RULES AND REGULATIONS

Title 25—ENVIRONMENTAL PROTECTION

ENVIRONMENTAL QUALITY BOARD

[25 PA. CODE CH. 109]

Bottled Water Systems—Permit by Rule

The Environmental Quality Board (Board) by this order amends Chapter 109 (relating to safe drinking water). The amendments establish a permit by rule for in-State permitted bottled water systems that meet certain specified criteria, reduce compliance monitoring for radionuclides for bottled water systems, retail water facilities and bulk water hauling systems, allow label information on the cap of returnable containers and allow new or additional proprietary labels to be submitted to the Department following production or distribution of the new or additional label product. Other minor revisions are also included pertaining to the submission of the coliform monitoring siting plan applicable to all public water systems and clarifying consecutive water system monitoring for lead and cadmium.

The Board approved these final amendments at its February 16, 1999, meeting.

A. Effective Date

These amendments are effective upon publication in the *Pennsylvania Bulletin* as final rulemaking.

B. Contact Persons

For further information, contact Frederick Marrocco, Acting Director, Bureau of Water Supply Management, P. O. Box 8467, Rachel Carson State Office Building, Harrisburg, PA 17105-8467, (717) 787-9035 or Pamela Bishop, Assistant Counsel, Bureau of Regulatory Counsel, P. O. Box 8464, Rachel Carson State Office Building, Harrisburg, PA 17105-8464, (717) 787-7060. Persons with a disability may use the AT&T Relay Service by calling (800) 654-5984 (TDD users) or (800) 654-5988 (voice users). This rulemaking is available electronically through the Department of Environmental Protection's (Department) Web site (http://www.dep.state.pa.us).

C. Statutory Authority

These amendments are being promulgated under the authority of section 4 of the Pennsylvania Safe Drinking Water Act (act) (35 P. S. § 721.4), which grants the Board the authority to adopt rules and regulations governing the provision of drinking water to the public and sections 1917-A and 1920-A of The Administrative Code of 1929 (71 P. S. §§ 510-7 and 510-20).

D. Background and Summary

The act authorizes the Department to regulate public water systems in this Commonwealth. The act defines "public water system" to include "a system which provides water for bottling or bulk hauling for human consumption." Systems providing water for bottling include:

(1) Bottled water systems, which provide water for bottling in sealed containers.

(2) Vended water systems, which provide water for bottling through the use of water vending machines.

(3) Retail water facilities which provide water for bottling by dispensing at a store counter unit servings of water in a customer's or the system's containers.

Beginning in December 1984, the overall requirements in Chapter 109 pertaining to systems providing water for bottling or bulk handling became effective. Chapter 109 was amended at 20 Pa.B. 2621 (May 16, 1992) to place all requirements pertaining to these types of systems in one subchapter rather than having the requirements interspersed among requirements for other public water systems throughout Chapter 109.

Representatives of the large in-State bottled drinking water operations have expressed concerns over the time and expense involved in obtaining permit amendments and the types of in-plant modifications which require permit amendments. The primary reason for the concern was that the requirements were affecting their ability to implement timely business decisions. In response, a workgroup was formed consisting of several bottlers in the Commonwealth, the International Bottled Water Association (IBWA), NSF *International* (NSF), representatives of a large tap water system, an engineering/consulting firm and the League of Women Voters in addition to representatives of the Department and the Departments of Agriculture and Health. The purpose of the workgroup was to develop a framework for a permit by rule for bottled water systems to streamline the permitting process and minimize business disruption while ensuring regulatory efficiency, compliance and protection of public health. This is part of the Governor's PRIME (Privatize, Retain, Innovate, Modify and Eliminate) Initiative to provide better services to the regulated community and to make government smaller, more efficient and responsive.

Bottled water is regulated at the Federal level as a food product by the Food and Drug Administration (FDA) under the Federal Food, Drug, and Cosmetic Act (FFDCA) (21 U.S.C.A. §§ 301—397). The Federal requirements applicable to bottled water include: food adulteration and misbranding provisions of Federal law; general food and specific bottled water Good Manufacturing Practice (GMP) regulations; standards of identity and quality for bottled water; and both civil and criminal penalties for noncompliance with these FDA requirements. The Commonwealth's existing regulations require compliance with the FDA requirements under 21 CFR 129 (relating to processing and bottling of bottled drinking water).

The IBWA is the trade organization for the bottled water industry. In addition to the FDA requirements, IBWA's Model Bottled Water Code for IBWA members provides information and standards on bottled water manufacturing practices, operational requirements and quality control for the bottled water industry.

The NSF is an internationally recognized third-party inspection and certification agency. The NSF's bottled water certification program verifies that a bottling facility and product waters meets the requirements of the Federal FDA regulations governing bottled water. The NSF conducts an annual unannounced audit of the bottling and processing facilities including source/product water testing. Bottlers meeting the certification requirements are allowed to use the registered NSF listing mark in their advertising, promotional activities and product listing. The IBWA members have an annual unannounced onsite audit conducted by NSF; however, the NSF certification is not a requirement of IBWA membership.

The Bottled Water Workgroup met on several occasions resulting in the cooperative development of a proposed

permit by rule framework for in-State bottlers which addresses the bottled water industry concerns.

The permit by rule provides in-State permitted bottlers an option to obtaining a permit amendment for substantial modifications to the bottling, processing or manufacturing facilities provided certain specified criteria are met. Specific criteria include: the source type (groundwater not under the direct influence of surface water or finished water from a community water system or both); the source water quality (does not exceed FDA quality standards for health related chemical and radiological contaminants and requires only disinfection to meet the Pennsylvania primary maximum contaminant levels); use of acceptable treatment technologies; and demonstrated compliance with the National standards of the FDA and the IBWA Model Bottled Water Code as determined by an annual onsite evaluation conducted by a third-party organization such as the NSF. The bottler would first notify the Department of the intent to operate under the permit by rule. A bottled water system operating under the permit by rule would file with the Department descriptions of substantial modifications such as replacement of equipment or addition of a new product line within 30 days of operation of the modification.

New in-State bottled water systems would still be required to obtain a public water system permit for the construction and operation of the bottled water system after which they could operate under the permit by rule option if qualified. The permit by rule does not include modifications to the collection facilities, including the addition of new sources, which would continue to require a permit amendment from the Department under the present permitting requirements. Any bottler seeking to use the permit by rule would have to comply with other applicable laws administered by the Department as required by section 7 of the act (35 P. S. § 721.7) and comply with other requirements of Chapter 109 including design, construction, operation, monitoring and reporting.

The amendments pertaining to radionuclide compliance monitoring, labeling requirements for returnable containers and coliform monitoring site plan submission address issues determined through the Regulatory Basics Initiative (RBI) which identified regulations for possible revision that were obsolete, prescriptive, redundant, needing clarification or more stringent than Federal regulations.

The monitoring for compliance with radiological maximum contaminant levels (MCLs) for bottled water systems, retail water facilities and bulk water hauling systems was reduced from ". . . annually . . ." to ". . . once every 4 years. . . ." The present requirement was identified under the RBI as more stringent than the Federal requirements. The radionuclide compliance monitoring results (annual monitoring) over the past 8 years indicates there has not been any violation of the radionuclide MCLs.

For submission of a siting plan for coliform monitoring, the ". . . November 16, 1992 . . ." date is deleted and replaced with ". . . within 30 days of receipt of the Department's request for this information." The present requirement was identified under the RBI as obsolete.

The present regulation requires containers of bottled water to have labels which are designed to remain affixed to the container during usage. Through guidance, the Department has included the cap on returnable bottles under the "...affixed to the container during use..." The present requirements were identified under the RBI as being unclear. The amendments reflect the guidance.

The final rulemaking was presented to the Water Resources Advisory Committee (WRAC) at its September 9, 1998, meeting. The WRAC approved the final rulemaking.

The Department, by policy published in the Preamble at 20 Pa.B. 2621 to Chapter 109, announced its intention to regulate only those bottled water systems providing water for bottling in 1/2 gallon or larger containers. In the Preamble to the proposed rulemaking at 28 Pa.B. 2265 (May 9, 1998), the Department requested comments with supporting data on whether it should modify its policy on regulating small bottled products (less than one-half gallon) and bottlers of small bottled products. Since the Department did not receive any comments, the present policy will be continued until data is forthcoming which indicates the need to regulate this segment of the bottled water market.

E. Summary of Comments and Responses on the Proposed Rulemaking

The proposed rulemaking was published at 28 Pa.B. 2265 with a 30-day public comment period. The Board received comments from two commentators during the public comment period. The Board also received comments from the Independent Regulatory Review Commission (IRRC). Summaries of all comments received and the Department's responses may be found in a Comment and Response Document which is available from the contact persons listed in Section B of this Preamble.

Some sections have been modified from the proposed rulemaking based on the comments received in addition to other modifications. A list of the modified sections and a summary of the major comments received are provided as follows:

1. *§ 109.1005(a). Permit requirements.* A minor change revising subsections (d) to (e) in the last sentence.

2. *§ 109.1005(c). Permit requirements.* The commentators expressed concern that the provision requiring a permit amendment for ". . . the expanded use of existing permitted sources used by the bottled water system . . ." would unintentionally expand or enlarge the scope of the permit amendment requirements. IRRC commented this should be clarified since the intent of the permit by rule was not to expand the permitting requirements.

The Department agrees that the intent of the permit by rule was not to expand the permit requirements. The language under question was intended to specify that the permit by rule only applies to the processing, manufacturing and bottling facilities. The specific language dealing with new sources and expanded use of existing sources is deleted in the final amendments and replaced with language specifying that the permit by rule does not apply to the collection facilities. Collection is defined as "the parts of a public water system occurring prior to treatment, including source, transmission facilities and pretreatment storage facilities." This clarifies that the permit by rule only applies to the bottling, processing and manufacturing facilities for bottled water.

3. *§ 109.1005(c)(1). Permit requirements.* In response to the IRRC comment that the Department identify the protocols that may be used by the Department in making the determination whether the bottled water system uses groundwater sources that are not under the direct influence of surface water, paragraph (1) has been modified to identify the *Guidance for Surface Water Identification Protocol* as the protocol the Department will use.

4. *§ 109.1005(c)(3)(i). Permit requirements.* The commentators expressed concern over the requirement that

the third-party evaluator demonstrate that it is independent of the bottled water systems using the organization's services. The concern was that this would eliminate from consideration industry organizations (which have membership in IBWA or receive financial support from the bottled water industry) with the knowledge and information that would enable them to serve as particularly effective evaluators. IRRC commented that how "independence" from the bottled water industry will be determined should be further explained or defined.

The independence of the inspection or evaluation organization is a key element of the permit by rule in assuring regulatory compliance and public health protection. In response to the comments, language has been added requiring the evaluation/inspection organization be accredited by the American National Standards Institute (ANSI) as a third-party evaluation/inspection organization. ANSI is a Nationally recognized accreditation agency for third-party certification organizations and agencies including testing/inspection organizations. Accredited inspection organizations certify compliance with specific requirements and standards including government regulations. ANSI evaluates the accreditation applicant's organizational structure to determine if the organization is "controlled" by the party that would be inspected or evaluated. If there is a potential conflict of interest, ANSI will recommend corrective measures to enable the organization to be accredited as a third-party inspection organization.

For accreditation by ANSI, the third-party organization must also have a method for handling complaints, a system for appeal of unresolved or other complaints or disagreements, an effective internal quality control system appropriate to the type, range and volume of work performed, and sufficient staff with the necessary education, training and experience to carry out the work for which it claims to be competent and subject to effective supervision. Requiring ANSI accreditation for a third-party inspection agency or organization is addressed, in the proposed rulemaking, in subsection (c)(3)(i) pertaining to independent of the bottled water systems, subsection (c)(3)(iii) pertaining to having an established system for investigating complaints and an appeals process, subsection (c)(3)(iv) pertaining to a documented quality assurance and control program and subsection (c)(3)(v) pertaining to the capability through experience or training, or both, to conduct the onsite evaluation program.

In the final amendments, the requirement that the inspection organization be accredited by ANSI as a third-party inspection agency replaces the proposed language in subsection (c)(3)(i) and (iii)—(v) are deleted.

5. *§ 109.1005(c)(3)(ii). Permit requirements.* Added "Department" to clarify the third-party organization has policies and procedures that would support any required Department enforcement actions.

6. *§ 109.1005(c)(5)(ii). Permit requirements.* For validation of treatment technologies, IRRC questioned what other organizations will be acceptable and recommended the Department publish a list of acceptable organizations annually. Evaluating organizations and protocols for conformance with the requirement could be resource intensive. The intent was to minimize the need for Department approval of protocols and evaluation organizations. In the final amendments, the reference to protocols is deleted and the subsection revised to reference treatment technologies certified under the appropriate ANSI/NSF Standard by a third-party acceptable to the Department and those verified under the EPA Environmental Technology Verification Program. Language was added that treatment facilities approved by the Department for the bottled water system operating under the permit by rule are also considered validated treatment technologies. This allows a bottler operating under the permit by rule to add or use these permitted treatment technologies to a new product line or for an expansion of the bottling facilities.

For certifying treatment technologies under the appropriate ANSI/NSF Standard, the final amendments specify the certification organization (other than the NSF) must be accredited by ANSI as a third-party certification organization and meet the requirements, as applicable, under § 109.606(d).

7. *§ 109.1005(c)(6). Permit requirements.* Paragraph (6) was added requiring publication in the *Pennsylvania Bulletin* of the Department's determination that the bottled water system has complied with subsection (c)(1)—(4) and is operating under the permit by rule and of notices submitted under subsection (c)(5) for modifications to the bottling and processing facilities. Presently, major permit amendments require publication in the *Pennsylvania Bulletin*. The Department believes these notifications under the permit by rule should also be published in the *Pennsylvania Bulletin*.

8. *§ 109.1005(g) Permit requirements.* The term "circumstances" which was replaced with "situations" in the proposed rulemaking is retained in the final rulemaking.

9. *§ 109.1008(b). System management responsibilities.* The four digit extension was added to the Bureau's Zip Code.

F. Benefits, Costs and Compliance

Executive Order 1996-1 requires a cost/benefit analysis of the amendments.

Benefits

Bottlers in this Commonwealth who elect to operate under the permit by rule should realize time and cost savings from the streamlined permitting process by being able to make timely business decisions such as installation of a new or additional production line or replacement equipment without first obtaining a Department permit amendment. Along with the revised requirements for submitting new or additional product labels, this will provide bottlers in this Commonwealth greater flexibility and opportunity to respond to market conditions and increase competitiveness with out-of-State bottlers. The consumers of bottled water may also benefit from lower prices; however, this is difficult to quantify, due to the many factors affecting the retail price in producing bottled water products.

Over 90 bottled water systems, retail water facilities and bulk water hauling systems will benefit from the reduction in the compliance monitoring for radionuclides from annually to once every 4 years.

Compliance Costs

There should be no additional costs to State and local government or the regulated community to implement the amendments.

The permit by rule is an option and bottlers in this Commonwealth are not required to operate under the permit by rule. Under the permit by rule option, there would be an annual cost estimated at $600 to $800 for the third-party evaluation. Bottlers in this Commonwealth who are IBWA members or NSF certified should not experience an annual cost for the third-party inspection since this cost is included in IBWA's membership fee

or NSF's certification fee. Bottlers in this Commonwealth who do not have an annual third-party evaluation and elect to operate under the permit by rule would experience the annual evaluation cost. However, this cost should be offset by the bottler not being required to pay a permit application fee of $300 to $750 for major amendments to the bottling process under the present permitting procedures and the cost savings from reducing the radionuclide compliance monitoring from annually to once every 4 years. Since the permit by rule is an option, it is difficult to estimate the additional costs (if any) to bottlers in this Commonwealth.

Compliance Assistance Plan

It is anticipated that extensive compliance assistance will not be necessary. The permit by rule is an option for bottlers in this Commonwealth. The other amendments update, modify or clarify present requirements.

The Department will notify the regulated community through the *Environmental Protection Update Weekly Newsletter* and through revised Key Requirements summaries affected by the amendments. The Key Requirements summaries are available to the regulated community and placed on the Department's Web site. If necessary, the Department will directly notify the regulated community, including out-of-State bottlers, through mailings. Department staff will be available to assist the regulated community and any bottler in this Commonwealth considering operating under the permit by rule.

Paperwork Requirements

There should be no increase in the amount of paperwork. Overall, with the exception of the permit by rule, the final rulemaking updates, clarifies or revises present requirements and should not have any major impact on existing reporting, recordkeeping or other paperwork requirements.

Compared to obtaining a permit amendment under the present permitting process, bottlers in this Commonwealth would first notify the Department of the intent to operate under the permit by rule, file descriptions of substantial modifications within 30 days of operation of the modification and submit annual proof of compliance with the FDA standards and the IBWA Model Bottled Water Code based on the third-party evaluation. Bottlers operating under the permit by rule would still be required to comply with the other provisions of the act and regulations including design, construction, operation, reporting and recordkeeping. The Department anticipates the permit by rule would decrease paperwork requirements compared to obtaining a Department permit for modifications to the bottling, processing and manufacturing of bottled water. The reduction in radionuclide monitoring would reduce reporting and paperwork requirements for over 90 bottled water systems, retail water facilities and bulk water hauling systems.

G. Sunset Review

These final-form regulations will be reviewed in accordance with the sunset review schedule published by the Department to determine whether the regulations effectively fulfill the goals for which they were intended.

H. Regulatory Review

Under section 5(a) of the Regulatory Review Act (71 P. S. § 745.5(a)), on April 28, 1998, the Department submitted a copy of the proposed rulemaking, published at 28 Pa.B. 2265, to IRRC, and the Chairpersons of the Senate and House Environmental Resources and Energy Committees for review and comment. In compliance with section 5(c) of the Regulatory Review Act, the Department also provided IRRC and the Committees with copies of the comments as well as other documentation.

In preparing these final-form regulations, the Department has considered all comments received from IRRC and the public. The Committees did not provide comments on the proposed rulemaking.

These final-form regulations were deemed approved by the House Environmental Resources and Energy Committee and the Senate Environmental Resources and Energy Committee on March 15, 1999. IRRC met on March 25, 1999, and approved the final-form regulations in accordance with section 5.1(e) of the Regulatory Review Act (71 P. S. § 745.5a(e)).

I. Findings of the Board

The Board finds that:

(1) Public notice of proposed rulemaking was given under sections 201 and 202 of the act of July 31, 1968 (P. L. 769, No. 240) (45 P. S. §§ 1201 and 1202) and regulations promulgated in 1 Pa. Code §§ 7.1 and 7.2.

(2) A public comment period was provided as required by law, and all comments were considered.

(3) These final-form regulations do not enlarge the purpose of the proposal published at 28 Pa.B. 2265.

(4) These final-form regulations are necessary and appropriate for the administration and enforcement of the authorizing acts identified in Section C of this Preamble.

J. Order of the Board

The Board, acting under the authorizing statutes, orders that:

(a) The regulations of the Department, 25 Pa. Code Chapter 109, are amended by amending §§ 109.1, 109.301, 109.701, 109.1003, 109.1005, 109.1007 and 109.1008 to read as set forth in Annex A, with ellipses referring to the existing text of the regulations.

(b) The Chairperson of the Board shall submit this order and Annex A to the Office of General Counsel and the Office of Attorney General for review and approval as to legality and form, as required by law.

(c) The Chairperson shall submit this order and Annex A to IRRC and the Senate and House Environmental Resources and Energy Committees as required by the Regulatory Review Act.

(d) The Chairperson of the Board shall certify this order and Annex A and deposit them with the Legislative Reference Bureau, as required by law.

(e) This order shall take effect immediately upon publication in the *Pennsylvania Bulletin*.

JAMES M. SEIF,
Chairperson

(*Editor's Note:* For the text of the order of the Independent Regulatory Review Commission relating to this document, see 29 Pa.B. 1957 (April 10, 1999).)

Fiscal Note: Fiscal Note 7-337 remains valid for the final adoption of the subject regulations.

Annex A

TITLE 25. ENVIRONMENTAL PROTECTION

PART I. DEPARTMENT OF ENVIRONMENTAL PROTECTION

Subpart C. PROTECTION OF NATURAL RESOURCES

ARTICLE II. WATER RESOURCES

CHAPTER 109. SAFE DRINKING WATER

Subchapter A. GENERAL PROVISIONS

§ 109.1. Definitions:

The following words and terms, when used in this chapter, have the following meanings, unless the context clearly indicates otherwise:

* * * * *

IBWA—The International Bottled Water Association, Alexandria, Virginia 22314.

* * * * *

NSF—NSF *International,* Ann Arbor, Michigan 48105.

* * * * *

Subchapter C. MONITORING REQUIREMENTS

§ 109.301. General monitoring requirements.

The monitoring and analytical requirements, including approved sampling procedures and analytical techniques, established by the EPA under the National Primary Drinking Water Regulations, 40 CFR Part 141 (relating to national primary drinking water regulations), as of December 8, 1984, are incorporated by reference. Public water suppliers shall monitor for compliance with MCLs in accordance with the requirements established in the National Primary Drinking Water Regulations, except as otherwise established by this chapter unless increased monitoring is required by the Department under § 109.302 (relating to special monitoring requirements). Alternative monitoring requirements may be established by the Department and may be implemented in lieu of monitoring requirements for a particular National Primary Drinking Water Regulation if the alternative monitoring requirements are in conformance with the Federal act and regulations. The monitoring requirements shall be applied as follows:

(1) *Performance monitoring for filtration and disinfection.* A public water supplier providing filtration and disinfection of surface water sources shall, beginning July 1, 1990, conduct the performance monitoring requirements established by the EPA under the National Primary Drinking Water Regulations, unless increased monitoring is required by the Department under § 109.302.

(i) Except as provided under subparagraphs (ii) and (iii), a public water supplier:

(A) Shall determine the turbidity level of representative samples of the system's filtered water at least once every 4 hours that the system is in operation, except as provided in clause (B).

(B) May substitute continuous turbidity monitoring for grab sample monitoring if it validates the continuous measurement for accuracy on a regular basis using a protocol approved by the Department. For systems using slow sand filtration or filtration treatment other than conventional filtration, direct filtration or diatomaceous earth filtration, the Department may reduce sampling frequency to once per day.

(C) Shall continuously monitor the residual disinfectant concentration of the water being supplied to the distribution system and record both the lowest value for each day and the number of periods each day when the value is less than .2 mg/l for more than 4 hours. If a public water system's continuous monitoring equipment fails, the public water supplier may, upon notification of the Department under § 109.402 (relating to emergency public notification), substitute grab sampling every 4 hours in lieu of continuous monitoring. Grab sampling may not be substituted for continuous monitoring for longer than 5 days after the equipment fails.

(D) Shall measure the residual disinfectant concentration at representative points in the distribution system no less frequently than the frequency required for total coliform sampling for compliance with the MCL for microbiological contaminants.

(ii) For a public water supplier serving 3,300 or fewer people, the Department may reduce the residual disinfectant concentration monitoring for the water being supplied to the distribution system to a minimum of 2 hours between samples at the grab sampling frequencies prescribed as follows if the historical performance and operation of the system indicate the system can meet the residual disinfectant concentration at all times:

System Size (People)	*Samples/Day*
<500	1
500—1,000	2
1,001—2,500	3
2,501—3,300	4

If the Department reduces the monitoring, the supplier shall nevertheless collect and analyze another residual disinfectant measurement as soon as possible, but no longer than 4 hours from any measurement which is less than .2 mg/l.

(iii) For a public water supplier serving fewer than 500 people, the Department may reduce the filtered water turbidity monitoring to one grab sample per day, if the historical performance and operation of the system indicate effective turbidity removal is maintained under the range of conditions expected to occur in the system's source water.

(2) *Performance monitoring for unfiltered surface water.* A public water supplier using unfiltered surface water sources shall conduct the following source water and performance monitoring requirements on an interim basis until filtration is provided, unless increased monitoring is required by the Department under § 109.302:

(i) Except as provided under subparagraphs (ii) and (iii), a public water supplier:

(A) Shall perform fecal coliform or total coliform density determinations on samples of the source water immediately prior to disinfection. Regardless of source water turbidity, the minimum frequency of sampling for fecal or total coliform determination may be no less than the following:

System Size (People)	*Samples/Week*
<500	1
500—3,299	2
3,300—10,000	3
10,001—25,000	4
25,001 or more	5

(B) Shall measure the turbidity of a representative grab sample of the source water immediately prior to

disinfection at least once every 4 hours that the system is in operation, except as provided in clause (C).

(C) May substitute continuous turbidity monitoring for grab sample monitoring if it validates the continuous measurement for accuracy on a regular basis using a protocol approved by the Department.

(D) Shall continuously monitor the residual disinfectant concentration required under § 109.202(c)(1)(iii) (relating to State MCLs and treatment technique requirements) of the water being supplied to the distribution system and record the lowest value for each day. If a public water system's continuous monitoring equipment fails, the public water supplier may, upon notification of the Department under § 109.402, substitute grab sampling every 4 hours in lieu of continuous monitoring. Grab sampling may not be substituted for continuous monitoring for longer than 5 days after the equipment fails.

(E) Shall measure the residual disinfectant concentration at representative points in the distribution system no less frequently than the frequency required for total coliform sampling for compliance with the MCL for microbiological contaminants.

(ii) For a public water supplier serving 3,300 or fewer people, the Department may reduce the residual disinfectant concentration monitoring for the water being supplied to the distribution system to a minimum of 2 hours between samples at the grab sampling frequencies prescribed as follows if the historical performance and operation of the system indicate the system can meet the residual disinfectant concentration at all times:

System Size (People)	*Samples/Day*
<500	1
500—1,000	2
1,001—2,500	3
2,501—3,300	4

If the Department reduces the monitoring, the supplier shall nevertheless collect and analyze another residual disinfectant measurement as soon as possible, but no longer than 4 hours from any measurement which is less than the residual disinfectant concentration approved under § 109.202(c)(1)(iii).

(iii) For a public water supplier serving fewer than 500 people, the Department may reduce the source water turbidity monitoring to one grab sample per day, if the historical performance and operation of the system indicate effective disinfection is maintained under the range of conditions expected to occur in the system's source water.

(3) *Monitoring requirements for coliforms.* Public water systems shall determine the presence or absence of total coliforms for each routine or check sample; and, the presence or absence of fecal coliforms or E. coli for a total coliform positive sample in accordance with analytical techniques approved by the Department under § 109.304 (relating to analytical requirements). A system may forego fecal coliform or E. coli testing on a total coliform-positive sample if the system assumes that any total coliform-positive sample is also fecal coliform-positive. A system which chooses to forego fecal coliform or E. coli testing shall, under § 109.402(1), notify the Department within 1 hour of when the system is first notified of the total coliform-positive sample result.

(i) *Frequency.* Public water systems shall collect samples at regular time intervals throughout the monitoring period as specified in the system distribution sample siting plan under § 109.303(a)(2) (relating to sampling requirements). Systems which use groundwater and serve 4,900 persons or fewer, may collect all required samples on a single day if they are from different sampling sites in the distribution system.

(A) Except as provided under § 109.705(b) (relating to sanitary surveys), the number of monthly total coliform samples that community water systems shall take is based on the population served by the system as follows:

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

(B) Except as provided under § 109.705(c), the number of periodic total coliform samples that noncommunity water systems shall take is as follows:

(I) A noncommunity water system using only groundwater and serving 1,000 or fewer persons per day on a permanent basis, January through December each year, shall take one sample each calendar quarter that the system provides water to the public.

(II) A noncommunity water system using surface water (in total or in part) or serving more than 1,000 persons per day during a given month shall take the same number of samples as a community water system serving the same number of persons specified in clause (A) for each month the system provides water to the public, even if the population served is temporarily fewer than 1,000 persons per day. A groundwater system determined to be under the influence of surface water shall begin monitoring at this frequency 6 months after the Department determines that the source water is under the direct influence of surface water.

(C) A public water system that uses a surface water source and does not practice filtration in compliance with Subchapter B (relating to MCLs or treatment technique

requirements) shall collect at least one total coliform sample at the entry point, or an equivalent location as determined by the Department, to the distribution system within 24 hours of each day that the turbidity level in the source water, measured as specified in paragraph (2)(i)(B), exceeds 1.0 NTU. The Department may extend this 24-hour collection limit to a maximum of 72 hours if the system adequately demonstrates a logistical problem outside the system's control in having the sample analyzed within 30 hours of collection. A logistical problem outside the system's control may include a source water turbidity result exceeding 1.0 NTU over a holiday or weekend in which the services of a Department certified laboratory are not available within the prescribed sample holding time. These sample results shall be included in determining compliance with the MCL for total coliforms established under § 109.202(a)(2).

(ii) *Repeat monitoring.* A public water system shall collect a set of check samples within 24 hours of being notified of a total coliform-positive routine or check sample. The Department may extend this 24-hour collection limit to a maximum of 72 hours if the system adequately demonstrates a logistical problem outside the system's control in having the check samples analyzed within 30 hours of collection. A logistical problem outside the system's control may include a coliform-positive sample result received over a holiday or weekend in which the services of a Department certified laboratory are not available within the prescribed sample holding time.

(A) A system which collects more than one routine sample per monitoring period shall collect at least three check samples for each total coliform-positive sample found.

(B) A system which collects only one routine sample per monitoring period shall collect at least four check samples for each total coliform-positive sample found.

(C) The system shall collect at least one check sample from the sampling tap where the original total coliform-positive sample was taken, at least one check sample at a tap within five service connections upstream of the original coliform-positive sample and at least one check sample within five service connections downstream of the original sampling site. If a total coliform-positive sample occurs at the end of the distribution system or one service connection away from the end of the distribution system, the water supplier shall collect an additional check sample upstream of the original sample site in lieu of a downstream check sample.

(D) A system shall collect all check samples on the same day, except that a system with a single service connection may collect the required set of check samples all on the same day or consecutively over a 4-day period.

(E) If a check sample is total coliform-positive, the public water system shall collect additional check samples in the manner specified in this subparagraph. The system shall continue to collect check samples until either total coliforms are not detected in check samples, or the system determines that the MCL for total coliforms as established under § 109.202(a)(2) has been exceeded and notifies the Department.

(F) If a system collecting fewer than five routine samples per month has one or more valid total coliform-positive samples, the system shall collect at least five routine samples during the next month the system provides water to the public. The number of routine samples for the month following a total coliform-positive sample may be reduced by the Department to at least one sample the next month if the reason for the total coliform-positive sample is determined and the problem has been corrected or will be corrected before the end of the next month.

(G) Results of all routine and check samples not invalidated by the Department shall be included in determining compliance with the MCL for total coliforms as established under § 109.202(a)(2).

(iii) *Invalidation of total coliform samples.* A total coliform sample invalidated under this paragraph does not count towards meeting the minimum monitoring requirements of this section.

(A) The Department may invalidate a total coliform-positive sample if one of the following applies:

(I) The laboratory which performed the analysis establishes that improper sample analysis caused the total coliform-positive result.

(II) A domestic or other nondistribution system plumbing problem exists when a coliform contamination incident occurs that is limited to a specific service connection from which a coliform-positive sample was taken in a public water system with more than one service connection. The Department's determination to invalidate a sample shall be based on a total coliform-positive check sample collected at the same tap as the original total coliform-positive sample and all total coliform-negative check samples collected within five service connections of the original total coliform positive sample. This type of sample invalidation does not apply to public water systems with only one service connection.

(III) A total coliform-positive sample result is due to a circumstance or condition which does not reflect water quality in the distribution system. The Department's decision to invalidate a sample shall be based on evidence that the sample result does not reflect water quality in the distribution system. In this case, the system shall still collect all check samples required under subparagraph (ii) to determine compliance with the MCL for total coliforms as established under § 109.202(a)(2).

(B) A laboratory shall invalidate a total coliform sample if no total coliforms are detected and one of the following occurs:

(I) The sample produces a turbid culture in the absence of gas production using an analytical method where gas formation is examined.

(II) The sample exhibits confluent growth or produces colonies too numerous to count with an analytical method using a membrane filter.

(C) If a laboratory invalidates a sample because of interference as specified in clause (B), the laboratory shall notify the system within 1 business day to collect another sample from the same location as the original sample within 24 hours of being notified of the interference and have it analyzed for the presence of total coliforms. The system shall resample within 24 hours of being notified of interference and continue to resample every 24 hours until it receives a valid result. The Department may extend this 24-hour limit to a maximum of 72 hours if the system adequately demonstrates a logistical problem outside the system's control in having the resamples analyzed within 30 hours. A logistical problem outside the system's control may include a notification of a laboratory sample invalidation, due to interference, which is received over a holiday or weekend in which the services of a

Department certified laboratory are not available within the prescribed sample holding time.

(iv) Special purpose samples, such as those taken to determine whether disinfection practices are sufficient following pipe placement, replacement or repair, may not be used to determine compliance with the MCL for total coliform. Check samples taken under subparagraph (ii) are not considered special purpose samples, and shall be used to determine compliance with the monitoring and MCL requirements for total coliforms established under this paragraph and § 109.202(a)(2).

(4) *Exception.* For a water system which complies with the performance monitoring requirements under paragraph (2), the monitoring requirements for compliance with the turbidity MCL do not apply.

(5) *Monitoring requirements for VOCs.* Community water systems and nontransient noncommunity water systems shall monitor for compliance with the MCLs for VOCs established by the EPA under 40 CFR 141.61(a) (relating to MCLs for organic contaminants). The monitoring shall be conducted according to the requirements established by the EPA under 40 CFR 141.24(f) (relating to organic chemicals other than total trihalomethanes, sampling and analytical requirements), incorporated herein by reference, except as modified by this chapter. Initial or first year monitoring mentioned in this paragraph refers to VOC monitoring conducted on or after January 1, 1993.

(i) *Vinyl chloride.* Monitoring for compliance with the MCL for vinyl chloride is required only for groundwater entry points at which one or more of the following two-carbon organic compounds have been detected: trichloroethylene, tetrachloroethylene, 1,2-dichloroethane, 1,1,1-trichloroethane, cis-1,2-dichloroethylene, trans-1,2-dichloroethylene or 1,1-dichloroethylene.

(ii) *Initial monitoring schedule.* The initial monitoring shall consist of four consecutive quarterly samples at each entry point in accordance with the following monitoring schedule during the compliance period beginning January 1, 1993, except for systems which are granted reduced initial monitoring in accordance with clauses (E) and (F). A system which monitors during the initial monitoring period, but begins monitoring before its scheduled initial monitoring year specified in this subparagraph, shall begin monitoring every entry point during the first calendar quarter of the year it begins monitoring, except as provided in clause (E).

(A) Systems serving more than 10,000 persons shall begin monitoring during the quarter beginning January 1, 1994.

(B) Systems serving 3,301 persons to 10,000 persons shall begin monitoring during the quarter beginning January 1, 1995.

(C) Systems serving 500 to 3,300 persons shall begin monitoring during the quarter beginning January 1, 1993.

(D) Systems serving fewer than 500 persons shall begin monitoring during the quarter beginning January 1, 1994.

(E) For systems serving 3,300 or fewer people which monitor at least one quarter prior to October 1, 1993, and do not detect VOCs at an entry point during the first quarterly sample, the required initial monitoring is reduced to one sample at that entry point. For systems serving 500 to 3,300 people to qualify for this reduced monitoring, the initial monitoring shall have been conducted during the quarter beginning January 1, 1993.

(F) For systems serving more than 3,300 people, which were in existence prior to January 1, 1993, initial monitoring for compliance with the MCLs for VOCs established by the EPA under 40 CFR 141.61(a) is reduced to one sample for each entry point which meets the following conditions:

(I) VOC monitoring required by the Department between January 1, 1988, and December 31, 1992, has been conducted and no VOCs regulated under 40 CFR 141.61(a) were detected.

(II) The first quarter monitoring required by this paragraph has been conducted during the first quarter of the system's scheduled monitoring year under this paragraph, with no detection of a VOC.

(G) Initial monitoring of new entry points associated with new sources which are permitted under Subchapter E (relating to permit requirements) to begin operation after December 31, 1992, shall conduct initial monitoring as follows:

(I) Entry points at which a VOC is detected during new source monitoring shall be monitored quarterly beginning the first quarter the entry points begin serving the public. Quarterly monitoring shall continue until reduced monitoring is granted in accordance with subparagraph (iii)(D).

(II) Entry points at which no VOC is detected during new source monitoring shall begin initial quarterly monitoring during the first calendar quarter of the year after the entry point begins serving the public. If no VOC is detected during the first quarter of monitoring, first year monitoring is reduced to one sample at that entry point.

(iii) *Repeat monitoring for entry points at which a VOC is detected.*

(A) For entry points at which a VOC is detected at a level equal to or greater than its MCL during the first year of quarterly monitoring, the monitoring shall be repeated quarterly beginning the quarter following detection at a level equal to or greater than the MCL, for VOCs for which the EPA has established MCLs under 40 CFR 141.61(a), except for vinyl chloride as provided in subparagraph (i), until reduced monitoring is granted in accordance with clause (D).

(B) For entry points at which a VOC is detected, and reduced monitoring is granted in accordance with clause (D), and a VOC is thereafter detected at a level greater than the MCL, the monitoring shall be repeated quarterly beginning the quarter following detection at a level for the VOCs for which the EPA has established MCLs under 40 CFR 141.61(a), except for vinyl chloride as provided in subparagraph (i), until reduced monitoring is granted in accordance with clause (D).

(C) For entry points at which no VOC is detected during the first year of monitoring but a VOC is detected thereafter, the monitoring shall be repeated quarterly beginning the quarter following detection at a level for the VOCs for which the EPA has established MCLs under 40 CFR 141.61(a), except for vinyl chloride as provided in subparagraph (i), or until reduced monitoring is granted in accordance with clause (D).

(D) After analyses of four consecutive quarterly samples at an entry point, including initial quarterly samples, demonstrate that the VOC levels in each quarterly sample are less than the MCLs, the required monitoring is reduced to one sample per year at the entry point for the VOCs for which the EPA has established

MCLs under 40 CFR 141.61(a), except for vinyl chloride as provided in subparagraph (i).

(E) A confirmation sample shall be collected and analyzed for each VOC listed under 40 CFR 141.61(a) which is detected at a level in excess of its MCL during annual or less frequent compliance monitoring. The confirmation sample shall be collected within 2 weeks of notification by the certified laboratory performing the analysis that an MCL has been exceeded. The average of the results of the original and the confirmation sample will be used to determine compliance. Monitoring shall be completed by the deadline specified for VOC compliance monitoring.

(iv) *Repeat monitoring for entry points at which no VOC is detected.*

(A) For entry points at which VOCs are not detected during the first year of quarterly monitoring, or annual monitoring if only one sample was required at an entry point for first year monitoring under subparagraph (ii)(E), (F) or (G)(II), required monitoring is reduced to one sample per entry point per year.

(B) For groundwater entry points where VOCs are monitored in accordance with this paragraph, but are not detected during 3 years of quarterly or annual monitoring, or both, required monitoring is reduced to one sample per entry point during each subsequent compliance period. Reduced monitoring shall be conducted at 3-year intervals from the year of required initial monitoring.

(v) *Reduced monitoring.* When reduced monitoring is provided under subparagraph (iii)(D), or subparagraph (iv)(A) or (B), the system shall monitor the entry point during the calendar year quarter of highest anticipated VOC levels or as specified by the Department. The reduced monitoring option in subparagraph (iv)(B) does not apply to entry points at which treatment has been installed for VOC removal. Quarterly performance monitoring is required for VOCs for which treatment has been installed.

(vi) *Waivers.* Waivers under 40 CFR 141.24(f) will not be available for the VOC monitoring requirements in this paragraph.

(6) *Monitoring requirements for SOCs (pesticides and PCBs).* Community water systems and nontransient noncommunity water systems shall monitor for compliance with the MCLs for SOCs established by the EPA under 40 CFR 141.61(c). The monitoring shall be conducted according to the requirements established by the EPA under 40 CFR 141.24(h), incorporated herein by reference except as modified by this chapter.

(i) *Initial monitoring schedule.* Initial monitoring shall consist of four consecutive quarterly samples at each entry point beginning during the quarter beginning January 1, 1995, except for systems which are granted an initial monitoring waiver in accordance with subparagraph (v). Systems which monitor during the initial monitoring period but begin monitoring before 1995 shall begin monitoring during the first calendar quarter of the year.

(A) New entry points associated with new sources which are vulnerable to SOC contamination, as determined in accordance with subparagraph (v), and which begin operation after March 31, 1995, and do not detect an SOC during new source sampling shall begin initial quarterly monitoring during the first calendar year quarter of the year after the entry point begins serving the public.

(B) New entry points associated with new sources which are vulnerable to SOC contamination as determined in accordance with subparagraph (v), at which an SOC is detected during new source sampling shall begin initial quarterly monitoring the first quarter the entry point begins serving the public. Quarterly monitoring shall continue until reduced monitoring is granted in accordance with subparagraph (ii)(E).

(ii) *Repeat monitoring for SOCs that are detected.* For entry points which were monitored for SOCs during the initial quarterly monitoring period or during the required quarterly monitoring immediately after being determined vulnerable to contamination by an SOC, repeat monitoring shall be conducted as follows:

(A) For entry points at which an SOC is detected at a level equal to or greater than its MCL, the monitoring for the detected SOC shall be continued quarterly, until reduced monitoring is granted in accordance with clause (E).

(B) For entry points at which an SOC is detected during the first year of quarterly monitoring, and reduced monitoring is granted in accordance with clause (E), and the SOC is thereafter detected at a level greater than its MCL, the monitoring for the detected SOC shall be repeated quarterly, until reduced monitoring is granted in accordance with clause (E).

(C) For entry points at which an SOC is not detected during the first year of quarterly monitoring, but an SOC is detected initially thereafter at a level less than the MCL, monitoring shall be repeated annually for the detected SOC.

(D) For entry points at which an SOC is not detected during the first year of quarterly monitoring, but the SOC is detected thereafter at a level equal to or greater than the MCL, monitoring for that SOC shall be repeated quarterly, until reduced monitoring is granted in accordance with clause (E).

(E) After analyses of four consecutive quarterly samples at an entry point, including initial quarterly samples, demonstrate that the SOC level in each quarterly sample is less than the MCL, the required monitoring for each SOC detected below the MCL is reduced to one sample per year at the entry point.

(F) For entry points at which either heptachlor or heptachlor epoxide is detected during the initial round of consecutive quarterly samples, or in subsequent repeat samples, the monitoring shall be continued for both contaminants in accordance with the more frequent monitoring required of the two contaminants based on the level at which each is detected.

(G) A confirmation sample shall be collected and analyzed for each SOC listed under 40 CFR 141.61(c) which is detected at a level in excess of its MCL during annual or less frequent compliance monitoring. The confirmation sample shall be collected within 2 weeks of the water supplier receiving notification from the certified laboratory performing the analysis that an MCL has been exceeded. The average of the results of the original and the confirmation samples will be used to determine compliance. Confirmation monitoring shall be completed by the deadline specified for SOC compliance monitoring.

(iii) *Repeat monitoring for SOCs that are not detected.* For entry points at which SOCs are not detected during the first year of quarterly monitoring, the required monitoring is reduced to one sample in each 3-year compliance period for systems serving 3,300 or fewer persons and to

two consecutive quarterly samples in each compliance period for systems serving more than 3,300 persons. Reduced monitoring shall be conducted at 3-year intervals from the year of required initial VOC monitoring, in accordance with paragraph (5)(ii).

(iv) *Reduced monitoring.* When reduced monitoring is provided under subparagraph (ii) or (iii), the system shall monitor the entry point during the second calendar year quarter, or the second and third calendar year quarter when two quarterly samples are required in each compliance period, unless otherwise specified by the Department. The reduced monitoring option in subparagraph (iii) does not apply to entry points at which treatment has been installed for SOC removal. Compliance monitoring for SOCs for which treatment has been installed to comply with an MCL shall be conducted at least annually, and performance monitoring shall be conducted quarterly.

(v) *Waivers.* A waiver will be granted to a public water supplier from conducting the initial compliance monitoring or repeat monitoring, or both, for an SOC based on documentation provided by the public water supplier and a determination by the Department that the criteria in clause (B), (C) or (D) has been met. A waiver is effective for one compliance period and may be renewed in each subsequent compliance period. If the Department has not granted an areawide use waiver in accordance with clause (B), the public water supplier is responsible for submitting a waiver application and renewal application to the Department for review in accordance with clause (B) or (C) for specific entry points. Waiver applications will be evaluated relative to the vulnerability assessment area described in clause (A) and the criteria in clause (B) or (C). Entry points at which treatment has been installed to remove an SOC are not eligible for a monitoring waiver for the SOCs for which treatment has been installed.

(A) *Vulnerability assessment area for SOCs except dioxin and PCBs.*

(I) For groundwater entry points, the vulnerability assessment area shall consist of wellhead protection area Zones I and II.

(II) For surface water entry points, the vulnerability assessment area shall consist of the area that supplies water to the entry point and is separated from other watersheds by the highest topographic contour.

(B) *Use waivers.* An areawide use waiver will be granted by the Department for contaminants which the Department has determined have not been used, stored, manufactured or disposed of in this Commonwealth, or portions of this Commonwealth. A use waiver specific to a particular entry point requires that an SOC was not used, stored, manufactured or disposed of in the vulnerability assessment area. If use waiver criteria cannot be met, a public water supplier may apply for a susceptibility waiver.

(C) *Susceptibility waivers.* A susceptibility waiver for specific contaminants may be granted based on the following criteria, and only applies to groundwater entry points:

(I) Previous analytical results.

(II) Environmental persistence and transport of the contaminant.

(III) Proximity of the drinking water source to point or nonpoint source contamination.

(IV) Elevated nitrate levels as an indicator of the potential for pesticide contamination.

(V) Extent of source water protection or approved wellhead protection program.

(D) *Waivers for dioxin and PCBs.* A system is granted a waiver from monitoring for dioxin and PCBs unless the Department determines that there is a source of dioxin or PCB contamination which poses a threat to a drinking water source.

(7) *Monitoring requirements for IOCs.* Community water systems and nontransient noncommunity water systems shall monitor for compliance with the MCLs for IOCs established by the EPA under 40 CFR 141.62 (relating to maximum contaminant levels (MCLs) for inorganic contaminants), and for arsenic established by the EPA under 40 CFR 141.11 (relating to maximum contaminant levels for inorganic contaminants). Transient noncommunity water suppliers shall monitor for compliance with the MCLs for nitrate and nitrite. The monitoring shall be conducted according to the requirements established by the EPA under 40 CFR 141.23 (relating to inorganic chemical sampling and analytical requirements). The requirements are incorporated by reference except as modified by this chapter.

(i) *Monitoring requirements for asbestos.*

(A) *Waivers for asbestos monitoring.* A system is granted a waiver from asbestos monitoring unless the Department determines that the system's distribution system contains asbestos cement pipe and the system has not implemented optimum corrosion control measures, or the Department determines that the system's source water is vulnerable to asbestos contamination.

(B) *Initial monitoring schedule.* Community water systems and nontransient noncommunity water systems not granted a waiver under clause (A) shall monitor for compliance with the MCL for asbestos by taking one sample at each vulnerable sampling point during the first 3-year compliance period of each 9-year compliance cycle, with the initial compliance monitoring beginning not later than the calendar year beginning January 1, 1995.

(C) *Monitoring of new entry points.* New entry points which begin operation after December 31, 1995, shall conduct initial monitoring during the first compliance period of the first compliance cycle after the entry point begins serving the public, if the Department determines that a waiver cannot be granted in accordance with clause (A).

(D) *Repeat monitoring for systems that detect asbestos.* If a sample exceeds the MCL for asbestos, the monitoring at that sampling point shall be continued quarterly beginning in the quarter following the MCL violation. After four consecutive quarterly samples less than the MCL at that entry point, the required monitoring is reduced to one sample at that entry point during the first 3-year compliance period of each subsequent 9-year compliance cycle, if treatment has not been installed to remove asbestos from the source water. Compliance monitoring at entry points at which treatment has been installed to remove asbestos from source water shall be conducted at least annually, and performance monitoring shall be conducted quarterly.

(ii) *Monitoring requirements for nitrate and nitrite.* The following compliance monitoring for nitrite is not required at entry points receiving water which has been disinfected with free chlorine, chlorine dioxide or ozone:

(A) *Initial monitoring schedule.* A public water system shall begin new monitoring for nitrate and nitrite by taking one annual sample at each groundwater entry

point to the system beginning during the year beginning January 1, 1993. Community water systems and nontransient noncommunity water systems with surface water sources shall monitor quarterly at each surface water entry point for nitrate and nitrite beginning during the quarter beginning January 1, 1993. Transient noncommunity water systems shall monitor each surface water entry point by taking one annual sample beginning during the year beginning January 1, 1993.

(B) *Monitoring of new entry points.* New community and nontransient noncommunity surface water entry points which begin serving the public after the first calendar quarter of a year and did not detect levels of nitrate or nitrite equal to or greater than 50% of the MCL during new source sampling shall begin initial monitoring for nitrate and nitrite during the first calendar quarter of the year after the entry point begins serving the public. New community and nontransient noncommunity groundwater and surface water entry points at which nitrate or nitrite is detected at levels equal to or greater than 50% of the MCL during new source sampling shall begin initial quarterly monitoring the first quarter the entry point begins serving the public. New community and nontransient noncommunity groundwater entry points at which nitrate and nitrite are not detected at levels equal to or greater than 50% of the MCL, and all transient noncommunity entry points, shall begin initial annual monitoring during the first new calendar year after the entry point begins serving the public.

(C) *Repeat monitoring for systems with nitrate or nitrite levels equal to or greater than 50% of the MCL.*

(I) For entry points at which initial monitoring results or subsequent monitoring indicate nitrate or nitrite levels equal to or greater than 50% of the MCL, community and nontransient noncommunity water systems shall begin quarterly monitoring the quarter following detection at that level and continue quarterly monitoring for both nitrate and nitrite, unless reduced monitoring is granted in accordance with subclause (III).

(II) For entry points at which initial monitoring results or subsequent monitoring indicate nitrate or nitrite levels greater than the MCL, transient noncommunity systems shall begin quarterly monitoring the quarter following detection at that level and continue quarterly monitoring for both nitrate and nitrite, unless reduced monitoring is granted in accordance with subclause (IV).

(III) After four consecutive quarterly samples at an entry point for a community or nontransient noncommunity system indicate nitrate and nitrite levels in each sample are less than 50% of the MCLs, the required compliance monitoring is reduced to one sample per year at the entry point. Annual monitoring shall be conducted during the calendar quarter in which the consecutive quarterly monitoring indicated that the highest levels of contamination were present, unless the Department determines that a different monitoring quarter should be used in accordance with paragraph (10).

(IV) After four consecutive quarterly samples at an entry point for a transient noncommunity system indicate nitrate and nitrite levels in each sample are less than the MCLs, the required compliance monitoring is reduced to one sample per year at the entry point. Annual monitoring shall be conducted during the calendar quarter in which the consecutive quarterly monitoring indicated that the highest levels of contamination were present, unless the Department determines that a different monitoring quarter should be used in accordance with paragraph (10).

(V) For nitrate or nitrite sample results in excess of the MCLs, the water supplier shall take a confirmation sample within 24 hours of having received the original sample result. Noncommunity water systems for which an alternate nitrate level has been approved by the Department in accordance with 40 CFR 141.11(d) are not required to collect a confirmation sample if only the nitrate MCL is exceeded and nitrate is not in excess of the alternate nitrate level. If the alternate nitrate level is exceeded, the water supplier shall collect a confirmation sample within 24 hours after being advised by the certified laboratory performing the analysis that the compliance sample exceeded 20 mg/l for nitrate. Confirmation monitoring shall be completed by the deadline for compliance monitoring. Quarterly performance monitoring is required for nitrate and nitrite at entry points where treatment has been installed to remove nitrate or nitrite.

(D) *Repeat monitoring for systems with nitrate and nitrite levels less than 50% of the MCLs.* For entry points at which initial monitoring results indicate nitrate and nitrite levels in each sample are less than 50% of the MCLs, nitrate and nitrite monitoring shall be repeated annually during the calendar quarter in which the water supplier anticipates the highest levels of contamination, unless the Department determines that a different monitoring quarter should be used in accordance with paragraph (10).

(iii) *Monitoring requirements for antimony, arsenic, barium, beryllium, cadmium, cyanide, chromium, fluoride, mercury, nickel, selenium and thallium.*

(A) *Initial monitoring schedule.* Community water systems and nontransient noncommunity water systems shall monitor each surface water entry point annually beginning during the year beginning January 1, 1993, and shall monitor each groundwater entry point once every 3 years beginning during the year beginning January 1, 1994.

(B) *Monitoring of new entry points.* New groundwater entry points which begin operation after December 31, 1994, shall begin initial monitoring in accordance with the schedule in clause (A)—that is, 1997, and so forth. New surface water entry points shall begin initial annual monitoring during the first new calendar year after the entry point begins serving the public.

(C) *Repeat monitoring for entry points at which an IOC MCL is exceeded.*

(I) For entry points at which initial monitoring results or subsequent monitoring indicates an IOC level in excess of the MCL, monitoring shall be repeated quarterly beginning the quarter following detection at that level for each IOC in excess of an MCL, until reduced monitoring is granted in accordance with subclause (II).

(II) After analyses of four consecutive quarterly samples at an entry point where treatment has not been installed to comply with an IOC MCL indicate that contaminant levels are less than the MCLs, the required monitoring for each IOC less than the MCL is reduced to the frequencies stated in clause (A). This reduced monitoring option does not apply to entry points at which treatment has been installed for IOC removal. Compliance monitoring for IOCs for which treatment has been installed to comply with an MCL shall be conducted at least annually, and performance monitoring shall be conducted quarterly.

(III) A confirmation sample shall be collected and analyzed for each IOC listed under 40 CFR 141.11(b) or

141.62(b) which is detected at a level in excess of its MCL during annual or less frequent compliance monitoring. The confirmation sample shall be collected within 2 weeks of notification by the certified laboratory performing the analysis that an MCL has been exceeded. The average of the results of the original and the confirmation samples will be used to determine compliance. Confirmation monitoring shall be completed by the deadline specified for IOC compliance monitoring.

(D) *Waivers for IOC monitoring.* Except when treatment has been installed to remove the IOC, after three consecutive rounds of quarterly, annual or triennial monitoring indicate the contaminant level for an IOC is below the MCL in all samples at an entry point, routine monitoring for the remainder of the compliance cycle for that IOC is waived and the required monitoring for the IOC is reduced to one sample per 9-year compliance cycle at that entry point. Reduced monitoring shall be conducted during the first monitoring period of the next monitoring cycle. A waiver is effective for one compliance cycle and may be renewed in each subsequent compliance cycle.

(E) *Operational monitoring for fluoride.* Public water suppliers who fluoridate shall conduct operational monitoring for fluoride daily.

(8) *Monitoring requirements for public water systems that obtain finished water from another public water system.*

(i) Consecutive water suppliers shall monitor for compliance with the MCL for microbiological contaminants at the frequency established by the EPA and incorporated by reference into this chapter.

(ii) Community consecutive water suppliers shall:

(A) Monitor for compliance with the MCL for total trihalomethanes (TTHMs) at the frequency established by the EPA and incorporated by reference into this chapter if the system does one of the following:

(I) Serves more than 10,000 persons.

(II) Obtains finished water from another public water system serving more than 10,000 persons.

(B) Monitor the distribution system for compliance with the MCL for asbestos at the frequency indicated in paragraph (7)(i), when the Department determines that the system's distribution system contains asbestos cement pipe and optimum corrosion control measures have not been implemented.

(iii) Consecutive water suppliers are exempt from conducting monitoring for the MCLs for VOCs, SOCs and IOCs if the public water system from which the finished water is obtained complies with paragraphs (5)—(7), except that asbestos monitoring is required in accordance with subparagraph (ii)(B).

(iv) For a public water system which is not a consecutive water system, the exemption in subparagraph (iii) applies to entry points which obtain finished water from another public water system.

(v) A public water supplier that obtains finished water from another permitted public water system using surface water sources shall, beginning May 16, 1992, measure the residual disinfectant concentration at representative points in the distribution system at least as frequently as the frequency required for total coliform sampling for compliance with the MCL for microbiological contaminants.

(9) *Monitoring requirements for POE devices.* A public water supplier using a POE device shall, in addition to the monitoring requirements specified in paragraphs (1)—(8), conduct monitoring on the devices installed. As a minimum, the monitoring shall include the MCLs for which the POE device is intended to treat and monthly microbiological monitoring. The Department may allow the water supplier to reduce the frequency of microbiological monitoring based upon historical performance. Except for microbiological contaminants, monitoring shall be performed quarterly on 25% of the installed POE devices with the locations rotated so that each device is monitored at least once annually, unless increased monitoring is required by the Department under § 109.302.

(10) *Additional monitoring.* The Department may by written notice require a public water supplier to conduct monitoring for compliance with MCLs during a specific portion of a monitoring period, if necessary to ensure compliance with the monitoring or reporting requirements in this chapter.

(11) *Monitoring requirements for entry points that do not provide water continuously.* Entry points from which water is not provided during every quarter of the year shall monitor in accordance with paragraphs (5)—(7), except that monitoring is not required during a quarter when water is not provided to the public, unless special monitoring is required by the Department under § 109.302.

Subchapter G. SYSTEM MANAGEMENT RESPONSIBILITIES

§ 109.701. Reporting and recordkeeping.

(a) *Reporting requirements for public water systems.* Public water systems shall comply with the following requirements:

(1) *General reporting requirements.* Unless a shorter period is specified in this section, the water supplier shall assure that the results of test measurements or analyses required by this chapter are reported to the Department within either the first 10 days following the month in which the result is received or the first 10 days following the end of the required monitoring period as stipulated by the Department, whichever is shorter. The test results shall include the following at a minimum:

(i) The name, address and public water system identification number (PWSID) of the public water system from which the sample was taken.

(ii) The name, address and identification number of the laboratory performing the analysis unless the analysis is not required to be performed by a certified laboratory.

(iii) The results of analytical methods, including negative results.

(iv) Contaminants.

(v) Analytical methods used.

(vi) The date of sample.

(vii) The date of analysis.

(viii) Sample location.

(2) *Monthly reporting requirements for performance monitoring.*

(i) The test results of performance monitoring required under § 109.301(1) (relating to general monitoring requirements) for public water suppliers providing filtration and disinfection of surface water sources shall include the following at a minimum:

(A) For turbidity performance monitoring:

(I) The number of days of filtration operation.

(II) The number of measurements taken each month.

(III) The number of measurements that equal or exceed .5 NTU for conventional, direct or other filtration technologies, or 1.0 NTU for slow sand or diatomaceous earth filtration technologies.

(IV) The date, time and values of measurements exceeding 2.0 NTU.

(B) For performance monitoring of the residual disinfectant concentration of the water being supplied to the distribution system:

(I) The date, time and lowest value each day.

(II) The date, duration and number of periods each day when the concentration is less than .2 mg/l for more than 4 hours.

(C) For performance monitoring of the residual disinfectant concentration at representative points in the distribution system report the following:

(I) The number of monthly routine samples required.

(II) The number of monthly routine samples collected and analyzed.

(III) The number of samples in which the residual disinfectant concentration was less than 0.02 mg/l.

(IV) For samples in which the residual disinfectant concentration was less than 0.02 mg/l: the date, time and value of each sample.

(ii) The test results of performance monitoring required under § 109.301(2) for public water suppliers using unfiltered surface water sources shall include the following, at a minimum:

(A) For turbidity performance monitoring:

(I) The date, time and value of each sample that exceeds 1.0 NTU.

(II) The date, time and highest turbidity value, if the turbidity does not exceed 1.0 NTU in a sample.

(B) For performance monitoring of the residual disinfectant concentration of the water being supplied to the distribution system:

(I) The date, time and lowest value each day the concentration is less than the residual disinfectant concentration required under § 109.202(c)(1)(iii) (relating to State MCLs and treatment technique requirements).

(II) If the concentration does not fall below that required under § 109.202(c)(1)(iii) during the month, report the date, time and lowest value measured that month.

(C) For performance monitoring of the residual disinfectant concentration at representative points in the distribution system, report the following:

(I) The number of monthly routine samples required.

(II) The number of monthly routine samples collected and analyzed.

(III) The number of samples in which the residual disinfectant concentration was less than 0.02 mg/l.

(IV) For samples in which the residual disinfectant concentration was less than 0.02 mg/l: the date, time and value of each sample.

(D) For performance monitoring of the fecal coliform or total coliform density determinations on samples of the source water immediately prior to disinfection: the date, time and value of each sample.

(iii) The test results from performance monitoring required under § 109.301(7)(v) of the residual disinfectant concentration of the water in the distribution system shall include the date, time and value of each sample.

(iv) The test results of heterotrophic plate count measurements taken under § 109.710(b) (relating to disinfectant residual in the distribution system) shall include the date, time and value of each sample.

(3) *Compliance report.* The water supplier shall report to the Department within 48 hours failure to comply with Subchapter C (relating to monitoring requirements), except that emergency notification shall be made under § 109.402 (relating to emergency public notification).

(4) *Notice.* The water supplier shall, within 10 days of completion of each public notification required under Subchapter D (relating to public notification), submit to the Department a representative copy of each type of notice and a description of the publication, distribution, posting or other means undertaken to make the notice available.

(5) *Siting plan.* The water supplier shall submit to the Department a written sample siting plan for routine coliform sampling as required by § 109.303(a)(2) within 30 days of receipt of the Department's request for this information.

(i) A sample siting plan shall include at a minimum the following:

(A) A list of available sample site locations in the distribution system to be used for routine monitoring purposes, including the first service connection (or Department approved equivalent) and dead ends.

(B) The name of the company or individual collecting the samples.

(C) A time period by which available sites representative of the distribution system are to be sampled during each monitoring period.

(ii) The Department's approval of a sample siting plan will be based upon the following:

(A) The population served by the system.

(B) The accessibility of sample sites.

(C) The past monitoring history for the system.

(D) The completeness of the sample siting plan which includes the information specified in subparagraph (i) and other information relating to the criteria in this subparagraph necessary for evaluation of the sample siting plan.

(iii) A water supplier shall revise and resubmit its sample siting plan within 30 days of notification by the Department of a sample siting plan which fails to meet the criteria in subparagraphs (i) and (ii).

(iv) The water supplier shall notify the Department of subsequent revisions to an approved coliform sample siting plan for approval as they occur. Revisions to an approved coliform sample siting plan shall be submitted in written form to the Department within 30 days of notifying the Department of the revisions.

(6) *Records.* Upon request by the Department, the water supplier shall submit copies of records required to be maintained under this subchapter.

(7) *Form.* Reports required by this chapter shall be submitted in a manner or form acceptable to the Department.

(b) *Reporting requirements for community water systems.* In addition to the reporting requirements for a public water system, a community water supplier shall comply with the following requirements:

(1) The water supplier shall prepare a monthly operational report on forms provided by the Department or in a form acceptable to the Department. The report shall be maintained on file by the operator for at least 2 years and submitted upon request of the Department. The report shall include at least the following:

(i) The water produced daily.

(ii) The chemical added daily.

(iii) The physical and chemical determinations taken daily.

(iv) Water-level monitoring data for supply and any associated monitoring wells.

(v) The maintenance performed.

(vi) Operational problems.

(2) The water supplier shall submit by March 31 an annual water supply report for the prior calendar year on forms provided by the Department or in a form acceptable to the Department. This report shall include information relating to water use, connections, distribution system and storage.

(3) The water supplier shall keep a record of complaints received from consumers related to this act or this chapter on forms provided by the Department or in a form acceptable to the Department. Water suppliers complying with the Pennsylvania Public Utility Commission (PUC) complaint recordkeeping requirements under 52 Pa. Code § 65.3 (relating to complaints) shall be in compliance with this subsection if the complaints related to the act or this chapter are cross referenced within the PUC required records in a manner to make them readily available. The records shall be maintained on file by the operator for at least 3 years and submitted upon request of the Department.

(c) *Reporting requirements for nontransient noncommunity water systems.* In addition to complying with the reporting requirements for public water systems under subsection (a), a nontransient noncommunity water system shall comply with subsection (b)(1) except that records of water produced daily are not required.

(d) *Record maintenance.* The public water supplier shall retain on the premises of the public water system or at a convenient location near the premises the following:

(1) Records of bacteriological analyses which shall be kept for at least 5 years, and records of chemical analyses which shall be kept for at least 12 years. Actual laboratory reports may be kept, or data may be transferred to tabular summaries, if the following information is included:

(i) The date, place and time of sampling, and the name of the person who collected the sample.

(ii) Identification of the sample as to whether it was a routine distribution system sample, check sample, raw or finished water sample or other special purpose sample.

(iii) The date of analysis.

(iv) The laboratory, certification number and person responsible for performing the analysis.

(v) The analytical technique and methods used.

(vi) The results of the analysis.

(2) Records of performance monitoring required under § 109.301 which shall be kept for at least 3 years. At a minimum, these records shall contain the reporting requirements under subsection (a).

(3) Records of action taken by the public water supplier to correct violations of MCLs or treatment technique requirements, which shall be kept for at least 3 years after the last action taken with respect to the particular violation involved.

(4) Copies of written reports or communications relating to sanitary surveys conducted by a water supplier or his agent, which shall be kept for at least 12 years.

(5) Records concerning a variance or exemption granted to the system which shall be kept at least 5 years following the expiration of the variance or exemption.

(6) Plans, specifications and permits for water system facilities which shall be kept for the life of the facility.

(7) Records concerning the use of acrylamide and epichlorohydrin shall be kept for at least 12 years. These records shall include verification that the chemicals used were certified for conformance with ANSI/NSF Standard 60 in accordance with § 109.606 (relating to chemicals, materials and equipment) and that the combination—or product—of dose and monomer level did not exceed the following:

(i) Acrylamide = 0.05% dosed at 1 ppm (or equivalent).

(ii) Epichlorohydrin = 0.01% dosed at 20 ppm (or equivalent).

Subchapter J. BOTTLED WATER AND VENDED WATER SYSTEMS, RETAIL WATER FACILITIES AND BULK WATER HAULING SYSTEMS

§ 109.1003. Monitoring requirements.

(a) *General monitoring requirements.* Bottled water and vended water systems, retail water facilities and bulk water hauling systems shall monitor for compliance with the MCLs in accordance with § 109.301 (relating to general monitoring requirements) and shall comply with § 109.302 (relating to special monitoring requirements). The monitoring requirements shall be applied as follows, except that systems which have installed treatment to comply with a primary MCL shall conduct quarterly operational monitoring for the contaminant which the facility is designed to remove:

(1) Bottled water systems, retail water facilities and bulk water hauling systems, for each entry point shall:

(i) Monitor for microbiological contaminants weekly.

(ii) Monitor for turbidity every 4 hours or continuously each day a surface water source is in use.

(iii) Monitor for compliance with the MCLs for VOCs in accordance with § 109.301(5) beginning during the quarter that begins January 1, 1995, except that:

(A) Systems that obtain finished water from another permitted public water system are exempt from conducting monitoring for the VOCs if the public water system supplying the finished water performs the required monitoring at least annually and a copy of the analytical reports are received by the Department.

(B) For systems in existence prior to January 1, 1995, that obtain raw water from only protected groundwater sources, initial monitoring for compliance with the MCLs

for VOCs established by the EPA under 40 CFR 141.61(a) (relating to MCLs for organic contaminants) on January 30, 1991, and July 17, 1992, will be reduced to one sample for entry points or systems which meet the following conditions:

(I) The VOC monitoring required by the Department between January 1, 1988, and December 31, 1994, has been conducted and no VOCs were detected.

(II) The first quarter of VOC monitoring required by this subparagraph has been conducted during the first quarter of 1995 with no detection of a VOC.

(C) Initial monitoring of new entry points associated with new sources which are permitted in accordance with § 109.1005 (relating to permit requirements) to begin operation after December 31, 1994, shall be conducted as follows:

(I) Entry points at which a VOC is detected during new source monitoring shall be monitored quarterly beginning the first quarter the entry points begin serving the public. Quarterly monitoring shall continue until reduced monitoring is granted in accordance with clause (D)(I).

(II) Entry points at which no VOC is detected during new source monitoring shall begin initial quarterly monitoring during the first calendar quarter of the year after the entry point begins serving the public.

(D) Repeat monitoring for entry points shall be conducted as follows:

(I) For an entry point at which a VOC is detected during initial monitoring or where a VOC is detected anytime at a level in excess of its MCL, compliance monitoring shall be repeated quarterly for the VOCs for which the EPA has established MCLs under 40 CFR 141.61(a), except for vinyl chloride as provided in § 109.301(5)(i). After analyses of four consecutive quarterly samples at an entry point, including initial quarterly monitoring samples, demonstrate that the VOC levels in each quarterly sample are less than the MCLs, the required compliance monitoring is reduced to one sample per year at that entry point for all 21 VOCs, except for vinyl chloride as provided in § 109.301(5)(i).

(II) For a groundwater or surface water entry point at which VOCs are not detected during the initial and subsequent repeat monitoring, repeat monitoring shall be one sample per year from that entry point.

(iv) Conduct initial and repeat monitoring for compliance with the MCLs for SOCs—pesticides and PCBs—in accordance with § 109.301(6) for four consecutive quarters beginning during the quarter that begins January 1, 1995, except that:

(A) Systems that obtain finished water from another permitted public water system are exempt from conducting compliance monitoring for the SOCs if one of the following applies:

(I) The public water system supplying the finished water performs the required monitoring annually and a copy of the analytical results are received by the Department.

(II) The public water system supplying the water has been granted a waiver from conducting the initial or repeat compliance monitoring, or both, for one or more SOCs under § 109.301(6)(v). This exemption from conducting compliance monitoring applies only to SOCs indicated in the waiver.

(B) Systems which are granted an initial monitoring waiver in accordance with § 109.301(6)(v) are exempt from conducting compliance monitoring for the SOCs indicated in the waiver.

(C) Initial monitoring of new entry points associated with new sources which are permitted in accordance with § 109.1005 to begin operation after December 31, 1994, shall be conducted as follows:

(I) Entry points at which an SOC is detected during new source monitoring shall be monitored quarterly beginning the first quarter the entry points begin serving the public. Quarterly monitoring shall continue until reduced monitoring is granted in accordance with clause (D)(I).

(II) Entry points at which no SOC is detected during new source monitoring and which begin operation before April 1, 1995, shall conduct initial quarterly monitoring beginning during the quarter beginning January 1, 1995.

(III) Entry points at which no SOC is detected during new source monitoring and which begin operation after March 31, 1995, shall conduct initial quarterly monitoring beginning during the first calendar quarter of the year after the entry point begins serving the public.

(D) Repeat monitoring for entry points shall be conducted as follows:

(I) For entry points at which an SOC is detected during initial monitoring or where an SOC is detected anytime in excess of its MCL, compliance monitoring shall be repeated quarterly for the detected SOC for which the EPA has an established MCL under 40 CFR 141.61(c). After analyses of four consecutive quarterly samples at an entry point, including initial quarterly monitoring samples, demonstrate that the SOC level in each quarterly sample is less than the MCL, the required compliance monitoring is reduced for each SOC below the MCL to one sample per year at that entry point.

(II) For a groundwater or surface water entry point at which SOCs are not detected during the initial and any subsequent repeat monitoring, repeat monitoring shall be one sample per year from that entry point.

(v) Beginning in 1995, monitor for the primary IOCs, including lead and copper annually, except that:

(A) Systems are granted a waiver from asbestos monitoring unless the Department determines that the system's finished water is vulnerable to asbestos contamination by means of an asbestos cement pipe or the system's source water is vulnerable to asbestos contamination.

(B) Systems that obtain finished water from another permitted public water system are exempt from conducting compliance monitoring for the IOCs, except lead, copper and asbestos if the supplying system has not optimized corrosion control, if the public water system supplying the finished water performs the required monitoring annually and a copy of the analytical results is received by the Department.

(C) Monitoring for compliance with the MCLs for nitrate and nitrite shall be conducted quarterly following a monitoring result which is equal to or greater than 50% of the MCL. After four consecutive quarterly samples, indicate nitrate and nitrite in each sample are less than 50% of the MCLs, required monitoring is reduced to one sample per year.

(vi) Conduct operational monitoring for fluoride at least once each day, if the system fluoridates its water.

(vii) Monitor for compliance with radiological MCLs once every 4 years.

(2) Vended water systems shall monitor in accordance with paragraph (1) except that vended water systems qualifying for permit by rule under § 109.1005(b) (relating to permit requirements), for each entry point shall:

(i) Monitor monthly for microbiological contaminants.

(ii) Monitor annually for total dissolved solids, lead and cadmium.

(iii) Conduct special monitoring as required by the Department.

(b) *Special monitoring requirements for unregulated contaminants.* Bottled water and vended water systems, retail water facilities and bulk water hauling systems, except vended water systems permitted by rule, shall monitor for the unregulated contaminants in accordance with the initial monitoring schedule for VOCs as prescribed in subsection (a).

(c) *Sampling requirements.*

(1) For bottled water and vended water systems, retail water facilities and bulk water hauling systems, samples taken to determine compliance with MCLs, monitoring requirements, including special monitoring requirements for unregulated contaminants, and treatment techniques shall be taken from each entry point.

(i) For bottled water systems, each entry point means each finished bottled water product. If multiple sources are used for a product and are not blended prior to bottling, the bottled water product for each source shall be considered a different product for monitoring purposes.

(ii) For bulk water hauling systems, retail water facilities and vended water systems, each entry point shall mean a point of delivery to the consumer from each carrier vehicle, machine or dispenser representative of each source.

(2) For the purpose of determining compliance with the monitoring and analytical requirements established under this subchapter, the Department will consider only those samples analyzed by a laboratory certified by the Department, except that measurements of turbidity, fluoridation operation, residual disinfection concentration, temperature and pH may be performed by a person meeting the requirements of § 109.1008(c) (relating to systems management responsibilities).

(3) Public water suppliers shall assure that samples for laboratory analysis are properly collected and preserved, are collected in proper containers, do not exceed maximum holding times between collection and analysis and are handled in accordance with guidelines governing quality control which may be established by the Department. A public water supplier who utilizes a certified laboratory for sample collection as well as analysis satisfies the requirements of this subsection.

(4) Compliance monitoring samples for VOCs, as required under subsection (a)(1)(iii), and for the unregulated contaminants as required under subsection (b), shall be collected by a person properly trained by a laboratory certifed by the Department to conduct VOC or vinyl chloride analysis.

(5) Compliance monitoring samples required under subsections (a)(1)(iii) and (b) may be composited in accordance with 40 CFR 141.24(g)(7) (relating to organic chemicals other than total trihalomethanes, sampling and analytical requirements) except:

(i) Samples from groundwater entry points may not be composited with samples from surface water entry points.

(ii) Samples from one type of bottled water product or vended water product may not be composited with samples from another type of bottled water product or vended water product.

(iii) Samples used in compositing shall be collected in duplicate.

(iv) If a VOC listed under 40 CFR 141.61(a) is detected at an entry point, samples from that entry point may not be composited for subsequent compliance or repeat monitoring requirements.

(v) Samples obtained from an entry point which contains water treated by a community water supplier or nontransient noncommunity water supplier to specifically meet an MCL for a VOC listed under 40 CFR 141.61(a) may not be composited with other entry point samples.

(d) *Repeat monitoring for microbiological contaminants.*

(1) If a sample collected in accordance with subsection (a)(1)(i) is found to be total coliform-positive:

(i) The bottled water system shall collect a set of 3 additional samples (check) from the same lot or batch of the type of product.

(ii) The vended water, retail water facility or bulk water hauling systems shall collect a set of four additional samples (check) from the same entry point (machine, point of delivery or carrier vehicle).

(2) Samples shall be collected for analysis within 24 hours of being notified of the total coliform-positive sample. The Department may extend this 24-hour collection limit to a maximum of 72 hours if the system adequately demonstrates a logistical problem outside the system's control in having the check samples analyzed within 30 hours of collection. A logistical problem outside the system's control may include a coliform-positive result received over a holiday or weekend in which the services of a Department certified laboratory are not available within the prescribed sample holding time.

(3) If a check sample is total coliform-positive, the system shall be deemed to have violated the MCL for total coliforms established under § 109.1002 (relating to MCLs or treatment techniques).

§ 109.1005. Permit requirements.

(a) *General permit requirement.* A person may not construct or operate a bottled water or vended water system, retail water facility or bulk water hauling system without first having obtained a public water system permit under subsection (b) or (e).

(b) *Special permit by rule requirement for vended water systems.*

(1) A person constructing and operating a vended water system shall obtain a separate and distinct permit under subsection (d) for each water vending machine owned by the same person unless the vended water system satisfies the conditions in this subsection. A separate and distinct permit by rule will be required for each Department region in which the water vending machines are located. The Department retains the right to require a vended water system that meets the requirements of this subsection to obtain a permit, if, in the judgment of the Department, the vended water system cannot be adequately regulated through the standardized specifications and conditions. A vended water system which is released from the obligation to obtain a permit shall

comply with the other requirements of this subchapter, including design, construction and operation requirements.

(i) A vended water system in which all water vending machines are located in the same Department region.

(ii) A vended water system which has as its sole source of water, finished water from existing permitted community water systems and uses only NAMA approved water vending machines satisfies the permit requirement of the act.

(2) A vended water system covered under this subsection shall register with the Department on forms provided by the Department. Amendments to the registration shall be filed when a substantial modification is made to the system. Descriptions of modifications shall be filed within 30 days of operation of the modification.

(c) *Special permit by rule requirement for bottled water systems.* A person owning or operating a bottled water system in this Commonwealth permitted under this chapter shall obtain an amended permit before making substantial modifications to the processing and bottling facilities unless the bottled water system satisfies the conditions in paragraphs (1)—(5). The permit by rule does not apply to the collection facilities. The Department retains the right to require a bottled water system that meets the requirements of paragraphs (1)—(5) to obtain a permit, if, in the judgment of the Department, the bottled water system cannot be adequately regulated through the standardized specifications and conditions. A bottled water system which is released from the obligation to obtain a permit shall comply with the other requirements of this subchapter, including design, construction and operation requirements. The following are the conditions for a permit by rule:

(1) The bottled water system has as its sole source of water permitted groundwater sources which are not under the direct influence of surface water as determined through the Department's *Guidance for Surface Water Identification* protocol or finished water from a Department approved community water system.

(2) The water quality of the sources does not exceed the Food and Drug Administration quality standards for primary (that is, health-related) chemical and radiological contaminants specified in 21 CFR 165.110 (relating to bottled water) as determined under sampling conducted under subsection (e)(4)(ii) and requires treatment no greater than disinfection to provide water of a quality that meets the primary MCLs established under Subchapter B (relating to MCLs and treatment techniques).

(3) Proof that the facilities meet the standards of the Food and Drug Administration in 21 CFR Parts 110, 129 and 165 (relating to current good manufacturing practice in manufacturing, packing, or holding human food; processing and bottling of bottled drinking water; and beverages) and the IBWA Model Bottled Water Code as determined by an onsite evaluation conducted by a Nationally recognized, independent, not-for-profit third-party organization such as NSF or other organization acceptable to the Department. The onsite evaluation shall be conducted annually. The proof shall consist of the report issued by the organization which shall be submitted to the Department within 30 days following the completion of the onsite evaluation. To be acceptable to the Department, the organization shall:

(i) Be accredited by ANSI as a third-party inspection/evaluation organization.

(ii) Have well developed, documented policies, procedures and contracts to support Department enforcement actions for meeting compliance objectives.

(4) A bottled water system intending to operate under this subsection shall submit written notification to the Department with documentation that the system complies with paragraphs (1)—(3).

(5) A bottled water system operating under this subsection shall file descriptions of substantial modifications made to the system to the Department within 30 days of operation of the modification. The description shall include documentation that the modification meets the following requirements as applicable:

(i) Compliance with the product water-contact materials and treatment chemical additives toxicological requirements of § 109.606 (relating to chemicals, materials and equipment) or alternatively, the Food and Drug Administration standards in 21 CFR Part 129.

(ii) Validated treatment technologies for the reduction of contaminants. Validated treatment technologies are those that have been permitted by the Department under this chapter at the bottled water system operating under the permit by rule or certified to an applicable ANSI/NSF standard by NSF or other certification organization acceptable to the Department or verified under the EPA Environmental Technology Verification Program. To be acceptable to the Department, a certification organization other than NSF shall be accredited by ANSI as a third-party certification organization and meet the requirements under § 109.606(d) (relating to chemicals, materials and equipment) as applicable to the appropriate ANSI/NSF standard for the treatment technology.

(6) The Department will publish a notice in the *Pennsylvania Bulletin* of its determination that a bottled water system has complied with paragraphs (1)—(4) and is operating under the permit by rule. The Department will publish a notice in the *Pennsylvania Bulletin* of descriptions submitted under paragraph (5) of substantial modifications made by a bottled water system operating under the permit by rule.

(d) *Permit amendments.* A person may not substantially modify a bottled water or vended water system, retail water facility or bulk water hauling system operated under a public water system permit without obtaining a permit amendment from the Department or otherwise complying with subsection (f).

(e) *Permit applications.* An application for a public water system permit for a bottled water or vended water system, retail water facility or bulk water hauling system shall be submitted in writing on forms provided by the Department and shall be accompanied by plans, specifications, engineer's report, water quality analyses and other data, information or documentation reasonably necessary to enable the Department to determine compliance with the act and this chapter. The Department will make available to the applicant the Public Water Supply Manual, available from the Bureau of Water Supply Management, Post Office Box 8467, Harrisburg, Pennsylvania 17105-8467 which contains acceptable design standards and technical guidance. Water quality analyses shall be conducted by a laboratory certified under this chapter. An application for a public water system permit for a bottled water or vended water system, retail water facility or bulk water hauling system shall include:

(1) The signature of the appropriate individual identified in § 109.503(a)(1)(i) (relating to public water system construction permits).

(2) Plans, specifications and engineer's report or modules prepared by or under the supervision of a professional engineer registered to practice in this Commonwealth, or in the state in which the water system is located, except that manufacturer's drawings and specifications for equipment or vending machines may be submitted in lieu of plans and specifications, as prescribed in this section, for the equipment or machines.

(3) The front cover or flyleaf of each set of drawings, and of each copy of the specifications and engineer's report, except for manufacturer's drawings and specifications, shall bear the signature and imprint of the seal of the registered professional engineer. Each drawing shall bear an imprint or a legible facsimile of the seal.

(4) Information describing new sources as follows:

(i) A comprehensive sanitary survey of the physical surroundings of each new source of raw water.

(ii) An evaluation of the quantity and quality of the raw water available from each new source. The evaluation shall include data for each primary and secondary contaminant and other contaminants the Department determines necessary to evaluate potability of the source. When a new source is finished water from another public water system, the most recent quality data if in compliance with the monitoring requirements of this chapter, obtained from the public water system supplying the finished water may be submitted.

(5) An erosion and sedimentation control plan which meets the requirements in Chapter 102 (relating to erosion control) when earthmoving activities are involved.

(6) In lieu of compliance with paragraphs (2)—(5), the Department may accept approval of an out-of-State systems' source and facilities by the agency having jurisdiction over drinking water in that state if the supplier submits proof of the approval by the other State agency.

(7) In addition to the information required under paragraphs (1)—(6), an application for a bottled water system permit shall include:

(i) An analysis of the quality of the manufactured water for each bottled water product. The analysis shall include data for each primary and secondary contaminant under § 109.1002 (relating to MCLs or treatment techniques).

(ii) A copy of each label of identification to be affixed to each type of bottled water product and trade name distributed by the public water system.

(iii) Proof that the system is in compliance with the standards of the Food and Drug Administration contained in 21 CFR Part 129.

(A) For out-of-State bottled water systems, the proof shall consist of the report issued by a Nationally recognized organization which inspects bottled water systems for compliance with 21 CFR Part 129, such as NSF, or another organization, state or country which utilizes an inspection protocol as stringent as NSF's protocol.

(B) For in-State bottled water systems, the proof shall consist of an inspection report issued by the Department.

(8) In addition to the information required under paragraphs (1)—(6), an application for a bulk water hauling system shall include:

(i) A detailed description of each water transportation tank, fill connection, outlet valve, hose, pump and other appurtenances including the manner in which they will be protected from contamination.

(ii) A description of the exact location where withdrawals will be made from each source of supply.

(9) In addition to the information required under paragraphs (1)—(6), an application for a vended water system shall include:

(i) A description of the exact location of each water vending machine.

(ii) A copy of the system's operation and maintenance plan detailing machine maintenance schedules.

(iii) A copy of the NAMA certification for each type of machine, if a certification has been issued.

(10) In addition to the information required under paragraphs (1)—(6), an application for a retail water facility shall include:

(i) A copy of NSF certificates, when applicable, for system components.

(ii) A copy of product labels, when applicable.

(f) *Permit amendment applications.* A bottled water or vended water system, retail water facility or bulk water hauling system operating under a public water system permit shall obtain a permit amendment before making a substantial modification to the public water system.

(1) A water supplier shall submit an application for a major permit amendment in accordance with subsection (e), if the proposed modification constitutes a major change to the public water system.

(i) For bottled water systems and retail water facilities, typical modifications which may be considered major changes are proposed new sources, additions or deletions of treatment techniques or processes and new types of products.

(ii) For bulk water hauling systems typical modifications which may be considered major changes are proposed new sources, additions or deletions of treatment techniques or processes, pumping stations and storage reservoirs.

(iii) For vended water systems, typical modifications which may be considered major changes are proposed additions or deletions of treatment techniques or processes, new product lines or types of products and the addition to the system of machines not certified by NAMA. For new sources, the supplier shall obtain a separate and distinct permit in accordance with subsection (e) unless the system qualifies for a permit by rule under subsection (b).

(2) A water supplier shall submit a written request to the Department for a minor permit amendment if the proposed modification constitutes a relatively minor change to the public water system. A request for a permit amendment under this paragraph shall describe the proposed change in sufficient detail to allow the Department to adequately evaluate the proposal.

(i) For bottled water systems and retail water facilities, typical modifications which can generally be accomplished under this paragraph include:

(A) Changes in treatment chemicals.

(B) Construction of storage tanks designed to standard specifications.

(C) Installation of replacement equipment.

(D) Changes in legal status, such as transfers of ownership, incorporation or mergers.

(ii) For bulk water hauling systems, typical modifications which can generally be accomplished under this paragraph include:

(A) Changes in treatment chemicals.

(B) Replacement of tank or reservoir linings or similar materials in contact with the water supply.

(C) Additions and modifications to water carrier vehicles and standpipes designed to standard specifications.

(D) Transmission mains.

(E) Changes in legal status, such as transfers of ownership, incorporation or mergers.

(iii) For vended water systems, typical modifications which can generally be accomplished under this paragraph include changes in treatment chemicals, repair or replacement of machines, and the addition of new NAMA certified machines to a permitted vended water system.

(3) The Department determines whether a particular modification requires a permit amendment under subsection (f)(1) or a permit amendment under subsection (f)(2). The Department's determination will include consideration of the magnitude and complexity of the proposed change and the compliance history of the public water system.

(g) *Emergency permits.* In emergency circumstances, the Department may issue permits for construction, operation or modification to a bottled water or bulk water hauling system, which the Department determines may be necessary to assure that potable drinking water is available to the public.

(1) Emergency permits shall be limited in duration and may be conditioned on additional monitoring, reporting and the implementation of appropriate emergency response measures. The Department may revoke an emergency permit if it finds the water system is not complying with drinking water standards or the terms or conditions of the permit. An authorization for construction, operation or modifications obtained under an emergency permit will not extend beyond the expiration of the emergency permit unless the public water system receives a permit or permit amendment under subsection (e) or (f) for the construction, operation or modification initiated during the emergency.

(2) State and Federal agencies conducting emergency response bulk water hauling operations need not obtain a permit under this subchapter, if a Department-approved source is utilized and adequate monitoring specified by the Department is conducted to assure compliance with the microbiological MCL specified in § 109.1002.

(h) *Department's review*. Applications for public water system permits and permit amendments for bottled water and vended water systems, retail water facilities and bulk water hauling systems will be reviewed in accordance with the following procedures:

(1) Applications will be reviewed in accordance with accepted engineering practices. The approval of plans, specifications and engineer's reports by the Department is limited to the sanitary features of design and other features of public health significance.

(2) The Department will not accept an application for review until the application is determined to be complete. A complete application is one which includes the information specified in this chapter and other information necessary for the Department to ensure compliance with this chapter.

(3) As a condition of receiving a public water system permit, a bottled water system shall comply with the standards of the Food and Drug Administration contained in 21 CFR Part 129. Evidence shall be presented demonstrating compliance with subsection (e)(7)(iii).

(4) In reviewing a permit application under this chapter, the Department may consider the following:

(i) Adherence to standards of the Department in Subchapter F (relating to design and construction standards) and § 109.1006 (relating to design and construction standards).

(ii) Compliance by the proposed project with applicable statutes administered by the Commonwealth, river basin commissions created by interstate compact or Federal environmental statutes or regulations.

(i) *Permit fees.*

(1) An application for a new permit or major permit amendment under subsection (f)(1) for a bottled water or vended water system, retail water facility or bulk water hauling system shall be accompanied by a check in the amount of $750 payable to the "Commonwealth of Pennsylvania," except that:

(i) An application from an out-of-State bottled water system submitting proof of out-of-State approval under subsection (e)(6) shall be accompanied by a fee of $100.

(ii) An application from a bottled water system, retail water facility or bulk water hauling system purchasing finished water, as its sole source of water, from a public water system operating under a permit issued under this chapter, and a vended water system permitted by rule, shall submit a fee of $300.

(2) A fee is not required for an emergency permit under subsection (g) or a minor permit amendment under subsection (f)(2).

§ 109.1007. Labeling requirements for bottled water systems, vended water systems and retail water facilities.

(a) *General labeling requirements.* Containers of bottled water distributed in this Commonwealth by bottled water systems, retail water facilities or, when appropriate, vended water systems, shall have labels which are designed to remain affixed to the container during use and which include the following information as required by this section. Labels with the following information on the caps of bottled water containers designed for reuse by the bottler are deemed to meet this requirement if the Department-issued identification number and the manufacture date, lot or batch number are on the bottle:

(1) The name and address of the water supplier together with the product trade name.

(2) The water source. When finished water is the source, the name of the public water system shall appear on the label.

(3) The Department identification number issued to the bottled or vended water system or retail water facility.

(4) The manufacture date, or a lot or batch number. The manufacturing date, or lot or batch number shall identify a specific set of primary containers or units of the same size, type and style, produced under conditions as nearly uniform as possible. A batch or lot may not extend for longer than 7 days.

(5) Labeling for mineral water shall include the words "mineral water." Mineral water which exceeds the MCL

for total dissolved solids shall include a statement on the label that the product exceeds the MCL for total dissolved solids.

(6) Labeling for artificially-fluoridated water shall include the words "fluoridated water."

(b) *Corporate name and trade name.* A bottled water system, vended water system or retail water facility whose corporate name contains the words "Spring," "Well," "Artesian," "Mineral" or "Natural" or a derivative of those words, shall label each bottle with the trade name in typeface of at least equal size to the typeface of the corporate name.

(c) *Special vending machine label.* The name and address of the water supplier together with the Department identification number shall be provided in a conspicuous location on each machine. When water is prebottled from the water vending machine and made available on the shelf for sale, each container shall be labeled in accordance with subsections (a) and (b).

(d) *Special retail water facility label.* When water is prebottled from the retail water facility and made available on the shelf for sale, each container shall be labeled in accordance with subsections (a) and (b).

§ 109.1008. System management responsibilities.

(a) *Reporting and recordkeeping requirements for bottled water and vended water systems, retail water facilities and bulk water hauling systems.* Bottled water and vended water systems, retail water facilities and bulk water hauling systems shall comply with the reporting requirements in § 109.701(a) and (d) (relating to reporting and recordkeeping).

(1) In addition to the requirements in § 109.701(a) and (d), bottled water and vended water systems, retail water facilities and bulk water hauling systems shall comply with the following requirements:

(i) Annual product monitoring as required under § 109.1003 (relating to monitoring requirements) shall be reported to the Department by December 31 of each year.

(ii) Each bottled water system shall, by December 31 of each year, submit to the Department proof that the system is in compliance with the standards of the Food and Drug Administration in 21 CFR Part 129 (relating to processing and bottling of bottled drinking water) as required by § 109.1009(b) (relating to system operational requirements). Proof shall consist of the report issued by a Nationally-recognized organization which inspects bottled water systems for compliance with 21 CFR Part 129, such as NSF, or another organization, state or country which utilizes an inspection protocol as stringent as NSF's protocols.

(iii) A monthly operational report shall be prepared on forms provided by the Department or in a form acceptable to the Department. The report shall be maintained on file by the operator for at least 2 years and submitted upon request of the Department. The report shall include at least the following:

(A) The water produced daily.

(B) The chemicals added daily.

(C) The physical and chemical determinations taken daily.

(D) The maintenance performed.

(E) The operational problems and how they have been corrected.

(iv) By March 31, an Annual Water Supply Report for the previous calendar year shall be submitted on forms provided by the Department or in a form acceptable to the Department. This report shall include at least the following:

(A) Information related to water produced or hauled for the year.

(B) A summary of sanitary surveys conducted by the water supplier, including, when applicable, updates to the operation and maintenance plan and cross-connection control program.

(C) Updates to the plan for product recall required under subsection (e).

(2) The bottled water, vended water, retail water or bulk water supplier shall retain on the premises of the public water system or at a convenient location near the premises all records in accordance with the schedule in § 109.701(d).

(3) For bottled water systems and, if applicable, vended water systems and retail water facilities, new or additional proprietary labels shall be reported to the Department in writing, along with copies of the labels, within 10 days following production or distribution of the new or additional label product. The new or additional proprietary labels may be submitted to the Department prior to the product production if the water supplier desires initial Department review. The new or additional proprietary labels shall comply with § 109.1007 (relating to labeling requirements for bottled water systems, vended water systems and retail water facilities).

(b) *Operation and maintenance plan requirements.* Bottled water, vended water, retail water and bulk water suppliers shall develop an operation and maintenance plan for each system. The operation and maintenance plan shall conform to the guidelines contained in Part III of the Department's *Public Water Supply Manual* which is available from the Bureau of Water Supply Management, Post Office Box 8467, Harrisburg, Pennsylvania 17105-8467. The water supplier shall implement the operation and maintenance plan in accordance with this chapter, and if appropriate in accordance with accepted practices of the bottled water, vended water, retail water facility or bulk water hauling industry. The plan shall be reviewed and updated as necessary to reflect changes in the operation or maintenance of the water system. The plan shall be bound and placed in locations which are readily accessible to the water system's personnel, and shall be presented upon request to the Department.

(c) *Operator requirements.* Bottled water and vended water systems, retail water facilities and bulk water hauling systems shall have competent personnel qualified to operate and maintain the system's facilities.

(d) *Sanitary survey requirements.* Bottled water and vended water systems, retail water facilities and bulk water hauling systems shall conduct a sanitary survey of the water system at least annually, the survey to include the activities listed in paragraphs (1)—(4). A bottled water, vended water, bulk water hauling system or retail water facility obtaining finished water from a permitted public water system is not required to perform the activities in paragraphs (1) and (2) if the Department determines that there are no potential problems necessitating inspection and evaluation of the source.

(1) Watershed surveillance consisting of an inspection of portions of the drainage area necessary to identify and evaluate actual and probable sources of contamination.

(2) Evaluation of source construction and protection and, when appropriate, withdrawal and transmission facilities.

(3) Treatment facilities inspection consisting of an evaluation of the effectiveness of the operation and maintenance procedures and the condition and operability of permitted facilities.

(4) Evaluation of finished water storage facilities.

(e) *Emergency response requirements.*

(1) A bottled water, vended water, retail water or bulk water supplier who knows or has reason to believe that circumstances exist which may adversely affect the quality of drinking water supplied by the system, shall notify the Department immediately under § 109.1004 (relating to public notification).

(2) The bottled water, vended water, retail water or bulk water supplier shall develop a plan for product recall under emergency circumstances, and submit the plan to the Department for approval. The plan shall:

(i) Identify detailed procedures for implementing product recalls, including emergency communications and notifications.

(ii) Be kept on file in a readily accessible location by the bottled water, vended water, retail water or bulk water supplier.

(iii) Be reviewed and updated at least annually. A copy of the update shall be included in the annual water supply report to the Department under this section.

(f) *Cross-connection control program.* At the direction of the Department, the bottled water, vended water, retail water or bulk water supplier shall develop and implement a comprehensive control program for the elimination of existing cross-connections or the effective containment of sources of contamination, and prevention of future cross connections. A description of the program, including the following information, shall be submitted to the Department for approval:

(1) A description of the methods and procedures to be used.

(2) An implementation schedule for the program.

(3) A description of the methods and devices which will be used to protect the water system.

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