NOTICES OF PROPOSED RULEMAKING

Unless exempted by A.R.S. § 41-1005, each agency shall begin the rulemaking process by first submitting to the Secretary of State's Office a Notice of Rulemaking Docket Opening followed by a Notice of Proposed Rulemaking that contains the preamble and the full text of the rules. The Secretary of State's Office publishes each Notice in the next available issue of the *Register* according to the schedule of deadlines for *Register* publication.

Under the Administrative Procedure Act (A.R.S. § 41-1001 et seq.), an agency must allow at least 30 days to elapse after the publication of the Notice of Proposed Rulemaking in the Register before beginning any proceedings for adoption, amendment, or repeal of any rule. A.R.S. §§ 41-1013 and 41-1022.

NOTICE OF PROPOSED RULEMAKING

TITLE 3. AGRICULTURE

CHAPTER 4. DEPARTMENT OF AGRICULTURE
PLANT SERVICES DIVISION

PREAMBLE

1. **Sections Affected** — **Rulemaking Action**

R3-4-212	Repeal
R3-4-213	Repeal
R3-4-214	Repeal
R3-4-215	Repeal
R3-4-216	Repeal
R3-4-217	Repeal
R3-4-227	Repeal

2. **The statutory authority for the rulemaking, including both the authorizing statute (general) and the statutes the rules are implementing (specific):**

   Authorizing statute: A.R.S. § 3-107

   Implementing statutes: A.R.S. §§ 3-201.01 and 3-205.01

3. **The name and address of agency personnel with whom persons may communicate regarding the rulemaking:**

   Name: Shirley Conard, Rules Specialist

   Address: Department of Agriculture
   1688 West Adams, Room 124
   Phoenix, Arizona 85007

   Telephone: (602) 542-0962

   Fax: (602) 542-5420

4. **An explanation of the rule, including the agency's reasons for initiating the rule:**

   R3-4-212, Dudaim Melon suppression. This rule establishes that the Dudaim Melon is a noxious weed that is dangerous to Arizona's agriculture industry.

   R3-4-213, Dudaim Melon suppression - area subject to regulation. This rule specifies the area under quarantine.

   R3-4-214, Dudaim Melon suppression - commodities covered. This rule lists the commodities or items that may be contaminated with the pest and which the Department will regulate and inspect.

   R3-4-215, Movement of host plants and carriers within Arizona. This rule regulates the activity of commodities and sets up the inspection of those commodities.

   R3-4-216, Ginning of cotton. This rule sets up the requirements for the ginning and removal of cotton from infected areas.

   R3-4-217, Practices which shall be followed in the growing of a crop on land infested with Dudaim Melon. This rule establishes landowner requirements when dealing with Dudaim Melon.

   When the Department promulgated the noxious weed rules earlier this year, the information in R3-4-212, R3-4-213, R3-4-214, R3-4-215, R3-4-216, and R3-4-217 was transferred into the new rule package. These rules pertaining to the Dudaim Melon should have been repealed at this time.

R3-4-227. Khapra Beetle. This rule was based upon federal Domestic Quarantine No. 76 which has since been repealed. There are no Khapra Beetle outbreaks in the United States and therefore no threat to Arizona agriculture.

5. **A showing of good cause why the rule is necessary to promote a statewide interest if the rule will diminish a previous grant of authority of a political subdivision of this state:**
   Not applicable.

6. **The preliminary summary of the economic, small business, and consumer impact:**
   A. *Estimated Costs and Benefits to the Department of Agriculture*
   This rulemaking will have no impact upon the Department, other than it will remove obsolete rules from the A.A.C. Title 3.

   B. *Estimated Costs and Benefits to Political Subdivisions*
   Political subdivisions of this state are not directly affected by the implementation and enforcement of this proposed rulemaking.

   C. *Businesses Directly Affected by the Rulemaking*
   The repeal of these rules will have no impact upon any businesses.

   D. *Estimated Costs and Benefits to Private and Public Employment*
   Private and public employment of this state are not directly affected by the implementation and enforcement of this proposed rulemaking.

   E. *Estimated Costs and Benefits to Consumers and the Public*
   Consumers and the public are not directly affected by changes of this proposed rulemaking.

   F. *Estimated Costs and Benefits to State Revenues*
   This rulemaking will have no impact on state revenues

7. **The name and address of agency personnel with whom persons may communicate regarding the accuracy of the economic, small business, and consumer impact statement:**

Name:	Shirley Conard
Address:	Department of Agriculture 1688 West Adams, Room 124 Phoenix, Arizona 85007
Telephone:	(602) 542-0962
Fax:	(602) 542-5420

8. **The time, place, and nature of the proceedings for the adoption, amendment, or repeal of the rule:**
   No oral proceeding has been scheduled for this rulemaking; however, written comments on the proposed rulemaking or preliminary economic, small business, and consumer impact statement will be accepted until 12 p.m. February 17, 1997.*

   **Editor's Note: The original close of record on these rules was January 15, 1997. Due to a filing error on the part of the Secretary of State's Office, printing for this Notice was delayed four weeks and the agency extended the close of record date.*

9. **Any other matters prescribed by statute that are applicable to the specific agency or to any specific rule or class of rules:**
   None.

10. **Incorporation by reference and their location in the rules:**
    None.

11. **The full text of the rules follows:**

TITLE 3. AGRICULTURE

CHAPTER 4. DEPARTMENT OF AGRICULTURE
PLANT SERVICES DIVISION

ARTICLE 2. QUARANTINE

Section

~~R3-4-212. Dudaim Melon suppression~~
~~R3-4-213. Dudaim Melon suppression -- area subject to regulation~~
~~R3-4-214. Dudaim Melon suppression -- commodities covered~~
~~R3-4-215. Movement of host plants and carriers within Arizona~~
~~R3-4-217. Practices which shall be followed in the growing of a crop on land infested with Dudaim Melon~~
~~R3-4-227. Khapra beetle~~

ARTICLE 2. QUARANTINE

~~**R3-4-212. Dudaim Melon suppression**~~

~~The Dudaim Melon, Cucumis melo L. var. dudaim Naud., is a dangerous weed pest of cotton and other crops in Arizona and constitutes a threat and menace to the agriculture industry of Arizona due to the weed's ability to limit harvesting and reduce the grade of the harvest, resulting in a large economic loss.~~

~~**R3-4-213. Dudaim Melon suppression — area subject to regulation**~~

~~The provisions of R3-4-213 through R3-4-217 shall govern all fields found to be infested with Dudaim Melon or contaminated with infested hosts or carriers in the state of Arizona or any other infested state.~~

~~**R3-4-214. Dudaim Melon suppression — commodities covered**~~

~~The following articles are designated as host plants and carriers of Dudaim Melon: cotton (all parts), other crops, gin trash, harvesting machines used on crops infested with Dudaim Melon, soil from ground infested with Dudaim Melon, other materials, products and equipment which are contaminated with any of the above host plants and carriers, which, in the opinion of the inspector, present a hazard in the spread of Dudaim Melon.~~

~~**R3-4-215. Movement of host plants and carriers within Arizona**~~

~~No host plants and carriers produced in or concentrated within the area infested with Dudaim Melon may be moved to non-infested areas unless a permit is issued by the State Entomologist. All equipment used in the infested area shall be cleaned by the landowner or his representative of soil and debris to such a degree that it is free of Dudaim Melon seeds before this equipment is moved from the infested fields. All equipment shall be inspected within two working days by an inspector of the Arizona Commission of Agriculture and Horticulture after a request for such an inspection. It is the responsibility of the landowner or his representative to notify the Commission at least 48 hours in advance of his intention to move said equipment. Under no circumstances shall said equipment be moved without inspection to non-infected area.~~

~~**R3-4-216. Ginning of cotton**~~

~~**A.** All cotton from infested areas shall be ginned separately.~~

~~**B.** All gin trash from the ginning of cotton from infested areas shall be segregated. Daily the segregated gin trash shall be brought to a landfill under the supervision of an inspector and buried to the depth of six feet.~~

~~**C.** After completion of ginning cotton from infested areas, the gin shall be inspected by an inspector of the Commission and must be free of Dudaim Melon and seeds prior to the ginning of any other cotton.~~

~~**R3-4-217. Practices which shall be followed in the growing of a crop on land infested with Dudaim Melon**~~

~~**A.** Control program: It is the responsibility of the landowner or his representative to make repeated and timely herbicide applications to any Dudaim Melon infested area tilled by him, including area within the crop, ditchbanks and roadsides using the herbicide Glyphosate or Oxyfluorfen or a herbicide registered by the U.S. Environmental Protection Agency for the use on cotton which the Arizona State Entomologist has determined to be effective for the control of Dudaim Melon based on scientific research data, as indicated in a list on file with the Secretary of State.~~

~~**B.** Picking and removing fruit of Dudaim Melon: The landowner or his representative is responsible for picking and disposal of fruit of Dudaim Melon from his infested fields. These fruits are to be transported to a nearby landfill, or other authorized site, and buried to a depth of six feet. Both operations are to be carried out under the supervision of the Arizona Commission of Agriculture and Horticulture.~~

~~**R3-4-227. Khapra beetle**~~

~~**A.** Notice of quarantine: It has been determined that Khapra beetle, Trogoderma granarium, Everts, is a dangerous pest not known to occur in the state of Arizona, that the pest is a serious pest to stored products, that the United States Department of Agriculture maintains a quarantine prohibiting infested articles from entering the state of Arizona. In order to prevent the spread of this pest in the event that it should be discovered in the state of Arizona, it is hereby ordered and declared that the transporting of quarantined articles within the state of Arizona shall be covered by the following regulation.~~

~~**B.** Pest: Khapra beetle, Trogoderma granarium, Everts.~~

~~**C.** Area under quarantine: Regulated area: Any mill, warehouse, seed store, bag company, feed store, feed lot, farm storage or any other property, together with the premises and any surrounding environs designated as regulated area in the administrative instructions issued under United States Department of Agriculture Domestic Quarantine No. 76, such premise to become part of the regulated area under this quarantine regulation, effective upon written notice to the owner or owners by the Entomologist.~~

~~**D.** Commodities covered:~~

~~1. All grains and grain products (including, but not limited to, barley, corn, oats, rye and wheat) whether moved as such or in connection with other articles.~~

~~2. Dried seeds and seed products of field and vegetable crops (including, but not limited to, alfalfa seed, cotton seed, cottonseed meal and cake, flax seed, sorghum seed, soybean meal, pinto beans, and black-eyed peas).~~

~~3. Bags and bagging (including, but not limited to, those made of burlap or cotton).~~

~~4. Dried milk, dried blood, fish meal and meat scraps.~~

~~5. Any other article which by reason of infestation or exposure is determined by an inspector to constitute a hazard of spreading the Khapra beetle.~~

~~**E.** Restrictions:~~

~~1. Movement of regulated articles: Regulated articles may be moved from the regulated area only when such articles are accompanied by a valid certificate or limited permit, as provided under United States Department of Agriculture Domestic Quarantine No. 76.~~

~~Certificates authorizing the movement of regulated articles under this rule may be issued under the following conditions:~~

~~a. Certificates:~~

~~i. When, in the judgment of the inspector, they have not been exposed to infestation.~~

~~ii. When they have been examined by the inspector and found to be free of infestation.~~

~~iii. When they have been treated under the observation of an inspector and in accordance with a method selected by him.~~

~~b. Limited permits: Limited permits may be issued for the movement from the regulated area of non-certified regulated articles under such conditions and to such destination as may be authorized by an inspector for processing or other safe handling.~~

~~c. Certificates issued under (E)(1)(a)(ii) will be issued only on regulated articles the quantity and nature of which, in the judgment of the inspector, can be adequately inspected and the presence or absence of Khapra beetle accurately determined.~~

~~d. Any person intending to move from the regulated area any regulated articles, the certification of which is required, shall request inspection and certification as far as possible in advance of the probable date of such movement, and he may be required to prepare and assemble the articles to be inspected or treated so they can be readily examined or inspected by the inspector.~~

e. ~~Certificates or limited permits for any regulated article issued under these rules may be withdrawn or cancelled and further certificates or permits for such articles refused by the inspector whenever it is determined that further use of such certificates or permits may result in the dissemination of Khapra beetle.~~

2. ~~Disinfesting vehicles, machinery, and other articles:~~

a. ~~When an inspector determines that any railway, car, truck, or other vehicle, machinery, implement, or other article moving or to be moved from the regulated area, by reason of infestation or exposure, constitutes a hazard of spreading the Khapra beetle, such article shall be required as a condition of further movement to any point outside the regulated area to be thoroughly cleaned, disinfested, or otherwise treated under the observation of an inspector and in accordance with procedures authorized under United States Department of Agriculture Domestic Quarantine No. 76 will be required to take such control suppression, eradication or preventive measures within a reasonable length of time as shall be recommended by an inspector and which are in accordance with authorized procedures under United States Department of Agriculture Domestic Quarantine No. 76, or in supplements to this rule.~~

b. ~~In the event the owner, owners, or management of the property listed as regulated area fail to take such measures as are recommended by the State Entomologist in accordance with the provision of the United States Department of Agriculture Domestic Plant Quarantine No. 76, and the establishment becomes so heavily infested as to constitute a menace to other properties and products, the State Entomologist may, in accordance with the provisions of Title 3, Chapter 2, Article 1, Arizona Revised Statutes, quarantine the premises and prohibit the movement of any materials until the nuisance has been abated. In the event that the owner, owners or management fail to abate the nuisance, the State Entomologist may take such measures as may be deemed necessary and practical.~~

c. ~~All cost of control, suppression, eradication or preventive measures shall be borne by the owners of the regulated establishment, except in event state or federal funds are allocated to defray a proportionate part of the expense incurred by application of the above measures.~~

F. ~~Disposition of violations: Any shipment or lot of quarantined articles as herein defined arriving in Arizona in violation of this quarantine shall be immediately sent out of the state or destroyed at the option and expense of the owner or owners, his or their responsible agents, and under the direction of the Entomologist or his inspectors.~~

G. ~~Treatments: The approved treatments and procedures for use under the provisions of this rule for the movement of regulated articles from infested premises, and for the treatment of infested premises for removal from quarantine, shall be the same as listed in the United States Department of Agriculture Domestic Quarantine No. 76, or in supplements to this rule.~~

H. ~~General rules: See "General Rules and Definitions, Article 1".~~

NOTICE OF PROPOSED RULEMAKING

TITLE 4. PROFESSIONS AND OCCUPATIONS

CHAPTER 39. STATE BOARD FOR PRIVATE POSTSECONDARY EDUCATION

PREAMBLE

1. Sections Affected / Rulemaking Action

R4-39-103	Amend
R4-39-104	Amend
R4-39-105	Amend
R4-39-106	Amend
R4-29-107	Amend

2. The statutory authority for the rulemaking, including both the authorizing statute (general) and the statutes the rules are implementing (specific):

Authorizing statute: A.R.S. § 32-3003(A)(3)

Implementing statutes: A.R.S. §§ 32-3003, 32-3005, 32-3021, 32-3022, 32-3025, 32-3026, 32-3027, and 32-3051.

3. The name and address of agency personnel with whom persons may communicate regarding the rulemaking:

Name: Dona Marie Markley, Executive Director

Address: State Board for Private Postsecondary Education
1400 West Washington, Room 260
Phoenix, Arizona 85007

Telephone: (602) 542-5709

Fax: (602) 542-1253

4. An explanation of the rule, including the agency's reasons for initiating the rule:

The agency is amending 5 rules within Article 1 of the Arizona State Board for Private Postsecondary Education rules to clarify the application content requirements for original licensure and annual license renewal. The amendments will also clarify causes for

disciplinary action, move the application content requirements for license renewal of an existing private non-accredited vocational institution from R4-39-105 to R4-29-104, delete the requirement that a new private non-accredited degree granting institution have operated for 9 months prior to seeking licensure, and clarify requirements regarding accreditation and on-site visit procedures for private non-accredited degree granting institutions in Arizona.

5. A showing of good cause why the rule is necessary to promote a statewide interest if the rule will diminish a previous grant of authority of a political subdivision of this state:
   Not applicable.

6. The preliminary summary of the economic, small business, and consumer impact:
   Article 1: The agency anticipates that the proposed rule amendments will have no impact on the Board, any other state agencies or departments, political subdivisions, or businesses in this state, small business, private persons, or consumers. The proposed rule amendments are technical and administrative in nature and present neither a benefit nor a cost to the Board or any other state agencies or departments, political subdivisions, or businesses in this state. The proposed rule amendments will have no probable impact on public or private employment in this state. All of the persons and institutions subject to licensure by this Board are generally characterized as small businesses. Therefore, all licensed schools, colleges, and universities operating in this state will be subject to the proposed rule amendments. The proposed rule amendments, however, will have no probable impact on small business, private persons, or consumers. The proposed rule amendments will have no probable effect on state revenues or Board revenues. The agency is not aware of any other viable alternative methods of achieving the purpose of the proposed rule amendments.

7. The name and address of agency personnel with whom persons may communicate regarding the accuracy of the economic, small business, and consumer impact statement:

Name:	Dona Marie Markley, Executive Director
Address:	State Board for Private Postsecondary Education 1400 West Washington, Room 260 Phoenix, Arizona 85007
Telephone:	(602) 542-5709
Fax:	(602) 542-1253

8. The time, place, and nature of the proceedings for the adoption, amendment, or repeal of the rule:

Date:	February 19, 1997
Time:	10 a.m. to 11 a.m.
Location:	State Board of Private Postsecondary Education 800 West Washington, First Floor Auditorium Phoenix, Arizona 85007
Nature:	Oral proceedings before the Board

9. Any other matters prescribed by statute that are applicable to the specific agency or to any specific rule or class of rules:
   Not applicable.

10. Incorporation by reference and their location in the rules:
    R4-39-301, R4-39-309, and R4-39-310(A)(1) are incorporated by reference in R4-39-104.

    A.R.S. § 32-3023(I) is incorporated by reference in R4-39-105.

    A.R.S. § 32-3023(I) is incorporated by reference in R4-39-107.

11. The full text of the rules follows:

TITLE 4. PROFESSIONS AND OCCUPATIONS

CHAPTER 39. STATE BOARD FOR PRIVATE POSTSECONDARY EDUCATION

ARTICLE 1. DEFINITIONS, LICENSURE, REPORTING

ARTICLE 1. DEFINITIONS, LICENSURE, REPORTING

R4-39-103. Requirements for Operating a Private Accredited Vocational and Degree-granting Institution in Arizona

A. Vocational and degree-granting institutions which are institutionally accredited or have each ~~vocational program or degree~~

program they offer accredited ~~or have institutional accreditation~~ with an accrediting agency recognized by the United States Department of Education or the Commission ~~Council~~ on Recognition of Postsecondary Accreditation shall apply ~~make application~~ to the Board for a regular license to operate in Arizona.

~~B. In order to be licensed, in addition to the completed verified application, the accredited institution or program shall annually submit to the Board a letter from each recognized accrediting agency by whom the institution or program is accredited confirming the current accredited status of the institution or each program offered. This letter shall be certified as true and correct by an authorized administrative official of the institution submitting it.~~

B. Each accredited institution shall apply to be licensed by submitting the following:

1. A completed, verified license application;
2. A letter from each recognized accrediting agency by whom the institution or its programs are accredited confirming the current accredited status of the institution or its programs, certified as true and correct by an authorized administrative official of the institution;
3. A copy of the current catalog or bulletin, certified as true and correct by an authorized administrative official of the institution;
4. A copy of the student enrollment contract or equivalent documentation;
5. Documents specified in R4-39-104(B)(5) through R4-39-104(B)(15).

C. Each accredited institution annually shall apply to continue to be licensed by submitting documents specified in R4-39-103(B)(1) through (B)(3) and in (B)(5), (B)(6), (B)(9), (B)(11), and (B)(15).

D. Prior to the issuance of a license, the Board may conduct an on-site inspection as specified in R4-39-104(C).

~~C.~~E. The Board may discipline an institution which:

1. Fails to comply with applicable accreditation standards or federal standards as determined by the Board;
2. ~~1.~~ Loses its institutional or program accreditation;
3. ~~2.~~ Fails to notify the Board in writing within ~~twenty~~ 20 days of any change in any certificate of accreditation; or
4. ~~3.~~ Misrepresents any information in materials or testimony submitted to the Board~~;~~.
5. ~~4. Fails to comply with applicable accreditation standards.~~

R4-39-104. Conditional Licensure Requirements for Operating a Private Non-Accredited New Vocational Institution in Arizona

~~A. In order to be conditionally licensed to operate a vocational institution or program, in addition to the completed, verified application, each new institution shall comply with the requirements specified in R4-39-105.A.1. through 10.~~

A. New vocational institutions which are not institutionally accredited and do not have each program they offer accredited with an accrediting agency recognized by the United States Department of Education or the Commission on Recognition of Postsecondary Accreditation shall apply to the Board for a conditional license to operate vocational programs in Arizona.

B. Each new institution shall apply to be conditionally licensed to operate non-accredited vocational programs by submitting the following:

1. A completed, verified license application;
2. A surety bond in the amount of $15,000 on a form approved by the Board. A cash deposit in the amount of $15,000 may be accepted in lieu of the surety bond. A receipt for the cash deposit with the state treasurer shall suffice as evidence of the deposit;
3. A copy of the current catalog or bulletin, as required by R4-39-301, certified as true and correct by an authorized administrative official of the institution;
4. A copy of the student enrollment contract as specified in R4-39-309 and R4-39-310(A)(1);
5. Proof of insurance, necessary to protect the assets of the institution in the event of damage or a finding of liability;
6. Current annual financial statements, compiled or reviewed in accordance with standards established by the American Institute of Certified Public Accountants or audited in accordance with generally accepted auditing standards and prepared in accordance with generally accepted accounting principles, including a balance sheet, statement of operations, statement of changes in financial position, and appropriate footnotes with an accountant's report, prepared and signed by an independent certified or public accountant currently licensed by the Arizona State Board of Accountancy or, if applicable, the accountancy Board located in the state of the institution's corporate or home office. Additional financial information may be required by the Board;
7. Program, course of study information on each program to be operated, to include information on graduate employment opportunities and practitioner requirements;
8. A copy of each certificate or diploma awarded by the institution;
9. A copy of the institution's published student grievance procedure that details the institutional complaint process and references the student's right to file a complaint with the Board;
10. a sample copy of every document and media presentation which is or is intended to be advertised or presented to potential students;
11. A resume for each faculty member, director and owner;
12. Line drawings or photographs which describe in detail the facilities, and a list of equipment and materials of the institution;
13. A copy of the most recent fire department inspection report;
14. An agent license application for each person soliciting students, if applicable;
15. Other information deemed necessary by the Board.

~~B.~~C. Prior to the issuance of a ~~conditional~~ license ~~and at least once during this year of operation~~, ~~an~~ a Board appointed on-site inspection team ~~appointed by the chairman of the Board~~ shall visit the institution and confer with the administrative officers, faculty, students, if applicable, and other individuals, and make such examinations as are necessary to obtain an accurate reflection of the institution's financial responsibility, management capabilities, programs, facilities, and equipment. The Board shall receive and review the report of the on-site inspection team concerning the visit, as one of the bases in determining eligibility for licensure. ~~Members of the on-site inspection team may include staff, members of the Board and other qualified persons.~~ Members of the Board, staff, and other qualified persons may comprise the inspection team.

~~C.~~D. During the 1-year period of conditional licensure, the institution shall not use such terms as "licensed", "approved" or "accredited" in conjunction with the institution or the Board. If the institution wishes to refer to its licensure during this time period, it shall use the term "conditional license."

~~D.~~E. ~~Misrepresentation in any materials or testimony submitted to the Board may result in disciplinary action.~~ The Board may take disciplinary action against an applicant that misrepresents any materials or testimony submitted to the Board.

R4-39-105. Licensure Requirements for Continued Operation of an Existing Private Non-accredited Vocational Institution in Arizona

~~A. In order to continue to be licensed in Arizona, in addition to the completed, verified application, each non-accredited vocational institution shall annually submit the following:~~

A. Vocational institutions which are not institutionally accredited and do not have each program they offer accredited with an accrediting agency recognized by the United States Department of Education or the Commission on Recognition of Postsecondary Accreditation shall apply to the Board for a regular license to operate vocational programs in Arizona.

~~1. A copy of the current catalog or bulletin, as required by R4-39-301, certified as true and correct by an authorized administrative official of the institution.~~

~~2. Current annual financial statements, compiled or reviewed in accordance with standards established by the American Institute of Certified Public Accountants or audited in accordance with generally accepted auditing standards and prepared in accordance with generally accepted accounting principles, including a balance sheet, statement of operations, statement of changes in financial position and appropriate footnotes with an accountant's report, prepared and signed by an independent certified or public accountant currently licensed by the Arizona State Board of Accountancy or, if applicable, the accountancy Board located in the state of the institution's corporate or home office. Additional financial information may be required by the Board.~~

~~3. A surety bond in the amount of $15,000 on a form approved by the Board. A cash deposit in the amount of $15,000 may be accepted in lieu of the surety bond. A receipt for the cash deposit with the State Treasurer shall suffice as evidence of the deposit.~~

~~4. A resume for each faculty member, director, and owner.~~

~~5. A copy of the student enrollment contract as specified in R4-39-309 and R4-39-310.A.~~

~~6. A copy of the most recent fire department inspection report.~~

~~7. A copy of each certificate of diploma awarded by the institution.~~

~~8. Line drawings or photographs which describe in detail the facilities, and a list of equipment and materials of the institution.~~

~~9. An agent license application for each person soliciting students other than in the office or place of business of the institution.~~

~~10. A sample copy of every document and media presentation which is or is intended to be advertised or presented to potential students.~~

B. Each non-accredited institution annually shall apply to continue to be licensed to operate non-accredited vocational programs by submitting the following:

1. A completed, verified license application;
2. Proof of a valid surety bond or cash deposit, if required pursuant to A.R.S. § 32-3023(I);
3. Documents specified in R4-39-104(B)(3), (B)(5), (B)(6), (B)(9), (B)(11), and (B)(15).

~~B.~~C. An ~~on-site inspection of facilities, equipment, and program may be conducted prior to Board consideration of applications as specified in R4-39-104(B). Members of the on-site inspection team may include staff, members of the Board and other qualified persons.~~ Prior to the issuance of a license, the Board may conduct an on-site inspection as specified in R4-39-104(C).

~~C.~~D. ~~Misrepresentation in any materials or testimony submitted to the Board may result in disciplinary action.~~ The Board may take disciplinary action against an applicant that misrepresents any materials or testimony submitted to the Board.

R4-39-106. Conditional Licensure Requirements for Operating a New Private Non-Accredited Degree Granting Institution in Arizona

~~A. In order to be conditionally licensed to grant degrees, in addition to the completed, verified application, each institution shall:~~

A. New degree-granting institutions which are not institutionally accredited and do not have each program they offer accredited with an accrediting agency recognized by the United States Department of Education or the Commission on Recognition of Postsecondary Accreditation shall apply to the Board for a conditional license to grant degrees in Arizona.

~~1. Have operated in Arizona as a non-degree granting educational institution for a minimum of nine (9) months.~~

~~2. Comply with the requirements specified in R4-39-105.A.1. through 10.~~

~~3. Declare its intention to attempt to achieve accreditation status by submitting the name of each accrediting agency recognized by the United States Department of Education or Council on Postsecondary Education to which the institution has applied for accreditation or has submitted a written commitment to apply for accreditation. This information shall be signed by an authorized administrative official of the institution.~~

B. In order to be conditionally licensed to grant degrees, the institution must demonstrate its intent to make reasonable and timely progress toward obtaining accreditation with an accrediting agency recognized by the United States Department of Education or the Commission on Recognition of Postsecondary Accreditation. "Reasonable and timely" shall mean diligent pursuit of accreditation, including taking all steps required by the accrediting agency within the time limitations imposed by the accrediting agency.

C. Each new non-accredited institution shall apply to be conditionally licensed to grant degrees by submitting the following:

1. A completed, verified license application;
2. Evidence that the institution intends to make reasonable and timely progress toward obtaining accreditation with an accrediting agency recognized by the United States Department of Education or Commission on Recognition of Postsecondary Accreditation. The evidence shall include a copy of the written commitment to apply for accreditation that the institution has submitted to each accrediting agency to which the institution will apply for accreditation. An authorized administrative official of the institution shall certify that this information is true and correct;
3. An explanation of the accreditation process and the timeline required to make reasonable and timely progress toward obtaining accreditation, for each accrediting agency to which the institution will apply for accreditation;
4. Documents specified in R4-39-104(B)(2) through (B)(15).

~~B.~~D. Prior to the issuance of a ~~conditional~~ license ~~to grant degrees, an on-site inspection team appointed by the chairman of the Board shall visit the institution and confer with the administrative officers, faculty, students, if applicable, and other individuals, and make such examinations as are necessary to obtain an accurate reflection of the institution's programs, facilities and equipment. The Board shall receive and review the report of the on-site inspection team concerning the visit, as one of~~

~~the bases in determining eligibility for licensure. Members of the on-site inspection team may include staff, members of the Board and other qualified persons.~~ the Board shall conduct an on-site inspection as specified in R4-39-104(C).

~~C.~~E. During the one-year period of conditional licensure to grant degrees, the institution shall not use such terms as "licensed", "approved", or "accredited" in conjunction with the institution or the Board. If the institution wishes to refer to its licensure during this time period, it shall use the term "conditional license."

~~D.~~F. ~~Misrepresentation in any material or testimony submitted to the Board may result in disciplinary action.~~ The Board may take disciplinary action against an applicant that misrepresents any materials or testimony submitted to the Board.

R4-39-107. Requirement for Provisional Licensure of a Private Non-accredited Degree Granting Institution in Arizona

A. Degree-granting institutions which are not institutionally accredited and do not have each program they offer accredited with an accrediting agency recognized by the United States Department of Education or the Commission on Recognition of Postsecondary Accreditation shall apply to the Board for a provisional license to grant degrees in Arizona.

~~A.~~B. In order to be provisionally licensed to grant degrees, the institution must demonstrate reasonable and timely progress toward obtaining accreditation with an accrediting agency recognized by the United States Department of Education or the Commission ~~Council~~ on Recognition of Postsecondary Education to which the institution has applied for accreditation or has submitted a written commitment to apply for accreditation. "Reasonable and timely" shall mean diligent pursuit of accreditation, including taking all steps required by the accrediting agency within the time limitations imposed by the accrediting agency. ~~This information shall be signed by an authorized administrative official of the institution.~~

~~B.~~ ~~In addition to the completed, verified application, the institution shall:~~

~~1. Comply with the requirement specified in R4-39-105(A)(1) through (10).~~

~~2. Submit to the Board a letter from each recognized accrediting agency specified in subsection A, confirming the current status of the institution.~~

C. Each non-accredited institution shall apply to be provisionally licensed to grant degrees by submitting the following:

1. A completed, verified license application;
2. Evidence that the institution is making reasonable and timely progress toward obtaining accreditation with an accrediting agency recognized by the United States Department of Education or Commission on Recognition of Postsecondary Accreditation to which the institution has applied for accreditation or has submitted a written commitment to apply for accreditation. The evidence shall include a report on the current status of the institution's progress toward accreditation. An authorized administrative official of the institution shall certify that this information is true and correct;
3. A letter from each recognized accrediting agency specified in number 3, confirming the current status of the institution's progress toward accreditation;
4. Proof of a valid surety bond or cash deposit, if required pursuant to A.R.S. § 32-3023(I);
5. Comply with the requirements specified in R4-39-104(B)(3), (B)(4), (B)(5), (B)(6), (B)(9), (B)(10), (B)(11), and (B)(15).

~~C.~~D. Prior to the issuance of a ~~provisional~~ license ~~to grant degrees~~, ~~an on-site inspection team appointed by the chairman of the Board shall visit the institution and confer with the administrative officers, faculty, students, and other individuals, and make such examinations as are necessary to obtain an accurate reflection of the institution's programs, facilities and equipment. The on-site inspection team shall confirm that actual instruction relating to each degree is being provided. The Board shall receive and review the report of the on-site inspection team concerning the visit, as one of the bases in determining eligibility for licensure. Members of the on-site inspection team may include staff, members of the Board and other qualified persons.~~ the Board shall conduct an on-site inspection as specified in R4-39-104(C).

~~D.~~E. During the period of provisional licensure, the institution shall not use such terms as "licensed", "approved", or "accredited" in conjunction with the institution or the Board. If the institution wishes to refer to its licensure, it shall use the term "provisional license." The Board may grant 1-year extensions of provisional approval so long as the institution remains in compliance with these rules and is proceeding through the accreditation process in a reasonable and timely manner. ~~"Reasonable and timely" shall mean diligent pursuit of accreditation, including taking all steps required by the accrediting body within the time limitations imposed by the accrediting body.~~

~~E.~~F. ~~Misrepresentation in any materials or testimony submitted to the Board may result in disciplinary action.~~ The Board may take disciplinary action against an applicant that misrepresents any materials or testimony submitted to the Board.

NOTICE OF PROPOSED RULEMAKING

Editor's Note: The following Notice of Proposed Rulemaking appeared in the January 10, 1997, edition of the Register. Due to an error on the part of the Register Editor, the oral proceedings scheduled for this Notice were omitted in the issue of the Register. The Department of Environmental Quality was forced to reschedule its 2 oral proceedings and extend its close of record date. The Register Editor regrets this error and apologizes for any inconvenience it may have caused.

TITLE 18. ENVIRONMENTAL QUALITY

CHAPTER 4. DEPARTMENT OF ENVIRONMENTAL QUALITY
SAFE DRINKING WATER

PREAMBLE

1. Sections Affected / Rulemaking Action

Sections Affected	Rulemaking Action
R18-4-101	Amend
R18-4-102	Amend
R18-4-103	Amend
R18-4-104	Amend
R18-4-105	Amend
R18-4-109	Amend
R18-4-116	Amend
R18-4-117	Amend
R18-4-119	Amend
R18-4-121	Amend
R18-4-201	Amend
R18-4-205	Amend
R18-4-206	Amend
R18-4-208	Amend
R18-4-209	Amend
R18-4-212	Amend
R18-4-213	Amend
R18-4-215	Amend
R18-4-216	Amend
R18-4-217	Amend
R18-4-218	Amend
R18-4-219	Amend
R18-4-302	Amend
R18-4-303	Amend
R18-4-307	Amend
R18-4-310	Amend
R18-4-311	Amend
R18-4-314	Amend
R18-4-316	Amend
R18-4-402	Amend
R18-4-403	Repeal
R18-4-403	New Section
R18-4-504	Amend
Appendix A	Amend
Appendix B	Amend

2. The statutory authority for the rulemaking, including both the authorizing statute (general) and the statutes the rules are implementing (specific):

Authorizing statutes: A.R.S. §§ 49-202(A) and 49-203(A)(8)

Implementing statute: A.R.S. § 49-353

3. The name and address of agency personnel with whom persons may communicate regarding the rulemaking:

Name: Mr. Steven Pawlowski

Address: Department of Environmental Quality
3033 North Central Avenue
Phoenix, Arizona 85012

Telephone: (602) 207-2227

Fax: (602) 207-2251

4. **An explanation of the rule, including the agency's reasons for initiating the rule:**

ADEQ is proposing the following revisions to the rules which regulate public water systems: 1) repeal the maximum contaminant level and mandatory health effect language for nickel; 2) establish less stringent monitoring requirements for nickel to replace the currently effective monitoring requirements for nickel that are prescribed in R18-4-206; 3) clarify that the maximum contaminant levels for arsenic and radiochemicals apply only to drinking water that is distributed by community water systems; 4) amend the monitoring requirements in R18-4-217 to make them more consistent with those found in the National Primary Drinking Water Regulations and to add detection limits for radiochemicals in Appendix B; 5) amend R18-4-119 which regulates additives to drinking water to conform the rule to a recently enacted state statute; 6) repeal special monitoring requirements for water corrosivity characteristics; 7) clarify that vinyl chloride samples and samples that are screened for polychlorinated biphenyls [PCBs] using EPA Methods 505 and 508 cannot be composited; 8) establish limits on reporting analytical results for compliance purposes; 9) clarify the requirements for increased monitoring for nitrate and nitrite; 10) clarify that the maximum contaminant level for PCBs is quantitated as decachlorobiphenyl; and 11) clarify that compliance samples must be identified as such when they are submitted to a laboratory by a water supplier. In addition, ADEQ proposes numerous minor technical amendments to clarify the currently effective drinking water rules, eliminate unnecessary language, correct cross-references, and update incorporations by reference.

Repeal of the Maximum Contaminant Level for Nickel

On July 17, 1992, the U.S. Environmental Protection Agency [EPA] promulgated a maximum contaminant level for nickel of 0.1 mg/L [See 57 FR 31776]. EPA also promulgated associated monitoring, analytical testing, public notification requirements, and best available treatment technologies for nickel. These requirements were adopted by Arizona in drinking water rules that were effective on April 28, 1995.

In September, 1992, the Nickel Development Institute (a nickel trade association) and other industry parties filed a petition for review in the U.S. Court of Appeals for the D.C. Circuit challenging the maximum contaminant level goal [MCLG] and the maximum contaminant level [MCL] for nickel [See Nickel Development Institute, et. al v. EPA (No. 92-1407) and Specialty Steel Industry of the United States v. Browner (No. 92-1410). The industry petitioners raised objections concerning the methodology used for determining the MCLG for nickel. Because the MCL for nickel was based directly on the MCLG, the petitioners also challenged the MCL for nickel. EPA and the petitioners entered into discussions in an attempt to settle this litigation. In the course of these discussions, EPA agreed that it had not fully addressed the petitioners' comments on the methodology for deriving the MCLG for nickel in the rulemaking record and agreed to a voluntary remand of the MCLG and MCL for nickel. EPA and the industry petitioners filed a joint motion for a voluntary remand of the nickel MCLG and MCL. The court granted the motion, remanded the MCLG and MCL for nickel, and dismissed the lawsuits. When the court vacated the MCL for nickel, it left the sampling methodologies and detection limits for nickel in place. At EPA's request, the court also vacated the mandatory health effects language for nickel because: 1) the language mentions the nickel MCL, and 2) the language is unnecessary until EPA reestablishes a nickel MCL. No other aspects of the National Primary Drinking Water Regulations for nickel were vacated by the court.

EPA has stated in the Federal Register that the nickel MCL should be considered vacated and not in effect as of February 23, 1995 [See 60 FR 33929 (June 29, 1995)]. EPA has formally removed the nickel MCL from the Code of Federal Regulations [Id]. For this reason, ADEQ proposes to repeal the MCL for nickel that is

found in R18-4-205. ADEQ also proposes the repeal of the mandatory health effects language for nickel found in Appendix A.

Establish Less Stringent Monitoring Requirements for Nickel at R18-4-403

ADEQ is proposing to establish less stringent monitoring requirements for nickel at R18-4-403. As explained in the previous section, the Court of Appeals for the D.C. Circuit did not vacate the sampling methodologies and detection limits for nickel and EPA has not repealed the monitoring requirements for nickel in the National Primary Drinking Water Regulations. Therefore, ADEQ proposes a new section, R18-4-403, which prescribes special monitoring requirements for nickel. The proposed special monitoring requirements for nickel are less stringent than the nickel monitoring requirements that are found in the currently effective drinking water rules at R18-4-206 because they do not include increased monitoring requirements which are triggered by an exceedance of the MCL for nickel. Increased monitoring requirements which are triggered by an MCL exceedance are now obsolete because the MCL for nickel has been vacated. The special monitoring requirements for nickel are properly located in Article 4 because they are no longer related to determining compliance with a maximum contaminant level.

Amendment of Applicability of Maximum Contaminant Levels for Arsenic and Radiochemicals

EPA amended the National Primary Drinking Water Regulations to clarify that the maximum contaminant level for arsenic applies only to community water systems [See 40 CFR §141.11(a)]. ADEQ proposes to revise R18-4-201 to make this clarification. ADEQ proposes to amend R18-4-201 to clarify that the maximum contaminant levels for radiochemicals apply only to water that is distributed by a community water system. The maximum contaminant levels for radiochemicals do not apply to water distributed by noncommunity water systems [See 40 CFR 141.15 and 40 CFR 141.16].

Amendment of the Radiochemical Rule [R18-4-217]

ADEQ proposes to amend R18-4-217 to make the monitoring requirements in the rule more consistent with the currently effective National Primary Drinking Water Regulation for radiochemicals at 40 CFR 141.26. ADEQ is not proposing any changes to the currently effective maximum contaminant levels for radium-226, radium 228, gross alpha particle radioactivity, or beta particle and photon radioactivity from man-made radionuclides.

The currently effective state rule, R18-4-217(B)(1), requires that a community water system monitor each *source* for radiochemicals at 4-year intervals. ADEQ proposes to amend this rule and require that a community water system monitor for radiochemicals

at points-of-entry to the distribution system. The proposed change from source monitoring to point-of-entry monitoring is consistent with the way that monitoring is conducted by public water systems for other categories of contaminants under the standardized monitoring framework [See R18-4-218]. Also, sampling at the point-of-entry to the distribution system appears to be consistent with the way that currently effective federal regulation addresses monitoring requirements for radiochemicals. 40 CFR 141.26(a)(2)(iii) provides that a state has the *discretion* to order source water monitoring when a community water system uses two or more sources having different concentrations of radioactivity. This federal regulation implies that routine monitoring for radiochemicals is not conducted at the source because it states that source water monitoring is discretionary. If source water monitoring is discretionary, then routine monitoring for radiochemicals must be conducted at some other location. 40 CFR 141.26(a)(2)(iii) also states that source water monitoring is in addition to monitoring of water "from a free-flowing tap." This reference suggests that routine monitoring for radiochemicals is conducted in the distribution system.

Finally, point-of-entry sampling for radiochemicals is consistent with the monitoring approach set forth by EPA in proposed regulations for radiochemicals [See 56 FR 33050 (July 18, 1991)]. In the preamble to the proposed federal regulations, EPA states that one of its major goals is to make monitoring requirements for radiochemicals consistent with the monitoring requirements for other regulated drinking water contaminants as described in EPA's standardized monitoring framework [Id. at 33103]. EPA proposed that surface water systems and groundwater systems sample for radiochemicals at points in the distribution system which were representative of each source [i.e., at each entry point to the distribution system which is located after any treatment and which is representative of each source (Id. at 33104)].

While EPA's proposed regulations for radiochemicals have not been finalized, they reflect an EPA intention to adopt a point-of-entry monitoring approach for radiochemicals. If point-of-entry sampling is adopted for radiochemicals, then it will reduce the number of sampling sites for community water systems. Also, the same sampling sites may be used for the collection of samples for other contaminants such as inorganic chemicals and volatile organic chemicals, which simplifies sample collection efforts. ADEQ therefore proposes to repeal source monitoring and adopt point-of-entry sampling for radiochemicals.

ADEQ proposes to amend the monitoring requirements for radiochemicals to clarify that monitoring for gross alpha particle radioactivity may be substituted for radium-226 and radium-228 monitoring. This proposed revision will conform the rule to be consistent with 40 CFR 141.26(a)(1)(i). Gross alpha particle radioactivity monitoring may be substituted provided that the gross alpha particle radioactivity measurement does not exceed 5 pCi/L. If a gross alpha particle radioactivity measurement exceeds 5 pCi/L, then a water supplier must have the same or an equivalent sample analyzed for radium-226. If the concentration of radium-226 in the sample exceeds 3 pCi/L, then the water supplier must have the same sample analyzed for radium-228 [See 40 CFR 141.26(a)(1)(ii)]. If a gross alpha particle activity measurement exceeds 15 pCi/L, then a water supplier must have the same sample analyzed for uranium to determine compliance with the maximum contaminant level for gross alpha particle radioactivity. The currently effective rule does not clearly state that monitoring for gross alpha particle radioactivity may be substituted for radium-226 and radium-228 monitoring. Also, the currently effective ADEQ rule requires follow-up monitoring for *combined* radium-226 and radium-228 when a gross alpha particle radioactivity measurement exceeds 5 pCi/L. Follow-up monitoring for combined radium-226 and radium-228 is inconsistent with 40 CFR 141.26(a)(1)(ii).

The proposed rule is reorganized to clarify what the increased monitoring requirements are when a maximum contaminant level for a radiochemical is exceeded [See R18-4-217(C)]. The proposed rule clearly states the circumstances under which ADEQ may order increased monitoring for radiochemicals [See R18-4-217(D). It also clearly identifies the requirements that a water supplier must meet to qualify for reduced radiochemical monitoring [See R18-4-217(E)]. Finally, ADEQ is proposing to add the detection limits for radiochemicals to Appendix B. The proposed detection limits are taken from the National Primary Drinking Water Regulation which prescribes analytical methods for radioactivity [See 40 CFR 141.25(c)].

Amendment of the Additives Rule [R18-4-119]

ADEQ proposes to amend the additives rule to conform the rule to recently enacted state legislation, eliminate obsolete cross-references, and update incorporations by reference. In the Second Regular Session of the 42nd Legislature, the Arizona legislature enacted Senate Bill 1275 into law. S.B. 1275 includes A.R.S. § 49-353.01 which requires that the Director of ADEQ adopt rules which prescribe minimum standards for equipment and materials which come into contact with drinking water that is sold or distributed to the public. The law states that chemicals, materials, or equipment that have been certified by the National Sanitation Foundation [NSF] meet the requirements of S.B. 1275. The law also provides that in those instances where chemicals, materials, and equipment that come into contact with drinking water are essential to the design, construction, or operation of a drinking water system and they have not been NSF-certified or where they may be NSF-certified but are available only from one source, then the state drinking water rules must allow the use of alternatives. A.R.S. § 353.01 lists the alternatives that must be included in the rules. These are:

1. Products composed entirely of ingredients determined by the U.S. Environmental Protection Agency, the Food and Drug Administration, or other federal agencies as appropriate for addition to potable water or aqueous food;
2. Products composed entirely of ingredients listed in the National Academy of Sciences "Water Chemicals Codex;"
3. Products that are consistent with the specifications of the American Water Works Association;
4. Products that are designed for use in drinking water systems that are consistent with the specifications of the American Society for Testing and Materials; and
5. Products that have been used historically or which are in use in drinking water systems, consistent with standard practice, which have not been demonstrated during past applications in the United States to contribute to water contamination.

ADEQ proposes to amend the additives rule by adding a new subsection D which will allow the use of the alternatives mandated by S.B. 1275.

ADEQ also proposes to amend R18-4-119(A) to eliminate an obsolete reference to a January 1, 1993 compliance date. The currently effective rule states that: "[a]ll products added directly to drinking water during production or treatment *after January 1, 1993* shall conform to National Sanitation Foundation Standard 60.... [emphasis added]" The reference to January 1, 1993 is unnecessary and should be deleted.

ADEQ proposes to amend R18-4-119(B) for similar reasons. The currently effective rule states that: "[m]aterials or products *used or installed after January 1, 1993*, that come into contact with drinking water or with drinking water treatment chemicals shall conform to National Foundation Standard 61." During the last rulemaking to revise the drinking water rules [i.e., revisions effective April 28, 1995], ADEQ received a public comment on the additives rule which recommended the deletion of the word, "used," in the phrase italicized above. The commenter pointed out that materials or products that were installed prior to January 1, 1993 but used after that date would have to be removed if they did not conform to NSF Standard 61. The commenter pointed out that this regulatory requirement could impose an enormous economic burden on public water systems to retrofit their systems with NSF-certified materials or products. For this reason, ADEQ agreed that the word "used" should be deleted from R18-4-119(B). However, for reasons related to Attorney General certification of the drinking water rules during the last rulemaking in 1995, ADEQ was unable to make this revision. ADEQ proposes to revise the first sentence in R18-4-119(B) by deleting the word, "used." The proposed rule states: "materials or products installed after

January 1, 1993, that come into contact with drinking water or drinking water chemicals shall conform to National Foundation Standard 61...."

Finally, ADEQ proposes to update the incorporations by reference of NSF Standards 60 and 61. The currently effective rule incorporates NSF Standards 60 and 61, amended as of October, 1988. These incorporations by reference should be updated because NSF Standard 60 was most recently revised in May, 1996. NSF Standard 61 was most recently amended in January, 1995.

Repeal of the Special Monitoring Requirements for Water Corrosivity Characteristics

EPA has repealed the special monitoring requirements for water corrosivity characteristics [See 40 CFR 141.42 and 59 FR 62463-64 (December 5, 1994)]. With the EPA repeal of the special monitoring requirements for water corrosivity characteristics, 40 CFR 141.42 requires only that community water systems identify whether certain construction materials are present in their drinking water distribution systems and report that information to the state. This reporting requirement is found in the currently effective rule at R18-4-403(E). ADEQ proposes to repeal the special monitoring requirements for water corrosivity that are found currently in

R18-4-403 and relocate the remaining reporting requirement to R18-4-104(T).

Clarification of Sample Compositing Requirements for Vinyl Chloride and PCBs

Special monitoring requirements apply to vinyl chloride. Under R18-4-213, a community water system or nontransient, noncommunity water system must conduct monitoring for vinyl chloride at a sampling point only if the public water system detects the presence of certain volatile organic chemicals [VOCs] at a sampling point. Since monitoring for vinyl chloride is conducted at a sampling point only when triggered by a detection of another specified VOC, sample compositing should not be allowed. ADEQ proposes to amend the sample compositing rule at R18-4-219(e)(3) to clarify that compositing of vinyl chloride samples is prohibited.

There are similar special monitoring requirements for polychlorinated biphenyls [PCBs]. The proposed rule permits the use of certain analytical methods, EPA Method 505 or EPA Method 508, to screen for the presence of PCBs in a sample. If a water supplier chooses to use one of these screening methods, the sample must be screened for each of the specific Aroclors that are listed for PCBs in Appendix B. A laboratory which is conducting the analysis using one of the screening methods must meet the detection limits listed in Appendix B for each of the Aroclors. Detecting any of the Aroclors above their respective detection limit requires that the sample be analyzed and quantitated for decachlorobiphenyl using EPA Method 508A. Samples which have been composited cannot be screened using EPA Methods 505 or 508. Composite samples must be analyzed using EPA Method 508A. ADEQ proposes to revise the sample compositing rule at R18-4-219(E)(4) and Appendix B to make this clarification.

Reporting Limits

ADEQ proposes to add a new subsection S to the general reporting requirements that are prescribed in R18-4-104.

ADEQ proposes to establish limits on the reporting of nondetections in analytical results that are submitted to ADEQ. Reporting limits on nondetections are necessary because, without them, a water supplier may submit compliance data which indicates that a regulated contaminant has not been detected in a sample, but the "nondetect" concentration is unacceptably high. If nondetections are reported at concentrations that exceed maximum contaminant levels or other regulatory trigger levels, ADEQ cannot determine compliance with the drinking water rules. The proposed rule states that water suppliers are prohibited from submitting compliance data which does not meet prescribed reporting limits for nondetections. Water suppliers who submit analytical results which do not comply with the prescribed reporting limits will be required to resample or have the laboratory analysis of the sample done again.

Water suppliers and laboratories submit analytical results and frequently report that contaminants have not been detected in drinking water samples. However, the laboratories which do analyses of drinking water samples are not required to achieve certain levels of precision in their analyses. Consequently, analytical results that are submitted to ADEQ may not be usable for compliance

purposes. Because there are no reporting limits for nondetections prescribed in rule, "nondetects" may be reported at concentrations that are above maximum contaminant levels or regulatory trigger levels for increased monitoring or public notice.

For example, all community water systems must conduct monitoring to determine whether the drinking water they provide complies with the maximum contaminant levels for synthetic organic chemicals. The monitoring requirements for synthetic organic chemicals state that if a community water system detects a synthetic organic chemical in a concentration that is greater than or equal to 50% of the MCL for a synthetic organic chemical, then the community water system must conduct more frequent monitoring for that contaminant. Under the currently effective rules, a testing laboratory may report that a synthetic organic chemical is not detected, but the nondetection may be reported at a concentration that exceeds the maximum contaminant level or the trigger level for increased monitoring. The following hypothetical illustrates this problem:

The Responsible Water Company is a community water system which is required to conduct monitoring to determine whether there are any synthetic organic chemicals in the drinking water that it provides to its customers. One of the synthetic organic chemicals that the Responsible Water Company must monitor for is alachlor. The maximum contaminant level for alachlor is 0.002 mg/L and the concentration which triggers increased monitoring is 0.001 mg/L [i.e., 50% of the MCL]. The Responsible Water Company takes its drinking water sample to the Accuracy Plus Testing Laboratory which is licensed by the Arizona Department of Health Services [ADHS] to conduct analyses of drinking water samples for the presence of alachlor. There are no state requirements that the Accuracy Plus Testing Laboratory demonstrate that it can achieve certain detection limits in order to obtain or keep its license to conduct analyses of drinking water samples for alachlor. The Accuracy Plus Testing Laboratory conducts the analysis of the drinking water sample using an ADHS-approved method and reports the analytical results to ADEQ. Because there are no reporting limits for nondetection in the rule, the Accuracy Plus Testing Laboratory reports that alachlor was not detected in the sample and that the concentration of alachlor in the sample is less than 0.003 mg/L [For purposes of this hypothetical, assume that 0.003 mg/L represents the limit of detection for alachlor that the Accuracy Plus Testing Laboratory can achieve with its equipment]. Unfortunately, ADEQ cannot determine whether the drinking water provided by the Responsible Water Company complies with the MCL for alachlor [0.002 mg/L] or whether the Responsible Water Company should increase the frequency of monitoring for alachlor [i.e, the trigger level is 0.001 mg/L] from this analytical result. ADEQ cannot determine compliance because two equally valid conclusions can be drawn from a "nondetect" that is reported at "<0.003 mg/L." First, it is possible that there is no alachlor in the sample. The Accuracy Plus Testing Laboratory reports that alachlor was *not detected* in the sample. The second possibility is that alachlor is present in the drinking water sample, but in a concentration that is less than 0.003 mg/L. It is possible that alachlor is present in the sample in a concentration that exceeds the MCL or the trigger level for increased monitoring. Another laboratory may be able to detect alachlor in drinking water samples with greater precision [e.g., the Really Good Testing Laboratory can detect alachlor in concentrations as low as 0.001 mg/L]. However, there is nothing in the drinking water rules which requires that the Accuracy Plus Testing Laboratory achieve such precision. The proposed subsection S addresses the significant reporting problem illustrated by the hypothetical case. Subsection S requires that the analytical results of compliance samples be reported by water suppliers with minimum levels of precision so ADEQ can determine compliance. In particular, subsection S prohibits the reporting of nondetections at concentrations that are below MCLs and regulatory trigger levels. Subsection S prescribes the reporting limits for nondetection so that compliance data that is reported to ADEQ can be used for compliance determinations. The proposed rule prohibits the submittal of compliance data which includes nondetections that are reported at unacceptably high concentrations.

Clarification of Increased Monitoring Requirements for Nitrate and Nitrite

The rule which prescribes monitoring requirements for nitrate, R18-4-208, includes a provision which requires increased monitoring if nitrate is detected at a groundwater sampling point in a concentration which is equal to or greater than 5 mg/L. R18-4-208(F) requires an increase in monitoring frequency from annually to quarterly. If increased monitoring is triggered at a sampling point, then a public water system must continue quarterly monitoring until the analytical results from four consecutive quarterly samples demonstrate that the concentration of nitrate in the water is less than the maximum contaminant level of 10 mg/L. If the quarterly monitoring results demonstrate that the concentration of nitrate is reliably and consistently below the maximum contaminant level, then the Department may reduce the monitoring frequency at the sampling point from quarterly to annually. ADEQ proposes to add a sentence to R18-4-208(F) to clarify that once a public water system is triggered into increased monitoring and the quarterly monitoring results demonstrate that the concentration of nitrate is reliably and consistently below the maximum contaminant level [i.e., less than 10 mg/L], a subsequent detection of nitrate at that sampling point in a concentration which is greater than or equal to 5 mg/L and less than or equal to 10 mg/L will not "retrigger" increased monitoring. ADEQ is proposing a similar clarification of the increased monitoring requirements for nitrite at R18-4-209(G).

Clarification of MCL for Polychlorinated Biphenyls as Decachlorobiphenyl

The National Primary Drinking Water Regulations state that compliance with the maximum contaminant level for polychlorinated biphenyls [PCBs] shall be determined based upon the quantitative results of analyses using EPA Method 508A [See 40 CFR 141.24(h)(13)(iii)]. EPA Method 508A is used to quantitate PCBs as decachlorobiphenyl. ADEQ proposes to amend R18-4-215 to clarify that the maximum contaminant level for PCBs is expressed as decachlorobiphenyl.

Identification of Compliance Samples

ADEQ proposes to amend R18-4-109 to clarify that a water supplier must identify a sample as a compliance sample at the time the sample is submitted to a drinking water testing laboratory for analysis.

5. **A showing of good cause why the rule is necessary to promote a statewide interest if the rule will diminish a previous grant of authority of a political subdivision of this state:**

Not applicable.

6. The preliminary summary of the economic, small business, and consumer impact:

Under A.R.S. § 41-1055(D), an agency is not required to prepare an economic, small business, and consumer impact statement if the rulemaking decreases monitoring, record keeping, or reporting burdens on agencies, political subdivisions, businesses, or persons unless the agency determines that the increased costs of implementation or enforcement of the rules may equal or exceed the reduction in burdens.

Most of the changes proposed by ADEQ are nonsubstantive changes to clarify the rules, eliminate unnecessary language, correct incorrect cross-references, and to update incorporations by reference. These nonsubstantive revisions will have no economic, small business, or consumer impact. A few of the proposed revisions to the drinking water rules are substantive, but they reduce monitoring, recordkeeping, or reporting burdens for public water systems. The proposed rules will not increase the costs of implementation or enforcement of the drinking

water rules. Therefore, ADEQ has concluded that an economic, small business and consumer impact statement is not required for this rulemaking.

The proposed repeal of the maximum contaminant level for nickel reduces the number of regulated inorganic chemicals. However, the currently effective monitoring requirements for nickel remain largely unchanged. Community water systems and nontransient, noncommunity water systems will still have to conduct monitoring for nickel. However, the repeal of the maximum contaminant level for nickel will eliminate the possibility of increased monitoring due to an exceedance of the MCL for nickel. Under the currently effective rules, a public water system must increase the monitoring frequency for nickel if the maximum contaminant level is exceeded at a sampling point. The special monitoring requirements for nickel that are being proposed at R18-4-403 are identical to the nickel monitoring requirements prescribed in R18-4-206 in the currently effective rules, except that the proposed rule does not include increased monitoring provisions. The special monitoring requirements for nickel prescribed in R18-4-403 are less stringent than those found in the currently effective rules and represent a reduction in the monitoring burden for community water systems and nontransient, noncommunity water systems.

The limitation of the applicability of the maximum contaminant level for arsenic to community water systems will reduce monitoring requirements for nontransient, noncommunity water systems which must conduct monitoring for

arsenic under the currently effective rules. This proposed rule change will reduce monitoring requirements for approximately 230 nontransient, noncommunity water systems.

The proposed revisions to the rules which will have the most significant economic impact are the proposed revisions to the monitoring requirements for radiochemicals. The proposed change from source monitoring to point-of-entry monitoring for radiochemicals will reduce monitoring requirements for community water systems with multiple sources of water that are combined before the water enters the distribution system. For example, the public water system for the City of Tucson has 171 sources of water and 126 points-of-entry. The adoption of the proposed point-of-entry monitoring approach for radiochemicals would result in a reduction of 45 sampling points and a corresponding decrease in radiochemical monitoring costs. Similarly, the City of Scottsdale would see a reduction of 9 sampling points. In a brief survey of approximately 70 community water systems by ADEQ, approximately half of those systems will be able to reduce their radiochemical monitoring by 2 to 3 sampling points. The adoption of the proposed point-of-entry monitoring approach will not cause an increase in radiochemical monitoring costs for any public water system, it can only reduce monitoring burdens.

The proposed revisions to the additives rule provide regulatory flexibility because they allow the the use of alternative materials or products that come into contact with drinking water when National Sanitation Foundation- certified materials and products are unavailable or when those materials or products are available only from one source. This provision will give water suppliers the flexibility to use cost-effective alternative materials and products that are commercially available in the water works industry when there is only one supplier of an NSF- certified material or product. The amended rule introduces competition into the additives rule by allowing the

use of alternative materials and products. Additional competition should result in lower costs to public water systems.

The repeal of the special monitoring requirements for water corrosivity characteristics will reduce monitoring burdens for community water systems. The proposed repeal of R18-4-403 eliminates a provision which requires that a community water system conduct one-time round of monitoring to determine water corrosivity characteristics.

The establishment of reporting limits for nondetection in rule is a codification of an existing compliance data policy that is being implemented currently by the ADEQ Drinking Water Section in cooperation with the Office of Laboratory Licensure, Certification, and Training of the Arizona Department of Health Services [ADHS]. ADHS has informed the drinking water testing laboratories of the currently effective reporting limits policy through the publication of ADHS Information Update #28 [June 10, 1996]. ADEQ also published the reporting limits policy in the ADEQ Drinking Water Section's newsletter, Splash [See Vol. 1, No. 2, Summer, 1996]. The proposed rule clarifies reporting requirements that are implied by the establishment of maximum contaminant levels and other regulatory trigger levels in the currently effective drinking water rules. Reporting limits on nondetections are necessary adjuncts to the establishment of any MCL or regulatory trigger. Without such reporting limits, ADEQ cannot determine compliance with the MCLs or regulatory triggers. The codification of the reporting limits policy does not establish new reporting requirements or increase reporting burdens for drinking water testing laboratories and water suppliers. The proposed rule merely clarifies ADEQ's currently effective compliance data policy.

The clarification of sample compositing requirements and the other minor technical amendments to the drinking water rules that are proposed in this rulemaking will have no economic impact.

7. **The name and address of agency personnel with whom persons may communicate regarding the accuracy of the economic, small business, and consumer impact statement:**
   Not applicable

8. **The time, place, and nature of the proceedings for the adoption, amendment, or repeal of the rule:**
   Oral proceedings to take public comment on the proposed rules are scheduled as follows:

   Date: February 18, 1997
   Time: 1:30 p.m.
   Location: Department of Environmental Quality
   Public Meeting Room
   3033 North Central Avenue
   Phoenix, Arizona 85012

   Date: February 25, 1997
   Time: 1:30 p.m.
   Location: State Office Building
   400 West Congress, Room 222
   Tucson, Arizona

   Written comments on the proposed rules may be submitted to the Department. Written comments must be received by the Department by close of business or postmarked on March 7, 1997. Written comments should be addressed to:

   Mr. Steven Pawlowski
   Department of Environmental Quality
   3033 N. Central Avenue
   Phoenix, Arizona 85012

9. **Any other matters prescribed by statute that are applicable to the specific agency or to any specific rule or class of rules:**
   Not applicable

10. **Incorporation by reference and their location in the rules:**
    National Standard Foundation Standards 60 and 61 in R18-4-119.

11. **The full text of the rules follows:**

TITLE 18. ENVIRONMENTAL QUALITY

CHAPTER 4. DEPARTMENT OF ENVIRONMENTAL QUALITY
SAFE DRINKING WATER

ARTICLE 1. GENERAL REQUIREMENTS

Section
R18-4-101. Definitions
R18-4-102. Applicability
R18-4-103. ~~General~~ Recordkeeping Requirements
R18-4-104. Reporting Requirements
R18-4-105. ~~General~~ Public Notification Requirements
R18-4-106. Use of Approved Analytical Methods
R18-4-107. Use of Licensed Laboratories
R18-4-108. Recodified
R18-4-109. Sample Collection, Preservation, and Transportation
R18-4-110. Variances
R18-4-111. Exemptions
R18-4-112. Exclusions
R18-4-113. Consecutive Public Water Systems
R18-4-114. Certified Operators
R18-4-115. Backflow Prevention
R18-4-116. Emergency Operations Plans
R18-4-117. Unsafe Supplies
R18-4-118. Sanitary Surveys
R18-4-119. Additives
R18-4-120. Monitoring and Sampling by the Department
R18-4-121. Enforcement
R18-4-122. Entry and Inspection of Public and Semipublic Water Systems
R18-4-123. Vending Machines
R18-4-124. Operation and Maintenance
R18-4-125. Hauled Water

ARTICLE 2. MAXIMUM CONTAMINANT LEVELS AND MONITORING REQUIREMENTS

Section
R18-4-201. Maximum Contaminant Levels: Public Water Systems Affected
R18-4-202. Total Coliform; MCLs and Monitoring Requirements
R18-4-203. Total Coliform; Special Events
R18-4-204. Turbidity; Interim MCLs and Monitoring Requirements
R18-4-205. Inorganic Chemicals; MCLs
R18-4-206. Monitoring Requirements for Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cyanide, Fluoride, Mercury, ~~Nickel,~~ Selenium, and Thallium
R18-4-207. Asbestos; Monitoring Requirements
R18-4-208. Nitrate; Monitoring Requirements

ARTICLE 1. GENERAL REQUIREMENTS

R18-4-101. Definitions

The terms in this Chapter have the following meanings:

1. "Action level" means a concentration of 0.015 mg/L for lead or 1.3 mg/L for copper.
2. "Air-gap separation" means a physical separation between the discharge end of a supply pipe and the top rim of its receiving vessel, which has a separation distance equal to at least one inch or twice the diameter of the supply pipe, whichever is greater.
3. ~~"AWWA standard" means an official standard developed and approved by the American Water Works Association (AWWA).~~ "A.R.S." means Arizona Revised Statutes.
4. "Backflow" means a reverse flow condition, which causes water or mixtures of water and other liquids, gases, or substances to flow back into the distribution system. Backflow can be created by a difference in water pressure (backpressure), a vacuum or partial vacuum (backsiphonage), or a combination of both.
5. "Backflow-prevention assembly" means any assembly used to prevent backflow.
6. "BAT" means best available technology.
7. "Best available technology" means a technology, treatment technique, or other means which has been identified by the U.S. Environmental Protection Agency ~~(EPA)~~ as being the best available for removing or reducing the concentration of a contaminant in water, taking costs into consideration, after examination for efficacy under field conditions and not solely under laboratory conditions.
8. "Certified operator" means a person who holds an operator certificate issued by the Department to operate a water treatment plant or a distribution system.
9. "Coagulation" means a treatment process which uses coagulant chemicals and mixing by which colloidal and suspended materials are destabilized and agglomerated into flocs.
10. "Community water system" means a public water system which serves 15 or more service connections used by year-round residents or which serves 25 or more year-round residents.
11. "Compliance cycle" means a nine-calendar-year time frame during which a public water system is required to monitor. Each compliance cycle consists of three compliance periods. ~~The first compliance cycle begins January 1, 1993, and ends December 31, 2001. The second compliance cycle begins January 1, 2002, and ends December 31, 2010. The third compliance cycle begins January 1, 2011, and ends December 31, 2019.~~
12. "Compliance period" means a three-calendar-year time frame within a compliance cycle. ~~Within the first compliance cycle, the first compliance period begins January 1, 1993, and ends December 31, 1995. The second compliance period begins January 1, 1996, and ends December 31, 1998. The third compliance period begins January 1, 1999, and ends December 31, 2001.~~
13. "Consecutive public water system" means a public water system which obtains all of its water from another public water system that is regulated by the Department.
14. "Contaminant" means any physical, chemical, biological, microbiological, or radiological substance in water.
15. "Conventional filtration" means a series of treatment processes, including coagulation, flocculation, sedimentation, and filtration that result in substantial particulate removal.

16. "Corrosion inhibitor" means a substance capable of reducing the corrosivity of water toward metal plumbing materials, especially lead and copper, by forming a protective film on the interior surface of those materials.
17. "Cross connection" means a physical connection between a public water system and any source of water or other substance which may lead to contamination of the water provided by the public water system through backflow.
18. "CWS" means community water system.
19. "Department" means the Arizona Department of Environmental Quality.
20. "Detected" means measured in the laboratory at a concentration which is at or above the method detection limit for a given contaminant.
21. "Diatomaceous earth filtration" means a treatment process that results in substantial particulate removal in which a pre-coat cake of diatomaceous earth filter media is deposited on a support membrane known as a septum and, while the water is filtered through the cake on the septum, additional filter media known as body feed ~~are~~ is continuously added to the feed water to maintain the permeability of the filter cake.
22. "Direct filtration" means a series of treatment processes, including coagulation and filtration but excluding sedimentation, that result in substantial particulate removal.
23. "Disinfectant" means any oxidant, including but not limited to chlorine, chlorine dioxide, chloramines, ozone, or any equivalent agent or process such as ultraviolet light, that is intended to kill or inactivate pathogenic organisms.
24. "Disinfection" means a treatment process that is intended to kill or inactivate pathogenic organisms in water by oxidants, ultraviolet light, or equivalent agents.
25. "Distribution system" means the pipelines, appurtenances, devices, and facilities of a public water system which conduct water from a source or water treatment plant to persons served by the system.
26. "Domestic or other non-distribution system plumbing problem" means a total coliform contamination problem in a public water system with more than one service connection that is limited to a specific service connection from which a total coliform-positive sample is taken.
27. "Dose equivalent" means the product of the absorbed dose from ionizing radiation and such factors as account for differences in biological effectiveness due to the type of radiation and its distribution in the body as specified by the International Commission on Radiological Units and Measurements.
28. "Double check valve assembly" means a backflow-prevention assembly that contains at least two independently acting check valves with tightly closing shut-off valves on each end of the assembly and properly located test cocks.
29. "Effective corrosion inhibitor residual" means a concentration of a corrosion inhibitor that is sufficient to form a passivating film on the interior walls of a pipe.
30. "Exclusion" means a waiver from a requirement ~~established by~~ of this Chapter that is not a requirement contained in the National Primary Drinking Water Regulations which may be granted pursuant to R18-4-112.
31. "Exemption" means the allowance of a temporary deviation from a maximum contaminant level or a treatment technique requirement ~~established by~~ of this Chapter which may be granted pursuant to R18-4-111.
32. "Filtration" means a treatment process for removing particulate matter from water by passage through porous media.
33. "First-draw sample" means a one-liter sample of tap water, collected in accordance with R18-4-310(D) that has been standing in plumbing pipes for at least ~~six~~ 6 hours and is collected without flushing the tap.
34. "Flocculation" means a treatment process to enhance agglomeration or collection of smaller floc particles into larger and more easily settleable particles through gentle stirring by hydraulic or mechanical means.
35. "GAC" means granular activated carbon.
36. "GC" means gas chromatography.
37. "GC/MS" means gas chromatography/mass spectrometry.
38. "Gross alpha particle activity" means the total radioactivity due to alpha particle emission as inferred from measurements on a dry sample.
39. "Gross beta particle activity" means the total radioactivity due to beta particle emission as inferred from measurements on a dry sample.
40. "Groundwater system" means a public water system that is supplied solely by groundwater that is not under the direct influence of surface water.
41. "Groundwater under the direct influence of surface water" means any water beneath the surface of the ground with:
    a. A significant occurrence of insects or other macroorganisms, algae, large diameter pathogens such as *Giardia lamblia*, or total coliform; or
    b. Significant and relatively rapid shifts in water characteristics such as turbidity, temperature, conductivity, or pH which closely correlate to climatological or surface water conditions.
42. "Halogenated" means treated or mixed with chlorine, bromine, or iodine.
43. "HPC" means heterotrophic plate count.
44. "Initial compliance period" means the ~~first, full three-year~~ compliance period in a compliance cycle during which a public water system conducts initial monitoring.
45. "Initial monitoring year" means the calendar year designated by the Department within a compliance period in which a public water system conducts initial monitoring.
~~45.~~46. "Large water system" means a public water system that serves more than 50,000 persons.
~~46.~~47. "Lead-free" means that the pipe, solder, or flux used in the installation or repair of any public water system or in any residential or nonresidential facility which provides water for human consumption and which is connected to such public water system meets the following criteria:
    a. All solders and flux contain not more than 0.2 % lead;
    b. All pipes and pipe fittings contain not more than 8.0 % lead.
~~47.~~48. "Lead service line" means a service line made of lead which connects a water main to a building inlet and any lead pigtail, gooseneck, or fitting which is connected to the service line.
~~48.~~49. "Log" means, in terms of removal or inactivation of *Giardia lamblia* cysts or viruses, the following:
    a. "One-log" is 90 %.
    b. "Two-log" is 99 %.
    c. "Three-log" is 99.9 %.
    d. "Four-log" is 99.99 %.
~~49.~~50. "Man-made beta particle and photon emitters" means all radionuclides emitting beta particles or photons, except the daughter products of Thorium-232, Uranium-235, and

Uranium-238, listed in "Maximum Permissible Body Burdens and Maximum Permissible Concentrations of Radionuclides in Air and in Water for Occupational Exposure," Handbook 69, U.S. Department of Commerce, National Bureau of Standards, amended as of August, 1963) (and no future editions), which is incorporated by reference and on file with the Office of the Secretary of State and the Department.

~~50.~~51. "Maximum contaminant level" means the maximum permissible level for a contaminant in water which is delivered to any person who is served by a public water system.

~~51.~~52. "Maximum total trihalomethane potential" means the maximum concentration of total trihalomethanes produced in water containing a disinfectant residual after ~~seven~~ 7 days at a temperature of 25° C or above.

~~52.~~53. "MCL" means maximum contaminant level.

~~53.~~54. "MFL" means million fibers per liter greater than ten microns in length.

~~54.~~55. "Medium water system" means a public water system that serves more than 3,300 persons and 50,000 or fewer persons.

~~55.~~56. "Millirem" means 1/1000 of a rem.

~~56.~~57. "MTP" means maximum total trihalomethane potential.

~~57.~~58. "Nephelometric turbidity unit" means the unit of measure for turbidity. Turbidity is a measure of light scatter or absorption caused by suspended or colloidal matter. Turbidity is measured as an indicator of treatment effectiveness, specifically for clarification and filtration processes.

~~58.~~ 59. "Noncommunity water system" means a public water system that is not a community water system. A noncommunity water system is either a nontransient, noncommunity water system or a transient, noncommunity water system.

~~59.~~ 60. "Nontransient, noncommunity water system" means a public water system which:

a. Serves 15 or more service connections that are used by the same persons for at least ~~six~~ 6 months per year; or

b. Serves the same 25 or more persons for at least ~~six~~ 6 months per year.

~~60.~~61. "NTNCWS" means nontransient, noncommunity water system.

~~61.~~ 62. "NTU" means nephelometric turbidity unit.

~~62.~~63. "Optimal corrosion control treatment" means the corrosion control treatment that minimizes lead and copper concentrations at the tap without violating any rule prescribed in this Chapter.

~~63.~~64. "OX" means chlorine or ozone oxidation.

~~64.~~65. "pCi" means picocurie.

~~65.~~66. "Picocurie" means the quantity of radioactive material producing 2.22 nuclear transformations per minute.

~~66.~~67. "Point-of-entry into the distribution system" means the point at which water is discharged into the distribution system from a well, storage tank, pressure tank, or water treatment plant.

~~67.~~68. "Point-of-entry treatment device" means a device which applies ~~physical or chemical~~ treatment to water entering a user's premises for the purpose of reducing contaminants in the water that is distributed throughout the premises.

~~68.~~ 69. "Point-of-use treatment device" means a device which applies ~~physical or chemical~~ treatment to the water flowing to a single tap for the purpose of reducing contaminants in water at that one tap.

~~69.~~ 70. "Pressure vacuum breaker assembly" means a backflow-prevention assembly that contains one or two independently operated, internally loaded check valves; an internally operated air-inlet valve located on the discharge side of the check valve with tightly closing shut-off valves on each end of the check valve assembly; and properly located test cocks.

~~70.~~71. "Private agricultural water system" means a water system which:

a. Is owned and operated as part of an agricultural enterprise;

b. Has less than 15 service connections or serves less than 25 persons on the real property of the agricultural enterprise;

c. Serves only the owner, employees, and their dependents residing on the real property of the agricultural enterprise;

d. Does not sell water for domestic purposes; and

e. Does not hold out, offer, or provide water to the public at large.

~~71.~~72. "PTA" means packed tower aeration.

~~72.~~73. "Public water system" means a system for the distribution of water to the public for human consumption which serves 15 or more service connections or which serves an average of at least 25 persons per day for at least 60 days a year. A public water system includes:

a. Any collection, treatment, storage, and distribution facilities under the control of the ~~operator of such system~~ water supplier and used in connection with ~~such~~ the system; and

b. Any collection or pretreatment storage facilities not under ~~such~~ the control of the water supplier which are used with ~~such~~ the system.

A public water system is either a community water system; a nontransient, noncommunity water system; or a transient, noncommunity water system.

~~73.~~74. "Reduced pressure principle backflow-prevention assembly" means a backflow-prevention assembly which includes not less than two check valves; an automatically operated, differential relief valve located between the two check valves with tightly closing shut-off valves on each end of the check valve assembly; and properly located test cocks.

~~74.~~75. "Rem" means the unit of dose equivalent from ionizing radiation to the total body or any internal organ or organ system.

~~75.~~76. "Repeat compliance period" means any subsequent compliance period after the initial compliance period.

~~76.~~77. "Residual disinfectant concentration" means the concentration of disinfectant measured in mg/L in a representative sample of water.

~~77.~~78. "Sanitary survey" means an on-site review of the water source, facilities, equipment, operation, and maintenance of a public water system for the purpose of evaluating the adequacy of such source, facilities, equipment, operation, and maintenance for producing and distributing safe drinking water.

~~78.~~79. "Sedimentation" means a treatment process which holds water in a low-flow condition before filtration and which removes solids by gravity or separation.

~~79.~~80. "Semipublic water system" means a water system with at least ~~four~~ 4 service connections and less than 15 service connections which:

a. Serves an average of less than 25 persons per day; or

b. Serves an average of 25 or more persons a day but for less than 60 days a year.

~~80.~~81."Service connection" means a location at the meter, or in the absence of a meter, at the curbstop or at the building inlet.

~~81.~~82."Service line" means the water line which runs from the corporation stop at a water main to the building inlet, including any pigtail, gooseneck, or fitting.

~~82.~~83."Service line sample" means a one-liter sample of water, collected in accordance with R18-4-310(D), that has been standing for at least ~~six~~ 6 hours in a service line.

~~83.~~84."Single-family structure" means a building constructed as a single-family residence that is currently used as a residence or as a place of business.

~~84.~~85."Slow sand filtration" means a treatment process which involves the passage of raw water through a bed of sand at low velocity, generally less than 0.4 m/h, that results in substantial particulate removal by physical and biological mechanisms.

~~85.~~86."Small water system" means a public water system that serves 3,300 or fewer persons.

~~86.~~87."SOC" means synthetic organic chemical.

~~87.~~88."Source" means any body of water above or below the ground from which a water supply is obtained, including any well, spring, or surface water.

~~88.~~89."Standard sample" means the aliquot of finished drinking water that is examined for the presence of coliform bacteria. The standard sample volume is 100 milliliters.

~~89.~~90."Surface water" means any source that is exposed to the unenclosed atmosphere and that is subject to surface runoff.

~~90.~~91."Surface water system" means a public water system that uses surface water or groundwater under the direct influence of surface water, in whole or in part, as a source.

~~91.~~92."Total trihalomethanes" means the sum of the concentrations of the following trihalomethane compounds: trichloromethane (chloroform), dibromochloromethane, bromo-dichloromethane and tribromomethane (bromoform).

~~92.~~93."Transient, noncommunity water system" means a public water system which:

a. Serves 15 or more service connections but which does not serve 15 service connections used by the same persons for more than ~~six~~ 6 months per year; or

b. Serves an average of at least 25 persons per day for at least 60 days per year but which does not serve the same 25 persons for more than ~~six~~ 6 months per year.

~~93.~~94."Treatment" means to intentionally change the quality of water by a physical, chemical, or biological process.

~~94.~~95."Trihalomethane" means one of the family of organic compounds, named as derivatives of methane, wherein three of the four hydrogen atoms in methane are substituted by a halogen atom in the molecular structure.

~~95.~~96."TTHM" means total trihalomethanes.

~~96.~~97."User facilities" means ~~the aggregate of~~ all facilities (for example, buildings, appurtenances, equipment, manufacturing and storage facilities, and water distribution pipes) on the user's side of the service connection.

~~97.~~98."Variance" means the allowance of a deviation from either a maximum contaminant level or a treatment technique which may be granted pursuant to R18-4-110.

~~98.~~99."Virus" means an enteric virus which is infectious to humans by waterborne transmission.

~~99.~~100."VOC" means volatile organic chemical.

~~100.~~101."Water main" means any pipe which is used to distribute potable water which serves more than one property or residence and is exterior to buildings.

~~101.~~102."Water supplier" means a person who owns or ~~operates~~ who supervises or directs the operation of a public water system.

~~102.~~103."Waterborne disease outbreak" means the occurrence of acute infectious illness which is epidemiologically associated with the ingestion of water from a public water system.

~~103.~~104."Water system" means:

a. Any collection, treatment, storage, and distribution facilities under the control of the ~~operator of such system~~ water supplier and used in connection with ~~such~~ the system; and

b. Any collection or pretreatment storage facilities not under ~~such~~ the control of the water supplier which are used with ~~such~~ the system for the distribution of water to the public for human consumption or for any of the following purposes: producing, processing, storing, handling, serving, or transporting food or drink and the washing of related utensils, equipment or food contact surfaces; bathing or personal hygiene; or washing clothes. A water system does not include a system which delivers water solely for irrigation purposes.

~~104.~~105."Water treatment plant" means a facility in which the quality of the water is intentionally changed by a physical, chemical, or biological process. A booster chlorination facility which is designed to maintain an effective disinfectant residual in water in the distribution system is not a water treatment plant.

R18-4-102. Applicability

A. The rules in this Chapter apply to public water systems.

B. The rules in this Chapter do not apply to semipublic water systems or to private agricultural water systems, unless a health hazard is identified. The Director may take enforcement action to require that a semipublic water system or a private agricultural water system comply with a rule prescribed in this Chapter to safeguard the health of users of the system. ~~The Director shall identify, in writing, the health hazard which provides grounds for initiation of any enforcement action.~~

C. The rules in this Chapter do not apply to a public water system that meets all of the following criteria:

1. The public water system consists only of distribution and storage facilities and does not have any collection or treatment facilities;
2. The public water system obtains all of its water from, but is not owned or operated by, another public water system that is regulated under this Chapter;
3. The public water system does not sell[a] water to any person; and
4. The public water system is not a carrier which conveys passengers in interstate commerce.

D. The rules in this Chapter do not apply to a public water system for a mobile home park which meets all of the following criteria:

1. The public water system for the mobile home park consists only of distribution and storage facilities and does not have any collection or treatment facilities;
2. The public water system for the mobile home park obtains all of its water from, but is not owned or operated by, another public water system that is regulated under this Chapter;
3. The public water system for the mobile home park does not sell water to any person. For purposes of this subsec-

tion, submetering by a mobile home park to determine the quantity of water used by individual park tenants shall not be considered to be selling water, provided the submetering is for purposes of water conservation.

~~a Submetering by a mobile home park to determine the quantity of water used by individual park tenants shall not be considered to be selling water, provided the submetering is for purposes of water conservation.~~

R18-4-103. ~~General~~ Recordkeeping Requirements

A. A water supplier shall retain on the premises of a public water system or at a convenient location near its premises, the following records:

1. Records of bacteriological analyses, including records of analyses for total coliform, fecal coliform, *Escherichia coli (E. coli)*, and heterotrophic bacteria. ~~Records of bacteriological analyses~~ , which shall be kept for at least ~~five~~ 5 years.
2. Records of chemical analyses, which shall be kept for at least ~~ten~~ 10 years.
3. Records of actions taken by the water supplier to correct violations of this Chapter, which shall be kept for at least ~~three~~ 3 years after the last action taken ~~with respect to the particular violation involved;~~ to correct the violation.
4. Records concerning ~~variances or exemptions~~ a variance or exemption granted to the public water system which shall be kept for at least ~~five~~ 5 years after the expiration of ~~such~~ the variance or exemption.
5. Copies of written reports, summaries, or communications relating to ~~sanitary surveys~~ a sanitary survey of the public water system. ~~Records related to a sanitary survey~~ which shall be kept for at least ~~ten~~ 10 years after completion of the sanitary survey ~~involved~~.
6. Any public water system that is subject to the requirements of the lead and copper rules prescribed at R18-4-305 through R18-4-316 shall retain original records of all sampling data and analyses, reports, surveys, letters, evaluations, schedules, Department determinations, and any other information required by R18-4-305 through R18-4-316. Each public water system shall retain the records for at least 12 years.
7. A water supplier of a surface water system shall retain the following records for at least ~~ten~~ 10 years:
   a. Records of turbidity measurements, including the number and percentage of filtered water turbidity measurements taken during the month which are less than or equal to the turbidity limits specified in ~~this Section~~ R18-4-302 for the filtration technology being used.
   b. The date and value of any turbidity measurement taken during the month which exceeds ~~five~~ 5 NTUs.
8. A water supplier of a surface water system shall retain the following records for at least ~~ten~~ 10 years:
   a. Records of the lowest residual disinfectant concentration (in mg/L) in water entering the distribution system for each day that each water treatment plant is operating;
   b. Records of the residual disinfectant concentration (in mg/L) in water for each sampling site in the distribution system;
   c. Records of analyses for heterotrophic bacteria if HPC is measured in lieu of residual disinfectant concentration in the distribution system.

B. When records of laboratory analyses are required to be maintained, a water supplier shall keep the actual laboratory reports or copies of Department-approved reporting forms.

R18-4-104. Reporting Requirements

A. Routine monitoring to determine compliance with MCLs: Except as specified in this subsection, a water supplier shall report the results of any test measurement or analysis required by Article 2 of this Chapter to the Department within the first ~~ten~~ 10 days following the month in which the result is received or the first ~~ten~~ 10 days following the end of a required monitoring period prescribed by the Department, whichever is less.

1. If fecal coliforms or *E. coli* are present in a total coliform-positive sample, a water supplier shall report the positive results to the Department, by telephone or facsimile, as soon as possible but no later than 24 hours after receiving notice of the fecal coliform-positive or *E. coli*-positive test result.
2. If nitrate is present in a sample in a concentration which exceeds 10 mg/L, then a water supplier shall report the exceedance to the Department within 24 hours of receipt of analytical results which indicate the exceedance.
3. A water supplier shall report the arithmetic average of analytical results for total trihalomethanes within 30 days of receipt of the last analytical results of the previous quarter.

B. MCL violations: Except as specified in this subsection, a water supplier shall report a violation of any maximum contaminant level to the Department within 48 hours of receipt of analytical results which indicate a violation.

1. A water supplier shall report a violation of a maximum contaminant level for total coliform to the Department, by telephone or facsimile, as soon as possible but no later than 24 hours after receipt of analytical results which indicate a violation.
2. A water supplier shall report a violation of a maximum contaminant level for nitrate or nitrite to the Department, by telephone or facsimile, as soon as possible but no later than 24 hours after receipt of analytical results which confirm a violation.
3. A water supplier shall report a violation of an interim maximum contaminant level for turbidity to the Department, by telephone or facsimile, as follows:
   a. If the arithmetic average of the analytical results of daily samples taken during the month exceeds ~~one~~ 1 NTU, then the water supplier shall report the violation to the Department within the first ~~ten~~ 10 days following the end of the month.
   b. If the arithmetic average of the results of daily samples taken on ~~two~~ 2 consecutive days exceeds ~~five~~ 5 NTUs, then the water supplier shall report the violation to the Department within 48 hours of receipt of analytical results.

C. Filtration reporting requirements: Except as provided in subsection (C)(4), a water supplier of a surface water system which provides filtration shall report the following turbidity measurements to the Department within ~~ten~~ 10 days after the end of each month for each water treatment plant that is operating:

1. The total number of filtered water turbidity measurements taken during the month;
2. The number and percentage of filtered water turbidity measurements taken during the month which are less than or equal to the turbidity limits prescribed in R18-4-302 for the filtration technology being used;
3. The date and value of any turbidity measurement taken during the month that exceeds ~~five~~ 5 NTUs.
4. If the turbidity of the filtered water exceeds ~~five~~ 5 NTUs, then the water supplier shall report the exceedance to the

Department as soon as possible but no later than 24 hours after the exceedance.

D. Disinfection reporting requirements: Except as provided in subsection (D)(4), a water supplier of a surface water system which provides disinfection shall report the following information to the Department within ~~ten~~ 10 days after the end of each month for each water treatment plant that is operating:

1. For each day, the lowest measurement of residual disinfectant concentration in mg/L in water entering the distribution system;
2. The date and duration of each time period during which the residual disinfectant concentration in water entering the distribution system fell below 0.2 mg/L and the date and time that the Department was notified of the occurrence.
3. The value of "V" calculated by the formula prescribed in R18-4-303(C)(2) for the current and previous month the surface water system serves water to the public.
4. If, at any time, the residual disinfectant concentration falls below 0.2 mg/L in water entering the distribution system, the water supplier shall report the occurrence to the Department as soon as possible, but no later than 24 hours after the occurrence. The water supplier also shall report whether the residual disinfectant concentration was restored to at least 0.2 mg/L within ~~four~~ 4 hours.

E. Reporting requirements for tap water monitoring for lead and copper under R18-4-310: Each large, medium, or small water system which is required to conduct tap water monitoring for lead and copper pursuant to R18-4-310 shall report to the Department the information specified below for all tap water samples within the first ~~ten~~ 10 days following the end of each ~~six-month~~ monitoring period:

1. The results of all tap water samples for lead and copper including the location of each site and the criteria under which the site was selected for the system's sampling pool;
2. A certification that each first-draw sample collected by the water system is one-liter in volume and, to the best of their knowledge, has stood motionless in the service line, or in the interior plumbing of a sampling site, for at least ~~six~~ 6 hours;
3. Where residents collected samples, a certification that each tap sample collected by the residents was taken after the water system informed them of the proper sampling procedures;
4. The 90th percentile lead and copper concentrations measured from among all lead and copper tap water samples collected during each monitoring period (as calculated in accordance with R18-4- 308);
5. With the exception of initial tap water monitoring for lead and copper, the system shall identify any site which was not sampled during previous monitoring periods, and include an explanation of why sampling sites have changed;
6. By the applicable date for commencement of tap water monitoring, each CWS which does not complete its sampling pool with Tier 1 sampling sites meeting the targeting criteria specified in R18-4-309(A)(1) shall submit a justification of its selection of Tier 2 or Tier 3 sampling sites to the Department. The justification shall be made on a form that is approved by the Department.
7. By the applicable date for commencement of tap water monitoring, each NTNCWS which does not complete its sampling pool with Tier 1 sampling sites meeting the targeting criteria specified in R18-4-309(A)(2) shall submit a justification of its selection of Tier 2 sampling sites to the Department. The justification shall be made on a form that is approved by the Department.
8. By the applicable date for commencement of tap water monitoring, each water system with lead service lines that is not able to locate the number of sites served by such lines required under R18- 4-309(A)(4) shall submit a justification to the Department which explains why it was unable to locate a sufficient number of sites served by lead service lines. The justification shall be made on a form that is approved by the Department.
9. A large, medium, or small water system which collects sampling data in addition to the minimum required by R18-4-309 shall report the analytical results from any additional samples to the Department within ~~ten~~ 10 days following the end of the ~~six-month~~ monitoring period during which the samples are collected.

F. Reporting requirements for water quality parameter monitoring under R18-4-311: Each large, medium, or small water system which is required to conduct monitoring for water quality parameters pursuant to R18- 4-311 shall report the following information to the Department within the first ~~ten~~ 10 days following the end of a ~~six-month~~ monitoring period:

1. The results of all tap water samples for pH, alkalinity, calcium, conductivity, and water temperature and, where applicable, orthophosphate or silica collected pursuant to R18-4-311(B);
2. The results of all source water quality parameter samples for pH, alkalinity, calcium, conductivity, and, where applicable, orthophosphate or silica, collected at sampling points as prescribed by R18-4-218.
3. A large, medium, or small water system which collects sampling data on water quality parameters in addition to the minimum required by R18-4-311 shall report the analytical results from any additional water quality parameter samples to the Department within ~~ten~~ 10 days following the end of the ~~six-month~~ monitoring period during which the samples are collected.

G. Reporting requirements for source water monitoring for lead and copper under R18-4-314: Each large, medium, or small water system which is required to conduct source water monitoring for lead and copper pursuant to R18-4-314 shall report the following information to the Department:

1. A water system shall report the sampling results for all source water samples within the first ~~ten~~ 10 days following the end of each source water monitoring period ~~(i.e., annually, per compliance period, per compliance cycle)~~;
2. With the exception of the first round of source water monitoring, a water system shall identify any site which was not sampled in previous monitoring periods and include an explanation of why the sampling site was changed;
3. For systems which exceed an action level for lead or copper, the system's recommendation regarding source water treatment; and
4. For systems required to install source water treatment, a letter certifying that the system has completed installing the treatment designated or appoved by the Department within 24 months after the Department designates or approves the treatment.
5. A large, medium, or small water system which collects source water samples for lead and copper in addition to the minimum required by R18-4-314 shall report the analytical results from any additional source water samples to the Department within ~~ten~~ 10 days following the end of the ~~six- month~~ monitoring period during which the samples are collected.

H. Reporting requirements for lead service line replacement under R18-4-315: A public water system which is required to replace lead service lines pursuant to R18-4-315 shall report the following information to the Department:

1. Within 12 months after a system exceeds an action level for lead after installation of corrosion control or source water treatment, the system shall demonstrate in writing to the Department that it has conducted a materials evaluation to identify the initial number of lead service lines in its distribution system, and shall provide the Department with the system's schedule for replacing annually at least 7% of the initial number of lead service lines in its distribution system.
2. Within 12 months after a system exceeds the action level for lead after installation of corrosion control treatment or source water treatment, and every 12 months thereafter, the system shall demonstrate to the Department in writing that the system has either:
   a. Replaced in the previous 12 months at least 7% of the initial lead service lines [or a greater number of lead service lines specified by the Department under R18-4-315(F)], or
   b. Conducted sampling which demonstrates that the lead concentration in each lead service line sample is less than or equal to 0.015 mg/L. In such cases, the total number of lines replaced shall equal at least ~~seven percent~~ 7% of the initial number of lead lines in place at the time the lead service line replacement program begins (or the percentage specified by the Department under R18-4-315(F)].

I. Reporting requirements under Article 4: A water supplier who is required to conduct special monitoring as prescribed in Article 4 of this Chapter, shall report the following information to the Department:

1. A water supplier who is required to conduct special monitoring for sulfate pursuant to R18-4-401 shall report the sulfate monitoring results to the Department within 30 days of receipt of analytical results.
2. A water supplier who is required to conduct special monitoring for sodium pursuant to R18-4-402 shall report the sodium monitoring results to the Department within the first ~~ten~~ 10 days of the month following the month in which analytical results are received. A water supplier shall notify the Arizona Department of Health Services [ADHS] and the county health department of the sodium levels by direct mail within ~~three~~ 3 months of receipt of analytical results of sodium monitoring. A copy of each notice required to be provided to ADHS and the county health department shall be sent to the Department within ~~ten~~ 10 days of issuance.
3. ~~A water supplier who is required to conduct special monitoring for water corrosivity characteristics pursuant to R18-4-403 shall report the water corrosivity characteristics monitoring results to the Department within the first 10 days of the month following the month in which analytical results are received.~~
4. ~~4.~~3. A water supplier who is required to conduct special monitoring for unregulated volatile organic chemicals [VOC] pursuant to R18-4-404 shall report the unregulated VOC monitoring results to the Department within 30 days of receipt of analytical results.
5. ~~5.~~4. A water supplier who is required to conduct special monitoring for unregulated synthetic organic chemicals [SOC] pursuant to R18-4-405 shall report the unregulated SOC monitoring results to the Department within 30 days of receipt of analytical results. A CWS or NTNCWS shall complete initial monitoring and report the unregulated SOC monitoring results to the Department by December 31, 1995.

J. Failure to comply with monitoring requirements: A water supplier shall report the failure to comply with any monitoring requirement prescribed in this Chapter to the Department within 48 hours except that a public water system which fails to comply with a total coliform monitoring requirement shall report the monitoring violation to the Department within ~~ten~~ 10 days of discovery.

K. Cross connection incidents: A water supplier shall submit a written cross connection incident report within ~~five~~ 5 business days to the Department and the local health authority whenever a cross connection problem has occurred which resulted in contamination of water provided by the public water system. The report shall address all of the following:

1. Date and time of discovery of the unprotected cross connection;
2. Nature of the cross connection problem;
3. Affected area;
4. Cause of the cross connection problem;
5. Public health impacts;
6. Dates and texts of any public health advisories issued;
7. Corrective actions taken; and
8. Date of completion of corrective actions.

L. Emergencies: A water supplier shall notify the Department, by telephone, as soon as possible but no later than 24 hours after the occurrence of any of the following emergencies:

1. Loss of source of the water supply;
2. Loss of supply due to major component failure;
3. Damage to power supply equipment or loss of power;
4. Contamination of water in the distribution system as a result of backflow;
5. Collapse of reservoirs or reservoir roofs or pumphouse structures;
6. Breaks in transmission or distribution lines; and
7. Chemical or microbiological contamination of the water supply.

M. Waterborne disease outbreaks: A water supplier shall report the occurrence of a waterborne disease outbreak that may be attributable to water provided by the public water system to the Department. ~~A water supplier shall report the occurrence of a waterborne disease outbreak~~ as soon as possible but no later than 24 hours after discovery of the waterborne disease outbreak.

N. Confirmation sample results: A water supplier shall report the analytical results of any confirmation sample required by the Department within 24 hours of receipt of the analytical results.

O. A water supplier shall submit to the Department a representative copy of each type of public notice required by R18-4-105 that is distributed, published, posted, or made available to persons served by the public water system or to the media and an affidavit which describes how the public notice was provided within ~~ten~~ 10 days of the date of issuance.

P. A water supplier shall submit to the Department, within the time stated in the request, copies of any records required to be maintained under R18-4-103 or copies of any documents which the Department is entitled to inspect pursuant to Section 1445 of the Safe Drinking Water Act.

Q. The results of all analyses completed pursuant to this Chapter shall be reported to the Department in a manner and on forms approved by the Department.

R. A water supplier may contract with a laboratory or another agent to report monitoring results to the Department. In such cases, the water supplier is legally responsible for compliance with reporting requirements.

S. A water supplier shall not report an analytical result as a nondetect at a concentration which exceeds any of the following:
1. For a single point-of-entry sample:
   a. For an inorganic chemical listed in R18-4-205, except nitrate, nitrite and fluoride, a water supplier shall not report an analytical result as a nondetect at a concentration which exceeds the maximum contaminant level for the inorganic chemical.
   b. For nitrate, a water supplier shall not report an analytical result as a nondetect at a concentration which exceeds 5 mg/L.
   c. For nitrite, a water supplier shall not report an analytical result as a nondetect at a concentration which exceeds 0.5 mg/L.
   d. For fluoride, a water supplier shall not report an analytical result as a nondetect at a concentration which exceeds 2.0 mg/L.
   e. For lead, a water supplier shall not report an analytical result as a nondetect at a concentration which exceeds 0.005 mg/L;
   f. For copper, a water supplier shall not report an analytical result as a nondetect at a concentration which exceeds 0.050 mg/L.
   g. For a volatile organic chemical listed in R18-4-211, a water supplier shall not report an analytical result as a nondetect at a concentration which exceeds 0.0005 mg/L.
   h. For a synthetic organic chemical listed in R18-4-215 (except atrazine, dibromochloropropane, ethylene dibromide, and di(2-ethylhexyl)phthalate, a water supplier shall not report an analytical result as a nondetect at a concentration which exceeds 50% of the maximum contaminant level for the synthetic organic chemical. For atrazine, dibromochloropropane, ethylene dibromide, and di(2-ethylhexyl)phthalate, a water supplier shall not report an analytical result as a nondetect at a concentration which exceeds the maximum contaminant level.
2. For composite samples, a water supplier shall not report an analytical result as a nondetect at a concentration which exceeds any of the following:
   a. A nondetect shall not reported in a concentration which exceeds 1/5 of the maximum contaminant level for an inorganic chemical;
   b. Volatile organic chemicals: A nondetect shall not be reported in a concentration which exceeds 0.0005 mg/L;
   c. Synthetic organic chemicals: Except for toxaphene and ethylene dibromide, a nondetect shall not be reported in a concentration which exceeds the detection limit for the synthetic organic chemical listed in Appendix B. For toxaphene and ethylene dibromide, a nondetect shall not be reported in a concentration which exceeds 1/5 of the maximum contaminant level;
   d. For composite samples for lead, a nondetect shall not be reported in a concentration which exceeds 0.001 mg/L.
   e. For composite samples for copper, a nondetect shall not be reported in a concentration which exceeds the detection limit listed for the analytical method used that is prescribed in Appendix B.

T. A CWS shall identify and report to the Department whether the following construction materials are present in their distribution system:
1. Lead from piping, solder, caulking, interior lining of distribution mains, alloys, and home plumbing.
2. Copper from piping and alloys, service lines, and home plumbing.
3. Galvanized piping, service lines, and home plumbing.
4. Ferrous piping materials, such as cast iron and steel.
5. Asbestos cement pipe.
6. Vinyl lined asbestos cement pipe.
7. Coal tar-lined pipes and tanks.

R18-4-105. ~~General~~ Public Notification Requirements

A. A water supplier of a public water system which fails to comply with an applicable maximum contaminant level or a treatment technique requirement shall provide public notice to persons served by the system as follows:
1. A water supplier shall provide public notice for a violation of a maximum contaminant level or a violation of a treatment technique by both:
   a. Publication of notice in a daily newspaper of general circulation in the area served by the system as soon as possible but not later than 14 days after the violation. If the area served by a public water system is not served by a daily newspaper of general circulation, then the water supplier shall provide public notice ~~shall be given~~ by publication in a weekly newspaper of general circulation serving the area; and
   b. Mail delivery of a notice of the violation by direct mail or with the water bill not later than 45 days after the ~~nonacute~~ violation. The Department may waive mail delivery of notice if the water supplier corrects the violation within the 45-day period.
2. Acute violations: In addition to the public notice requirements prescribed in subsection (A)(1), a water supplier shall provide public notice by television or radio broadcast for an acute violation. A water supplier shall provide a copy of the required public notice to radio and television stations which broadcast to the area served by the system as soon as possible but not later than 72 hours after an acute violation occurs. Acute violations are:
   a. Violation of a maximum contaminant level for total coliform when fecal coliforms or E. coli are present as specified in R18-4-202(A)(3) or ~~R18-4-203(A)(4)~~ R18-4-202(A)(4).
   b. Violation of the maximum contaminant level for nitrate or nitrite as specified in R18-4-205.
   c. Occurrence of a waterborne disease outbreak that may be attributable to water distributed by the public water system.

~~3.~~B. A water supplier of a public water system which fails to conduct monitoring required by this Chapter; fails to use approved analytical methods; or which is granted an exemption or variance by the Department shall give public notice to persons served by the system by publication in a daily newspaper of general circulation within ~~three~~ 3 months of the monitoring violation or the granting of an exemption or variance. If the area served by a public water system is not served by a daily newspaper of general circulation, then a water supplier shall provide public notice by publication in a weekly newspaper of general circulation serving the area within ~~three~~ 3 months of the monitoring violation or the granting of an exemption or variance.

~~B.~~C. Alternative public notification procedures:
1. Community water systems: A water supplier of a community water system that is located in an area that is not served by radio, television, or a daily or weekly newspaper of general circulation shall provide public notice by

hand delivery or continuous posting in conspicuous places within the area served by the system. Posting shall continue for a minimum of 10 days and as long as any violation exists or for as long as an exemption or variance remains in effect.

a. Acute violations: A water supplier shall provide public notice of an acute violation by hand delivery or posting as soon as possible but not later than 72 hours after an acute violation occurs;

b. ~~Nonacute~~ MCL or treatment technique violations: A water supplier shall provide public notice of a ~~non-acute~~ MCL or treatment technique violation by hand delivery or posting within 14 days after a ~~nonacute~~ violation occurs.

c. Monitoring violations or the granting of an exemption or variance: A water supplier shall provide public notice by hand delivery or by posting within ~~three~~ 3 months of a monitoring violation or the granting of an exemption or variance.

2. Noncommunity water systems: In lieu of providing public notice as prescribed in subsection (A) of this Section, a water supplier of a noncommunity water system may provide public notice by hand delivery or by continuous posting in conspicuous places within the area served by the noncommunity system. Posting shall continue for a minimum of 10 days and as long as any violation exists or for as long as an exemption or variance remains in effect.

a. Acute violations: A water supplier of a noncommunity water system may provide public notice by hand delivery or posting as soon as possible but not later than 72 hours after an acute violation occurs;

b. ~~Nonacute~~ MCL or treatment technique violations: A water supplier of a noncommunity water system may provide public notice by hand delivery or posting within 14 days after a ~~nonacute~~ MCL or treatment technique violation occurs.

c. Monitoring violations or the granting of an exemption or variance: A water supplier of a noncommunity water system may provide public notice by hand delivery or posting within ~~three~~ 3 months of the monitoring violation or the granting of an exemption or variance.

~~C.~~D. ~~Repeat public notice shall be given~~ The water supplier shall give repeat public notice at least once every ~~three~~ 3 months by mail delivery, direct mail, or with the water bill for as long as any violation exists. ~~Repeat~~ The water supplier shall give repeat public notice of the existence of a variance or exemption ~~shall be given~~ every ~~three~~ 3 months for as long as the variance or exemption remains in effect. For community water systems and noncommunity water systems which provide public notice by posting, repeat public notice requirements are satisfied by continuous posting.

~~D.~~E. ~~Public notice may be given~~ The water supplier may give public notice to only a portion of the population served by a public water system if the water supplier demonstrates that only a segment of the population served by the public water system is affected by the problem which results in the need for public notice.

~~E.~~F. A water supplier shall give a copy of the most recent public notice for any outstanding violation of a maximum contaminant level, treatment technique requirement, or any violation of a schedule of compliance prescribed pursuant to a variance or exemption to all new billing units or hookups prior to or at the time service begins.

~~F.~~G. The contents of each public notice shall provide a clear and readily understandable explanation of the violation; any potential adverse health effects; the population at risk; the steps that the public water system is taking to correct the violation; the necessity for using alternative water supplies, if any; and any measures the consumer should take to minimize exposure until the violation is corrected. Each public notice shall be conspicuous and free of unduly technical language, small print, editorial comments, or similar problems that frustrate the purposes of the notice. Each public notice shall include the name and telephone number of a person at the public water system who can be contacted for additional information about the notice. Where appropriate, the public notice shall be multilingual.

~~G.~~H. A water supplier shall include the mandatory health effects language prescribed in Appendix A in a public notice for the violation of a maximum contaminant level or treatment technique and in a public notice regarding the granting or continued existence of a variance or exemption.

~~H.~~I. ~~Within ten days of the date of issuance of public notice, a~~ A water supplier shall submit to the Department a copy of any public notice and an affidavit which describes how public notice was provided within 10 days of the date of issuance of the public notice.

~~I.~~J. The Department shall not provide public notice on behalf of the water supplier. If a water supplier fails to notify the public in accordance with the requirements of this Section, then the Department may provide ~~public~~ notice to persons served by the public water system by any of the methods listed in this Section or by issuance of a press release. The water supplier remains legally responsible for ensuring that the requirements of this Section are met.

R18-4-109. Sample Collection, Preservation, and Transportation

A. Sample collection shall be conducted using the sample preservation, container, and maximum holding time procedures that are prescribed by the Arizona Department of Health Services or the U.S. Environmental Protection Agency for the analytical method used.

B. A water supplier shall identify each compliance sample as such when the sample is submitted to a testing laboratory and before the laboratory conducts any analysis of the sample.

R18-4-116. Emergency Operation Plans

A. ~~By January 1, 1994, each~~ Each community water system shall develop and keep an emergency operations plan in an easily accessible location ~~an emergency operations plan~~. The emergency operations plan shall detail the steps that the community water system will take to assure continuation of service, as a minimum, in the following emergency situations:

1. Loss of source of the water supply;
2. Loss of supply due to major component failure;
3. Damage to power supply equipment or loss of power;
4. Contamination of water in the distribution system as a result of backflow;
5. Collapse of reservoirs or reservoir roofs or pumphouse structures;
6. Breaks in transmission or distribution lines; and
7. Chemical or microbiological contamination of the water supply.

B. The emergency operations plan required by Subsection ~~(B)~~ (A) shall address all of the following issues:

1. The provision of alternate sources of water during the emergency;
2. Notification procedures relating to regulatory agencies, news media, and users which shall include personal protection and water use guidelines;

3. Disinfection and testing of the distribution system once service is restored;
4. Identification of critical system components that shall remain in service or be returned to service quickly;
5. Critical spare parts inventory; and
6. Staff training in emergency response procedures.

R18-4-117. Unsafe Supplies

~~A.~~ The Department may order a public water system to disconnect a source to protect the public health from an acute health risk. An acute health risk is posed when one of the following occurs:

1. There is a violation of a maximum contaminant level for total coliform when fecal coliform or *E. coli* are present that is attributable to the source;
2. There is a violation of a maximum contaminant level for nitrate or nitrite that is attributable to the source; or
3. There is an occurrence of a waterborne disease outbreak that is attributable to the source.

~~B. Whenever a well is permanently abandoned, the well shall be properly sealed and notice given to the Arizona Department of Water Resources pursuant to A.A.C. R12-15-816.~~

R18-4-119. Additives

A. All products added directly to water during production or treatment ~~after January 1, 1993~~ shall conform to National Sanitation Foundation Standard 60, amended as of ~~October, 1988~~ May, 1996 (and no future amendments), which is incorporated ~~herein~~ by reference and on file with the Office of the Secretary of State and the Department. Products covered by this requirement include water well products and those used for disinfection, oxidation, filtration, scale control, corrosion control, pH adjustment, softening, precipitation, sequestering, fluoridation, coagulation, flocculation, and miscellaneous treatments.

B. Materials or products ~~used or~~ installed after January 1, 1993, that come into contact with water or with water treatment chemicals shall conform to National Sanitation Foundation Standard 61, amended as of ~~October, 1988~~ January, 1995 (and no future amendments), which is incorporated ~~herein~~ by reference and on file with the Office of the Secretary of State and the Department. Products and materials covered by this requirement include:

1. Process media, such as carbon and sand;
2. Joining and sealing materials, such as solvents, cements, welding materials, and gaskets;
3. Lubricants;
4. Pipes and related products, such as tanks and fittings;
5. Mechanical devices used in treatment, transmission, or distribution systems such as valves, chlorinators, and separation membranes; and
6. Surface coatings and paints.

C. Evidence that a product conforms to the requirements of this Section shall be the appearance on the product or product package of the seal of a certifying entity, which has been accredited to provide such certification by the American National Standards Institute.

D. Where a material or product that comes into contact with drinking water is essential to the design, construction, or operation of a public water system and it does not conform to the National Sanitation Foundation standard or it conforms to the National Sanitation Foundation standard but is available from only one source, then a water supplier may use any of the following materials or products:

1. Materials or products composed entirely of ingredients which are determined to be appropriate for addition to potable water or aqueous food by the U.S. Environmental Protection Agency, the Food and Drug Administration, or other federal agency.
2. Materials or products composed entirely of ingredients listed in the National Academy of Sciences "Water Chemicals Codex."
3. Materials or products which are consistent with the specifications of the American Water Works Association.
4. Materials or products which are designed for use in drinking water systems which are consistent with the specifications of the American Society for Testing and Materials.
5. Materials or products which are in use or which have been used historically in drinking water systems, consistent with standard practice, which have not been demonstrated in past applications in the United States to have contributed to water contamination.

R18-4-121. Enforcement

A. ~~Any person who owns, constructs, operates or maintains a public water system.~~ A water supplier who constructs, operates, or maintains a public water system contrary to the provisions of this Chapter or ~~any person~~ who fails to maintain the quality of water within ~~such~~ the public water system as required by this Chapter shall be subject to the actions provided in A.R.S. §§ 49-142 and 49-354.

B. If the Department determines that a public water system is not in compliance with any of the provisions of this Chapter, then the Department may issue an order to the ~~system~~ water supplier which requires the public water system to make no further service connections or which limits the number of service connections until the Department determines that the public water system achieves compliance.

C. The Department may determine compliance or initiate enforcement action based upon analytical results and other information compiled by the Department or other federal, state, or local agencies.

ARTICLE 2. MAXIMUM CONTAMINANT LEVELS AND MONITORING REQUIREMENTS

R18-4-201. Maximum Contaminant Levels; Public Water Systems Affected

A. Except as provided in this Section, the maximum contaminant levels prescribed in this Article apply to water distributed by a public water system.

B. Only the maximum contaminant levels for nitrate, nitrite, and total coliform apply to water distributed by a transient, noncommunity water system. The interim maximum contaminant levels for turbidity apply to a transient, noncommunity water system that is a surface water system which does not provide filtration.

C. The maximum contaminant level for fluoride ~~applies~~ arsenic, and radiochemicals apply only to water distributed by a community water system.

D. The interim maximum contaminant levels for turbidity apply only to water that is distributed by a surface water system which does not provide filtration.

E. The maximum contaminant level for total trihalomethanes applies only to water distributed by a community water system which serves a population of 10,000 or more and which adds a halogenated disinfectant to the water in any part of the treatment process.

R18-4-205. Inorganic Chemicals; MCLs

A. Water that is distributed by a community water system or a nontransient, noncommunity water system shall not exceed the following maximum contaminant levels for inorganic chemicals:

Contaminant	MCL (mg/L)	Alternate MCL (mg/L)
Antimony	0.006	
Arsenic [a]	0.05	
Asbestos	7 MFL[b]	
Barium	2	
Beryllium	0.004	
Cadmium	0.005	
Chromium	0.1	
Cyanide (as free cyanide)	0.2	
Fluoride [a]	4.0	
Mercury	0.002	
~~Nickel~~	~~0.1~~	
Nitrate (as N)	10	20c
Nitrite (as N)	1	
Total nitrate/nitrite	10	20c
Selenium	0.05	
Thallium	0.002	

~~a "MFL" means million fibers per liter greater than ten microns.~~

~~b The maximum contaminant level for fluoride applies to community water systems only.~~

a The maximum contaminant levels for fluoride and arsenic apply to community water systems only.

b "MFL" means million fibers per liter greater than ten microns in length.

c The Department may allow a public water system to comply with the alternate maximum contaminant level for nitrate and for total nitrate/nitrite provided all of the following conditions are met: 1) the public water system is a noncommunity water system; 2) water provided by the noncommunity water system will not be available to children under ~~six~~ 6 months of age; 3) the water supplier continuously posts notice of the fact that nitrate levels may exceed the MCL of 10 mg/L; 4) the water supplier continuously posts notice of the potential health effects exposure to infants under ~~six~~ 6 months of age; 5) the water supplier notifies the Department annually of nitrate levels that exceed 10 mg/L; and 6) no adverse health effects result.

B. Water that is distributed by a transient, noncommunity water system ~~[TNCWS]~~ shall not exceed the maximum contaminant levels for nitrate, nitrite, and total nitrate/nitrite. The maximum contaminant levels for other inorganic chemicals listed in R18-4-205 do not apply to water that is distributed by a transient, noncommunity water system.

R18-4-206. Monitoring Requirements for Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cyanide, Fluoride, Mercury, ~~Nickel~~, Selenium, and Thallium.

A. A transient, noncommunity water system is not required to monitor for the inorganic chemicals listed in this Section. Community water systems [CWS] and nontransient, noncommunity water systems [NTNCWS] shall conduct monitoring for the following inorganic chemicals:

1. Each CWS shall conduct monitoring to determine compliance with the maximum contaminant levels for antimony, arsenic, barium, beryllium, cadmium, chromium, cyanide, fluoride, mercury, ~~nickel,~~ selenium, and thallium.
2. Each NTNCWS shall conduct monitoring to determine compliance with the maximum contaminant levels for all of the inorganic chemicals listed in subsection (A)(1) except fluoride and arsenic.

B. Each CWS or NTNCWS shall conduct initial monitoring for inorganic chemicals listed in this Section in the monitoring year designated by the Department according to the following schedule:

1. Each CWS shall conduct initial monitoring for arsenic, barium, cadmium, chromium, fluoride, mercury, and selenium in the compliance period that begins on January 1, 1993.
2. Each NTNCWS shall conduct initial monitoring for ~~arsenic,~~ barium, cadmium, chromium, mercury, and selenium in the compliance period that begins on January 1, 1993.
3. Each CWS and NTNCWS serving 150 or more service connections shall conduct initial monitoring for antimony, beryllium, cyanide, ~~nickel,~~ and thallium in the compliance period that begins January 1, 1993.
4. Each CWS AND NTNCWS with less than 150 service connections shall conduct initial monitoring for antimony, beryllium, cyanide, ~~nickel,~~ and thallium in the compliance period that begins January 1, 1996.

C. Each CWS and NTNCWS shall conduct monitoring for inorganic chemicals at each sampling point as prescribed in R18-4-218.

D. A CWS or NTNCWS may composite samples for inorganic chemicals as prescribed in R18-4-219.

E. Each CWS and NTNCWS shall conduct monitoring at the following frequencies:

1. Each CWS or NTNCWS shall take ~~one~~ 1 sample at each groundwater sampling point ~~during each compliance period [i.e., once every three years].~~ once every 3 years.
2. Each CWS or NTNCWS shall take ~~one~~ 1 sample annually at each surface water sampling point ~~during each compliance period~~.

F. A water supplier may use monitoring data collected prior to January 1, 1993 to satisfy initial monitoring requirements at a sampling point provided at least one sample was taken after January 1, 1990.

G. If the analytical results from a sampling point indicate that the concentration of an inorganic chemical exceeds a maximum contaminant level, then a CWS or NTNCWS shall take quarterly samples at that sampling point, beginning in the calendar quarter immediately following collection of the sample which exceeded the maximum contaminant level. A CWS or NTNCWS shall continue quarterly sampling at the sampling point until:

1. Groundwater sampling points: A minimum of ~~two~~ 2 consecutive quarterly samples are taken and the concentration of the inorganic chemical in each sample is below the maximum contaminant level. If this criterion is met, the Department may decrease the monitoring frequency from quarterly to ~~one~~ 1 sample every ~~three~~ 3 years. The decision to reduce monitoring frequency shall be in writing.
2. Surface water sampling points: A minimum of ~~four~~ 4 consecutive quarterly samples are taken and the concentration of the inorganic chemical in each sample is below the maximum contaminant level. If this criterion is met, the Department may decrease monitoring frequency from quarterly to annually. The decision to reduce monitoring frequency shall be in writing.

H. Where the analytical results of an initial sample indicate that there is an exceedance of a maximum contaminant level, the Department may require that ~~one~~ 1 confirmation sample be taken as soon as possible after the initial sample was taken, but not to exceed ~~two~~ 2 weeks, at the same sampling point.

I. Compliance with a maximum contaminant level for an inorganic chemical shall be determined based upon the analytical

result from a single sample obtained at each sampling point unless a confirmation sample is required by the Department. If the Department requires that a confirmation sample be taken, then the results of the initial sample and the confirmation sample shall be averaged. The resulting average shall be used to determine compliance with the maximum contaminant level.

J. A water supplier may apply to the Department to conduct monitoring at a sampling point more frequently than the monitoring frequency specified in subsection (E). ~~A water supplier shall not conduct monitoring at a sampling point at a frequency greater than quarterly.~~ If the Department gives written approval to conduct ~~quarterly~~ more frequent monitoring at a sampling point, then compliance shall be determined by a running annual average at that sampling point. A water supplier shall not conduct monitoring at a sampling point at a frequency greater than quarterly. If the running annual average at the sampling point is greater than the maximum contaminant level, then the public water system is out of compliance. If any ~~one~~ 1 sample would cause the running annual average to exceed the maximum contaminant level, then the public water system is out of compliance immediately.

K. A water supplier may make a written request to reduce monitoring frequency at a sampling point. The Department may reduce monitoring frequency at a sampling point as follows:

1. Groundwater sampling points: The Department may reduce monitoring frequency at a groundwater sampling point from once every ~~three~~ 3 years to a less frequent basis if a public water system has monitored at least once every ~~three~~ 3 years for ~~nine~~ 9 years at the groundwater sampling point and all previous analytical results for the inorganic chemical are below the maximum contaminant level. At least ~~one~~ 1 sample shall have been taken after January 1, 1990.
2. Surface water sampling points: The Department may reduce monitoring frequency at a surface water sampling point from annually to a less frequent basis if the surface water system has monitored annually at the surface water sampling point for at least ~~three~~ 3 consecutive years and all previous analytical results for the inorganic chemical are below the maximum contaminant level. At least ~~one~~ 1 sample shall have been taken after January 1, 1990.
3. The Department may reduce monitoring frequency at a sampling point for a term not to exceed ~~nine~~ 9 years.
4. A CWS or NTNCWS shall take at least ~~one~~ 1 sample at each sampling point during the term of reduced monitoring.
5. In determining the appropriate reduced monitoring frequency at a sampling point during the term of reduced monitoring, the Department shall consider the following factors:
   a. Reported concentrations of the inorganic chemical from all previous monitoring;
   b. The degree of variation in the reported concentrations of the inorganic chemical; and
   c. Other factors that may affect the concentration of the inorganic chemical such as changes in groundwater pumping rates, changes in the configuration of the CWS or NTNCWS or changes in operating procedures, stream flows, or source water characteristics.
6. A decision by the Department to reduce monitoring frequency at a sampling point shall be in writing and shall set forth the grounds for the decision. A water supplier may make a written request for reduced monitoring or reduced monitoring may be granted on the Department's initiative. A water supplier shall provide documentation of analytical results which supports the request for reduced monitoring. When a CWS or NTNCWS submits new data or when other data relevant to the public water system's appropriate monitoring frequency becomes available, the Department shall review that data and, where appropriate, revise its determination of appropriate monitoring frequency.
7. A CWS or NTNCWS which uses a new source is not eligible for reduced monitoring until ~~three~~ 3 consecutive rounds of monitoring from the new source have been completed.

L. The Department may grant a public water system a waiver for the monitoring of cyanide if the Department determines that the system is not vulnerable due to absence of any industrial source of cyanide.

R18-4-208. Nitrate; monitoring requirements

A. All public water systems, including transient, noncommunity water systems, shall conduct monitoring to determine compliance with the maximum contaminant level for nitrate.

B. Monitoring to determine compliance with the maximum contaminant level for nitrate shall be conducted at each sampling point as prescribed in R18-4-218.

C. A public water system may composite nitrate samples as prescribed in R18-4-219.

D. Each public water system shall conduct monitoring for nitrate at the following frequencies:

1. A community water system [CWS] or a nontransient, noncommunity water system [NTNCWS] shall monitor annually at each groundwater sampling point ~~during each compliance period~~.
2. A CWS or NTNCWS shall monitor quarterly at each surface water sampling point ~~during each compliance period~~.
3. All transient, noncommunity water systems shall monitor annually at each sampling point ~~during each compliance period~~.

E. The Department may reduce the monitoring frequency at a surface water sampling point from quarterly to annually if the analytical results from the sampling point demonstrate that the concentration of nitrate is less than 5 mg/L for ~~four~~ 4 consecutive quarters. A CWS or NTNCWS shall return to quarterly monitoring at a surface water sampling point if the analytical result for any sample indicates that the concentration of nitrate is greater than or equal to 5 mg/L. If the Department reduces the monitoring frequency at a surface water sampling point from quarterly to annually, then the annual sample shall be taken during the quarter which previously yielded the highest analytical result for nitrate. The Department's decision to allow a CWS or NTNCWS to reduce monitoring frequency at a surface water sampling point shall be in writing.

F. A CWS or NTNCWS which collects a sample from a groundwater sampling point with a concentration of nitrate that is greater than or equal to 5 mg/L shall increase the monitoring frequency at that sampling point from annually to quarterly. The Department may subsequently reduce the monitoring frequency at that groundwater sampling point from quarterly to annually if the analytical results for ~~four~~ 4 consecutive quarterly samples are less than 10 mg/L. If the Department reduces the monitoring frequency at the groundwater sampling point from quarterly to annually, then the annual sample shall be taken during the quarter which previously yielded the highest analytical result for nitrate. If the Department reduces the monitoring frequency at the groundwater sampling point from quarterly to annually, a subsequent detection of nitrate in a concentration that is greater than or equal to 5 mgL and less than or equal to 10 mg/L shall not trigger quarterly monitor-

ing. The Department's decision to allow a CWS or NTNCWS to reduce monitoring frequency at a groundwater sampling point to annually shall be in writing.

G. The Department shall not accept monitoring data collected before January 1, 1993, to satisfy initial monitoring requirements for nitrate.

H. Monitoring waivers for nitrate are not allowed.

I. If the analytical result obtained from a sample indicates that the concentration of nitrate exceeds 10 mg/L, then a water supplier shall take a confirmation sample at the same sampling point within 24 hours of receipt of the results of the initial sample. A water supplier who is unable to take a confirmation sample within 24 hours shall issue public notice to persons served by the system in accordance with R18-4-105. A water supplier who does not take a confirmation sample within 24 hours and who issues public notice shall take and complete the analysis of a confirmation sample within ~~two~~ 2 weeks of receiving the analytical results of the initial sample.

J. Compliance with the maximum contaminant level for nitrate shall be determined based upon the average of the analytical results of the initial sample and the confirmation sample. If a water supplier fails to take the required confirmation sample within the time frames prescribed in subsection (I), then compliance shall be determined based upon the initial sample.

R18-4-209. Nitrite; monitoring requirements

A. All public water systems, including transient, noncommunity water systems, shall conduct monitoring to determine compliance with the maximum contaminant level for nitrite.

B. Each public water system shall conduct monitoring to determine compliance with the maximum contaminant level for nitrite at each sampling point as prescribed in R18-4-218.

C. A public water system may composite nitrite samples as prescribed in R18-4-219.

D. A public water system shall take ~~one~~ 1 sample at each sampling point during the initial compliance period. Each public water system shall conduct monitoring for nitrite in the monitoring year specified by the Department within the initial compliance period ~~in the compliance cycle beginning January 1, 1993~~.

E. If the analytical result of the initial sample at a sampling point is less than 0.5 mg/L (as N), then a public water system is not required to take another sample at that sampling point until the ~~initial~~ first compliance period of the next compliance cycle.

F. If the analytical result of the initial sample at a sampling point is greater than or equal to 0.5 mg/L (as N), then a public water system shall conduct quarterly monitoring at that sampling point for at least four consecutive quarters.

G. The Department may reduce the monitoring frequency at a sampling point from quarterly to annually if the results of ~~four~~ 4 consecutive quarterly samples demonstrate that the concentration of nitrite in each sample is less than 1 mg/L (as N). If the Department reduces the monitoring frequency from quarterly to annually, then the public water system shall take subsequent annual samples during the quarter which previously yielded the highest analytical result for nitrite. If the Department reduces the monitoring frequency at a sampling point from quarterly to annually and there is a subsequent detection of nitrite at that sampling point in a concentration that is greater than or equal to 0.5 mgL and less than or equal to 1 mg/L, the detection shall not trigger quarterly monitoring. The Department's decision to reduce monitoring frequency shall be in writing.

H. The Department shall not accept monitoring data collected before January 1, 1993, to satisfy initial monitoring requirements for nitrite.

I. Monitoring waivers for nitrite are not allowed.

J. A public water system shall take a confirmation sample if the analytical result of ~~any~~ the initial sample indicate that the concentration of nitrite exceeds 1 mg/L (as N). The confirmation sample shall be taken at the same sampling point within 24 hours of receipt of analytical results of the initial sample. A water supplier who cannot take a confirmation sample within 24 hours shall issue public notice to persons served by the system in accordance with R18-4-105 and shall take and complete the analysis of a confirmation sample within ~~two~~ 2 weeks of receiving the analytical results of the initial sample.

K. Compliance with the maximum contaminant level for nitrite shall be determined based upon the average of the analytical results of the initial sample and the confirmation sample. If a water supplier fails to take the required confirmation sample, then compliance shall be determined based upon the analytical results from the initial sample.

R18-4-212. Volatile Organic Chemicals; Monitoring Requirements

A. Community water systems [CWS] and nontransient, noncommunity water systems [NTNCWS] shall conduct monitoring to determine compliance with the maximum contaminant levels for the volatile organic chemicals listed in R18-4-211. Transient, noncommunity water systems are not required to monitor for volatile organic chemicals listed in R18-4-211.

B. A CWS or NTNCWS shall conduct monitoring for volatile organic chemicals during the compliance period that begins on January 1, 1993, in the monitoring year designated by the Department, except that:

1. A CWS and NTNCWS shall conduct monitoring for vinyl chloride only as prescribed in R18-4-213; and
2. Each CWS and NTNCWS with less than 150 service connections shall conduct monitoring for dichloromethane, 1,2,4-trichlorobenzene, and 1,1,2-trichloroethane in the compliance period which begins January 1, 1996.

C. Each CWS and NTNCWS shall conduct monitoring to determine compliance with the maximum contaminant levels for volatile organic chemicals at each sampling point as prescribed in R18-4-218.

D. A water supplier may composite samples for volatile organic chemicals as prescribed in R18-4-219.

E. A CWS or NTNCWS shall take ~~four~~ 4 consecutive quarterly samples at each sampling point for each volatile organic chemical listed in R18-4-211 (except vinyl chloride) during the initial compliance period ~~beginning January 1, 1993~~, unless a CWS or NTNCWS qualifies for reduced monitoring or obtains a monitoring waiver. A CWS or NTNCWS shall conduct initial monitoring for volatile organic chemicals in the monitoring year designated by the Department within the initial compliance period.

F. The Department may accept monitoring data which was collected after January 1, 1988 and prior to January 1, 1993 to satisfy initial monitoring requirements for a volatile organic chemical listed in R18-4-211 (i.e., a single sample rather than four consecutive quarterly samples). A CWS or NTNCWS which uses grandfathered monitoring data and which did not detect any volatile organic chemical listed in R18-4-211 at a sampling point shall take ~~one~~ 1 sample annually at that sampling point in the initial compliance period ~~which begins January 1, 1993~~.

G. If a volatile organic chemical is not detected at a groundwater or surface water sampling point in ~~four~~ 4 consecutive quarterly samples during the initial compliance period, then a CWS or NTNCWS shall take ~~one~~ 1 sample annually at that groundwater or surface water sampling point in repeat compliance periods. After a minimum of ~~three~~ 3 years of sampling (including the ~~four~~ 4 consecutive quarterly samples taken during the ini-

tial compliance period) with no detections of a volatile organic chemical at a groundwater sampling point, the Department may reduce monitoring frequency for that volatile organic chemical at that groundwater sampling point to ~~one~~ 1 sample every ~~three~~ 3 years ~~[i.e., once during each compliance period]~~. The Department shall not reduce monitoring frequency at a surface water sampling point to less than annually. The Department's decision to allow reduced monitoring at a sampling point shall be in writing.

H. If a volatile organic chemical is detected at a sampling point in a concentration which is greater than or equal to 0.0005 mg/L, then a CWS or NTNCWS shall sample quarterly for the volatile organic chemical at that sampling point, beginning in the quarter immediately following collection of the sample in which the volatile organic chemical was detected. A CWS or NTNCWS shall continue quarterly monitoring at the sampling point until:

1. For a groundwater sampling point, a minimum of ~~two~~ 2 consecutive quarterly samples are taken (which may include the initial detection) and the concentration of the volatile organic chemical in each sample is below the maximum contaminant level. If the concentration of the volatile organic chemical is below the maximum contaminant level for a minimum of ~~two~~ 2 consecutive quarterly samples, then the Department may reduce monitoring frequency at the groundwater sampling point from quarterly to annually. If the Department reduces monitoring frequency to annually, then a CWS or NTNCWS shall take the annual sample during the quarter which previously yielded the highest analytical result. If the concentration of the volatile organic chemical is below ~~the maximum contaminant level~~ 0.0005 mg/L for ~~three~~ 3 consecutive annual samples, then a CWS or NTNCWS may request that the Department further reduce monitoring frequency to once every ~~three~~ 3 years or apply for a monitoring waiver.
2. For a surface water sampling point, a minimum of ~~four~~ 4 consecutive quarterly samples are taken (which may include the initial detection) and the concentration of the volatile organic chemical in each sample is below the maximum contaminant level. If the concentration of the volatile organic chemical is below the maximum contaminant level for a minimum of ~~four~~ 4 consecutive quarterly samples, then the Department may reduce monitoring frequency at the surface water sampling point from quarterly to annually. If the Department reduces monitoring frequency to annually, then a CWS or NTNCWS shall take the annual sample during the quarter which previously yielded the highest analytical result. The Department shall not reduce monitoring frequency at a surface water sampling point to less than annually.

I. The Department may ~~increase required~~ require increased monitoring for a volatile organic chemical where necessary to detect variations in a CWS or NTNCWS. A Department decision to require increased monitoring shall be in writing.

J. Compliance with the maximum contaminant level for a volatile organic chemical shall be determined based upon the analytical results obtained at each sampling point.

1. For a CWS or NTNCWS which samples quarterly or more frequently, compliance shall be determined by the running annual average of samples taken at each sampling point. If the running annual average at any sampling point is greater than the maximum contaminant level, then the system is out of compliance. If any quarterly sample would cause the running annual average to be exceeded, then the system is out of compliance immediately.
2. If a CWS or NTNCWS samples on an annual or less frequent basis, the system is out of compliance if the concentration of a volatile organic chemical in a single sample exceeds the maximum contaminant level.
3. A CWS or NTNCWS that is determined to be out of compliance with a maximum contaminant level for a volatile organic chemical at a groundwater or surface water sampling point shall take a minimum of ~~four~~ 4 consecutive quarterly samples at that sampling point. The CWS or NTNCWS shall continue quarterly monitoring until the running annual average is below the maximum contaminant level. If the running annual average is below the maximum contaminant level, then the Department may reduce monitoring frequency at the groundwater or surface water sampling point from quarterly to annually. If the Department reduces monitoring frequency to annually, then a CWS or NTNCWS shall take the annual sample during the quarter which previously yielded the highest analytical result. If the concentration of the volatile organic chemical at a groundwater sampling point is below the maximum contaminant level for ~~three~~ 3 consecutive annual samples, then a CWS or NTNCWS may request that the Department further reduce monitoring frequency at that groundwater sampling point to once every ~~three~~ 3 years. The Department shall not reduce monitoring frequency at a surface water sampling point to less than annually.
4. If a confirmation sample is required by the Department, the analytical result must be averaged with the initial analytical result and the average used in the compliance determination as specified in subsection (J)(1) or (2). The Department may delete results of obvious sampling errors from this calculation.

K. The Department may require a confirmation sample for positive or negative results.

L. A CWS or NTNCWS which does not detect a volatile organic chemical at a sampling point in a concentration greater than or equal to 0.0005 mg/l ~~during~~ after completing initial monitoring may submit a written request to the Department for a waiver from repeat monitoring requirements. A CWS or NTNCWS may not obtain a waiver from initial monitoring requirements. The Department may grant a monitoring waiver provided the CWS or NTNCWS is determined to be nonvulnerable, based upon a vulnerability assessment. A monitoring waiver for a groundwater sampling point shall be effective for a term not to exceed ~~six~~ 6 years. A monitoring waiver for a surface water sampling point shall be effective for a ~~three-year~~ 3-year term. The Department's decision to grant or deny a request for a monitoring waiver shall be in writing. The Department may grant a use or susceptibility waiver after evaluating the following factors:

1. Knowledge of previous use (including transport, storage, or disposal) of the volatile organic chemical within the watershed or zone of influence of the system. If the Department determines that there has been no previous use of the volatile organic chemical within the watershed or zone of influence, a use waiver may be granted.
2. If previous use of the volatile organic chemical is unknown or if it has been used previously, then the following factors shall be used to determine whether a susceptibility waiver is granted:
   a. Previous analytical results;
   b. The proximity of the CWS or NTNCWS to a potential point or nonpoint source of contamination.

Point sources include spills or leaks of chemicals at or near a water treatment plant or distribution system pipelines; or at manufacturing, distribution or storage facilities, or from hazardous and municipal waste landfills and other waste handling or treatment facilities;

c. The environmental persistence and transport of the volatile organic chemical;

d. The number of persons served by the CWS or NTNCWS and the proximity of a smaller system to a larger system; and

e. How well the water source is protected against contamination. Groundwater systems shall consider factors such as the depth of the well, the type of soil, and wellhead protection. Surface water systems shall consider watershed protection.

3. As a condition of a monitoring waiver for a groundwater sampling point, a CWS or NTNCWS shall take ~~one~~ 1 sample at the groundwater sampling point during the time the waiver is effective (i.e., ~~one~~ 1 sample every ~~six~~ 6 years). A CWS or NTNCWS also shall update its vulnerability assessment during the term of the waiver, considering the factors listed in subsection (L)(2) above. The Department may renew a waiver based upon an updated vulnerability assessment, provided the assessment reconfirms that the CWS or NTNCWS is nonvulnerable. If the Department does not reconfirm nonvulnerability within ~~three~~ 3 years of the initial determination, then the waiver is invalidated and the CWS or NTNCWS is required to sample annually in the next compliance period.

4. A CWS or NTNCWS which receives a monitoring waiver for a surface water sampling point shall sample at the frequency specified by the Department (if any). A CWS or NTNCWS shall update its vulnerability assessment during each compliance period. The Department may renew a waiver based upon an updated vulnerability assessment, provided the assessment reconfirms that the CWS or NTNCWS is nonvulnerable. If the Department does not reconfirm nonvulnerability, then the waiver is invalidated and a CWS or NTNCWS is required to sample annually at the surface water sampling point in the next compliance period.

R18-4-213. Vinyl Chloride; Monitoring Requirements

A. A community water system [CWS] or a nontransient, noncommunity water system [NTNCWS] which detects trichloroethylene, tetrachloroethylene, 1,2-dichloroethane, 1,1,1-trichloroethane, cis-1,2-dichloroethylene, trans-1,2-dichloroethylene, or 1,1-dichloroethylene at a groundwater sampling point shall monitor quarterly for vinyl chloride at that sampling point. If vinyl chloride is not detected in the first quarterly sample, then the Department may reduce the quarterly monitoring frequency for vinyl chloride to one sample during each compliance period. The Department's decision to reduce monitoring frequency for vinyl chloride shall be in writing.

B. A CWS or NTNCWS which detects one of the volatile organic chemicals listed in subsection (A) at a surface water sampling point shall monitor for vinyl chloride at a frequency specified by the Department.

C. A water supplier shall not composite samples for vinyl chloride.

R18-4-215. Synthetic Organic Chemicals: MCLs

Water distributed by a community water system or nontransient, noncommunity water system shall not exceed the following maximum contaminant levels for synthetic organic chemicals:

Contaminant	MCL (mg/L)
Alachlor	0.002
Atrazine	0.003
Benzo(a)pyrene	0.0002
Carbofuran	0.04
Chlordane	0.002
2,4-D	0.07
Dalapon	0.2
Dibromochloropropane (DBCP)	0.0002
Di(2-ethylhexyl)adipate	0.4
Di(2-ethylhexyl)phthalate	0.006
Dinoseb	0.007
Diquat	0.02
Endothall	0.1
Endrin	0.002
Ethylene dibromide (EDB)	0.00005
Glyphosate	0.7
Heptachlor	0.0004
Heptachlor epoxide	0.0002
Hexachlorobenzene	0.001
Hexachlorocyclopentadiene	0.05
Lindane	0.0002
Methoxychlor	0.04
Oxamyl	0.2
Pentachlorophenol	0.001
Picloram	0.5
Polychlorinated biphenyls (PCBs) (as decachlorobiphenyl)	0.0005
Simazine	0.004
2,3,7,8-TCDD (Dioxin)	3×10^{-8}
Toxaphene	0.003
2,4,5-TP (Silvex)	0.05

R18-4-216. Synthetic Organic Chemicals; Monitoring Requirements

A. Each community water system [CWS] and nontransient, noncommunity water system [NTNCWS] shall conduct monitoring to determine compliance with the maximum contaminant levels for synthetic organic chemicals listed in R18-4-215. Transient, noncommunity water systems are not required to monitor for synthetic organic chemicals.

B. A CWS or NTNCWS shall conduct initial monitoring for synthetic organic chemicals in the monitoring year designated by the Department according to the following schedule:

1. A CWS or NTNCWS with 150 or more service connections shall conduct initial monitoring to determine compliance with the maximum contaminant levels for all of the synthetic organic chemicals listed in R18-4-215 in the compliance period which begins January 1, 1993.

2. A CWS or NTNCWS with less than 150 service connections shall conduct initial monitoring to determine compliance with the maximum contaminant levels for alachlor, atrazine, carbofuran, chlordane, 2,4-D, , ~~dibromochloroporpane~~ dibromochloropropane (DBCP), ethylene dibromide (EDB), heptachlor, heptachlor epoxide, lindane, methoxychlor, PCBs, pentachlorophenol, toxaphene, and 2,4,5-TP (Silvex) in the compliance period which begins January 1, 1993.

3. A CWS or NTNCWS with less than 150 service connections shall conduct initial monitoring to determine compliance with the maximum contaminant levels for benzo(a)pyrene, dalapon, di(2-ethylhexyl)adipate, di(2-ethylhexyl)phthalate, dinoseb, diquat, endothall, endrin, glyphosate, hexachlorobenzene, hexachlorocyclopentadiene, oxamyl, picloram, simazine, and 2,3,7,8-TCDD (dioxin) in the compliance period that begins January 1, 1996.

C. Each CWS and NTNCWS shall conduct monitoring to determine compliance with the maximum contaminant levels for synthetic organic chemicals at each sampling point as prescribed in R18-4-218.

D. A water supplier may composite samples for synthetic organic chemicals as prescribed in R18-4-219.

E. Each CWS and NTNCWS shall take ~~four~~ 4 consecutive quarterly samples at each sampling point during each compliance period. If no synthetic organic chemicals are detected at a sampling point during the initial compliance period, then the Department may reduce monitoring frequency in repeat compliance periods pursuant to subsection (G) below. The Department's decision to reduce monitoring frequency shall be in writing.

F. A CWS or NTNCWS may use monitoring data collected after January 1, 1990, and prior to January 1, 1993, to satisfy initial monitoring requirements for the initial compliance period provided the data are generally consistent with the requirements of this Section.

G. If a CWS or NTNCWS does not detect a synthetic organic chemical at a sampling point in the initial compliance period, the Department may reduce monitoring frequency at that sampling point in repeat compliance periods as follows:

1. For a CWS or NTNCWS which serves more than 3,300 persons, the Department may reduce monitoring frequency to a minimum of ~~two~~ 2 quarterly samples in ~~one~~ 1 year at each sampling point during each repeat compliance period. Quarterly samples shall not be taken in consecutive quarters.
2. For a CWS or NTNCWS which serves 3,300 or fewer persons, the Department may reduce monitoring frequency to a minimum of ~~one~~ 1 sample at each sampling point during each repeat compliance period.

H. If a CWS or NTNCWS detects a synthetic organic chemical listed in R18-4-215 (except atrazine, dibromochloropropane, ethylene dibromide and di(2-ethylhexyl)phthalate at a sampling point in a concentration that is greater than or equal to 50% of the maximum contaminant level for that synthetic organic chemical, then the system shall conduct quarterly monitoring for that synthetic organic chemical at that sampling point, beginning in quarter immediately following collection of the sample where the synthetic organic chemical was detected. If a CWS or NTNCWS detects atrazine, dibromochloropropane, ethylene dibromide, ~~and~~ or di(2-ethylhexyl)phthalate at a sampling point in a concentration that is greater than the maximum contaminant level then the CWS or NTNCWS shall conduct quarterly monitoring for that contaminant. The CWS or NTNCWS shall continue quarterly monitoring at the sampling point until:

1. For groundwater sampling points, a minimum of ~~two~~ 2 consecutive quarterly samples are taken and the concentration of the synthetic organic chemical in each sample is below the maximum contaminant level. If the initial detection which triggers quarterly monitoring is at a concentration which exceeds the maximum contaminant level for a synthetic organic chemical, then a groundwater system shall take a minimum of ~~four~~ 4 consecutive quarterly samples at the sampling point and the concentration of the synthetic organic chemical in each sample is below the maximum contaminant level.
2. For surface water sampling points, a minimum of ~~four~~ 4 consecutive quarterly samples are taken and the concentration of the synthetic organic chemical in each sample is below the maximum contaminant level.
3. If the concentration of a synthetic organic chemical is below the maximum contaminant level for the minimum number of consecutive quarterly samples prescribed in subsections (H)(1) or (H)(2) above, then the Department may reduce monitoring frequency at the sampling point from quarterly to annually. The Department's decision to reduce monitoring frequency from quarterly to annually shall be in writing. If the Department reduces monitoring frequency to annually, a CWS or NTNCWS shall take the annual sample during the quarter which previously yielded the highest analytical result. A CWS or NTNCWS which has ~~three~~ 3 consecutive annual samples with no detections of a synthetic organic chemical may submit a written request to the Department for a monitoring waiver according to subsection (M) below.

I. The Department may increase monitoring frequency, where necessary, to detect variations within a CWS or NTNCWS [e.g., fluctuations in concentration due to seasonal use, changes in water source]. The Department's decision to increase monitoring frequency shall be in writing.

J. If monitoring results in the detection of either heptachlor or heptachlor epoxide, then subsequent monitoring shall analyze for both synthetic organic chemicals.

K. Compliance with the maximum contaminant level for a synthetic organic chemical shall be determined based upon the analytical results from each sampling point.

1. For a CWS or NTNCWS which samples quarterly or more frequently, compliance is determined by the running annual average of all samples taken at each sampling point. If the running annual average is greater than the maximum contaminant level, then the system is out of compliance. If any sample would cause the running annual average to be exceeded, then the system is out of compliance immediately. Any sample below the detection limit shall be calculated as zero for purposes of determining the running annual average.
2. If a CWS or NTNCWS samples on an annual or less frequent basis at a sampling point, then the system is out of compliance if the concentration of a synthetic organic chemical in a single sample exceeds the maximum contaminant level.

L. The Department may require a confirmation sample. If the Department requires a confirmation sample, then the analytical results from the confirmation sample shall be averaged with the analytical results from the initial sample. The average shall be used for determining compliance under subsection (K)(2).

M. A CWS or NTNCWS may submit a written request to the Department for a waiver from the monitoring requirements for a synthetic organic chemical. A monitoring waiver is effective for one compliance period (i.e., three years). The Department's decision to grant a monitoring waiver shall be in writing. A CWS or NTNCWS shall reapply for a monitoring waiver in each subsequent compliance period. A CWS or NTNCWS which receives a monitoring waiver is not required to monitor for a synthetic organic chemical during the term of the waiver. The Department may grant a monitoring waiver as follows:

1. Use waivers: The Department may grant a use waiver based upon knowledge of previous use (including transport, storage, or disposal of the synthetic organic chemical within the watershed or zone of influence of the CWS or NTNCWS. If the Department determines that there has been no previous use of a synthetic organic chemical, a waiver may be granted. If previous use of the synthetic organic chemical is unknown or if the synthetic organic chemical has been used previously, then a waiver may be granted based upon a vulnerability assessment.

2. Monitoring waiver based upon vulnerability assessment: The Department may grant a monitoring waiver because a CWS or NTNCWS is determined to be nonvulnerable, based upon the results of a vulnerability assessment. The Department shall consider the following factors in making the waiver determination:
   a. Previous analytical results;
   b. The proximity of the CWS or NTNCWS to a potential point source or nonpoint source of contamination. Point sources include spills and leaks of synthetic organic chemicals at or near a water treatment plant or distribution system, or at a manufacturing, distribution or storage facilities, or from hazardous and municipal waste landfills and other waste handling or treatment facilities. Nonpoint sources include the use of pesticides to control insect and weed pests on agricultural areas, forest lands, homes, ~~and~~ gardens, and other land application uses;
   c. The environmental persistence and transport of the synthetic organic chemical;
   d. How well the water source is protected against contamination by synthetic organic chemicals due to such factors as geology and well design (e.g., depth to groundwater, 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 used in the production, storage, or distribution of water; and
   g. Wellhead protection assessments.

N. Each CWS or NTNCWS which monitors for PCBs shall analyze each sample using either EPA Method 505 or EPA Method 508. If PCBs are not detected (as one of seven Aroclors) in any sample, then the public water system shall be deemed to be in compliance with the maximum contaminant level for PCBs. If PCBs are detected (as one of seven Aroclors) in any sample, then the sample shall be reanalyzed using EPA Method 508(A) to quantitate PCBs as decachlorobiphenyl. Compliance with the maximum contaminant level for PCBs shall be based upon the analytical results of analyses using EPA Method 508(A).

R18-4-217. Radiochemicals: MCLs and Monitoring Requirements

~~A. Water distributed by a community water system [CWS] shall not exceed the following maximum contaminant levels:~~
   ~~1. 5 pCi/l for combined Radium-226 and Radium-228;~~
   ~~2. 15 pCi/l for gross alpha particle activity, including Radium-226 but excluding Radon and Uranium;~~
   ~~3. The average annual concentration of man-made beta particle and photon emitters shall not produce an annual dose equivalent to the total body or any internal organ greater than four millirem/year; and~~
   ~~4. Except for the radionuclides listed in this paragraph, the concentration of man-made beta particle and photon emitters causing four millirem total body or organ dose equivalents shall be calculated on the basis of a two liter per day drinking water intake using the 168-hour data listed in "Maximum Permissible Body Burdens and Maximum Permissible Concentrations of Radionuclides in Air and in Water for Occupational Exposure," NBS Handbook 69, U.S. Department of Commerce, (as amended August, 1963 and no future editions), which is incorporated by reference and on file with the Office of the Secretary of State and the Department.~~
      ~~a. If two or more radionuclides are present, the sum of their annual dose equivalent to the total body or to any internal organ shall not exceed four millirem/year.~~
      ~~b. The following average annual concentrations shall be assumed to produce a total body or organ dose of four millirem per year:~~

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

~~B. A CWS shall monitor for gross alpha particle activity, Radium-226, and Radium-228 as follows:~~
   ~~1. A CWS shall monitor each source for radiochemical contaminants at four-year intervals. Initial sampling of a new water source for a CWS shall begin within 90 days of the introduction of the source and the analysis shall be completed within one year of the introduction of the source. Compliance shall be based on the analysis of an annual composite of four consecutive quarterly samples or the average of the analytical results of four samples obtained at quarterly intervals.~~
      ~~a. If the gross alpha particle activity exceeds five pCi/L, the same or an equivalent sample shall be analyzed for combined Radium-226 and Radium-228. In localities where the Department has determined that Radium-228 may be present in drinking water, Radium-226 and Radium-228 analyses are required when the gross alpha particle activity exceeds two pCi/L.~~
      ~~b. If the concentration of Radium-228 is below two pCi/L, a Radium-226 sample may be substituted for future combined Radium-226 and Radium-228 samples, provided that the Radium-226 level is less than three pCi/L.~~
   ~~2. For purposes of future monitoring, when the gross alpha concentration is less than 7.5 pCi/L, analysis of a single sample may be substituted for the quarterly sampling procedures required by paragraph (B)(1) above.~~
      ~~a. More frequent monitoring shall be conducted in the vicinity of mining or other operations when the Department determines that these operations may contribute alpha particle radioactivity to either surface water or groundwater.~~
      ~~b. More frequent monitoring shall be conducted when the Department determines that there is possible radiochemical contamination or that changes in the distribution system or treatment process occur which may increase the concentration of radioactivity in water.~~
      ~~c. A CWS using two or more sources having different concentrations of radioactivity shall monitor each source of water in addition to monitoring at a tap when ordered to do so by the Department.~~
      ~~d. A water supplier for a CWS shall conduct annual monitoring when the Radium-226 concentration exceeds three pCi/L.~~
   ~~3. If the maximum contaminant level for gross alpha particle activity or total radium as set forth in subsection (A) of this Section is exceeded, quarterly monitoring shall be required until:~~
      ~~a. The annual average concentration no longer exceeds the maximum contaminant level due to one or more of the following:~~
         ~~1. Treatment;~~
         ~~2. Removal of source from service;~~
         ~~3. An approved blend; or~~
      ~~b. A monitoring schedule, which is a condition of a variance, exemption, compliance agreement or an enforcement action has become effective.~~

~~4. For a noncommunity water system utilizing surface water or groundwater, analyses for the purpose of determining compliance with subsection (A) of this Section, shall be completed as directed by the Department whenever a health hazard is identified due to a potential contamination of the water system by radiochemicals.~~

A. Water distributed by a community water system [CWS] shall not exceed the following maximum contaminant levels:
   1. 5 pCi/l for combined radium-226 and radium-228;
   2. 15 pCi/l for gross alpha particle activity, including radium-226 but excluding radon and uranium;
   3. The average annual concentration of man-made beta particle and photon emitters shall not produce an annual dose equivalent to the total body or any internal organ greater than 4 millirem/year.
      a. Except for Tritium and Strontium-90, the concentration of man-made beta particle and photon emitters causing 4 millirem total body or organ dose equivalents shall be calculated on the basis of a 2 liter per day drinking water intake using the 168-hour data listed in "Maximum Permissible Body Burdens and Maximum Permissible Concentrations of Radionuclides in Air and in Water for Occupational Exposure," NBS Handbook 69, U.S. Department of Commerce, (as amended August 1963 and no future editions), which is incorporated by reference and on file with the Office of the Secretary of State and the Department.
      b. The following average annual concentrations of Tritium and Strontium-90 are assumed to produce a total body or organ dose of 4 millirem per year:

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

      c. If 2 or more radionuclides are present, then the sum of their annual dose equivalent to the total body or to any internal organ shall not exceed 4 millirem/year.

B. A CWS shall monitor for gross alpha particle activity, radium-226, and radium-228 as follows:
   1. A CWS shall monitor each sampling point as prescribed in R18-4-218 for gross alpha particle activity, radium-226, and radium-228 once every 4 years. Compliance shall be based on the analysis of an annual composite of 4 consecutive quarterly samples or the average of the analytical results of 4 samples obtained at quarterly intervals.
   2. 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 % (1.65 σ where σ is the standard deviation of the net counting rate of the sample).
      a. If a gross alpha particle activity measurement exceeds 5 pCi/L, then the same or an equivalent sample shall be analyzed for radium-226. If the concentration of radium-226 exceeds 3 pCi/L, then the same or an equivalent sample shall be analyzed for radium-228.
      b. If a gross alpha particle activity measurement exceeds 15 pCi/L, then the same sample shall be analyzed for uranium and the uranium result shall be subtracted from the gross alpha particle activity measurement to determine compliance with R18-4-217(A)(2).
      c. In localities where radium-228 may be present in drinking water, the Department may require radium-226 and radium-228 analyses when the gross alpha particle activity exceeds two pCi/L.
   3. The Department may order a CWS to conduct annual monitoring for gross alpha particle radioactivity, radium-226, or radium-228 at a sampling point if the concentration of radium-226 exceeds 3 pCi/L.

C. If the maximum contaminant level for gross alpha particle activity or combined radium-226 and radium-228 is exceeded, then the CWS shall conduct quarterly monitoring at the sampling point until a monitoring schedule which is a condition of a variance, exemption, compliance agreement, or enforcement action has become effective or the annual average concentration no longer exceeds the maximum contaminant level due to one or more of the following:
   1. Treatment;
   2. Removal of a source from service; or
   3. An approved blending plan.

D. The Department may order a CWS to conduct more frequent monitoring for gross alpha particle activity, radium-226, or radium-228 if the Department determines one of the following:
   1. The CWS is in the vicinity of mining or other operations which may contribute alpha particle radioactivity to either surface or groundwater sources of drinking water;
   2. There is possible radiochemical contamination of surface or groundwater sources of drinking water; or
   3. Changes in the distribution system or treatment process occur which may increase the concentration of radioactivity in water.

E. A CWS may reduce monitoring for radiochemicals as follows:
   1. Analysis of a single sample may be substituted for the quarterly sampling procedure prescribed in R18-4-217(B) when an annual record establishes that the average annual concentration is less than half the maximum contaminant levels prescribed in R18-4-217(A).
   2. Monitoring to determine compliance with the maximum contaminant level for combined radium- 226 and radium-228 need not include radium-228, except where required by the Department, provided that the radium-226 concentration is less than 3 pCi/L and the average annual concentration of radium-228 has been measured at least once using the quarterly monitoring procedure prescribed in R18-4-217(B).

F. A CWS shall conduct quarterly monitoring as prescribed in R18-4-217(B) at the point-of-entry to the distribution system within 1 year of the introduction of a new water source.

G. The Department may order a CWS which uses 2 or more sources that are combined before the point-of- entry into the distribution system and which have different concentrations of radioactivity, to monitor each source and to monitor the blended water at the point-of-entry.

~~C.~~**H.** A CWS shall conduct monitoring for man-made radioactivity as follows:
   1. A CWS that is a surface water system which serves more than 100,000 persons and such other CWS as the Department finds is subject to potential health risks from man-made radioactivity shall monitor to determine compliance with the maximum contaminant levels for manmade radioactivity prescribed in ~~subsections (A)(3) and (A)(4) of this Section~~ R18-4-217(A)(3). A CWS shall complete analysis of a composite of ~~four~~ 4 consecutive quarterly samples. Compliance with the maximum contaminant levels for man-made radioactivity may be assumed without further analysis if the annual average concentration of gross beta particle activity is less than 50 pCi/L and if the annual average concentrations of Tritium and Strontium-

90 are less than those listed in ~~subsection (A)(4) of this Section~~ R18-4-217(A)(3), provided that, if both radionuclides are present, the sum of their annual dose equivalents to bone marrow shall not exceed ~~four~~ 4 millirem/year.

a. If the gross beta particle activity exceeds 50 pCi/L, an analysis of the sample shall be performed to identify the major radioactive constituents present and the appropriate internal organ and total body doses shall be calculated to determine compliance with ~~subsections (A)(3) and (A)(4) of this Section~~ R18-4-217(A)(3).

b. A groundwater system shall be required to monitor for man-made radioactivity if the Department finds that there is possible man-made radioactive contamination or an increased level of such contamination.

2. A water supplier shall repeat the required monitoring for man-made radioactivity at ~~four-year~~ 4-year intervals.

3. The water supplier of a CWS which utilizes water that may be contaminated by effluents from nuclear facilities shall perform quarterly monitoring for gross beta particle and Iodine-131 radioactivity and annual monitoring for Strontium-90 and Tritium.

a. Quarterly monitoring for gross beta particle activity shall be based on the analysis of monthly samples or the analysis of a composite of ~~three~~ 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, an analysis of the sample shall be performed to identify the major radioactive constituents present, and the appropriate internal organ and total body doses shall be calculated to determine compliance with the maximum contaminant levels prescribed in ~~subsection (A) of this Section.~~ R18-4-217(A)(3).

b. For Iodine-131, a composite of ~~five~~ 5 consecutive daily samples shall be analyzed once each quarter. More frequent monitoring shall be conducted at a frequency specified by the Department if Iodine-131 is detected in the finished water.

c. Annual monitoring for Strontium-90 and Tritium shall be conducted by means of the analysis of a composite of ~~four~~ 4 consecutive quarterly samples or analysis of ~~four~~ 4 quarterly samples.

d. The Department may allow the substitution of environmental surveillance data taken in conjunction with a nuclear facility for direct monitoring of man-made radioactivity by the water supplier provided the Department determines that such data are applicable to a community water system.

4. If a maximum contaminant level for man-made radioactivity is violated, a CWS shall conduct monthly monitoring until the average concentration for 12 consecutive months no longer exceeds the maximum contaminant level or until a monitoring schedule, which is a condition to a variance, exemption, compliance agreement, or enforcement action, has become effective.

5. A CWS that is a surface water system that is required to monitor for man-made radioactivity shall conduct monitoring at surface water points-of-entry. A CWS that the Department determines is subject to potential health risk from man-made radioactivity shall conduct monitoring at points-of- entry designated by the Department.

R18-4-218. Sampling Sites

A. A public water system shall conduct monitoring to determine compliance with maximum contaminant levels at sampling points as follows:

1. At each ~~point-of-entry~~ point-of-entry to the distribution system that is representative of water from each well after treatment.
2. At each ~~point-of-entry~~ point-of-entry to the distribution system representative of each surface water source after treatment or in the distribution system at a point located before the first service connection which is representative of each surface water source after treatment.

B. If a public water system draws water from more than one source and the sources are combined before distribution, the public water system shall sample at points-of-entry to the distribution system during periods of normal operating conditions.

C. A public water system shall take each sample in subsequent monitoring periods at the same sampling ~~points~~ point unless conditions make another sampling point more representative of water from each source after treatment. If a sampling site is changed in a subsequent monitoring period, then the water supplier shall report the new sampling site to the Department and explain the reason for the change in location.

D. A public water system shall sample for total coliforms at sampling sites as identified in a written site sampling plan which is subject to Department review and approval.

E. A CWS shall sample for total trihalomethanes at sampling points as prescribed in R18-4-214.

~~**F.** A CWS shall monitor sources for radiochemicals as prescribed in R18-4-217.~~

R18-4-219. Sample Compositing

A. A public water system may reduce the total number of samples which must be analyzed to determine compliance with a maximum contaminant level by compositing. Composite samples from a maximum of ~~five~~ 5 samples are allowed provided that the detection limit of the method used for analysis is less than one-fifth of the maximum contaminant level for the contaminant.

B. Compositing of samples shall be done by a licensed laboratory.

C. ~~Public water systems serving more than 3300 persons may composite samples from sampling points within a single system. Public water systems serving 3300 or fewer persons may composite samples from sampling points in different public water systems.~~ A public water system may composite up to 5 samples from sampling sites within the same public water system. A public water system serving 3300 or fewer persons may composite samples with samples taken from other public water systems serving 3300 or fewer persons.

D. A public water system shall take follow-up samples if any of the following occurs:

1. Inorganic chemicals: If the concentration of an inorganic chemical in a composite sample is greater than or equal to one-fifth of the maximum contaminant level, then a follow-up sample shall be taken within 14 days at each sampling point included in the composite sample. The follow-up samples shall be analyzed for any inorganic chemical which exceeded one-fifth of the maximum contaminant level in the composite sample.
2. Volatile organic chemicals: If any volatile organic chemical in a composite sample is detected in a concentration $\geq$ 0.0005 mg/L, then a follow-up sample shall be taken within 14 days at each sampling point that was included in the composite sample. The follow-up samples shall be analyzed for the volatile organic chemical that was

detected in the composite sample within 14 days of sample collection.

3. Synthetic organic chemicals: If any synthetic organic chemical in a composite sample exceeds the detection limit for that synthetic organic chemical prescribed in Appendix B, then a follow-up sample shall be taken and analyzed within 14 days from each sampling point included in the composite sample. The follow-up samples shall be analyzed for the synthetic organic chemical that was detected in the composite sample.
4. If duplicates of the original sample taken from each sampling point used in the composite sample are available, then a public water system may use the duplicates instead of taking follow-up samples. Duplicates shall be analyzed and the results reported to the Department within 14 days of collection.

E. Special compositing rules:

~~1.~~ ~~Asbestos: Samples taken at points of entry to the distribution system shall not be composited with a tap sample.~~

~~2.~~1. Compositing VOC samples prior to GC anaylsis:

a. Add 5 ml or equal larger amounts of each sample (up to ~~five~~ 5 samples are allowed) to a 25 ml glass syringe. Special precautions shall be taken to maintain zero headspace in the syringe. If less than ~~five~~ 5 samples are used for compositing, a proportionately smaller syringe may be used.
b. Samples shall be cooled at ~~4~~5 4°C to minimize volatilization losses.
c. The composite sample shall be well mixed. A 5 ml aliquot shall be drawn from the composite sample for GC analysis.
d. Sample introduction, purging, and desorption steps shall be as prescribed in the approved analytical method.

~~3.~~2. Compositing samples prior to GC/MS analysis:

a. Inject 5 ml or equal larger amounts of each aqueous sample (up to 5 samples are allowed) into a 25 ml purging device using the sample introduction technique described in the approved method.
b. The total volume in the purging device shall be 25 ml.
c. Purge and desorb as prescribed in the approved method.

3. Vinyl chloride samples shall not be composited.
4. Samples which are composited cannot be screened for PCBs using EPA Method 505 or EPA Method 508. Samples that are composited for PCB analysis must be analyzed using EPA Method 508A.
5. Tap water samples for lead and copper shall not be composited. Source water samples for lead may be composited provided the method detection level prescribed in Appendix B for the analytical method used is achieved. Source water samples for copper may be composited provided the method detection level prescribed in Appendix B for the analytical method used is achieved.

ARTICLE 3. TREATMENT TECHNIQUES

R18-4-302. Filtration

A. A surface water system shall provide filtration.

B. Conventional or direct filtration: The turbidity level of samples of filtered water from a surface water system that uses conventional filtration or direct filtration shall be less than or equal to 0.5 NTU in at least 95 % of the measurements taken each month. The turbidity level of samples of filtered water shall not exceed ~~five~~ 5 NTUs.

C. Slow sand filtration: The turbidity level of samples of filtered water from a surface water system using slow sand filtration shall be less than or equal to ~~one~~ 1 NTU in at least 95 % of the measurements taken each month. The turbidity level of samples of filtered water shall not exceed ~~five~~ 5 NTUs.

D. Diatomaceous earth filtration: The turbidity level of samples of filtered water from a surface water system using diatomaceous earth filtration shall be less than or equal to ~~one~~ 1 NTU in at least 95 % of the measurements taken each month. The turbidity level of samples of filtered water shall not exceed ~~five~~ 5 NTUs.

E. Other filtration technologies: A surface water system may use a filtration technology other than conventional filtration, direct filtration, slow sand filtration, or diatomaceous earth filtration if the water supplier demonstrates to the Department, through pilot plant studies or other means, that the filtration technology, in combination with disinfection, consistently achieves a 99.9% (3-log) removal and inactivation of *Giardia lamblia* cysts and a 99.99% (4-log) removal and inactivation of viruses. The turbidity level of samples of filtered water from a surface water system that uses a filtration technology other than conventional filtration, direct filtration, slow sand filtration or diatomaceous earth filtration shall be less than or equal to ~~one~~ 1 NTU in at least 95 % of the measurements taken each month. The turbidity level of samples of filtered water shall not exceed ~~five~~ 5 NTUs.

F. A surface water system shall monitor the turbidity of filtered water as follows:

1. Turbidity measurements shall be performed on samples of filtered water at least once every ~~four~~ 4 hours that a water treatment plant is operating.
   a. A surface water system may substitute continuous turbidity monitoring for grab sample monitoring provided continuous turbidity monitoring equipment is calibrated regularly in accordance with the manufacturer's specifications.
2. Filtered water turbidity shall be measured at one of the following locations:
   a. Combined filter effluent prior to entry into a clearwell;
   b. Clearwell effluent;
   c. Water treatment plant effluent; or
   d. Another location that is approved by the Department.
3. Upon the written request of a water supplier, the Department may reduce the frequency of grab sampling by a surface water system using slow sand filtration or a filtration technology other than conventional filtration, direct filtration, or diatomaceous earth filtration to once per day if the Department determines that less frequent turbidity monitoring is sufficient to indicate effective filtration performance. The Department's decision to allow less frequent turbidity monitoring shall be in writing.
4. Upon the written request of a water supplier, the Department may reduce the frequency of grab sampling by a surface water system that serves 500 or fewer persons to once per day, regardless of the type of filtration used, if the Department determines that less frequent turbidity monitoring is sufficient to indicate effective filtration performance. The Department's decision to allow less frequent turbidity monitoring shall be in writing.

R18-4-303. Disinfection

A. A surface water system shall provide disinfection sufficient to ensure that the total treatment processes of the system achieve at least a 99.9 % (3-log) inactivation and removal of *Giardia lamblia* cysts and at least a 99.99 % (4-log) inactivation and

removal of viruses. ~~A water supplier shall submit a treatment technique compliance study to the Department which demonstrates that the total treatment processes of the surface water system achieve the *Giardia lamblia* and virus removal and inactivation rates prescribed in this subsection. The water supplier shall submit an additional treatment technique compliance study if there is a change in the treatment process which may affect the percent removal or inactivation of *Giardia lamblia* cysts or viruses or an additional or different source is developed.~~

B. The residual disinfectant concentration in water entering the distribution system (measured as free chlorine, combined chlorine or chlorine dioxide) shall be not less than 0.2 mg/L for more than ~~four~~ 4 consecutive hours.

1. A surface water system that serves more than 3,300 persons per day shall continuously monitor the residual disinfectant concentration in water entering the distribution system. If there is a failure of the continuous monitoring equipment, then a surface water system shall conduct grab sampling every ~~four~~ 4 hours. A surface water system shall repair or replace the continuous monitoring equipment within ~~five~~ 5 days of initial failure.
2. A surface water system that serves 3,300 or fewer persons per day may take grab samples to monitor the residual disinfectant concentration in water entering the distribution system instead of continuous monitoring.
   a. If grab samples are taken, a surface water system shall sample each day at the following frequency:

System size by population	Number of grab samples/day[1]
500 or less	1
501 to 1,000	2
1,001 to 2,500	3
2,501 to 3,300	4

[1] Grab samples shall not be taken at the same time. Sampling intervals are subject to Department review and approval.

   b. If the residual disinfectant concentration in a grab sample is below 0.2 mg/l, then a surface water system shall increase the frequency of grab sampling to once every ~~four~~ 4 hours. The surface water system shall continue to take a grab sample every ~~four~~ 4 hours until the residual disinfectant concentration in water entering the distribution system is greater than or equal to 0.2 mg/L.

C. The residual disinfectant concentration of water in the distribution system (measured as total chlorine, free chlorine, combined chlorine or chlorine dioxide) shall be detectable in 95 % or more of the samples each month for any ~~two~~ 2 consecutive months that a surface water system serves water to the public.

1. Heterotrophic bacteria in the distribution system, as heterotrophic plate count (HPC), may be measured in lieu of the residual disinfectant concentration in water in the distribution system. Water in the distribution system with a heterotrophic bacteria concentration that is less than or equal to 500/ml (measured as HPC) is deemed to have a detectable residual disinfectant concentration.
2. To determine whether there is a detectable residual concentration in water in the distribution system in 95 % of the samples taken each month, the value "V" in the following formula shall be calculated. The value "V" shall not exceed ~~five~~ 5 in each month for any ~~two~~ 2 consecutive months:

$$V = \frac{c + d + e}{a + b} X\,100$$

Where:

a = Number of instances where the residual disinfectant concentration is measured;
b = Number of instances where the residual disinfectant concentration is not measured but HPC is measured;
c = Number of instances where the residual disinfectant concentration is measured but not detected and no HPC is measured;
d = Number of instances where no residual disinfectant concentration is detected and where the HPC is greater than 500/ml; and
e = Number of instances where the residual disinfectant concentration is not measured and HPC is greater than 500/ml.

3. The residual disinfectant concentration in water in the distribution system shall be measured at the same sampling sites and at the same time as total coliform sampling.

D. A water supplier shall submit a treatment technique compliance study to the Department which demonstrates that the total treatment processes of the surface water system achieve the *Giardia lamblia* and virus removal and inactivation rates prescribed in this subsection. The water supplier shall submit an additional treatment technique compliance study if there is a change in the treatment process which may affect the percent removal or inactivation of *Giardia lamblia* cysts or viruses or an additional or different source is developed.

R18-4-307. Lead and Copper; Requirements for Small and Medium Water Systems

A. Except as provided in ~~subsection (B) of this Section~~ R18-4-307(B), small and medium water systems shall complete the following treatment technique steps within the indicated time periods:

1. A small or medium water system shall conduct initial tap water monitoring for lead and copper for ~~two~~ 2 consecutive ~~six-month~~ 6-month monitoring periods or until the system exceeds a lead or copper action level.
2. A small or medium water system that exceeds an action level for lead or copper shall conduct water quality parameter monitoring as prescribed in R18-4-311. A small or medium water system shall complete monitoring for water quality parameters in the same ~~six-month~~ monitoring period during which the system exceeds the action level for lead or copper.
3. A small or medium water system which exceeds an action level for lead or copper shall recommend optimal corrosion control treatment to the Department ~~in the six-month monitoring period immediately following the~~ within 6 months of completion of the ~~six-month~~ monitoring period in which the system exceeded the action level for lead or copper.
4. Within a year after completion of the ~~six-month~~ monitoring period in which a small or medium water system exceeded an action level for lead or copper, the Department shall determine whether to require the small or medium water system to perform a corrosion control study. If the Department requires a small or medium water system to perform a corrosion control study, then the system shall complete and submit the study to the Department within 18 months of the date that the Department determines that a corrosion control study is necessary ~~and submit the study to the Department~~. The Department shall designate the optimal corrosion control treatment for the small or medium water system within ~~six~~ 6 months of the date of submittal of the corrosion control study.

5. If the Department does not require a small or medium water system to perform a corrosion control study, the Department shall designate optimal corrosion control treatment for the system within the following time-frames:
   a. For medium water systems, within 18 months after the system exceeds an action level for lead or copper; or
   b. For small water systems, within 24 months after the system exceeds an action level for lead or copper.
6. A small or medium water system shall install optimal corrosion control treatment within 24 months after the Department designates ~~such~~ optimal corrosion control treatment for the system.
7. A small or medium water system shall complete follow-up tap water monitoring for lead and copper and follow-up monitoring for water quality parameters, as prescribed in R18-4-313, within 36 months after the Department designates optimal corrosion control treatment.
8. The Department shall designate water quality parameters for optimal corrosion control within ~~six~~ 6 months of completion of follow-up monitoring.
9. A small or medium water system shall operate in compliance with the designated water quality parameters for optimal corrosion control and continue to conduct follow-up tap water monitoring for lead and copper and follow-up monitoring for water quality parameters as prescribed in R18-4-313.

B. A small or medium water system is deemed to have optimized corrosion control and is not required to complete the treatment technique steps identified in ~~subsection (A) of this Section~~ R18-4-307(A) if the small or medium water system satisfies one of the following criteria:
1. A small or medium water system does not exceed the action levels for lead or copper during each of ~~two~~ 2 consecutive ~~six-month~~ 6-month monitoring periods.
2. A small or medium water system demonstrates to the Department that it has conducted corrosion control activities that are equivalent to the corrosion control steps prescribed in subsection (A). ~~If the Department makes an equivalency determination, the~~ The Department shall provide written notice to the small or medium water system which explains the basis for ~~its~~ any equivalency determination. The Department shall designate the water quality parameters ~~representing~~ which represent optimal corrosion control for the small or medium water system. A small or medium water system shall provide the following information to the Department to support a request for an equivalency determination:
   a. The results of all samples collected for lead, copper, pH, alkalinity, calcium, conductivity, water temperature, orthophosphate [when an inhibitor containing a phosphate compound is used] and silicate [when an inhibitor containing a silicate compound is used] before and after evaluation of corrosion control treatment.
   b. A report which explains the test methods used by the small or medium water system to evaluate the effectiveness of each of the following corrosion control treatments:
      1. Alkalinity and pH adjustment;
      2. Calcium hardness adjustment; and
      3. The addition of a phosphate or silicate-based corrosion inhibitor at a concentration sufficient to maintain an effective residual concentration in all test tap samples. The report shall include the results of all tests conducted and the basis for the small or medium water system's selection of optimal corrosion control treatment;
   c. A report which explains how corrosion control treatment has been installed and how it is being maintained to ensure minimal lead and copper concentrations at taps; and
   d. The results of tap water monitoring samples for lead and copper collected in accordance with requirements prescribed at R18-4-310. A small or medium water system shall conduct tap water monitoring for lead and copper once every ~~six~~ 6 months for at least ~~one~~ 1 year after corrosion control treatment has been installed.
3. A small or medium water system is deemed to have optimized corrosion control if the system submits the results of tap water monitoring for lead and copper conducted in accordance with R18-4-310 and source water monitoring conducted in accordance with R18-4-314 which demonstrate that for ~~two~~ 2 consecutive ~~six-month~~ 6-month monitoring periods, the difference between the 90th percentile tap water lead level, as computed according to R18-4-308, and the highest source water lead concentration is less than 0.005 mg/L.

C. Any small or medium water system that is required to complete the corrosion control steps prescribed in ~~subsection (A)~~ R18-4-307(A) because of an exceedance of an action level for lead or copper may cease completing the steps whenever the system does not exceed the action levels for lead or copper during each of ~~two~~ 2 consecutive ~~six-month~~ 6-month monitoring periods and submits the analytical results to the Department. If a small or medium water system thereafter exceeds an action level for lead or copper during any monitoring period, the system (or the Department) shall recommence completion of the applicable corrosion control steps, beginning with the first step which was not previously completed in its entirety. The Department may require a small or medium water system to repeat steps previously completed by the system where the Department determines that repeating a step is necessary to implement properly the corrosion control requirements of this Section. The Department shall notify the small or medium water system in writing of such a determination and explain the basis for its decision.

D. The requirement for any small or medium water system to implement corrosion control treatment steps if an action level for lead or copper is exceeded includes small and medium water systems which are been deemed to have optimized corrosion control treatment under ~~subsection (B)(1) of this Section~~ R18-4-307(B)(1) and which thereafter exceed an action level for lead or copper.

E. A small or medium water system which exceeds an action level for lead or copper shall conduct source water monitoring as prescribed in R18-4-314.

F. A small or medium water system which exceeds the action level for lead after implementation of corrosion control treatment or source water treatment shall comply with the lead service line replacement requirements prescribed in R18-4-315.

G. A small or medium water system which exceeds the action level for lead shall comply with the public education requirements for lead prescribed in R18-4-316.

R18-4-310. Lead and Copper; ~~Initial~~ Tap Water Monitoring ~~for Lead and Copper~~

A. Each large, medium, and small water system shall conduct tap water monitoring for lead and copper as follows:

1. Each large water system shall conduct initial tap water monitoring for lead and copper during ~~two~~ 2 consecutive ~~six-month~~ 6-month monitoring periods.
2. Each small and medium water system shall conduct initial tap water monitoring for lead and copper during ~~two~~ 2 consecutive ~~six-month~~ 6-month monitoring periods ~~unless the small or medium water system exceeds an action level for lead and copper during the first six-month monitoring period~~. If a small or medium water system exceeds an action level for lead and copper in ~~the first six-month~~ a monitoring period, then the system shall implement corrosion control treatment steps as prescribed in R18-4-307(A)(2-9).

B. The first six-month monitoring period for large, medium, and small water systems shall begin on the following dates:

System size by number of people served	First 6-month monitoring period begins on:
> 50,000 [large water systems]	January 1, 1992
3,301 to 50,000 [medium water systems]	July 1, 1992
≤ 3,300 [small water systems]	July 1, 1993

C. Each large, medium, and small water system shall collect one tap water sample for lead and copper from the following number of sampling sites during each ~~six-month~~ monitoring period:

System size (by population)	Number of samples
>100,000	100
10,001 to 100,000	60
3,301 to 10,000	40
501 to 3,300	20
101 to 500	10
≤ 100	5

D. All tap water samples for lead and copper, with the exception of lead service line samples, shall be first- draw samples.

1. Each first-draw tap water sample for lead and copper shall be ~~one~~ 1 liter in volume and shall have stood motionless in the plumbing system of each sampling site for at least six hours. First-draw samples from residential housing shall be collected from the cold-water kitchen tap or bathroom sink tap. First-draw samples from a non-residential building shall be collected at an interior tap from which water is typically drawn for consumption. First-draw samples may be collected by the system or the system may allow residents to collect first-draw samples after providing instructions to the residents on proper sampling procedures. If a system allows residents to perform sampling, the system may not challenge the accuracy of the sampling results based on alleged errors in sample collection.
2. Each lead service line sample shall be ~~one~~ 1 liter in volume and shall have stood motionless in the lead service line for at least ~~six~~ 6 hours. Lead service line samples shall be collected in one of the following three ways:
   a. At a tap after flushing the volume of water between the tap and the lead service line. The volume of water that is flushed shall be calculated based on the interior diameter and length of the pipe between the tap and the lead service line;
   b. Tapping directly into the lead service line; or
   c. If the sampling site is a building constructed as a single-family residence, allowing the water to run until there is a significant change in temperature which would be indicative of water that has been standing in the lead service line.
3. A water system shall collect each first-draw tap water sample in subsequent monitoring periods from the same sampling site from which it collected a previous sample. If a system cannot gain entry to a sampling site in order to collect a follow-up tap water sample, the system may collect the follow-up tap water sample from another sampling site in its sampling pool as long as the new site meets the same targeting criteria and is within reasonable proximity of the original sampling site.

E. A small or medium water system which does not exceed an action level for lead or copper in the initial ~~six-month~~ 6-month monitoring period shall continue tap water monitoring for another consecutive ~~six-month~~ 6-month monitoring period. If the small or medium water system does not exceed the action level for lead and copper in ~~two~~ 2 consecutive ~~six-month~~ 6-month monitoring periods, then the system may make a written request to the Department to reduce the frequency of tap water monitoring for lead and copper to once per year. The small or medium water system also may request a reduction in the number of samples taken as prescribed in ~~subsection (E)(1)~~ R18-4-310(E)(1) below.

1. A small or medium water system conducting reduced monitoring shall collect the following number of samples per year:

System size (Number of persons served)	Number of samples
10,001 - 50,000	30
3,301 - 10,000	20
501 - 3,300	10
101 - 500	5
≤ 100	5

2. A small or medium water system that does not exceed the action levels for lead and copper for ~~three~~ 3 consecutive years of monitoring may submit a written request to the Department to further reduce the frequency of tap water monitoring for lead and copper to once every ~~three~~ 3 years. A small or medium water system which samples annually or less frequently shall conduct tap water monitoring for lead and copper during the months of June, July, August, or September in the same calendar year.
3. A small or medium water system that reduces the frequency of monitoring and the number of samples taken shall collect samples from sites included in the pool of targeted sampling sites.
4. If a small or medium water system that is subject to reduced monitoring exceeds an action level for lead or copper, then the system shall resume tap water monitoring at the frequency specified in ~~subsection (A) of this Section~~ R18-4-310(A) and collect the number of samples specified in ~~subsection (C) of this Section~~ R18-4-310(C).

F. The results of tap water monitoring for lead and copper conducted by systems in addition to the minimum requirements of this Section shall be considered by the system and the Department in making any treatment technique determinations required by this Article.

G. A small or medium water system which exceeds an action level for lead or copper ~~in any six-month monitoring period,~~ shall comply with the following:

1. Water quality parameter monitoring requirements prescribed at R18-4-311.
2. Source water monitoring requirements prescribed at R18-4-314;
3. A small or medium water system which exceeds the action level for lead ~~in any six-month monitoring period~~ shall comply with the lead public education requirements prescribed at R18-4-316;

H. A large water system which exceeds an action level for lead or copper ~~in any six-month monitoring period,~~ shall comply with the following:
1. Source water monitoring requirements prescribed at R18-4-314;
2. A large water system which exceeds the action level for lead shall comply with the lead public education requirements prescribed in R18-4-316;
3. A large water system which exceeds the action level for lead after installation of corrosion control treatment and source water treatment shall comply with the lead service line replacement requirements prescribed in R18-4-315.

I. A large, medium, or small water system that exceeds the action level for lead shall offer to sample the tap water of any customer who requests it. The system is not required to pay for the collection or analysis of the sample. Any sample that is collected pursuant to this paragraph shall not be used for purposes of determining compliance.

R18-4-311. Lead and Copper; ~~Initial~~ Monitoring for Water Quality Parameters

A. Each large water system shall conduct ~~initial~~ monitoring for water quality parameters, regardless of whether an action level for lead or copper is exceeded. Each small and medium water system shall conduct ~~initial~~ monitoring for water quality parameters only if the system exceeds an action level for lead or copper. ~~Initial monitoring~~ Monitoring for water quality parameters includes both tap water monitoring and source water monitoring.

B. Each large, medium, or small water system ~~and each medium or small water system~~ that is required to conduct monitoring for water quality parameters shall collect samples for the following water quality parameters:
1. pH (at the time of sample collection);
2. Alkalinity;
3. Calcium;
4. Conductivity;
5. Water temperature (at the time of sample collection);
6. Orthophosphate [when a phosphate-based corrosion inhibitor is used];
7. Silica [when a silicate-based corrosion inhibitor is used].

C. Tap water samples for water quality parameters shall be representative of water quality throughout the distribution system, taking into account the number of persons served, the different sources of water, the different treatment methods employed by the system and seasonal variability. Tap water samples for water quality parameters need not be taken from the same locations as tap water samples for lead and copper. Tap water samples for water quality parameters may be taken at the same sampling sites used for total coliform sampling. Source water samples for water quality parameters shall be taken at sampling points as prescribed in R18-4-218.

D. Each large, medium, and small water system shall collect ~~two~~ 2 tap water samples for water quality parameters during each six-month monitoring period from the following number of taps:

System Size (number of people served)	Number of Sites
> 100,000	25
10,001-100,000	10
3,301 to 10,000	3
501 to 3,300	2
101 to 500	1
≤ 100	1

E. Each large, medium, and small water system shall collect ~~two~~ 2 source water samples for water quality parameters at each sampling point as prescribed in R18-4-218 during each monitoring period.

F. Each large water system is required to conduct initial monitoring for water quality parameters at taps and at each sampling point during each of ~~two~~ 2 consecutive ~~six-month~~ 6-month monitoring periods. A small or medium-size water system shall conduct monitoring for water quality parameters only if the system exceeds an action level for lead or copper. A small or medium water system shall complete tap water and source water monitoring for water quality parameters in the same ~~six-month~~ monitoring period during which the system exceeds an action level for lead or copper.

G. Based upon the results of tap water monitoring for lead and copper and monitoring for water quality parameters, a small or medium water system which exceeds an action level for lead or copper shall recommend installation of one or more of the corrosion control treatments listed in this subsection which the small or medium water system believes constitutes optimal corrosion control. Each small or medium water system shall make a recommendation on optimal corrosion control to the Department within six months of completion of the ~~six-month~~ monitoring period during which the action level was exceeded. The Department may require that a small or medium water system conduct additional monitoring for water quality parameters to assist the Department in reviewing the system recommendation. Optimal corrosion control treatments include:
1. Alkalinity and pH adjustment;
2. Calcium hardness adjustment; and
3. The addition of a phosphate or silicate-based corrosion inhibitor at a concentration sufficient to maintain an effective residual concentration in all test tap samples.

H. Based upon available information, including a small or medium water system's recommendation on optimal corrosion control treatment, the Department shall, in writing, either approve the corrosion control treatment recommended by the system, designate a different optimal corrosion control treatment for the system or require that the small or medium water system conduct a corrosion control study to identify the optimal corrosion control treatment for the system. If the Department makes the determination that a corrosion control study is not necessary, then the Department shall designate the optimal corrosion control treatment for the system within the following time frames:
1. For medium water systems, within 18 months after the system exceeds the lead or copper action level; or
2. For small water systems, within 24 months after the system exceeds the lead or copper action level.

I. The results of any additional monitoring for water quality parameters conducted by a system in addition to the minimum requirements prescribed in this Section shall be considered by the system and the Department in making recommendations regarding corrosion control treatment, performance of a corrosion control study, designation of optimal corrosion control treatment or water quality parameters for optimal corrosion control or modification of an optimal corrosion control treatment decision.

R18-4-314. Lead and Copper; Source Water Monitoring and Treatment

A. A large, medium, or small water system which exceeds an action level for lead or copper shall conduct source water monitoring for lead or copper.

B. Source water monitoring for lead or copper shall be conducted at sampling points as prescribed in R18-4-218. A system may reduce the total number of samples which must be analyzed by compositing as prescribed by R18-4-219.

C. A large, medium, or small water system which exceeds an action level for lead or copper shall collect one sample from each sampling point within ~~six~~ 6 months of completion of the

~~six month~~ monitoring period in which there was an exceedance of the action level for lead or copper.

D. Within ~~six~~ 6 months after the ~~six month~~ monitoring period in which a large, medium, or small water system exceeds an action level for lead or copper, the system shall make a written recommendation to the Department as to whether one of the source water treatments listed in this subsection (G) is necessary. The system may recommend that no source water treatment be installed based upon a demonstration that source water treatment is not necessary to minimize lead or copper levels at taps.

E. The Department shall complete an evaluation of the results of all source water samples submitted by a large, medium, or small water system to determine whether source water treatment is necessary to minimize lead or copper levels in water delivered to taps. The Department shall make a written determination on whether source water treatment is necessary within ~~six~~ 6 months after submission of source water monitoring results.

F. Where the Department determines that a large, medium, or small water system is not required to install source water treatment, the system shall conduct source water monitoring at one of the following frequencies:
   1. A large, medium, or small water system that is a groundwater system shall collect source water samples for lead or copper once during each compliance period, beginning in the compliance period that the Department determines that source water treatment is unnecessary.
   2. A large, medium, or small water system that is a surface water system shall collect source water samples for lead or copper annually. The first annual monitoring period shall begin on the date that the Department determines that source water treatment is unnecessary.

G. If the Department requires installation of source water treatment, a large, medium, or small water system shall install the treatment within 24 months of the date that the Department makes a determination that source water treatment is necessary. Each system shall properly install and operate the source water treatment that is approved or designated by the Department. The Department shall either require installation and operation of the source water treatment recommended by the system or require the installation and operation of another source water treatment from among the following:
   1. Ion exchange,
   2. Reverse osmosis,
   3. Lime softening, or
   4. Coagulation / filtration.

H. The Department may request additional information from a large, medium, or small water system to aid in its source water treatment determination. If additional information is requested, then a water system shall provide the information by the date specified by the Department in its request. The Department shall notify a large, medium, or small water system, in writing, of its source water treatment determination and set forth the basis for its decision.

I. A large, medium, or small water system that is required to install source water treatment shall complete follow-up tap water monitoring for lead and copper and follow-up source water monitoring for lead and copper within 36 months of the date that the Department determines that source water treatment is necessary.

J. The Department shall review a large, medium, or small water system's installation and operation of source water treatment and designate maximum permissible levels for lead or copper within ~~six~~ 6 months after the completion of follow-up monitoring. The Department shall review the source water samples taken by the system both before and after the system installs source water treatment to determine whether the system has properly installed and operated the source water treatment designated by the Department. Based upon its review, the Department shall designate the maximum permissible levels for lead or copper. Such levels shall reflect the contaminant removal capability of the source water treatment when it is properly operated and maintained. The Department shall provide written notice to the system and explain the basis for its decision.

K. A large, medium, or small water system shall operate in compliance with the Department-designated maximum permissible levels for lead or copper and shall continue source water monitoring. A system shall monitor at the frequency specified below in cases where the Department designates maximum permissible levels:
   1. A groundwater system shall collect ~~one~~ 1 sample from each sampling point once during each compliance period, beginning in the compliance period that the Department designates maximum permissible levels for lead or copper.
   2. A surface water system shall collect ~~one~~ 1 sample annually from each sampling point. The first monitoring period shall begin on the date that the Department specifies maximum permissible levels for lead or copper.

L. Each large, medium, or small water system shall maintain lead or copper levels below the maximum permissible levels designated by the Department at each sampling point. A system is out of compliance with this paragraph if the level of lead or copper at any sampling point is greater than the maximum permissible level designated by the Department.

M. A large, medium, or small water system is not required to conduct additional source water monitoring for lead or copper if the system does not exceed the action level for lead or copper during the entire source water sampling period applicable to the system under subsection (F)(1) or (F)(2) of this section.

~~N. A large, medium, or small water system shall report the sampling results for all source water samples within the first 10 days following the end of each source water monitoring period (i.e., annually, per compliance period, per compliance cycle).~~

~~O. If a sampling site is changed in a subsequent monitoring period, a large, medium, or small water system shall report the new sampling point to the Department and include an explanation of why the sampling point has changed.~~

~~P.~~N. Upon its own initiative or in response to a written request by a large, medium, or small water system or other interested party, the Department may modify its source water treatment determination or designation of maximum permissible lead and copper concentrations for water entering the distribution system. A request for modification by a large, medium, or small water system or other interested party shall be in writing, explain why the modification is appropriate, and provide supporting documentation. The Department may modify its determination where it concludes that such change is necessary to ensure that the system continues to minimize lead and copper concentrations in source water. A revised determination shall be made in writing, set forth the new treatment requirements, explain the basis for the Department's decision and provide an implementation schedule for completing the source water treatment modifications.

~~Q.~~O. Where the results of sampling indicate an exceedance of maximum permissible levels for lead or copper, the Department may require that ~~one~~ 1 confirmation sample be collected as soon as possible after the initial sample was taken, but not to exceed ~~two~~ 2 weeks, at the same sampling point. If a Department-required confirmation sample is taken for lead or copper, then the results of the initial and confirmation sample shall be

averaged in determining compliance with the Department-specified maximum permissible levels.

~~R.~~P. The Department may reduce source water monitoring after designation of maximum permissible levels as follows:

1. A groundwater system which demonstrates that water entering the distribution system has been maintained below the maximum permissible level for lead or copper designated by the Department for ~~three~~ 3 consecutive compliance periods may reduce the monitoring frequency for lead or copper to once during each subsequent compliance cycle.
2. A surface water system which demonstrates that water entering the distribution system has been maintained below the maximum permissible level for lead or copper designated by the Department for ~~three~~ 3 consecutive years may reduce the monitoring frequency to once during each subsequent compliance cycle.
3. A water system that uses a new source is not eligible for reduced monitoring for lead or copper until concentrations in samples collected from the new source during ~~three~~ 3 consecutive monitoring periods are below the maximum permissible levels for lead or copper specified by the Department.

R18-4-316. Public Education Requirements for Lead

A. A community water system [CWS] that exceeds the action level for lead based on the analytical results of tap water monitoring ~~in a six-month monitoring period~~ shall, within 60 days:

1. Insert a notice on each customer's water utility bill which states in large print: "Some homes in this community have elevated lead levels in their drinking water. Lead can pose a significant risk to your health. Please read the enclosed notice for further information."
2. Include with each customer's water utility bill a notice which includes the text contained in Appendix C of this Chapter;
3. Provide the text contained in Appendix C of this Chapter to the editorial departments of the major daily and weekly newspapers circulated throughout the community.
4. Deliver pamphlets or brochures that contain the public education materials related to the health effects of lead and steps that can be taken to reduce lead exposure prescribed in Appendix C of this Chapter to facilities and organizations, including the following:
   a. Public schools and/or local school boards,
   b. City or county health department or environmental quality departments,
   c. Women, Infants, and Children [WIC] and Head Start program(s) whenever available,
   d. Public and private hospitals and clinics,
   e. Pediatricians,
   f. Family planning clinics, and
   g. Local welfare agencies.
5. Submit a public service announcement to at least five of the radio and television stations with the largest audiences that broadcast to the community served by the community water system. The public service announcement shall contain the following language:

   "Why should everyone want to know the facts about lead and drinking water? Because unhealthy amounts of lead can enter drinking water through the plumbing in your home. That's why I urge you to do what I did. I had my water tested for [insert free or $ per sample]. You can contact the [insert the name of the city or water system] for information on testing and on simple ways to reduce your exposure to lead in drinking water. To have your water tested for lead, or to get more information about this public health concern, please call [insert the phone number of the city or water system]."

B. A CWS shall repeat the tasks contained in subsection (A)(1) through (4) every 12 months and the public service announcement prescribed in subsection (A)(5) every 6 months for as long as the system exceeds the lead action level.

C. A nontransient, noncommunity water system [NTNCWS] that exceeds the lead action level based on the analytical results of tap water samples ~~in a six-month monitoring period~~ shall, within 60 days, deliver the public education materials contained in the Introduction, ~~health effects, and steps to reduce lead exposure~~ Health Effects, and Steps to Reduce Lead Exposure paragraphs prescribed in Appendix C of this Chapter as follows:

1. Post informational posters on lead in drinking water in a public place or common area in each of the buildings served by the system; and
2. Distribute informational pamphlets or brochures on lead in drinking water to each person served by the nontransient, noncommunity water system.

D. A NTNCWS shall repeat the public education tasks contained in subsection (C) above at least once during each calendar year for as long as the system exceeds the lead action level.

E. A CWS or NTNCWS shall include the lead public education text prescribed in Appendix C in all of the printed materials it distributes through its lead public education program. Any additional information presented by a system shall be consistent with the information contained in Appendix C and be written in plain language that can be understood by persons served by the system. Where appropriate, public education materials shall be multilingual.

F. A CWS or NTNCWS may discontinue delivery of public education materials if the system has met the lead action level during the most recent six-month monitoring period conducted. A CWS or NTNCWS shall recommence public education in accordance with this Section if it subsequently exceeds the lead action level ~~during any six-month monitoring period~~.

G. By December 31st of each year, any CWS or NTNCWS that is subject to the public education requirements in this Section shall submit a letter to the Department demonstrating that the system has delivered the public education materials that meet the content requirements and the delivery requirements prescribed in this Section. The letter shall include a list of all the newspapers, radio stations, television stations, facilities and organizations to which the system delivered public education materials during the previous year. A CWS or NTNCWS shall submit the letter required by this paragraph annually for as long as the system exceeds the lead action level.

ARTICLE 4. SPECIAL MONITORING REQUIREMENTS

R18-4-402. Special Monitoring for Sodium

A. Each community water system [CWS] shall conduct monitoring for sodium.

B. Each CWS shall collect ~~one~~ 1 sample per water treatment plant. The minimum number of samples required to be taken by the CWS shall be based on the number of water treatment plants used by the CWS, except that multiple wells drawing raw water from a single aquifer may, with Department approval, be considered one treatment plant for purposes of determining the minimum number of sodium samples required. ~~The Department may require a water supplier to collect and analyze water samples more frequently in locations where the sodium content is variable.~~

C. Each CWS shall collect and analyze ~~at least one~~ 1 sample annually for each water treatment plant utilizing surface water sources, in whole or in part. A CWS shall collect and analyze ~~at least one~~ 1 sample every ~~three~~ 3 years for each water treatment plant utilizing only groundwater sources. The Department may require a water supplier to collect and analyze water samples more frequently in locations where the sodium content is variable.

~~**R18-4-403. Special Monitoring for Water Corrosivity Characteristics**~~

~~A. Each community water system [CWS] shall conduct a one-time round of monitoring to determine water corrosivity characteristics.~~

~~B. A CWS shall conduct monitoring to determine water corrosivity characteristics at at a point of entry to the distribution system from each water treatment plant.~~

~~C. A CWS shall collect two samples for each water treatment plant utilizing a surface water source, in whole or in part. One sample shall be collected in mid-summer and one in mid-winter. A CWS shall collect one sample for each water treatment plant utilizing a groundwater source. The minimum number of samples to be taken for water corrosivity characteristics shall be based upon the number of water treatment plants used by the CWS, except that multiple wells drawing water from a single aquifer may, with Department approval, be considered one water treatment plant for the purpose of determining the minimum number of samples required.~~

~~D. The determination of water corrosivity characteristics shall include measurement of the pH, calcium hardness, alkalinity, temperature, total dissolved solids (total filterable residue) and calculation of the Langelier Index. The Department may require more frequent monitoring or monitoring for additional parameters which may indicate water corrosivity characteristics, such as sulfates and chlorides.~~

~~F. A CWS shall identify and report to the Department whether the following construction materials are present in their distribution system:~~

~~1. Lead from piping, solder, caulking, interior lining of distribution mains, alloys, and home plumbing.~~
~~2. Copper from piping and alloys, service lines, and home plumbing.~~
~~3. Galvanized piping, service lines, and home plumbing.~~
~~4. Ferrous piping materials, such as cast iron and steel.~~
~~5. Asbestos cement pipe.~~
~~6. Vinyl lined asbestos cement pipe.~~
~~7. Coal tar lined pipes and tanks.~~

R18-4-403. Special Monitoring for Nickel

A. Each community water system and nontransient, noncommunity water system shall conduct monitoring for nickel.

B. Each CWS and NTNCWS shall conduct monitoring for nickel at each sampling point as prescribed in R18-4-218.

C. A CWS or NTNCWS may composite samples for nickel as prescribed in R18-4-219.

D. Each CWS and NTNCWS shall conduct monitoring for nickel at the following frequencies:
1. Each CWS and NTNCWS shall take 1 sample at each groundwater sampling point once every 3 years.
2. Each CWS and NTNCWS shall take 1 sample at each surface water sampling point annually.

E. A water supplier may request a reduction in the monitoring frequency for nickel as follows:
1. Groundwater sampling points: The Department may reduce monitoring frequency at a groundwater sampling point from once every 3 years to a less frequent basis if a public water system has monitored for nickel at least once every 3 years for 9 years at the groundwater sampling point and all previous analytical results are below 0.1 mg/L.
2. Surface water sampling points: The Department may reduce monitoring frequency at a surface water sampling point from annually to a less frequent basis if a surface water system has monitored annually at the surface water sampling point for at least 3 consecutive years and all previous analytical results for nickel are below 0.1 mg/L.
3. The Department may reduce monitoring frequency for nickel for a term not to exceed 9 years.
4. A CWS or NTNCWS shall take at least 1 sample for nickel during the term of reduced monitoring.
5. In determining the appropriate reduced monitoring frequency at a sampling point, the Department shall consider the following factors:
   a. Reported concentrations of nickel from all previous monitoring;
   b. The degree of variation in the reported concentrations of nickel; and
   c. Other factors that may affect the concentration of nickel such as changes in groundwater pumping rates, changes in the configuration of the CWS or NTNCWS, or changes in operating procedures, stream flows, or source water characteristics.
6. A decision by the Department to reduce monitoring frequency for nickel at a sampling point shall be in writing and shall set forth the grounds for the decision. A water supplier may make a written request for reduced monitoring or reduced monitoring may be granted on the Department's initiative. A water supplier shall provide documentation of analytical results which supports a request for reduced monitoring. When a CWS or NTNCWS submits new data or when other data relevant to the public water system's appropriate monitoring frequency becomes available, the Department shall review that data and, where appropriate, revise its determination of appropriate monitoring frequency.
7. A CWS or NTNCWS which uses a new source is not eligible for reduced monitoring until 3 consecutive rounds of monitoring from the new source have been completed.

ARTICLE 5. MINIMUM DESIGN CRITERIA

R18-4-504. Prohibition on the Use of Lead Pipe, Solder, and Flux

Construction materials used in the public water system, including residential and non-residential facilities connected to the public water system, shall be lead-free as defined at ~~R18-1-101(43)~~ R18-4-101(47). This subsection shall not apply to leaded joints necessary for the repair of cast iron pipes.

Appendix A. Mandatory Health Effects Language

1. No change.
2. No change.
3. No change.
4. No change.
5. No change.
6. No change.
7. No change.
8. No change.
9. No change.
10. No change.
11. No change.
12. No change.
13. No change.
14. No change.

15. No change.
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39. No change.
40. No change.
41. No change.
42. No change.
43. No change.
44. No change.
45. No change.
47. No change.
48. No change.
49. No change.

(50) ~~**Nickel.** The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that nickel poses a health concern at certain levels of exposure. This inorganic metal occurs naturally in soils, groundwater, and surface waters and is often used in electroplating, stainless steel, and alloy products. It generally gets into water from mining and refining operations. This chemical has been shown to damage the heart and liver in laboratory animals when the animals are exposed to high levels over their lifetimes. EPA has set the drinking water standard at 0.1 parts per million (ppm) for nickel to protect against the risk of these adverse effects. Drinking water which meets the EPA standard is associated with little to none of this risk and should be considered safe with respect to nickel.~~

(51) No change.

(52) **Nitrite.** The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that nitrite poses and acute health concern at certain levels of exposure. This inorganic chemical is used in fertilizers and is found in sewage and wastes from humans and/or farm animals and generally gets into drinking water as a result of those activities. While excessive levels of nitrite in drinking water have not been observed, other sources of nitrite have caused serious illness and sometimes death in infants under six months of age. The serious illness in infants is caused because nitrite interferes with the oxygen-carrying capacity of the child's blood. This is an acute disease in that symptoms can develop rapidly. However, in most cases, health deteriorates over a period of days. Symptoms include shortness of breath and blueness of the skin. Clearly, expert medical advice should be sought immediately if these symptoms occur. The purpose of this notice is to encourage parents and other responsible parties to provide infants with an alternate source ~~for information concerning alternate sources~~ of drinking water ~~for infants~~. EPA has set the drinking water standard at 1 part per million (ppm) for nitrite to protect against the risk of these adverse effects. EPA has also set a drinking water standard for nitrate (converted to nitrite in humans) at 10 ppm and for the sum of nitrate and nitrite at 10 ppm. Drinking water that meets the EPA standard is associated with little to none of this risk and is considered safe with respect to nitrite.

53. No change.
54. No change.
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71. No change.
72. No change.

Appendix B. Detection Limits

Detection shall be defined as greater than or equal to the following concentrations for each contaminant.

A. Inorganic Contaminants

Contaminant	Methodology	Detection Limit (mg/l)
Antimony	Atomic Absorption; Furnace	0.003
	Atomic Absorption; platform furnace	0.0008[6]
	ICP-Mass Spectrometry	0.0004
	Hydride-Atomic Absorption	0.001
Asbestos	Transmission Electron Microscopy	0.01 MFL[2]
Barium	Atomic Absorption; furnace	0.002
	Atomic Absorption; direct aspiration	0.1

	Inductively Coupled Plasma	0.002 (0.001)[1]
Beryllium	Atomic Absorption; furnace	0.0002
	Atomic Absorption; platform furnace	0.00002[6]
	Inductively Coupled Plasma [3]	0.0003
	ICP-Mass Spectrometry	0.0003
Cadmium	Atomic Absorption; furnace	0.0001
	Inductively Coupled Plasma	0.001[1]
Chromium	Atomic Absorption; furnace	0.001
	Inductively Coupled Plasma	0.007 (0.001)[1]
Copper	Atomic Absorption; furnace	0.001
	Atomic Absorption; direct aspiration	0.020
	Atomic Absorption; platform furnace	0.001
	Inductively coupled plasma	0.001
	Inductively coupled plasma; mass spectrometry	0.001
Cyanide	Distillation, spectrophotometric[4]	0.02
	Distillation, automated, spectrophotometric[4]	0.005
	Distillation, selective electrode[4]	0.05
	Distillation, amenable, spectrophotometric[5]	0.02
Lead	Atomic absorption; furnace	0.001
	Atomic absorption; platform furnace	0.001
	Inductively coupled plasma	0.001
	Inductively coupled plasma; mass spectrometry	0.001
Mercury	Manual Cold Vapor Technique	0.0002
	Automated Cold Vapor Technique	0.0002
Nickel	Atomic Absorption; furnace	0.001
	Atomic Absorption; platform furnace	0.0006[6]
	Inductively Coupled Plasma [3]	0.005
	ICP-Mass Spectrometry	0.0005
Nitrate	Manual Cadmium Reduction	0.01
	Automated Hydrazine Reduction	0.01
	Automated Cadmium Reduction	0.05
	Ion Selective Electrode	1
	Ion Chromatography	0.01
Nitrite	Spectrophotometric	0.01
	Automated Cadmium Reduction	0.05
	Manual Cadmium Reduction	0.01
	Ion Chromatography	0.004
Selenium	Atomic Absorption; furnace	0.002
	Atomic Absorption; gaseous hydride	0.002
Thallium	Atomic Absorption; furnace	0.001
	Atomic Absorption; platform furnace	0.0007[6]
	ICP-Mass Spectrometry	0.0003

Footnotes:
1 Using concentration technique in Appendix A to EPA Method 200.7.
2 MFL = million fibers per liter > 10 mm.
3 Using a 2X preconcentration step as noted in Method 200.7. Lower MDLs may be achieved when using a 4X preconcentration.
4 Screening method for total cyanides.
5 Measures "free" cyanides.
6 Lower MDLs are reported using stabilized temperature graphite furnace atomic absorption.

B. Volatile Organic Chemicals

The detection limit for all volatile organic chemicals is 0.0005 mg/l.

C. Synthetic Organic Chemicals

Contaminant	Detection Limit (mg/l)
Alachlor	.0002
Atrazine	.0001
Benzo(a)pyrene	.00002
Carbofuran	.0009
Chlordane	.0002
2,4-D	.0001
Dalapon	.001
Dibromochloropropane (DBCP)	.00002
Di(2ethylhexyl)adipate	.0006
Di(2-ethylhexyl)phthalate	.0006
Dinoseb	.0002
Dioxin	.000000005 (5×10^{-9})
Diquat	.0004
Endothall	.009
Endrin	.00001
Ethylene Dibromide	.00001
Glyphosphate	.006
Heptachlor	.00004
Heptachlor epoxide	.00002
Hexachlorobenzene	.0001
Hexachlorocylopentadiene	.0001
Lindane	.00002
Methoxychlor	.0001
Oxamyl (vydate)	.002
Pentachlorophenol	.00004
Picloram	.0001
~~PCBs - as Aroclor (screening)[1]~~	
~~PCBs - as Decachlorobiphenyl~~	~~.0001~~
PCBs (as decachlorobiphenyl	.0001
Simazine	.00007
Toxaphene	.001
2,4,5-TP (Silvex)	.0002

~~[1]PCBs may be screened using the Aroclor methods listed below:~~

Aroclor ~~method~~	Detection limit (mg/l)
1016	0.00008
1221	0.02
1232	0.0005
1242	0.0003
1248	0.0001
1254	0.0001
1260	0.0002

D. Radiochemicals. The detection limit for monitoring radioactivity concentrations shall be that concentration which can be counted with a precision of plus or minus 100% at the 95% confidence level (1.96σ where σ is the standard deviation of the net counting rate of the sample).

1. To determine compliance with the maximum contaminant level for combined radium-226 and radium-228, the detection limit shall not exceed 1 pCi/L.
2. To determine compliance with the maximum contaminant level for gross alpha particle activity, the detection limit shall not exceed 3 pCi/L.
3. Detection limits for man-made beta particle and photon emitters are as follows:

Man made beta particle and photon emitters		Detection Limit
a.	Tritium	1,000 pCi/L.
b.	Strontium-89	10 pCi/L.
c.	Strontium-90	2 pCi/L.
d.	Iodine-131	1 pCi/L.
e.	Cesium-134	10 pCi/L.
f.	Gross beta	1/10 of the applicable limit
g.	Other radionuclides	1/10 of the applicable limit