4 treatment system shall be effective at the time of initial operation.

R 325.11905. Certification of operators.

Rule 1905. (1) An operator who is in charge of a treatment system or a distribution system at a type I public water supply, or of a treatment system at a type II public water supply where treatment is employed for health-related purposes, shall hold active status certification in an assigned classification established pursuant to the provisions of R 325.11901 or R 325.11902, unless a deviation is authorized by the department or a waiver is authorized by the department pursuant to the provisions of R 325.11906. Certified operators who hold an F certificate meet the qualifications to operate a D treatment system of comparable numerical classification.

(2) Where treatment is employed at a type II public water supply, the department may require the owner or operator thereof to take a written examination in 1 of the classes established pursuant to the provisions of R 325.11901.

(3) A certified shift operator shall be in charge of the operation of a treatment system during each work shift at a type I public water supply where a treatment system in the F classification is routinely operated when the certified operator in charge is absent. In the case of treatment systems at type I public water supplies in the D classification, certified shift operators are required where water from a surface source is treated.

(4) Shift operators at treatment systems in the F classification are required to hold a certificate in the F classification, except that shift operators at complete treatment systems that treat more than 100,000,000 gallons of water per day shall hold an F-3 or higher classification. Shift operators at surface water treatment systems in the D classification are required to hold a certificate in either a D or F classification, regardless of the population served or the amount of water treated by the public water supply.

(5) For purposes of training a shift operator to occupy a vacant position, the department may authorize a deviation from the requirements of subrule (3) of this rule by granting a provisional certification for a period of time, which shall not be more than 2 years. A person who occupies a position pursuant to this subrule shall otherwise be qualified to become certified by examination during this time and shall be titled an operator trainee.
R 325.11906. Waiver of operator certification requirements.

Rule 1906. The requirements of R 325.11905 relating to treatment system and distribution system operator certification may be waived by the department for certain type I public water supplies if the treatment employed is used only for the control of hardness, iron, or other characteristics primarily of an aesthetic concern; if the treated water is limited in distribution; or if the distribution system is limited in extent, such as an apartment building, condominium, or other similar residential facility.

R 325.11907. Advisory board; terms of office; filling vacancies.

Rule 1907. (1) The members of the advisory board shall be appointed by the director pursuant to the provisions of section 9 of the act for a term of 3 years each. Members of the advisory board may be reappointed.

(2) Member vacancies in an unexpired term shall be filled by the director by appointment to complete the 3-year term.

R 325.11908. Advisory board; powers and duties.

Rule 1908. (1) The advisory board shall meet not less than twice each year at designated times and places. The advisory board shall assist the department in examining all persons making application for certification who meet the minimum requirements established by the department pursuant to R 325.11911. The advisory board shall schedule at least 1 annual examination for treatment system operators and at least 1 annual examination for distribution system operators, and shall provide notice of the date, time, and place for each examination not less than 90 days before the date set for the examination.

(2) After review of the application and results of the examination, the advisory board shall recommend that the department issue or deny an applicant a certificate in the appropriate treatment system or distribution system classification.

R 325.11909. Advisory board; selection of officers; quorum; expenses and compensation.

Rule 1909. (1) Each year, the advisory board shall select, from its membership, a chair and such other officers as may be needed to conduct its business.

(2) Five members of the advisory board constitute a quorum.

(3) Members of the advisory board shall not be compensated, but shall be entitled to all actual and necessary expenses incurred in the performance of their official duties in accordance with the rates established by the latest edition of the standard travel regulations of this state.

R 325.11910. Application for examination; notice to accepted applicants of examination.

Rule 1910. (1) To be certified for the operation of a treatment system or a distribution system, an individual shall submit, to the department, not less than 45 days before the announced examination date, an application for examination on a form provided by the department. The information contained on the application shall be evaluated by the department, shall be subject to review by the advisory board, and shall constitute a part of the examination. The department may require verification of the education and experience of an applicant for an examination.

(2) Not less than 15 days before the examination, the department shall notify all applicants of its findings and shall notify those applicants accepted for examination of the date, time, and place of the examination.
Rule 1911. (1) An applicant for certification shall be graded in 4 major divisions as follows:

(a) Educational qualifications of the applicant.
(b) Experience qualifications of the applicant.
(c) The written examination.
(d) The laboratory examination.

(2) An applicant shall satisfy the minimum criteria established by the department as outlined in Table 1 for educational qualifications before admission to the written examination.

(3) Criteria used for grading shall be determined by the division subject to the approval of the advisory board and shall be made available by the department.

(4) An applicant for certification may be required to submit, to the division, on request, names of persons familiar with the experience qualifications of the applicant.

Table 1
Education Points Required To Write An Examination

<table>
<thead>
<tr>
<th>Educational Qualifications</th>
<th>F-1</th>
<th>D-1</th>
<th>S-1</th>
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<td>70</td>
<td>70</td>
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<tr>
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<td>F-3</td>
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<td>F-4</td>
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Schedule Of Points Given For Formal Education

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<th>Education Points Allowed As Substitution For Experience</th>
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<td>0</td>
</tr>
</tbody>
</table>

*Curriculum approved by advisory board of examiners
**Degree shall be in engineering, chemistry, or bacteriology
R 325.11912. Examination.

Rule 1912. (1) A written examination shall be prepared by the division with the concurrence of the advisory board for each of the distribution system classifications and for each of the treatment system classifications, except the D-SL classification.

(2) A performance-based laboratory examination shall be prepared by the division with the concurrence of the advisory board.

(3) Examinations shall be administered by the division staff, subject to review by the advisory board.

R 325.11913. Equivalent certificate.

Rule 1913. (1) The division shall prepare an application form to be used by applicants for an equivalent certificate. A waterworks system operator who is actively working in a waterworks system, who holds a certificate which was issued pursuant to the provisions of R 325.1009 of the Michigan Administrative Code, and who submits a complete application for an equivalent certificate within 6 months after the application form becomes available from the department may, under the conditions specified in subrule (2) of this rule, be issued a new certificate of comparable classification. Equivalent certificates for an individual who holds multiple certificates shall only be issued for the higher class within the appropriate waterworks system category.

(2) The division shall, on the basis of the information provided on the application form for an equivalent certificate, determine if the equivalent certification status is to be active, inactive, or limited. Only operators in an active or limited status will be issued an equivalent certificate. A limited certificate is valid only for the waterworks system designated on the certificate.

(3) Equivalent certificates issued shall state all of the following information:

(a) The certified individual's name.
(b) The certification class.
(c) The date of certificate expiration.
(d) The official certificate number.

In addition, a limited certificate shall name the water system for which the certificate is valid.

R 325.11914. Reciprocity.

Rule 1914. A treatment system or distribution system operator certificate in a comparable classification may be issued by the department, without examination, to an individual who holds a similar operator certificate in another state, a territory or possession of the United States, or another country, if the requirements for certification of operators under which the certificate was issued are comparable to the requirements prescribed by this part.

R 325.11915. Renewal requirements.

Rule 1915. (1) A certificate, other than a class D-SL certificate, shall be renewed on a 3-year cycle. For purposes of coordinating the expiration dates for certificates of persons who hold certificates in multiple categories, the renewal period may be more than 3 years. To renew a certificate, a certificate holder shall submit, to the department, not less than 45 days before the certificate expiration date, an application for renewal on a form provided by the department.
(2) To have a certificate renewed, a holder of a certificate other than a class F-4, D-4, or S-4 certificate shall have been actively working in a waterworks system and shall have completed, during the previous renewal cycle, not less than 24 hours of advisory board-approved training or continuing education, regardless of the category or class or number of certificates held. To have a class F-4, D-4, or S-4 certificate renewed, a certificate holder shall have been actively working in a waterworks system and shall have completed, during the previous renewal cycle, not less than 12 hours of advisory board-approved training or continuing education.

(3) All of the following types of education or training programs may be approved:
   (a) Association programs that are sponsored by any of the following entities:
       (i) American water works association.
       (ii) Township, municipal, and county organizations.
       (iii) Professional and trade organizations.
   (b) Home study courses, such as videotapes, audiocassettes, and correspondence courses.
   (c) Private contractor technical courses.
   (d) University, college, and community college courses.
   (e) Department-, environmental protection agency-, American water works association-, and national rural water association-sponsored training programs.
   (f) Training sponsored by nationally recognized organizations.
   (g) Water utility in-service training.

(4) A holder of a certificate shall be responsible for renewal of a certificate regardless of notification.

(5) A certificate holder shall keep his or her own record of approved training, education, and work experience and be prepared to present proof of that training, education, and experience if required by the department.

(6) A certificate renewed pursuant to this subrule and subrules (1) to (4) of this rule shall be considered active. The failure of an applicant for renewal to meet the requirements of this subrule and subrules (1) to (4) of this rule shall constitute grounds for refusing to renew a certificate on an active basis.

(7) A holder of a certificate who is not actively working in a waterworks system or who fails to meet the continuing training and education requirements of this rule may apply to renew, but the certification status shall be deemed on inactive status. An inactive status certification may be made active by the department if sufficient proof of employment and completion of education requirements is presented to the advisory board by the certificate holder. Upon approval, an active certificate shall be issued.

(8) For a holder of multiple certificates within a category, the department shall only renew the certificate representing the higher class within a waterworks system category.

(9) A holder of a certificate who is not eligible for renewal or who has been refused renewal pursuant to the provisions of subrules (1) to (6) of this rule may apply for examination pursuant to the provisions of R 325.11910.

(10) A holder of a certificate who has not met the continuing education requirements of subrule (2) of this rule for his or her certification may be issued a certificate for the classification within the same category for which the continuing education requirements have been met. A certificate that is not renewed under this subrule shall be inactive.

R 325.11915a. Reinstatement.

Rule 1915a. Upon review, the department may reinstate an expired certificate if a certificate holder requests reinstatement within 1 year of the certificate’s expiration and if sufficient proof of competency is presented to the advisory board by the certificate holder.

R 325 11916. Rescinded.
R 325.11917. Suspension or revocation of certificates.

Rule 1917. (1) After notice and a hearing before the advisory board, the director may place on probation, suspend, or revoke the certificate of an operator if the director determines that any of the following provisions apply:

(a) The operator is incompetent or unable to properly perform the duties of a waterworks system operator.
(b) The operator has committed fraud or has falsified an application, report or record with respect to his or her application or with respect to a water supply.
(c) The operator has been negligent in the discharge of properly assigned duties or responsibilities with respect to a water supply.

(2) Notice of probation, suspension, or revocation shall be provided, in writing, to the operator and to the owner of the public water supply where the operator is employed.

(3) An application for examination shall not be accepted during the period of suspension for an operator who has a suspended certificate or for a period of 5 years from the effective date of the revocation for an operator whose certificate has been revoked.

(4) Upon recommendation of the advisory board, the director may place a certified operator on probation for up to 2 years in accordance with the provisions of subrule (1) of this rule. A certificate shall be considered active during the probation period, but is subject to the terms and conditions of the order of probation.

R 325.11918. Appeals.

Rule 1918. An individual who feels aggrieved by an action of the department pursuant to the act or this part, or who wishes to appeal any other action of the department with respect to certification may request a hearing pursuant to Act No. 306 of the Public Acts of 1969, as amended, being §§24.201 to 24.315 of the Michigan Compiled Laws, and part 2 of these rules.
PART 21. APPROVAL OF CHEMICALS AND OTHER MATERIALS

R 325.12101. Purpose.

Rule 2101. The purpose of this part is to prescribe certain requirements for the approval of chemicals, materials, coatings, additives or other substances proposed to be used in the treatment or during the distribution of drinking water, or which are proposed to be used in contact with drinking water prior to, or during, distribution to the customer or user of a public water supply, and to prohibit a person from using unapproved chemicals or materials which may come into contact with, or serve as an additive to, drinking water.

R 325.12102. Approval of chemicals and other materials.

Rule 2102. (1) Approval by the department is required for all chemicals, coatings or paints, proprietary products, and similar materials of whatever description, that are used or are proposed for use in, or in contact with, drinking water at any point in the waterworks system from the source to the ultimate point of distribution of the water.

(2) The supplier of water is responsible for determining that approval for a chemical or material has been granted by the department and determining the special conditions or limitations under which that approval was granted.

R 325.12103. Approval criteria.

Rule 2103. Approval by the department of chemicals and other materials shall be based on a determination that the chemical or material and its component parts singly or together will not be detrimental to public health. It is the responsibility of the manufacturer or distributor to provide data upon which a determination may be made by the department.

R 325.12104. Change in product designation or composition.

Rule 2104. (1) Written approval by the department for a product, material, or chemical shall not extend to a change in composition or designation thereof. It is the responsibility of the manufacturer or distributor to make application to the department for approval of a product with a changed composition or designation.

(2) The department may contact a manufacturer or distributor to determine the status of a chemical or material previously approved. If contact with the manufacturer or distributor cannot be made, previous approval of a chemical or material manufactured or distributed by that manufacturer or distributor may be suspended.

R 325.12105. Generic approval.

Rule 2105. The department may grant approval to specified chemicals or materials commonly used in the treatment or distribution of drinking water. Generic approvals may reference nationally recognized specifications such as those of the American water works association, the American society for testing materials, and others.

R 325.12106. Specific approval of proprietary products.

Rule 2106. Specific approval is required by the department for the use of proprietary products. Approval shall include the complete name or other manufacturer's designation of the product, the purpose and condition of use, and, if applicable, the maximum acceptable dose to be applied to drinking water.
R 325.12107. Form of approval.

Rule 2107. Approval by the department for a chemical or material shall be by letter or a form describing the product, its intended use, and any special conditions or limitations attached to the written approval. Approval by the department shall not be an endorsement of any material, chemical, or product but shall be based on its toxicity with regard to public health.

R 325.12108. Rescission or suspension of approval.

Rule 2108. Upon finding that a manufacturer or distributor of a chemical or a material which may come into contact with drinking water has submitted false information regarding that chemical or material, or upon finding that a chemical or material previously approved has changed in composition, or upon finding at a later date that a chemical or material or constituent thereof may pose a hazard to the public health, the department shall rescind or suspend approval of that chemical or material for use in a waterworks system.

R 325.12109. Introduction of chemical or material into waterworks system by unauthorized person prohibited.

Rule 2109. No person, except the supplier of water, his duly authorized agent, or the department shall introduce, or cause to be introduced, any chemical or material into a waterworks system, or a portion thereof, regardless of whether that chemical or material has been previously approved by the department pursuant to this part.

R 325.12110. Effect of approval.

Rule 2110. Approval of a chemical or material by the department does not imply that a chemical or material may be used in a waterworks system without submitting necessary plans and specifications for approval by the department and for the issuance of a permit pursuant to part 13 of these rules.
PART 23. CONTINGENCY PLANS

R 325.12301. Purpose.

Rule 2301. The purpose of this part is to establish requirements of suppliers of water of type I public water supplies and certain type II public water supplies to prepare contingency plans for implementation in the event of emergencies.

R 325.12302. Preparation; timetable; exceptions.

Rule 2302. (1) Unless specifically waived by the department, suppliers of water of type I public water supplies, including suppliers of water purchasing water from another supplier of water, shall prepare, or cause to be prepared, contingency plans for waterworks systems within 2 years after the effective date of these rules.

This subrule shall not apply to type I public water supplies serving less than 50 service connections or less than 200 individuals or those type I public water supplies serving facilities which are licensed annually by the department including, but not limited to, mobile home parks and health care facilities.

(2) The department may require suppliers of water of certain type II public water supplies to prepare contingency plans in accordance with the requirements of this part.

(3) If a supplier of water has an existing contingency plan, it may be updated to include any requirements specified by this part, and upon updating, shall be deemed to meet the requirements of this part.

R 325.12303. Contents.

Rule 2303. (1) A contingency plan prepared by a supplier of water shall, as a minimum, outline a program for rapid correction or mitigation of emergencies. The contingency plan may contain an inventory of necessary standby personnel, equipment, chemicals, and other materials readily available for correction of problems, including emergency treatment measures in the event of contamination, a plan for interconnection with adjacent public water supplies or agreements with water haulers in the event of waterworks system failures or loss of pressure, and appropriate means for notification of customers or users of a public water supply affected by an emergency. Public notification shall include a description of precautions or measures to be taken to protect the health of those customers or users.

(2) A contingency plan prepared by a supplier of water pursuant to this part shall include the general plan of the public water supply owned or operated by the supplier of water as required pursuant to subsection (1) of section 4 of the act.

(3) A supplier of water shall identify in a contingency plan the type, number, and capacity of standby power sources to operate a waterworks system in the event of a power outage or other situation requiring the use of other power sources.

(4) The contingency plan shall outline duty assignments for waterworks personnel and shall contain a schedule for updating the plan.

(5) The contingency plan shall include a listing of critical customers or users for whom the provision of a continuous supply of safe drinking water is most urgent.

(6) Contingency plans prepared pursuant to this part shall be located and distributed as necessary to assure effective use thereof by all necessary waterworks system personnel.

(7) For purposes of consistency in developing contingency plans, suppliers of water may use the American water works association manual M-19, "Emergency Planning for Water Utility Management, 1973", as guidance material.
Rule 2304. (1) When an emergency affecting a public water supply is discovered, the supplier of water shall immediately notify the division by telephone of that emergency. The supplier of water shall indicate in that notification the type of emergency, its discovery, the cause, the corrective actions planned to meet the emergency, and plans for notification to customers or users of the public water supply affected.

(2) A supplier of water shall, within 90 days after an emergency, file a written report with the department outlining in detail its discovery, the cause, the corrective actions taken by the supplier to meet the emergency, and the procedures by which its customers or users were notified. The report shall outline in detail the area of the waterworks system affected by the emergency, its duration, and the ability of the supplier of water to cope with the emergency by providing an adequate supply of safe drinking water.
PART 24. WATER HAULING EQUIPMENT STANDARDS

R 325.12401. Purpose.

Rule 2401. The purpose of this part is to prescribe standards for tanks and equipment used by water haulers to transport drinking water which shall serve as criteria by which a water hauler may obtain a license for a water transportation tank pursuant to part 25 of these rules.

R 325.12402. Water transportation tank materials and coatings.

Rule 2402. Materials or coatings on a water transportation tank or its appurtenances which come into contact with drinking water shall be of approved steel, stainless steel, fiberglass, metal, plastic, rubber, or other nontoxic materials given written approval by the department. Materials used in the construction of, or transported by, a water transportation tank shall not impart any substances to the water which may result in a violation of the state drinking water standards, or impart other undesirable physical properties to the water.

R 325.12403. Water transportation tank; outlets.

Rule 2403. The outlet from a water transportation tank shall be located to provide complete drainage of the tank or any compartment thereof. Outlet valves shall be of sanitary construction and readily cleanable. Valve outlets, unless equipped with a permanent hose, shall be provided with a sanitary cap.

R 325.12404. Manhole covers and openings.

Rule 2404. (1) Manhole covers and openings shall be constructed to allow reasonable access for cleaning purposes and to protect the sanitary quality of the water.

(2) Manholes and other openings in the top of the tank shall be higher than the surrounding area and shall be designed to prevent drainage from entering the opening.

R 325.12405. Fill connections.

Rule 2405. If used, a fill connection shall be constructed in a manner to prevent contamination and shall be capped at all times when not in use.

R 325.12406. Baffles.

Rule 2406. If used, baffles shall not interfere with free drainage of the water transportation tank. Baffles shall be constructed to allow accessibility to all areas for inspection and cleaning purposes.

R 325.12407. Pumps.

Rule 2407. If used, pumps shall be operated in a sanitary manner, and all couplings or connections shall be capped or otherwise protected from contamination when not in use.

R 325.12408. Transfer hose and piping.

Rule 2408. (1) Connections between the pump and the water transportation tank may be made with flexible tubing. Hose connectors shall be attached to the hose to allow easy removal for cleaning.

(2) Transfer hose or piping shall be constructed of nontoxic materials, maintained in a sanitary condition, and used in such manner to prevent contamination of the water and to prevent cross connections.

(3) If 2 or more lengths of flexible transfer hose are used, they shall be connected either by the use of sanitary couplings or a piece of sanitary tubing with clamps. Sanitary caps shall be furnished for each end of the hose, the pump, and the outlet valve.

(4) A hose carrier bracket shall be provided to adequately support the hose and a means shall be provided to support the loose end of the hose to prevent contamination.
PART 25. LICENSING OF WATER HAULERS

R 325.12501. Purpose.

Rule 2501. The purpose of this part is to implement section 18 of the act by specifying certain criteria and requirements for licensing of water haulers and for their containers, equipment, and operation.

R 325.12502. License.

Rule 2502. A person shall not engage in, or carry on the business of, hauling bulk water for drinking or household purposes, except for his own household use, without a license issued pursuant to the act and these rules. Compliance with this rule may be waived in emergency situations upon approval by the department.

R 325.12503. Application for license.

Rule 2503. Within 2 years after the effective date of these rules, a person engaged in the business of hauling water for drinking or household purposes shall apply for a license using a license application form provided by the department.

R 325.12504. Issuance of license.

Rule 2504. If the department, after such investigations as it deems necessary, is satisfied that a water hauler has the qualifications and equipment to perform water hauling services in a manner consistent with these rules, it shall issue a license to the water hauler. A license issued pursuant to this rule is not transferable.

R 325.12505. Source and quality of water; chlorine; storage tanks.

Rule 2505. (1) All water hauled by a water hauler shall meet the state drinking water standards and shall be from a public water supply or other source approved by the department.

(2) A water hauler shall add chlorine, in an amount specified by the department, when receiving water from a source and upon delivery of the water after hauling. The amount of chlorine to be added in each instance shall be specified on the license issued by the department for the water transportation tank. The department may require chlorine residual tests of the water hauled upon receipt of the water from the source, after addition of chlorine, and at delivery of the water. At the point of delivery of the water, a free chlorine residual of 1.0 mg/l is required. The department may approve an alternate means of disinfection upon written request by a water hauler.

(3) When transporting water to a public water supply, a water hauler shall deliver water only to tanks or facilities approved by the department.

R 325.12506. Licensing of water hauler's water transportation tanks.

Rule 2506. (1) All tanks used to transport or to carry water shall be licensed annually by the department.

(2) At the same time a water hauler applies for a water hauling license pursuant to R 325.12503, an application for a license for each water transportation tank used for the bulk transport of water for drinking or household purposes shall also be made on an application form provided by the department.

(3) If the department, after such investigations as it deems necessary, determines that the water transportation tank and appurtenances are in compliance with part 24 of these rules, it shall issue a license for the tank to be used for hauling water.
The license issued by the department shall be kept available in the water hauling vehicle for inspection. The license is not transferable from 1 water transportation tank to another. In addition to the license issued by the department, there shall be displayed on both sides of the tank, in letters not less than 2 inches high, the words "Licensed Water Hauling Tank". Directly adjacent to the words shall be affixed a seal furnished by the department which shall designate the calendar year of the license.

R 325.12507. Expiration and renewal of licenses.

Rule 2507. All licenses issued under the provisions of this part expire on the last day of June of each year. Application for renewal of a license may be made after March 31 of each year.

R 325.12508. Trip records.

Rule 2508. A water hauler licensed by the department shall maintain trip records of all water hauled. The water hauler shall retain trip records for 2 years.

R 325.12509. Denial of license.

Rule 2509. If the department finds that water hauling equipment is not in compliance with part 24 of these rules, the department shall not issue or renew a license for the water transportation tank. If the department finds that a water hauler is not in compliance with the provisions of this part, the department shall not issue or renew the license for the water hauler. In each case, the water hauler shall be notified in writing of the license denial and the reasons for denial by the department. The water hauler may request a hearing before the department if aggrieved by the department's decision, pursuant to the provisions of Act No. 306 of the Public Acts of 1969, as amended, and part 2 of these rules.

R 325.12510. Suspension or revocation of license.

Rule 2510. If the department determines that a water hauler licensed under the provisions of the act and these rules is not operating in an approved manner, is hauling water that does not meet state drinking water standards, or is operating a business or vehicles under conditions which may cause a hazard to the public health, the department shall notify the licensee and shall provide an opportunity for the water hauler to take corrective action as may be required. If the licensee does not effect the corrections within a reasonable time, the department shall suspend or revoke the license of the water hauler.
PART 26. BOTTLED WATER

R 325.12601. Applicability.

Rule 2601. The provisions of this part apply to all persons providing bottled drinking water for drinking or household purposes.

R 325.12602. Application for approval of source.

Rule 2602. (1) A person providing bottled drinking water shall submit an application to the department requesting approval of the source of water being used or planned to be used for bottled water. A person may request approval of more than 1 source of water on a single application.

(2) After receipt of the application, the department may approve the source or sources of water upon a finding that the source or sources meet the state drinking water standards and the requirements of the act and these rules.

(3) A person shall not use a source of water for bottled water unless prior approval from the department has been obtained.

R 325.12603. Sources of water; monitoring.

Rule 2603. If water is obtained from a source other than a type I or type II public water supply, the department may require a person providing bottled water to sample the source of water from time to time and submit records of that sampling to the department.

R 325.12604. Out of state sources.

Rule 2604. (1) A person providing bottled drinking water and utilizing an out of state source of water shall submit an application to the department as required by R 325.12602. The application shall show proof of approval of the source from the state agency with jurisdiction.

(2) After consultation with the state agency having jurisdiction, the department shall approve the source for bottled water if the other state's inspection, surveillance, and approval procedures are acceptable to the department, and the source meets the state drinking water standard.

R 325.12605. Maintenance of records.

Rule 2605. A person providing bottled drinking water shall maintain records of all sources from which water is purchased or obtained for bottled water and shall submit those records to the department on an annual basis.

R 325.12606. Rescission or suspension of approval.

Rule 2606. Upon its finding that a person has submitted false information on an application submitted to the department for approval of a source for bottled water pursuant to R 325.12602, or if a source for bottled water does not meet the state drinking water standards, or if a person has violated the provisions of the act or this part, the department may rescind or suspend approval of the source for bottled water.