

# PROPOSED RULEMAKING

## ENVIRONMENTAL QUALITY BOARD

### Acceptance of Rulemaking Petition for Study

On August 15, 2017, the Environmental Quality Board (Board) accepted a rulemaking petition for study under 25 Pa. Code Chapter 23 (relating to Environmental Quality Board policy for processing petitions—statement of policy). The petition, submitted by the Delaware Riverkeeper Network, requests the amendment of 25 Pa. Code Chapter 109 (relating to safe drinking water) to establish a maximum contaminant level for Perfluorooctanoic Acid not to exceed six parts per trillion.

Under the Board's acceptance of the petition, the Department of Environmental Protection (Department) will prepare a report evaluating the petition. This report will include a recommendation on whether the Board should proceed with a proposed rulemaking and, if so, the process that the Department would need to undertake to develop a proposed rulemaking.

The previously-referenced petition is available to the public by contacting the Environmental Quality Board, P.O. Box 8477, Harrisburg, PA 17105-8477, (717) 787-4526, and is accessible on the Department's web site at [www.dep.pa.gov](http://www.dep.pa.gov) (select "Public Participation," then "Environmental Quality Board (EQB)," then "2017 Meetings," under "Meeting Agendas/Minutes/Handouts," see "August 15, 2017").

PATRICK McDONNELL,  
*Chairperson*

[Pa.B. Doc. No. 17-1412. Filed for public inspection August 25, 2017, 9:00 a.m.]

### [ 25 PA. CODE CH. 109 ]

#### Safe Drinking Water; General Update and Fees

The Environmental Quality Board (Board) proposes to amend Chapter 109 (relating to safe drinking water) to read as set forth in Annex A. This proposed rulemaking includes three components:

- Incorporate the remaining general update provisions that were separated from the proposed Revised Total Coliform Rule (RTCR) as directed by the Board on April 21, 2015, including amendments to treatment technique requirements for pathogens, clarifications to permitting requirements, and new requirements for alarms, shut-down capabilities and auxiliary power.
- Amend existing permit fees and add new annual fees to supplement Commonwealth costs and fill the funding gap (\$7.5 million).
- Establish the regulatory basis for issuing general permits, clarify that noncommunity water systems (NCWS) require a permit or approval from the Depart-

ment of Environmental Protection (Department) prior to construction and operation, and address concerns regarding gaps in the monitoring, reporting and tracking of back-up sources of supply.

Collectively, this proposed rulemaking will provide for the increased protection of public health by every public water system (PWS) in this Commonwealth, and ensure that the Department has adequate funding to enforce the applicable drinking water laws, meet State and Federal minimum program elements, and retain primacy (primary enforcement authority).

Safe drinking water is vital to maintaining healthy and sustainable communities. Proactively avoiding incidents such as waterborne disease outbreaks can prevent loss of life, reduce the incidents of illness and reduce health care costs. Proper investment in PWS infrastructure and operations helps ensure a continuous supply of safe drinking water, enables communities to plan and build future capacity for economic growth, and ensures their long-term sustainability.

One or more of these proposed amendments will apply to all 8,521 PWSs in this Commonwealth.

This proposed rulemaking was adopted by the Board at its meeting of May 17, 2017.

#### A. *Effective Date*

This proposed rulemaking will go into effect upon final-form publication in the *Pennsylvania Bulletin*. Several provisions are deferred for up to 3 years following promulgation to allow time for operational changes, budgeting or capital improvements.

#### B. *Contact Persons*

For further information, contact Lisa D. Daniels, Director, Bureau of Safe Drinking Water, P.O. Box 8467, Rachel Carson State Office Building, Harrisburg, PA 17105-8467, (717) 787-9633; or William Cumings, Assistant Counsel, Bureau of Regulatory Counsel, P.O. Box 8464, Rachel Carson State Office Building, Harrisburg, PA 17105-8464, (717) 787-7060. Information regarding submitting comments on this proposed rulemaking appears in Section I of this preamble. Persons with a disability may use the Pennsylvania AT&T Relay Service, (800) 654-5984 (TDD users) or (800) 654-5988 (voice users). This proposed rulemaking is available on the Department's web site at [www.dep.pa.gov](http://www.dep.pa.gov) (select "Public Participation," then "Environmental Quality Board (EQB)").

#### C. *Statutory Authority*

This proposed rulemaking is being made under the authority of section 4 of the Pennsylvania Safe Drinking Water Act (SDWA) (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 section 1920-A of The Administrative Code of 1929 (71 P.S. § 510-20), which authorizes the Board to promulgate rules and regulations necessary for the performance of the work of the Department.

#### D. Background and Purpose

The General Assembly found in section 2 of the SDWA (35 P.S. § 721.2) that it is “in the public interest for the Commonwealth to assume primary enforcement responsibility under the Federal Safe Drinking Water Act.” When the SDWA was passed, the purpose was to create a drinking water program to allow the Commonwealth to obtain legal primacy over the Federal program in this Commonwealth.

Under section 5(a) of the SDWA (35 P.S. § 721.5(a)), the Department is the agency delegated authority to implement the Safe Drinking Water Program, including the program elements necessary for the Commonwealth to assume and maintain primary (that is, lead) administration and enforcement authority under the Federal Safe Drinking Water Act (42 U.S.C.A. §§ 300f–300j-27). The Department, through the Bureau of Safe Drinking Water, provides services to over 8,500 PWSs serving over 10 million citizens to ensure compliance with the SDWA and the Federal Safe Drinking Water Act. The Board is proposing amendments governing the provision of drinking water to the public to continue to implement critical program activities in accordance with applicable Federal and State law requirements.

#### Part I—General update provisions

This proposed rulemaking incorporates the remaining general update provisions that the Board previously determined should be proposed in a separate rulemaking. These general updates are intended to:

- Clarify the source water assessment, source water protection area and source water protection program elements and requirements.
- Amend the treatment technique requirements for pathogenic bacteria, viruses and protozoan cysts by adding specific turbidity performance requirements for membrane filtration.
- Amend the disinfection profiling and benchmarking requirements to clarify that all PWSs using filtered surface water or groundwater under the direct influence of surface water (GUDI) shall consult with the Department prior to making significant changes to disinfection practices to ensure adequate *Giardia* inactivation is maintained.
- Amend and clarify the monitoring, calibration, recording and reporting requirements for the measurement of turbidity.
- Amend the permit requirements to clarify the components that must be included in a permit application for a new source, including a source water assessment, predrilling plan, evaluation of water quantity, and quality and hydrogeologic report.
- Amend the design and construction standards to require PWSs using surface water or GUDI sources to be equipped with alarm and shutdown capabilities. These provisions would be required for plants that are not staffed continuously while the plant is in operation.
- Clarify that treatment technologies shall be certified for efficacy through an approved third party.
- Update the system management requirements for community water systems (CWS) to strengthen system service and resiliency by requiring auxiliary power or an alternate provision such as finished water storage or interconnections.

- Clarify system management responsibilities relating to source water assessments and sanitary surveys.

- Amend the corrective action time frames in response to a significant deficiency for PWSs using groundwater and surface water sources to be consistent.

- Delete the provision that allows a PWS to avoid the requirement for a corrective action by collecting five additional source water samples after an *E. coli*-positive triggered source water sample.

#### *Proposed amendments to source water assessment and protection program*

The proposed source water assessment and protection amendments will not only protect public health, but should also help to maintain, reduce or avoid drinking water treatment costs. Source water protection represents the first barrier to drinking water contamination. A vulnerable drinking water source puts a water utility and the community it serves at risk and at a disadvantage in planning and building future capacity for economic growth. Contamination of a CWS source is costly for the water supplier and the public. For example, it is estimated that the total cost of the Walkerton, Ontario, *E. coli* contamination incident was \$64.5 million. Livernois, J. (2001), “The Economic Costs of the Walkerton Water Crisis.” In addition to increased monitoring and treatment costs for the water system, a contaminated source may result in costs associated with containment or remediation, legal proceedings, adverse public health and environmental effects, reduced consumer confidence, diminished property values and costs to replace the contaminated source.

A Texas A&M study (1997) showed that water suppliers in source water areas with chemical contaminants paid \$25 more per million gallons to treat drinking water than suppliers in areas without chemical contaminant detections. The study also showed that for every 4% increase in source water turbidity (an indicator of water quality degradation from sediment, algae and microbial pathogens), treatment costs increase by 1% (Trust for Public Land, 2002). A study by the Legislative Budget and Finance Committee (2013) stated that “reducing pollution inputs from pipes and land-based sources can reduce locality costs to treat drinking water sources to safe standards.” Similarly, a study by the Brookings Institute suggested that a 1% decrease in sediment loading will lead to a 0.05% reduction in water treatment costs. Source water assessments can support and enhance emergency response, improve land use planning and municipal decisions, complement sustainable infrastructure initiatives, and help prioritize and coordinate actions by Federal and State agencies to better protect public health and safety.

The need to understand and update potential threats to public drinking water sources, as well as ways to minimize those threats, was underscored by the January 2014 chemical spill in West Virginia that impacted the drinking water for 300,000 people. Currently, of the 10.6 million people served by CWSs in this Commonwealth, 7.7 million people are covered by local source water protection programs that have been substantially implemented. “Substantial implementation” is a term referenced in the United States Environmental Protection Agency (EPA) work plans that indicates a measure of progress relative to source water protection efforts. This proposed rulemaking will help ensure that the remaining nearly 3 million people also benefit from local source water protection efforts.

*Proposed amendments to surface water treatment requirements*

The proposed amendments to surface water treatment requirements will benefit more than 8 million Pennsylvanians who are supplied with water by PWSs utilizing filtration technologies. The proposed amendments to the filtration requirements ensure identification and correction of problems at the plant before a turbidity exceedance occurs or escalates. The EPA describes turbidity as “. . . a measure of the cloudiness of water. It is used to indicate water quality and filtration effectiveness (such as whether disease-causing organisms are present). Higher turbidity levels are often associated with higher levels of disease-causing microorganisms such as viruses, parasites and some bacteria. These organisms can cause symptoms such as nausea, cramps, diarrhea, and associated headaches.” National Primary Drinking Water Regulations (EPA 816-F-09-004, May 2009). This proposed rulemaking will ensure that PWSs consistently produce water that meets turbidity standards to help ensure the delivery of safe and potable water to all users.

This proposed rulemaking is intended to reduce the public health risks regarding waterborne pathogens and waterborne disease outbreaks. Costs regarding waterborne disease outbreaks are extremely high. For example, the total medical costs and productivity losses associated with the 1993 waterborne outbreak of cryptosporidiosis in Milwaukee, WI, was \$96.2 million: \$31.7 million in medical costs and \$64.6 million in productivity losses. The average total cost per person with mild, moderate, and severe illness was \$116, \$475 and \$7,808, respectively. Corso, P.S., et al. (2003), “Cost of Illness in the 1993 Waterborne *Cryptosporidium* Outbreak, Milwaukee, Wisconsin,” *Emerging Infectious Diseases*, 9(4), 426–431.

When problems such as rapid changes in source water quality, treatment upsets requiring a filter backwash or other unforeseen circumstances occur at filter plants, an immediate response from water plant operators is needed. This proposed rulemaking will ensure that operators are promptly alerted to major treatment problems or, if an operator is unable to respond, that the plant will automatically shutdown when producing inadequately treated water. Therefore, this proposed rulemaking will prevent violations that pose an imminent threat to consumers, reduce PWS costs regarding issuing public notice, reduce costs to the community and maintain consumer confidence.

*Proposed amendments to system service and auxiliary power requirements*

The proposed amendments to system service and auxiliary power requirements will strengthen system resiliency and ensure that safe and potable water is continuously supplied to consumers and businesses. A continuous and adequate supply of safe drinking water is vital to maintaining healthy and sustainable communities.

PWS sources and treatment facilities in this Commonwealth are susceptible to emergency situations resulting from natural and manmade disasters. Examples of emergencies from recent years include tropical storms, flooding, high winds, ice, snow, industrial chemical plant runoff, pipeline ruptures and transportation corridor

spills. These emergencies have resulted in significant impacts to consumers and businesses due to inadequate water quantity or quality, and required water supply warnings and advisories. For example, in 2011, Hurricane Irene and Tropical Storm Lee caused flooding, water line ruptures and power outages resulting in mandatory water restrictions and boil water advisories (BWA) at 32 PWSs in this Commonwealth. In 2012, Hurricane Sandy caused similar problems at 85 CWSs. Most of the impacted systems were small systems where redundancy and back-up systems were lacking. By comparison, systems with redundancy and adequate planning maintained operations until the power was restored with little negative impact to their customers. Countless incidents at individual CWSs have occurred due to localized emergencies with interruptions in potable drinking water service that could have been prevented if adequate preparation and equipment were available.

In addition, numerous wastewater treatment plants were forced to send untreated sewage to waterways in this Commonwealth during these major weather events. PWSs that use these waterways as a source of supply were at an increased risk due to extremely elevated turbidity levels and pathogen loading. Effectively treating drinking water during and after emergencies requires increased vigilance and operational control.

Water outages caused by power failures or other emergencies can cause additional adverse effects including:

- Lack of water for basic sanitary purposes, such as hand-washing and flushing toilets.
- Increased risk to public health when water systems experience a sharp reduction in supply, which can result in low or no pressure situations within the distribution system. Low pressure can allow intrusion of contaminants into distribution system piping from leaks, and backflow from cross connections.
- Dewatering of the distribution system can result in physical damage to pipes when the system is re-pressurized. This situation is exacerbated due to the Nationwide problem with aging infrastructure.

This proposed rulemaking improves the reliability of service provided to all consumers by requiring the development of a feasible plan to consistently supply an adequate quantity of safe and potable water during emergency situations. More specifically, water suppliers will need to provide onsite auxiliary power sources (that is, generators) or connection to at least two independent power feeds from separate substations, or develop a plan for alternate provisions, such as interconnections with neighboring water systems or finished water storage capacity. Ideally, water systems will implement a combination of options to improve their redundancy and resiliency.

*Part II—New annual fees and proposed amendments to permit fees*

*Funding necessary to provide services*

The Department is required to adopt and implement a public water supply program under section 5(a) of the SDWA that includes maximum contaminant levels (MCL) or treatment technique requirements establishing drinking water quality standards, monitoring, reporting, recordkeeping and analytical requirements, requirements

for public notification, standards for construction, operation and modification to PWSs, emergency procedures, standards for laboratory certification, and compliance and enforcement procedures. These functions and services are required to have an approvable program and maintain primacy from the EPA. Services provided by the Department to maintain compliance with section 5(b) of the SDWA, as well as regulations in Chapter 109 and permits issued, include: monitoring and inspection; maintaining an inventory of PWSs in this Commonwealth; conducting systematic sanitary surveys of public water supply systems; assuring the availability of laboratories certified to analyze drinking water for all contaminants specified in the drinking water standards; reviewing and approving plans and specifications for the design and construction of new or substantially modified PWSs to deliver water that complies with drinking water standards with sufficient volume and pressure to users of the systems; and issuing orders and taking other actions necessary and appropriate for enforcement of drinking water standards.

The proposed fees in this proposed rulemaking are necessary to ensure adequate funding for the Department to carry out its responsibilities under the SDWA and the Federal Safe Drinking Water Act. This Commonwealth is ranked third in the United States, with 8,521 PWSs across this Commonwealth. The Department is responsible for regulating all PWSs and ensuring that safe and potable drinking water is continuously supplied to the 10.7 million customers they serve.

The Department's appropriations from the General Fund have decreased in recent years while the cost of staff salaries and benefits, as well as other operation costs, have increased. The result has been an overall decrease in staffing for the Safe Drinking Water Program of 25% since 2009. As discussed in more detail as follows, these staff reductions have led to a steady decline in the Department's performance of services necessary to ensure compliance with SDWA requirements. Based on the current funding level of \$19.7 million, approximately \$7.5 million in additional funding is necessary to increase staffing to provide necessary services.

The minimum critical services that the Safe Drinking Water Program must provide to administer the SDWA and its regulations include:

- Conducting surveillance activities, such as sanitary surveys and other inspections.
- Collecting and analyzing drinking water samples.

- Determining compliance with regulations, a permit or order.
- Taking appropriate enforcement actions to compel compliance.
- Reviewing applications, plans, reports, feasibility studies and special studies.
- Issuing permits.
- Conducting evaluations, such as filter plant performance evaluations (FPPE) and other site surveys.
- Tracking, updating and maintaining water supply inventory, sample file and enforcement data in various data management systems.
- Meeting and assuring compliance with all Commonwealth and Federal recordkeeping and reporting requirements.
- Conducting training.
- Providing technical assistance.
- Responding to water supply emergencies.

Failure to provide these fundamental services may result in an increased risk to public health as well as the loss of approval from the EPA for the Department to serve as the primary enforcement agency for the administration of the Safe Drinking Water Program in this Commonwealth under Federal law.

The Board has the authority under section 4 of the SDWA to establish fees for services that bear a reasonable relationship to the actual cost of providing the services. The Board must also consider the impacts of the proposed fees on small businesses as part of the regulatory analysis required under section 5 of the Regulatory Review Act (71 P.S. § 745.5). Sixty-eight percent of the water systems in this Commonwealth are considered small businesses.

The fees in this proposed rulemaking will provide the Department with funding necessary to properly administer the SDWA consistent with the actual cost of services provided in a manner that minimizes the adverse impact on water systems with fewer customers to bear the cost.

*Recent decline in Department staff and services*

The number of sanitary surveys (full inspections) conducted by the Department has steadily declined since 2009. The Federally-mandated inspection frequency is every 3 years for CWSs and every 5 years for NCWSs.

<i>SDW Measure</i>	<i>FY 09-10</i>	<i>FY 10-11</i>	<i>FY 11-12</i>	<i>FY 12-13</i>	<i>FY 13-14</i>	<i>FY 14-15</i>	<i>FY 15-16</i>
Number of sanitary surveys	3,177	2,271	2,553	2,310	2,181	2,415	1,847

(Source: Governor's Office Performance Measures; data source: Environment Facility Application Compliance Tracking System (eFACTS))

The number of overdue inspections has ranged from 448 to 703 in the last 6 years. Failure to conduct routine and timely inspections may mean that serious violations are not being identified. In 2015, all six Department regions had overdue inspections. The range of overdue inspections was 2.4% to 11.5%. The total number of systems with overdue inspections was 542. The Federal Public Water System Supervision (PWSS) Grant and primacy measure for inspection frequency has not been met.

<i>SDW Measure</i>	<i>FY 10-11</i>	<i>FY 11-12</i>	<i>FY 12-13</i>	<i>FY 13-14</i>	<i>FY 14-15</i>	<i>FY 15-16</i>
Number of overdue inspections	703	551	458	448	492	542

(Source: eFACTS and Pennsylvania Drinking Water Information System (PADWIS))

The reduction in staffing levels and inability to conduct routine and timely inspections because of funding shortfalls may be contributing to the overall declining trend in PWS compliance rates. For the last 4 years, the percentage of CWSs that met health-based drinking water standards fell short of the goal of 95%.

<i>SDW Measure</i>	<i>FY 09-10</i>	<i>FY 10-11</i>	<i>FY 11-12</i>	<i>FY 12-13</i>	<i>FY 13-14</i>	<i>FY 14-15</i>	<i>FY 15-16</i>
Percentage of CWSs that meet health-based drinking water standards	97%	97%	97%	91%	92%	92%	91%

(Source: Governor’s Office Performance Measures; data source: PADWIS)

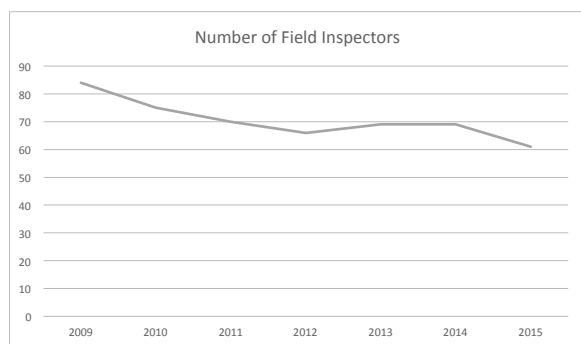
Per the Department’s Annual Compliance Report for 2015, PWSs continue to exceed health-based MCL, maximum residual disinfectant levels (MRDL) and treatment technique requirements for arsenic, radionuclides, volatile organic chemicals, disinfection byproducts, nitrate/nitrite and pathogens, and for failure to adequately treat drinking water for contaminants such as lead.

The number of unaddressed violations has also continued to increase. In 2015, 3 of 6 Department regions had more than 500 violations that had not been returned to compliance within 180 days or addressed through formal enforcement. Unaddressed violations are tracked over a 5-year period because it generally takes several years to return MCL violations to compliance.

<i>SDW Measure</i>	<i>FY 05-10</i>	<i>FY 06-11</i>	<i>FY 07-12</i>	<i>FY 08-13</i>	<i>FY 09-14</i>	<i>FY 10-15</i>
Number of unaddressed violations	4,298	4,746	5,536	6,849	6,353	7,922

(Source: PADWIS)

Performance is directly tied to the mandated workload and available resources for the Safe Drinking Water Program. Overall, staffing levels are down by 25% since 2009.



Therefore, the Department’s workload has steadily increased since 2009. Per a workload analysis, the recommended number of PWSs/sanitarian was determined to be 100—125 to ensure completion of mandated inspections, review of PWS self-monitoring data, compliance and enforcement determinations, maintenance of PADWIS and eFACTS, review of monitoring plans, emergency response plans, assessments and waivers. In 2009, the Department’s average workload was within the recommended range at 118 PWSs/sanitarian. In 2015, five of six Department regions exceeded the recommended workload. The recommended workload has been exceeded in at least four of six Department regions for the last 3 years. Per a 2012 Association of State Drinking Water Administrators (ASDWA) survey, the National range and average of PWSs/inspector is 45—140 and 67, respectively. All Department regions far exceed the National average.

Region	Number of PWSs			Number of Sanitarians			Sanitarian Workload (Number of PWSs/Sanitarians)		
	2009	2014	2015	2009	2014	2015	2009	2014	2015
1—SERO	1,062	911	911	9	7	6	118	130	152
2—NERO	2,973	2,555	2,559	23	20	19	129	128	135
3—SCRO	2,596	2,400	2,408	21	14	13	124	171	185
4—NCRO	1,115	937	941	10	7	6	112	134	157
5—SWRO	879	680	694	10	8	6	88	78	105
6—NWRO	1,302	1,211	1,205	11	9	7	118	117	158
Totals	9,927	8,694	8,718	84	65	57	118 average	134 average	153 average

Final numbers for Fiscal Year 2016-2017 will be finalized by the end of August 2017. Currently, the number of sanitarian positions is 61. This workforce includes 43 sanitarians, 11 trainees and 7 vacancies. Due to the ever-increasing complexity of the drinking water program, trainees are not considered adequately trained until they have at least 2 years of experience. In addition, due to a Department-wide complement reduction, it is unclear if or when the drinking water program will receive approval to fill the seven vacancies. Therefore, the actual available workforce is 54 sanitarians with a workload of 158 PWSs/sanitarian. Of those 54 sanitarians, 26 have 4 years or less of experience.

Performance issues and concerns have been well documented by the EPA since 2009:

- EPA Region III PWSS Program Review for Department Bureau of Water Standards and Facility Regulation (July 2009)—identified the impacts of a 2008 hiring freeze that prevented the filling of vacancies to reach the full additional complement and led to inadequate training of field staff. These problems continue today.

- EPA Region III Review of the Bureau of Safe Drinking Water (December 2012)—identified that the Department was unsuccessful at retaining all allocated drinking water full-time employees as of June 2009 due to budget cuts and increasing costs. Further, the report documented that the number of field inspectors was down by 20% since June 2009. The report also found that because of staffing cuts, the Department had a backlog of required sanitary surveys (full inspections) and a backlog of PADWIS programming modifications and reports.

- Program performance is currently under review by EPA Region III. An EPA letter dated December 30, 2016, further documents the Department's poor performance. Per the letter, the EPA's concerns include the following:

- o Programmatic requirements are not being met in a complete and timely manner. Minimum program requirements must be met for the Commonwealth to maintain primacy for the Safe Drinking Water Program.

- o The Department's average of 149 PWSs/sanitarian is more than double the ASDWA National average. The EPA cautions the Department that this kind of excessive workload is not sustainable and program performance will continue to suffer.

- o The Department failed to meet the Federal requirement for sanitary surveys, which can have serious public health implications as major violations could be going unidentified.

- o In November 2016, the EPA conducted a file review of the Commonwealth's Lead and Copper Rule. The EPA

is currently reviewing the information collected. The EPA intends to highlight insufficient program personnel in its findings and recommendations.

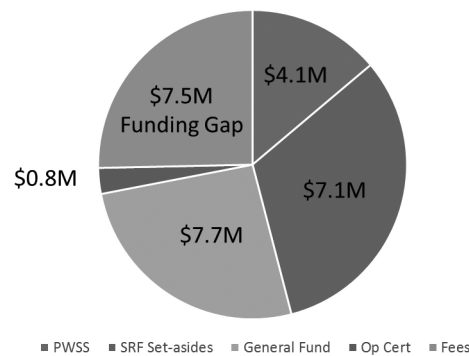
- o The EPA is encouraged by the Department's proposed rulemaking to increase program funding and is hopeful that the Drinking Water Program will receive the necessary resources to improve program performance and reduce personnel shortfalls.

- o A written action plan was due to the EPA within 60 days of the letter (by February 28, 2017). The Department sent a response to the EPA on February 24, 2017. Failure to meet minimum program elements may jeopardize the EPA's approval of the Department's authority to enforce the Federal law.

*Current Safe Drinking Water Program funding*

The current funding available to administer the Safe Drinking Water Program from State and Federal sources is \$19.7 million. The proposed fees are expected to generate approximately \$7.5 million, which would allow the Safe Drinking Water Program to restore staffing levels and reverse the decline in services that has occurred since 2009. The proposed fees would provide nearly 50% of the Commonwealth's share of funding for the Safe Drinking Water Program. The remaining portion of the Commonwealth's share (\$7.7 million) would be provided through annual General Fund appropriations. If General Funds do not keep pace with program costs, a funding gap could remain even with this proposed rulemaking.

SDW Program Costs and Funding



Federal sources currently provide approximately \$11.2 million to fund the Safe Drinking Water Program, including:

- PWSS (\$4.1 million)—used for personnel costs, lab costs and staff training

- State Revolving Fund set-asides (\$7.1 million)—used for personnel costs, capability enhancement programs (training, technical assistance and optimization programs), source water assessment and protection, PADWIS and assistance grants/contracts

The Commonwealth currently provides approximately \$8.5 million to fund the Safe Drinking Water Program through the following sources:

- General Fund appropriations (~\$7.7 million)—used for personnel costs

- Operator Certification fees (\$0.8 million)—used for Operator Certification Program implementation costs

With the addition of the \$7.5 million expected to be generated from this proposed rulemaking, the funds available for the Safe Drinking Water Program would total \$27.2 million.

*Proposed annual fees and permit fee increases*

The proposed fees apply to all 8,521 PWSs, which include 1,952 CWSs, 6,397 NCWSs and 172 bottled, vended, retail and bulk water hauling systems (BVRB). The proposed annual fees range from \$250 to \$40,000 for CWSs, \$50 to \$1,000 for NCWSs and \$1,000 to \$2,500 for BVRBs. If passed on to their customers, these annual fees

would result in an increase in cost ranging from \$0.35 to \$10 per year, depending on the water system size. Further explanation of the proposed annual fees is provided in the Summary of Regulatory Requirements section of this preamble regarding § 109.1402 (relating to annual fees). The proposed increased permit fees range from \$100 to \$10,000 depending on the population served and whether the permit is for major or minor construction. The current permit fees range from \$125 to \$1,750. This proposed rulemaking provides for a review of the fee structure every 3 years to ensure that the fees continue to adequately supplement the cost of maintaining the Safe Drinking Water Program.

As provided in section 14 of the SDWA (35 P.S. § 721.14), all fees would be paid into the State Treasury into a special restricted revenue account in the General Fund known as the Safe Drinking Water Account administered by the Department. The funds may only be used for purposes as authorized under the SDWA.

*Comparison to annual fees in other states*

At least 26 states charge annual fees to augment the cost of their drinking water programs. Some states charge a flat fee based on the PWS type and size. Other states charge a fee based on population served or the number of service connections. Annual fees for these 26 states range from \$25 to \$160,000 and are summarized as follows.

<i>Summary of PWS Fees Levied by Other States as of January 2017</i>	
<i>State</i>	<i>Fee</i>
Alaska	18 AAC § 80.1910 Type: Fee for service Examples: Sanitary survey—\$398 to \$585 for 1st source + \$117 for each additional source, other inspections—\$64/hour
Arkansas*	AC § 20-28-104(a) Type: Annual fee CWSs and Nontransient NCWSs: Based on number of connections—\$0.30/connection/month, minimum fee = \$250 Transient NCWSs: \$125
California	22 CCR, Division 4, Chapter 14.5, § 64305 Type: Annual fee CWSs: minimum \$250 or \$6/connection (fee per connection on declining tiered scale from \$6 to \$1.35) Nontransient NCWSs: Minimum \$456 or \$2/person Transient NCWSs: \$800
Colorado	CRS § 25-1.5-209 Type: Annual fee CWSs: Based on population Surface Water: Ranges from \$75—\$21,630 Ground Water: Ranges from \$75—\$4,450 Nontransient NCWSs: Ranges from \$75—\$4,450 Transient CWSs: Ranges from \$75—\$3,960
Delaware*	16 Del. Code § 135(b)(1) Type: Annual fee CWSs: Based on number of service connections, ranges from \$50—\$3,000 Nontransient NCWSs: \$50 Transient NCWSs: \$25
Florida	FAC § 62-4.053 Type: Annual fee CWSs: Based on permitted design capacity, ranges from \$100—\$6,000 Nontransient NCWSs: \$100 Transient NCWSs: \$50

<i>Summary of PWS Fees Levied by Other States as of January 2017</i>																
<i>State</i>	<i>Fee</i>															
Idaho	IAC § 58.01.08-010 Type: Annual fee CWSs and Nontransient NCWSs: Based on number of connections— 1—20: \$100 21—184: \$5/connection, maximum \$735 185—3,663: \$4/connection, maximum \$10,988 >3,664: \$3/connection Transient NCWSs: \$25															
Indiana	IC § 13-18-20.5-2 Type: Annual fee CWSs: Based on number of connections— < 400 connections: \$350 ≥ 400 connections: \$0.95/connection Nontransient NCWSs: Based on population—ranges from \$150—\$300 Transient NCWSs: Based on source water type—ranges from \$100—\$200															
Kansas	K.A.R. 28-15-12 Type: Annual fee CWSs: Capped at \$0.002 per 1,000 gallons of water sold															
Louisiana*	Act 605 of 2016 Type: Annual fee CWSs: Based on number of connections—\$12/connection															
Maine	§ 10-144, CMR Chapter 231, § 1-A Type: Annual fee Base Fee (\$75) + (\$0.45 (per capita rate) × (pop)) Cap = \$30,000															
Massachusetts	MGL, Chapter 21A, Section 18A Type: Annual fee PWSs: Metered—minimum \$20, \$8.50/million gallons used Unmetered—\$50—\$250 based on population															
Michigan	MI SDWA, 1976, PA 399 Type: Annual fee CWSs: Based on population, ranges from \$400—\$134,000 Nontransient NCWSs: \$575 Transient NCWSs: \$135															
Minnesota*	Minnesota Statutes 2009, § 144.3831 Type: Annual fee CWSs: Based on number of connections—\$6.36/connection															
Mississippi*	MS ST § 41-26-23 Type: Annual fee CWSs: Based on number of connections—\$3/connection, cap = \$40,000															
Missouri*	RSMO § 640.100.8 Type: Annual fee CWSs only: Based on number of connections, whether connections are metered and the size of the meters; \$1.08—\$3.24/connection															
Montana	ARM § 17.38.248 Type: Annual fee CWSs: Based on number of connections—\$2/connection, minimum fee is \$100 Nontransient NCWSs: \$100 Transient NCWSs: \$50															
New Jersey	NJAC § 7:10-15 Type: Annual fee CWSs only: Based on population and whether system has treatment— <table border="0" style="margin-left: 40px;"> <tr> <td></td> <td style="text-align: center;">w/o treatment</td> <td style="text-align: center;">w/t</td> </tr> <tr> <td>25—999</td> <td style="text-align: center;">\$60</td> <td style="text-align: center;">\$120</td> </tr> <tr> <td>1,000—9,999</td> <td style="text-align: center;">\$360</td> <td style="text-align: center;">\$720</td> </tr> <tr> <td>10,000—49,999</td> <td style="text-align: center;">\$790</td> <td style="text-align: center;">\$1,580</td> </tr> <tr> <td>&gt;50,000</td> <td style="text-align: center;">\$1,640</td> <td style="text-align: center;">\$3,280</td> </tr> </table>		w/o treatment	w/t	25—999	\$60	\$120	1,000—9,999	\$360	\$720	10,000—49,999	\$790	\$1,580	>50,000	\$1,640	\$3,280
	w/o treatment	w/t														
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1,000—9,999	\$360	\$720														
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>50,000	\$1,640	\$3,280														



<i>Summary of PWS Fees Levied by Other States as of January 2017</i>																
<i>State</i>	<i>Fee</i>															
North Carolina	NC ST § 130A-328 Type: Annual fee CWSs: Based on population, fee ranges from \$255—\$5,950 Nontransient NCWSs: \$150															
Ohio	R.C. § 3745.11 Type: Annual fee CWSs: Based on sliding scale of number of connections, minimum \$112; for 100 or more connections, fee ranges from \$0.76—\$1.92/connection Number of connections 278 (pop=750) \$534 1,222 (pop=3,300) \$2,346 3,704 (pop=10,000) \$5,482 18,518 (pop=50,000) \$20,370 92,592 (pop=250,000) \$85,185 Nontransient NCWSs: Ranges from \$112—\$16,820 Transient NCWSs: Ranges from \$112—\$792															
Oklahoma	OAC § 631-3-21 Type: Annual fee All PWSs: Flat fee for inspections + flat fee for SDWA activities + lab costs Groundwater \$100 + \$1,600 + Surface water \$200 + \$6,800 +															
Rhode Island	R46-13-DWQ Type: Annual License Fee CWSs: Based on number of connections—\$1.50 per connection, ranges from \$330—\$32,500 Nontransient NCWSs: \$330 Transient NCWSs: \$200															
South Carolina	S.C. Code of Regulations R. 61-30.G(2) Type: Annual fee CWSs and Nontransient NCWSs: Three components: Administration + Distribution Monitoring + Source Monitoring Costs for admin only: <table border="0"> <thead> <tr> <th># Connections</th> <th>Base amount + rate/tap</th> <th>Total Fee</th> </tr> </thead> <tbody> <tr> <td>278 (pop=750)</td> <td>\$769 + \$3.85/tap</td> <td>\$1,839</td> </tr> <tr> <td>1,222 (pop=3,300)</td> <td>\$3,749 + \$1.96/tap</td> <td>\$6,144</td> </tr> <tr> <td>18,518 (pop=50,000)</td> <td>\$23,389 + \$0.46/tap</td> <td>\$31,907</td> </tr> <tr> <td>92,592 (pop=250,000)</td> <td>\$35,239 + \$0.17/tap</td> <td>\$50,979</td> </tr> </tbody> </table> Transient NCWSs: \$275	# Connections	Base amount + rate/tap	Total Fee	278 (pop=750)	\$769 + \$3.85/tap	\$1,839	1,222 (pop=3,300)	\$3,749 + \$1.96/tap	\$6,144	18,518 (pop=50,000)	\$23,389 + \$0.46/tap	\$31,907	92,592 (pop=250,000)	\$35,239 + \$0.17/tap	\$50,979
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92,592 (pop=250,000)	\$35,239 + \$0.17/tap	\$50,979														
Texas	30 The TAC § 290.51 Type: Annual fee CWSs and NTNCWSs: Based on number of connections— <25 \$200 25—160 \$300 ≥161 \$4/connection Transient NCWSs: \$100															
Virginia	12VAC5-600-50 to 110 Type: Annual fee CWSs: Based on number of connections—\$3/connection, cap = \$160,000 # Connections 278 (pop=750) \$834 1,222 (pop=3,300) \$3,666 18,518 (pop=50,000) \$55,554 92,592 (pop=250,000) \$160,000 Nontransient NCWSs: \$90															
Washington	WAC 246-290-070 Type: Annual fee Based on number of connections—cap = \$100,000 Base fee + per connection fee \$100 + \$1.05 to \$1.30															

\* Indicates a state where a portion of the annual fee goes towards monitoring costs in addition to administrative costs to run the drinking water program.

*Part III: Additional amendments*

This proposed rulemaking will amend other sections of Chapter 109 to:

- Establish the regulatory basis for the issuance of general permits for high volume, low risk modifications or activities to streamline the permitting process.
- Clarify that NCWSs that are not required to obtain a permit shall still obtain Department approval of the facilities prior to construction and operation.
- Address concerns regarding gaps in the monitoring, reporting and tracking of back-up water sources and entry points. Per State and Federal regulations, all sources and entry points shall be included in routine compliance monitoring to ensure water quality meets safe drinking water standards. Sources and entry points that do not provide water continuously are required to be monitored when used. However, monitoring requirements for back-up sources are not currently tracked, which means verifiable controls are not in place to ensure that all sources and entry points meet safe drinking water standards. Some of these sources have not been used in at least 5 years and, therefore, the Department does not know the water quality for these sources. In addition, the treatment facilities and other appurtenances associated with these sources may have gone unused and may no longer be in good working order. This proposed rulemaking will ensure that all sources and entry points are monitored at least annually. PWSs will also be required to document in a comprehensive monitoring plan how routine compliance monitoring will include all sources and entry points.

This proposed rulemaking was presented to the Technical Assistance Center for Small Drinking Water Systems (TAC) on November 14, 2016. The TAC met on January 5, 2017, to continue its review and provide comments. Final comments were received on January 23, 2017. The TAC made several recommendations, some of which were incorporated into this proposed rulemaking. Other recommendations were incorporated into this preamble as a means to solicit further public comment. Refer to Section E for more information about the TAC's comments and recommendations.

*E. Summary of Regulatory Requirements*

*§ 109.1. Definitions*

Definitions are proposed to be added for "PDWEP," "source water assessment," "source water protection area," "source water protection program," "surface water intake protection area" and "surface water intake protection program." Amendments are proposed to the existing definitions of "wellhead protection area" and "wellhead protection program." Except for "PDWEP," these terms are necessary to clarify source water protection requirements in the Federal Safe Drinking Water Act.

Regarding the definition of "surface water intake protection area," the TAC recommended that the Department take measures to protect the confidentiality of source water and intake locations consistent with the Public Utility Confidential Security Information Disclosure Protection Act (35 P.S. §§ 2141.1—2141.6) and the Right-to-Know Law (65 P.S. §§ 67.101—67.3104). The Department avers that source locational information is protected consistent with these laws.

*§ 109.5. Organization of chapter*

This section is proposed to be amended to add a cross-reference to proposed Subchapter N (relating to drinking water fees).

*§ 109.202. State MCLs, MRDLs and treatment technique requirements*

Subsection (c)(1)(i)(A)(V) is proposed to be added to require PWSs to achieve, within 1 year of the effective date of adoption of the final-form rulemaking, filtered water turbidity of less than or equal to 0.30 Nephelometric Turbidity Unit (NTU) in at least 95% of the measurements taken each month under § 109.301(1) (relating to general monitoring requirements), and less than or equal to 1.0 NTU at all times measured under § 109.301(1).

The TAC commented that "the federal turbidity requirement is 0.3 NTU, not 0.30 NTU." The TAC claimed that "adding a zero to the MCL is not based on science (see Standard Methods methodology regarding significant figures). The same issue applies to establishing the turbidity limit of 1.0 NTU." The TAC asserted "it should be 1 NTU per the EPA limit." The TAC further referenced "the formal public comment regarding significant figures by Jeanne VanBriesen, Professor, Carnegie Mellon University," which was "provided to DEP on the proposed Disinfection Requirements Rule."

The Department avers that the proposed amendments to the turbidity standard are warranted. Turbidity is a surrogate measurement for pathogen breakthrough, primarily for the acute pathogen *Cryptosporidium*. As turbidity increases, particle (and pathogen) breakthrough increases. This relationship is well established and accepted by the industry. In addition, industry expert research indicates that as filter effluent turbidity increases from baseline levels, the risk of *Cryptosporidium* breakthrough also increases. For example, several peer reviewed studies have specifically documented significant reduction in *Cryptosporidium* removal during breakthrough filtration as compared to stable operation. Huck, P.M., et al. (2002), "Effects of Filter Operation on *Cryptosporidium* Removal," *Journal—American Water Works Association*, 94(6), 97—111. Emelko, M.B., Huck, P.M. and Douglas, I.P. (2003) "*Cryptosporidium* and Microsphere Removal During Late In-Cycle Filtration," *Journal—American Water Works Association*, 95(5), 173—182.

Per Department records, the large majority of filter plants in this Commonwealth typically produce water that is less than 0.10 NTU. Water suppliers may be most challenged at meeting the lower turbidity standard when they are experiencing significant increases in turbidity. The intent of the proposed amendments is that water suppliers will be able to take the necessary corrective actions (for example, remove filter from service) earlier if they are experiencing significant treatment issues. When water suppliers take timely corrective actions, higher turbidity water is prevented from reaching consumers, and violations are avoided.

Additionally, the Department asserts that it is appropriate to "add zeros" for some drinking water standards where the level of sensitivity is warranted by the analytical method. In fact, several Federal drinking water standards end with a zero, including fluoride (4.0 mg/L), arsenic (0.010 mg/L), total trihalomethanes (0.080 mg/L), haloacetic acids (0.060 mg/L), bromate (0.010 mg/L), chlorite (1.0 mg/L), chlorine (4.0 mg/L) and chloramine (4.0 mg/L). Per EPA Water Supply Guidance 20 (1981), the EPA states that all MCLs are expressed in the number of significant digits permitted by the precision and accuracy of the specified analytical procedures. The EPA considers all digits within the MCL to be significant for purposes of determining compliance. For example, the

EPA issued very clear guidance for the arsenic rule regarding how to determine compliance with the MCL of 0.010 mg/L. Results that are equal to or greater than 0.0105 mg/L are rounded to the nearest 0.001 mg/L and constitute a violation of the MCL. Regarding turbidity monitoring and recording devices, the instrumentation and method can produce precise and accurate results to the thousandths decimal (for example, 0.000) as evidenced by the manufacturer's specifications. Therefore, the improved sensitivity is warranted, and the proposed amendments will improve public health protection.

Subsection (c)(1)(i)(C) is proposed to be added to include specific treatment technique requirements for membrane filtration. These standards are consistent with the results of pilot testing conducted throughout this Commonwealth, recommendations by the EPA in the Membrane Filtration Guidance Manual (EPA 815-R-06-009, November 2005), as well as recommendations made by equipment manufacturers. These standards were previously applied through special permit conditions. Certified operators have consistently maintained the proposed levels of performance at membrane filter plants throughout this Commonwealth. When deviations from this performance have occurred, follow-up investigations revealed the need for repairs to this treatment barrier.

#### § 109.204. *Disinfection profiling and benchmarking*

Subsection (b) is proposed to be amended and subsections (d) and (e) are proposed to be added to clarify the disinfection benchmark requirements for PWSs using surface water or GUDI sources. These proposed amendments and additions reflect 40 CFR 141.172 and 141.709 (relating to disinfection profiling and benchmarking; and developing the disinfection profile and benchmark). The proposed amendments also ensure that simultaneous compliance issues are assessed and addressed before making any changes to treatment.

The TAC recommended that proposed subsection (d) reflect the Federal regulations regarding disinfection benchmarking and profiling and that proposed subsection (e) include a requirement for the submittal of certain information to the Department. The Department agreed with these recommendations and made modifications accordingly.

#### § 109.301. *General monitoring requirements*

Paragraph (1)(i) is proposed to be amended to delete a cross-reference to paragraph (1)(iii). Paragraph (1)(i)(A) and (B) is proposed to be amended to sunset to 1 year after the effective date of adoption of the final-form rulemaking. Existing paragraph (1)(i)(C) and (D) is proposed to be renumbered as paragraph (1)(i)(D) and (E), respectively.

Proposed paragraph (1)(i)(C) requires continuous monitoring and recording of the combined filter effluent (CFE) beginning 1 year after the effective date of adoption of the final-form rulemaking. This is consistent with existing individual filter effluent (IFE) turbidity monitoring and recording requirements. Health effects associated with microbial contaminants tend to be due to short-term, single dose exposure rather than long-term exposure. The proposed amendments are part of a multibarrier approach to ensure treatment is adequate to provide safe and potable water to all users.

The TAC commented that many filter plants do not have the capability to sample CFE; therefore, an alternative methodology and locations should be available to meet the regulation. The TAC stated that the Department

should allow averaging of the IFE or, in some instances, allow the plant effluent to be utilized.

The Department has historically considered, and will continue to consider, on a case-by-case basis, alternative methodologies to comply. More specifically, if it is physically impossible for a system to obtain a representative sample (by sample line) from the actual CFE monitoring location, the Department will allow for instantaneous averaging of the IFE turbidity results to be reported for CFE compliance. In these instances, the water supplier would be required to make reasonable efforts to address the lack of CFE sampling during any future plant modifications. Sole reliance on an instantaneous average of IFE turbidity makes the water supplier more vulnerable to reporting violations, in the long term, should the system experience a breakdown in IFE monitoring equipment. Therefore, it is to the water supplier's advantage to develop a true CFE monitoring location if at all feasible.

Existing paragraph (1)(ii) is proposed to be deleted.

Existing paragraph (1)(iii) is proposed to be renumbered as paragraph (1)(ii) and sunset 1 year after the effective date of adoption of the final-form rulemaking.

Existing paragraph (1)(iv) is proposed to be renumbered as paragraph (1)(iii) and amended to require continuous monitoring and recording of the IFE turbidity for filtration technologies other than conventional and direct beginning 1 year after the effective date of adoption of the final-form rulemaking. This proposed amendment ensures consistency among all filtration technologies.

Existing paragraph (1)(iv)(A) is proposed to be deleted and added as § 109.304(e) (relating to analytical requirements).

Existing paragraph (1)(iv)(B)—(D) is proposed to be deleted.

Paragraph (1)(iv) is proposed to be added to clarify that all failures of continuous turbidity and residual disinfectant monitoring and recording equipment require grab sampling and manual recording not to exceed 5 working days and that it applies to all PWSs. This proposed amendment is based on existing language in paragraph (1) and ensures consistency among all PWSs.

The TAC recommended that if continuous monitoring equipment cannot be repaired or replaced within the 5 working days, the PWS should not be in violation of paragraph (1) if it notifies the Department.

The Department asserts that the monitoring equipment that water suppliers use to measure and record compliance every 15 minutes is necessary to protect public health. Water suppliers shall take actions necessary to resume continuous monitoring and recording as soon as possible, but no later than within 5 working days, because for each day that 4-hour grab sampling is used, water suppliers will have very limited data (6 grab sample data points) to assess water quality and make operational changes (instead of 96 monitoring data points when continuous monitoring equipment is in use). Significant volumes of water are produced between each 4-hour grab sampling event and no verifiable controls will be in place to ensure that the water continuously meets safe drinking water standards. However, in response to the TAC's comment, proposed language clarifies that the Department will consider case-by-case extensions of the time frame if the water supplier provides sufficient written documentation that it is unable to repair or replace malfunctioning equipment within 5 working days due to circumstances beyond its control. If extensions are not preapproved in writing by the Department, then a violation will occur.

Paragraph (2)(i)(B) and (C) is proposed to be amended to sunset 1 year after the effective date of adoption of the final-form rulemaking.

Proposed paragraph (2)(i)(D) requires continuous monitoring and recording of the source water turbidity and clarifies grab sample monitoring requirements. This paragraph is proposed to be added to be consistent with filtration monitoring and recording requirements because health effects associated with microbial contaminants tend to be due to short-term, single dose exposure rather than long-term exposure.

Existing paragraph (2)(i)(D) and (E) is proposed to be renumbered as paragraph (2)(i)(E) and (F), respectively.

Paragraph (2)(ii) and (iii) is proposed to be amended to sunset 1 year after the effective date of adoption of the final-form rulemaking.

Paragraph (11) is proposed to be amended to clarify the monitoring requirements for entry points that do not provide water continuously. At a minimum, all entry points shall provide water to the public on at least an annual basis to ensure all sources and entry points are included in routine compliance monitoring.

This proposed amendment is intended to address concerns regarding gaps in the monitoring, reporting and

tracking of back-up water sources and entry points. Per State and Federal regulations, all sources and entry points must be included in routine compliance monitoring to ensure water quality meets safe drinking water standards. Currently, sources and entry points that do not provide water continuously are required to be monitored when used. However, monitoring requirements for back-up sources are not currently tracked, which means no verifiable controls are in place to ensure that all sources and entry points meet safe drinking water standards.

These concerns were most recently highlighted by the EPA's Office of Inspector General in the 2010 report "EPA Lacks Internal Controls to Prevent Misuse of Emergency Drinking Water Facilities" (Report No. 11-P-0001). The term "emergency" is often used to describe sources other than permanent sources. In this Commonwealth, some of these back-up sources have not been used in at least 5 years and, therefore, the Department does not know the water quality for these sources.

To better understand the scope of the problem in this Commonwealth, the following data was retrieved from PADWIS.

<i>Entry Points</i>				
<i>PWS Type</i>	<i>Total Number of Entry Points</i>	<i>Number of Permanent Entry Points</i>	<i>Number of Nonpermanent Entry Points</i>	<i>Percentage of Nonpermanent Entry Points</i>
CWSs	3,330	3,003	327	10%
Others	7,880	7,760	120	2%
<i>Total</i>	11,210	10,763	447	4%

An entry point is the place at which finished water representative of each source enters the distribution system. Routine compliance monitoring is not tracked at nonpermanent entry points. Nonpermanent entry points include seasonal, interim, reserve and emergency entry points.

Based on the data, CWSs provide finished water to consumers through a total of 3,330 entry points, 327 (or 10%) of which are nonpermanent. Therefore, as many as 10% of all entry points may not be conducting all required monitoring prior to serving water to consumers.

The numbers are even higher at the individual source level.

<i>Water Supply Sources (Wells, Springs, Surface Water Intakes, and the Like)</i>				
<i>PWS Type</i>	<i>Total Number of Sources</i>	<i>Number of Permanent Sources</i>	<i>Number of Nonpermanent Sources</i>	<i>Percentage of Nonpermanent Sources</i>
CWSs	5,252	4,634	618	12%
Others	8,604	8,297	307	4%
<i>Total</i>	13,856	12,931	925	7%

For CWSs, as many as 12% of all sources may not be included in routine compliance monitoring, yet these sources can be used at any time.

The Department also reviewed the monitoring history of the 447 nonpermanent entry points previously mentioned.

<i>Nonpermanent Entry Points</i>			
<i>PWS Type</i>	<i>Number of Entry Points</i>	<i>Number and Percentage of Entry Points with No Monitoring Data (Since 1992)</i>	<i>Number of Entry Points with Some Monitoring Data</i>
CWSs	327	143 (44%)	184 (of these entry points, 47 were sampled in 2016, 37 were sampled during the 2012—2015 monitoring period and the remaining 101 were sampled prior to 2012)
Others	120	7 (6%)	113 (55 entry points have recent data (2016))
<i>Total</i>	447	150 (34%)	

For CWSs, 143 (or 44%) of all nonpermanent entry points have no monitoring data since 1992. Of the 184 entry points with some data, most of the data are 5 to 10 years old.

The use of unmonitored sources and entry points could adversely impact basic water quality, including pH, alkalinity, turbidity, corrosivity and lead solubility, dissolved inorganic carbon and natural organic matter. Water suppliers may have limited information about how these sources or entry points will impact treatment efficacy and distribution system water quality. In addition, back-up or emergency sources may have poor water quality or MCL exceedances. The use of these sources without proper monitoring and verifiable controls could lead to an increased risk to public health.

Finally, treatment facilities and other appurtenances associated with these sources may no longer be in good working order. Back-up sources and entry points with unknown water quality or that are no longer in good working order provide a false sense of security in terms of system resiliency and emergency response. While the Department understands that many facilities are not used on a 24/7 basis, these proposed amendments ensure that all permitted sources and entry points are monitored at least annually.

The TAC requested that the Department provide more details about how this provision would be applied to interconnections, or instances when the use of a source is limited by some other entity or permit/approval. The TAC also recommended that this proposed amendment have an effective date of 1 year after the effective date of adoption of the final-form rulemaking.

The Department anticipates that select purchased interconnections will be able to retain the "emergency" designation if the following criteria are met. As previously noted, "emergency" is often used to describe sources other than permanent sources.

- Using the last 3 years of historical water use data, the water supplier can demonstrate that the purchased interconnection has only been used for emergency purposes.
- Emergency use has not occurred more than 14 days per year, excluding use under State or Federal emergency declarations.
- The Department has conducted an annual compliance check using reported water use data.

On a case-by-case basis, the Department also anticipates that select sources may be able to be retained in the permit, without conducting routine annual compliance monitoring, if documentation is provided to the Department that the use of the source is limited by some other entity or permit or approval. Select sources that meet these criteria will be covered by a special condition in the permit that requires Department notification and completion of compliance monitoring prior to use.

The Board is seeking comment on this proposed amendment, the inclusion of the additional information previously provided regarding retention of the emergency designation of interconnections and whether deferred implementation is needed. The Board will consider other options that address these concerns while providing the same level of public health protection.

#### § 109.302. *Special monitoring requirements*

Subsection (a) is proposed to be amended to allow the Department to require special monitoring if the Depart-

ment has reason to believe that a system is not in compliance with an action level for lead or copper.

#### § 109.303. *Sampling requirements*

Subsection (a) is proposed to be amended to ensure that all samples taken for compliance purposes are collected at the required locations.

Subsection (a)(4) is proposed to be amended to be consistent with 40 CFR 141.61, 141.62 and 141.66 (relating to maximum contaminant levels for organic contaminants; maximum contaminant levels for inorganic contaminants; and maximum contaminant levels for radionuclides). Water suppliers are required to monitor at each entry point representative of each source after all treatment. Proposed amendments clarify the monitoring requirements when sources are blended or alternated prior to the entry point. In some cases, additional samples may need to be collected to ensure that the samples are representative of all sources.

The TAC recommended that the Department provide additional discussion and examples to clarify this proposed amendment. The TAC expressed concern that too many real-world scenarios may exist to be covered by a blanket requirement. The TAC also recommended that the provision be addressed in the facility permit.

The Department avers that the system-specific scenarios will be able to be addressed in the system's comprehensive monitoring plan required under proposed § 109.717 (relating to comprehensive monitoring plan). However, the Board is seeking comment on whether additional regulatory language is needed for clarity.

Subsection (i) is proposed to be added to clarify that samples taken to determine compliance shall be taken in accordance with a written comprehensive monitoring plan as specified in proposed § 109.717. These plans are subject to Department review and revision.

#### § 109.304. *Analytical requirements*

Subsection (c)(2) is proposed to be amended to clarify that an individual conducting analysis using a standard operating procedure shall do so following not only the Water and Wastewater Systems Operators' Certification Act (63 P.S. §§ 1001—1015.1), but also the regulations promulgated under that act.

Proposed subsection (e) contains existing language that was moved from § 109.301(1)(iv)(A) and amended to clarify turbidimeter requirements.

The TAC recommended that "the calibration schedule should remain at the current quarterly frequency for consistency and ease of enforcement [see § 109.301(1)(i)(B)]." The reasoning for this recommendation is a concern that "every 90 days is more difficult to track and is not the same as quarterly."

The Department avers that this proposed amendment relates to critical monitoring equipment that is needed to ensure acute pathogens such as *Cryptosporidium* and *Giardia* are not present in the drinking water supplied to customers. Therefore, a routine calibration frequency is critical to ensure ongoing data integrity. The Department's experiences during inspections and FPPEs indicate the opposite of the TAC's comment that "quarterly" is more difficult to track than "every 90 days." Based on Department review of calibration records during FPPEs, filter plants with standard operating procedures for calibration every 90 days had much better overall routine calibration of critical equipment than systems with standard operating procedures for calibration on a quarterly

basis. In one case, a water supplier met the quarterly calibration frequency by calibrating the instrument during the first quarter on January 2, 2016, and then again on June 30, 2016, to meet the second quarterly requirement. This system was technically in compliance. However, 178 days lapsed between calibrations, making the validity of the data questionable. The quarterly calibration frequency is far less consistent and protective of data integrity than calibration every 90 days. In addition, references from the largest manufacturer of turbidimeters (HACH Company) include the following language: "calibrate once every 90 days, when used for compliance." This proposed amendment is a necessary clarification consistent with leading industry manufacturer expectations, and serves as a basis for protecting public health by insuring accuracy of turbidity data (the surrogate measurement for pathogens). In response to concerns raised by the TAC about violations for missing the 90-day maximum frequency by just a few days, the Department modified the language to allow it to "extend this 90-day calibration frequency if the calibration due date coincides with a holiday or weekend, or during a water system emergency which prevents timely calibration." This proposed amendment will help reduce the likelihood of inadvertent violations while still maintaining a routine frequency to insure instrument accuracy.

#### § 109.305. Fees

This section is proposed to be rescinded. Data management fees were a one-time fee and are proposed to be deleted. Monitoring waiver fees are being relocated to proposed Subchapter N.

#### § 109.416. CCR requirements

Paragraph (4)(i) is proposed to be amended and paragraph (4)(ii) is proposed to be added to require a PWS to mail a paper copy of the annual Consumer Confidence Report (CCR) to the Department rather than the other direct delivery options (including electronic delivery) currently provided in paragraph (4)(i). The Department requires a paper copy for its files. Existing paragraph (4)(ii)—(vii) are proposed to be renumbered accordingly.

The TAC recommended that electronic submission of CCRs to the Department be allowed as an environmentally prudent option.

The Department continues to investigate options for water suppliers to submit reports electronically. However, resource considerations (including creating a secure computer application accessible to water suppliers, creating and maintaining a CCR format, legal verification of electronic data submittal, server space and retrieval of records) will affect when and how electronic reporting to the Department occurs. CCRs are documents that must be easily available to the public upon request. Electronic submission of a CCR may still require the Department to print a paper copy for the public records file, which adds additional Department costs to print CCRs for the nearly 2,000 regulated CWSs. Additionally, water suppliers are required to maintain a sufficient number of paper copies to fulfill the good-faith delivery provisions to consumers that do not receive water bills, such as customers that rent, and to provide to the public upon request. Thus, one additional paper copy for the Department is not burdensome to a CWS.

#### § 109.503. Public water system construction permits

Subsection (a) is proposed to be amended to correct the name and mailing address of Department's Drinking Water Bureau.

Subsection (a)(1)(iii) is proposed to be amended to add the requirement to submit a source water assessment and predrilling plan as part of a new source permit application. In addition, the clauses under this subparagraph are proposed to be reorganized to clarify the order in which key actions are taken during the process of permitting a new source. The proposed amendments help ensure that PWSs obtain the highest source water quality available, and that the proper level of treatment for the source is identified and installed in a timely manner. Overall, these proposed amendments will not only protect public health but also help to maintain, reduce or avoid drinking water treatment costs. These proposed amendments are consistent with existing Department guidance and are based on a significant amount of experience permitting new drinking water sources throughout this Commonwealth.

The TAC recommended that the Department provide confidentiality of the source and intake identification and location per the Public Utility Confidential Security Information Disclosure Protection Act and the Right-to-Know Law. Per long-standing policy, the Department protects source locational information consistent with these laws.

Subsection (c) is proposed to be amended to require an application fee in the amount required under proposed Subchapter N.

#### § 109.505. Requirements for noncommunity water systems

Subsection (a)(2)(i) and (ii) is proposed to be amended to clarify the specifications and conditions that NCWSs shall meet to avoid obtaining a permit from the Department. The proposed amendments also clarify that Department approval is needed prior to construction or operation.

Subsection (a)(3)(ii) is proposed to be amended to correct a cross-reference to § 109.503(a)(1)(iii) (relating to public water system construction permits).

#### § 109.511. General permits

This proposed section establishes the regulatory basis for the issuance of general permits. General permits are intended for high volume, low risk modifications or activities, and can streamline the permitting process.

The TAC recommended that the entity submitting the first general permit application should not incur all the cost for submitting the general permit application because the general permit would benefit all future users and the Department. The cost to the first entity seeking coverage under a general permit issued by the Department would be the same for all entities seeking coverage. To provide certainty to the regulated community, reasonable fees (not to exceed \$500) will be established in each general permit for anyone seeking coverage from the Department under a general permit. Draft general permits are noticed in the *Pennsylvania Bulletin* for public comment. The public will be able to provide comments on the fees in addition to the technical aspects of the general permit.

The Board is seeking comment on the types of modifications or activities that may be appropriate for a general permit.

#### § 109.602. Acceptable design

Subsection (a) is proposed to be amended to include a cross-reference to Subchapter K (relating to lead and copper) to clarify that a PWS shall be designed to be able to comply with standards established in that subchapter.

Subsection (e) is proposed to be amended to clarify that point-of-use devices are not acceptable treatment to comply with an MRDL. The proposed addition of MRDL is to remain consistent with Subchapter F (relating to design and construction standards).

Proposed subsections (f)—(i) define new requirements for alarm and shutdown capabilities. Alarm and shutdown capabilities are intended to prevent unsafe water from reaching customers.

The TAC recommended that the Department should provide accurate cost estimates for compliance with these provisions and evaluate whether 12 months is adequate time for systems to comply given the costs associated overall with the regulatory package and the addition of fees. The TAC expressed concerns that proposed subsection (i)(2)(iv), regarding other operational parameters that the Department may determine necessary for compliance, may be too far reaching and cost prohibitive.

To address the TAC's concerns about costs, the Department conducted additional cost estimate research. The Department estimates that 10% of the 353 filter plants in this Commonwealth will need to install an auto-dialer. The Department estimates that the cost to achieve the proposed automatic alarm and shutdown capabilities ranges from \$8,860 to \$11,980 per treatment plant, depending on the options chosen, with annual maintenance costs of \$600. A detailed discussion of these estimated costs are included in Section F of this preamble.

The Department notes that the proposed alarm and shutdown amendments will be cost-effective in comparison to staffing costs incurred by systems that maintain physical staffing of the facility. Several states have regulations that do not allow unattended operation of surface water filtration plants. The proposed amendments provide a reasonable alternative to mandating the presence of a certified operator at all times in all water systems in this Commonwealth.

#### § 109.606. *Chemicals, materials and equipment*

Subsection (a) is proposed to be amended to clarify that equipment which may come into contact with water or affect the quality of the water may not be used unless the equipment is acceptable to the Department.

Subsection (c) is proposed to be amended to clarify that equipment, including mechanical devices and drinking water treatment equipment, which are certified for conformance with American National Standards Institute/NSF International (NSF) Standard 61 are deemed acceptable to the Department.

Proposed subsection (d) clarifies that drinking water treatment equipment shall be certified for inactivation, reduction or removal performance, and to allow equipment which is certified for conformance with the NSF Guidelines for Public Drinking Water Equipment Performance (PDWEP) to be acceptable for use in PWS construction or modification.

Existing subsection (d) is proposed to be renumbered as subsection (e) and amended to add a cross-reference to proposed subsection (d) and PDWEP.

Subsection (e)(2) and (3)(iv), existing subsection (d)(2) and (3)(iv) are proposed to be amended to add references to PDWEP.

The TAC commented that water suppliers have encountered product suppliers that have certified products to conform to either Standard 60 or 61 or PDWEP and do

not mark individual product containers. For example, bulk deliveries typically are provided with a certification document and not product markings. In these cases, it has been the Department's practice to require the water supplier to provide documentation that the bulk delivery was NSF certified. In this case, the chemical supplier must also be NSF certified for repackaging.

Proposed subsection (e)(3)(v) requires American National Standards Institute equivalent accreditation for the quality assurance/quality control of equipment claimed to remove or reduce a contaminant.

Existing subsection (e) is proposed to be renumbered as subsection (f).

#### § 109.612. *POE devices*

Subsection (b) is proposed to be amended to update the cross-reference to renumbered § 109.606(e) (relating to chemicals, materials and equipment).

Subsection (b) is proposed to be amended in response to the TAC's recommendation that the Department should add "components" to point-of-entry devices used by public water suppliers.

#### § 109.701. *Reporting and recordkeeping*

Subsection (a)(2)(i)(A) is proposed to be amended to clarify that it pertains to CFE turbidity.

Subsection (a)(2)(i)(A)(VIII) and (IX) is proposed to be added to reflect proposed amendments to § 109.202(c)(1)(i) (relating to State MCLs, MRDLs and treatment technique requirements).

Subsection (a)(2)(ii)(A) is proposed to be amended to clarify the turbidity reporting requirements for systems using unfiltered surface water sources and to reflect proposed amendments to § 109.301(2)(i).

Subsection (a)(3)(iii)(B) and (C) is proposed to be amended to clarify what situations would require 1-hour reporting to the Department.

In addition to the reporting requirements in subsection (a)(1), proposed subsection (a)(10) requires water systems to report individual constituents for trihalomethanes and haloacetic acids. These data are already measured and determined by laboratories and have been voluntarily reported since 2011. These data are necessary for PWSs to identify trends in disinfection byproduct formation and better manage their disinfection practices. Reporting of individual constituent data are consistent with Federal reporting requirements.

Existing subsection (a)(10) is proposed to be renumbered as subsection (a)(11).

Subsection (e)(2) is proposed to be amended to add a citation to clarify which systems are required to report individual filter turbidity monitoring.

The trigger levels specified in subsection (e)(2)(i)—(iv) are proposed to be replaced by lower trigger levels for IFE reporting requirements for all filtration technologies as specified in proposed subsection (e)(2)(v)—(viii). These turbidity reporting requirements are being strengthened because health effects associated with microbial contaminants tend to be due to short-term, single dose exposure rather than long-term exposure. These proposed amendments are part of a multibarrier approach to ensure treatment is adequate to provide safe and potable water to all users.

The TAC commented that this provision is "more stringent than Federal IFE turbidity standards" and that the "provision also reduces IFE turbidity standards significantly as well." The TAC referred to "the requirements

of the Interim Enhanced Surface Water Treatment Rule and Long Term 1 Enhanced Surface Water Treatment Rule per EPA Fact Sheets and EPA Compilation of Quick Reference Guides from 2011.” The TAC noted that the proposed amendments would require reporting in the following circumstances:

- IFE turbidity in two consecutive 15-minute readings at end of 4 hours of operation or after filter is offline exceeds 0.30 NTU rather than 0.5 NTU.
- IFE turbidity maximum in two consecutive 15-minute readings exceeds 0.30 NTU rather than 1.0 NTU.
- IFE turbidity in two consecutive 15-minute readings for 3 consecutive months exceeds 0.30 NTU rather than 1.0 NTU.
- IFE turbidity in two consecutive 15-minute readings for 2 consecutive months exceeds 1.0 NTU rather than 2.0 NTU.

The TAC asserted that the “ramifications of these turbidity reductions include additional reporting, self-assessments and comprehensive performance evaluations, as well as possible public notifications.” The TAC recommended that “the Department” should provide rationale, science and methodology, cost vs. benefits, public health benefit, etc. and data to support the proposed changes.”

These comments mirror previous comments regarding significant figures and reducing IFE turbidity standards significantly.

In response to the TAC’s comments, the Department offers the following. IFE is a primary compliance monitoring location. As with CFE, IFE turbidity is the surrogate measurement for pathogen breakthrough, primarily the acute pathogen *Cryptosporidium*. Turbidity breakthrough on individual filters often provides an indication of water quality problems before CFE turbidity is significantly impacted. As IFE turbidity increases, risk of particle breakthrough on that particular filter increases; this is very simple science supported by existing regulations and industry experts. The vast majority of filter plants in this Commonwealth typically produce IFE water quality <0.10 NTU. Therefore, exceedances of the proposed lower turbidity levels will occur only when water systems are experiencing significant increases in turbidity from an individual filter. Multiple peer reviewed research papers indicate that as turbidity significantly increases from the baseline levels, the risk of pathogen breakthrough increases. The real-world impact to operational practices at filter plants in this Commonwealth under the proposed amendments would be that water suppliers take important corrective actions sooner (for example, remove the filter from service, consult with the Department and notify customers). This will enable suppliers to identify physical integrity issues within an individual filter before CFE water quality is impacted, or before problems within one filter occur in other filters. The Department has documented breakdowns in treatment and the presence of pathogens (for example, *Giardia* or *Cryptosporidium*) in the IFE of water treatment plants in this Commonwealth that complied with the current IFE turbidity standards. This has been documented both with continuous turbidity monitoring and Microscopic Particulate Analysis cartridges. Therefore, the current IFE turbidity standards do not provide an adequate level of protection. Additionally, several peer reviewed studies have specifically documented significant reduction in *Cryptosporidium* removal during breakthrough filtration as compared to stable operation. Huck, P.M., et al. (2002); and Emelko, M.B., Huck, P.M. and Douglas, I.P. (2003). Therefore, failure to

adopt the proposed amendments increases the risk of exposure to pathogens whenever significant operational problems occur with individual filters. This interim step is necessary to protect public health now. This small step will also better position water systems for future, more significant reductions in turbidity requirements in Federal regulations.

In addition, for the reasons previously discussed under § 109.202, the Department believes that it is appropriate to add zeros for some drinking water standards when the level of sensitivity is warranted by the analytical method.

#### § 109.702. Operation and maintenance plan

Subsection (a) is proposed to be amended to clarify that a water system shall have an operation and maintenance plan that follows guidelines in the *Public Water Supply Manual* and includes the information in subsection (a)(1)—(14).

Subsection (a)(13) is proposed to be amended to require that the operation and maintenance plan also include an exercise and testing program for alarm and shutdown and auxiliary power equipment. This requirement is proposed to be added because testing of all critical water system components is consistent with § 109.4(3) and (4) (relating to general requirements).

#### § 109.703. Facilities operation

Subsection (b)(1)—(3) is proposed to be amended to delete implementation dates that have already passed.

Subsection (b)(1) is proposed to be amended to strengthen filter-to-waste requirements. Filters are most likely to shed turbidity, particles and microbial organisms at the beginning of a filter run when the filter is first placed into service following filter backwashing or maintenance, or both. For systems with filter-to-waste capabilities, an adequate filter-to-waste protocol following filter backwashing or maintenance, or both, and prior to placing a filter into service will reduce the likelihood of pathogens passing through filters and into the finished drinking water.

The TAC commented that one full filter volume may be excessive and unnecessarily wasting water. The TAC also commented that facilities may not be able to hold that volume of filter waste. Further, the TAC asserted that many facilities do not have filter-to-waste capability because it is prohibitively expensive to provide. The TAC reiterated its concern that achieving turbidity of less than 0.30 NTU is more stringent than EPA regulation and again raised the concern with the additional significant figure. The TAC stated that the Department needs to allow new filter backwash technologies such as sub-fluidization or resting a filter after backwash before putting a filter back in service. The TAC suggested requiring filter-to-waste for one full filter volume or until the filter bed effluent turbidity is less than 0.3 NTU at the normal production flow rate or unless a filter plant can demonstrate that an alternate methodology provides turbidity compliance.

The Department notes that these proposed amendments only apply to operation of existing filter-to-waste capabilities and do not require installation of filter-to-waste. The proposed amendment makes this clarification. The Department believes that filtering to waste for one full filter bed volume is critical for public health protection. For effective operation, one full filter bed volume of water is necessary for a water supplier to determine how the filter will perform relative to the first slug of applied (settled) water. A shorter duration of filter-to-waste can



lead to a secondary turbidity spike after the filter has been placed into service. Regarding the TAC's comment about storage capacity, the Department is unaware of facilities that lack the waste holding capacity necessary to filter-to-waste one full filter bed volume. The Department agrees with the TAC regarding its comment to include an alternate methodology.

In addition, for the reasons previously discussed under § 109.202, the Department believes that it is appropriate to add zeros for some drinking water standards when the level of sensitivity is warranted by the analytical method.

Subsection (b)(5) is proposed to be amended to clarify the requirements of the filter bed evaluation program and to ensure that all plants are evaluating their filters. A filter bed evaluation program assesses the overall health of each filter to identify and correct problems before a turbidity exceedance occurs. The TAC recommended that the language regarding a filter bed evaluation program be amended to further clarify this requirement, which the Department has done.

The TAC recommended that the Department should not be requiring best management practices unless a facility is not meeting turbidity requirements or not meeting filter plant performance objectives. The Department notes that this proposed requirement is not a best management practice. Rather, it is a minimum requirement to verify the critical filtration barrier is physically intact. Filter components are in constant use and as such are constantly aging. Operators routinely (for example, on average once per shift) walk through the filter plant to visually verify operational integrity of critical filter plant components. However, assessment of the physical integrity of one of the most critical components—the filter itself—is difficult, or often impossible, for operators to evaluate during walk-throughs. Most of the filter's components are below the water line or buried within the filter media. Physical inspection of filter components once per year constitutes a minimum preventative measure and not a best management practice. If a water system waits until a filter plant is no longer meeting performance objectives before investigating the integrity of the filter components, significant deterioration may have occurred and public health may have been compromised. In addition, the amount of time necessary to repair compromised filter components can be excessive. During times of filter repair, loading ratings are increased on adjacent filters or production is limited. Proactive annual investigations should be more cost effective in the long run because it increases the chances of identifying and fixing small problems before they become larger and more widespread.

Proposed subsection (c) requires a water supplier to test alarm and shutdown capabilities at the filter plant and to outline the procedures to be followed in the event of a failure of alarm or shutdown equipment. This subsection is proposed to be added because testing of all critical water system components is consistent with § 109.4(3) and (4). The TAC recommended that during quarterly tests of plant shutdown capabilities, the Department should allow for simulation of a shutdown. The Department agrees and has proposed that simulated testing of shutdown capabilities would be acceptable.

#### § 109.704. Operator certification

Subsection (a) is proposed to be amended to clarify that CWSs and nontransient noncommunity water systems (NTNCWS) shall have personnel certified to operate and maintain a PWS under the Water and Wastewater Systems Operators' Certification Act and the regulations promulgated under that act.

#### § 109.705. System evaluations and assessments

Subsection (a)(1) is proposed to be amended by separating existing language into subparagraphs (i) and (ii) and adding subparagraph (iii). The first sentence of subsection (a)(1) is proposed to be amended to replace "drainage area or wellhead protection area" with "source water protection area."

Proposed subsection (a)(1)(i) is proposed to be amended to replace "drainage area or wellhead protection area" with "source water protection area."

Proposed subsection (a)(1)(iii) requires revisions to the source water assessment if a system evaluation identified any changes to actual or potential sources of contamination. This addition was made to fulfill the EPA's expectation that source water assessments are routinely updated.

Subsection (a)(2) is proposed to be amended to delete the requirement for an evaluation of "source protection" since a CWS will be required to inspect portions of a source water protection area as part of an evaluation conducted under subsection (a)(1).

Subsection (a)(6) is proposed to be added to require the system evaluation be documented and made available to the Department upon request instead of requiring the water system to submit the evaluation.

Subsections (c) and (d) are proposed to be deleted and significant deficiency language is incorporated in proposed § 109.716 (relating to significant deficiencies).

#### § 109.706. System map

The heading of this section is proposed to be amended to "system map" to be consistent with proposed amendments to the map requirements in the section.

Subsection (a) is proposed to be amended to require all PWSs to prepare and maintain a system map. This proposed amendment ensures that public water suppliers provide and effectively operate and maintain PWS facilities to be consistent with § 109.4(3).

Subsections (b) and (c) are proposed to be amended to clarify system map requirements.

The TAC commented that medium to large facilities will not be able to capture all of the minimum requirements on one system map. Systems should be able to develop maps or schematics of their systems, or both, as appropriate for that system. Direction of flow is not predictable or known under all circumstances depending on system conditions. Flow may go in different directions dependent on system demands. The TAC claimed that the Department's request for one system map is overly simplified and not realistic for how systems operate. Distribution systems are dynamic and not static. Therefore, larger systems will not be able to meet this requirement. Further, the TAC stated that this information should be protected under the Public Utility Confidential Security Information Disclosure Protection Act and the Right-to-Know Law.

Multiple maps are acceptable. Map scale would be the determining factor regarding the overall number of maps. Maps should be of sufficient scale and detail to be interpreted during onsite review by Department staff. The Department is not requesting submittal of these maps. Rather, they should be kept on file at the facility for onsite review during inspection and submittal upon request. Regarding direction of flow, the Department recognizes the TAC's comment that direction of flow can change with time. The Department's expectation is that the maps will contain adequate detail so water system

staff can explain to Department staff the expected direction of flow under a specific circumstance (for example, tanks filling and tanks drawing). The direction of flow requirement is proposed to be deleted. If a system's distribution system is so complex that staff are unable to use a map to determine expected direction of flow under specific circumstances, a calibrated hydraulic model should be developed and maintained. Subsection (c) is proposed to be amended to provide that systems "may meet this requirement by maintaining a calibrated hydraulic model instead of paper maps."

§ 109.708. *System service and auxiliary power*

This section is proposed to be amended to describe new requirements for system resiliency. The section heading is proposed to be amended to "system service and auxiliary power."

This Commonwealth is susceptible to natural disasters, such as ice storms, tropical storms and hurricanes, which can lead to massive and extended flooding or power outages, or both. As previously noted, all of this Commonwealth's drinking water sources and treatment facilities are susceptible to emergency situations resulting from natural and manmade disasters. Therefore, all CWSs shall have effective options to provide consistent system service during these emergencies. Despite long-standing efforts to encourage water systems to develop feasible plans for the continuous provision of adequate and safe water quantity and quality during emergency circumstances, many water suppliers are still inadequately prepared. In fact, the Department estimates that more than 400 CWSs do not have up-to-date emergency response plans. This has resulted in significant impacts to consumers in the form of inadequate water quantity or quality, or both, and the resulting consumption advisories.

Flooding events caused by localized heavy rains, hurricanes and tropical storms result in elevated public health risks. Source water turbidity and pathogen loading can increase dramatically during these events. Additionally, when power outages cause interruptions in water system operations, water systems can experience a sharp reduction in supply, which results in low or no pressure within the distribution system. This results in increased risk to public health, because low pressure can allow intrusion of contaminants into distribution system piping from backflow and cross connections. Some customers may also experience inadequate supply of water for basic sanitary purposes, flushing toilets and potable uses.

Several other Mid-Atlantic and Northeastern states are considering or have already promulgated regulations for auxiliary power. New Jersey and New York have existing design standards for auxiliary power. New York requires standby power through incorporation of standards recommended by the Great Lakes—Upper Mississippi River Board of State and Provincial Public Health and Environmental Managers (known as the 10 States Standards). New Jersey's requirements are in N.J.S.A. 58:12A-4(c) and N.J.A.C. 7:10-11.6(i). New Jersey recently evaluated its regulations and issued additional guidance and best management practices regarding auxiliary power, available at <http://www.nj.gov/dep/watersupply/pdf/guidance-ap.pdf>. Connecticut is in the process of updating its regulations to incorporate generator and emergency contingency and response plan requirements, available at [http://www.ct.gov/dph/lib/dph/public\\_health\\_code/pending\\_regulations/proposed\\_regulation--generators.pdf](http://www.ct.gov/dph/lib/dph/public_health_code/pending_regulations/proposed_regulation--generators.pdf).

The Board is seeking comment on the following:

- What actual costs have been incurred by water systems that have already installed an auxiliary power supply or other resiliency measures?
- Which facilities should be considered a primary component of a water system, meaning the facilities are indispensable to the effective operation of the water system?
- Costs vary considerably for portable versus fixed generators. The type of fuel supply also impacts costs. What are the pros and cons of these various options?
- Do additional alternatives exist to meet the system service requirements of subsection (a)?

The TAC commented that the Department should not be prescribing the methods by which a public water supplier obtains auxiliary power. The TAC further claimed that: the Department has not sufficiently evaluated the cost of providing auxiliary power; secondary power feeds may not be attainable in rural areas or may be extremely cost prohibitive; and the Department has not properly evaluated the total cost for implementing generator power. Also, the TAC stated that systems may avail themselves of the resources from PaWARN to meet auxiliary power demands. The TAC recommended that this provision be addressed in emergency response plans and not in regulation.

This proposed rulemaking does not prescribe the specific method by which a system shall comply. Rather, this proposed rulemaking requires that a feasible plan be in place to ensure safe and potable water is continuously supplied to users. The water supplier will determine which option or combination of options it will use to comply. Ideally, suppliers will implement a combination of options to improve their redundancy and resiliency.

This information should be incorporated into emergency response plans, as the TAC suggests. However, despite long-standing efforts to encourage water systems to develop feasible plans for the continuous provision of adequate and safe water quantity and quality during emergency circumstances, many water suppliers are still inadequately prepared. In fact, the Department estimates that more than 400 CWSs do not have up-to-date emergency response plans.

Regarding the TAC's comment that systems can use the services of PaWARN to comply, PaWARN has limited resources. Those resources will be quickly overwhelmed during any large scale event. Additionally, as of December 2016, PaWARN had approximately 100 members and approximately 89 of those members manage CWSs throughout this Commonwealth. This is a small subset of the 1,952 CWSs in this Commonwealth.

Therefore, the Department believes that these proposed amendments are necessary. Wastewater treatment plants have been required to have back-up power supplies for many years. These proposed amendments would provide consistency within the drinking water and wastewater industry. It is not feasible to develop these plans under an emergency. Rather, plans must be in place before emergencies occur. It is only a matter of time before another natural or manmade disaster significantly impacts water systems in this Commonwealth. If proposed amendments are not adopted, it is anticipated that a large number of CWSs will not be able to provide a consistent supply of safe and potable water.

§ 109.713. *Source water protection program*

The heading of this section is proposed to be amended to “source water protection program” to be consistent with the proposed definition of “source water protection program” in § 109.1 (relating to definitions).

Subsection (a)(1) and (2) is proposed to be amended to change “wellhead” to “source water” to remain consistent with the proposed definition of “source water protection program,” which encompasses a surface water intake protection program and a wellhead protection program.

Subsection (a)(3) and (4) is proposed to be rewritten to remain consistent with the proposed definitions of “source water protection area” and “source water assessment.”

Subsection (a)(5) is proposed to be amended to change references to “wellhead” to “source water” to remain consistent with the proposed definition of “source water protection program,” which encompasses a surface water intake protection program and a wellhead protection program.

Subsection (a)(6) is proposed to be amended to make the contingency planning for the provision of alternate water supplies relate to all sources, not just groundwater. This proposed amendment is consistent with the proposed definition of “source water protection program,” which encompasses surface and groundwater sources.

Subsection (a)(7) is proposed to be amended to make the provisions for protection of new source sites applicable to all source types. This proposed amendment is consistent with the proposed definition of “source water protection program,” which encompasses surface and ground water sources.

Proposed subsection (b) requires water suppliers with an approved source water protection program to conduct an annual review of the program. This proposed addition is made to clarify an existing program requirement that fulfills the EPA’s expectation that source water assessments are routinely updated.

The TAC commented that this provision mandates that a public water supplier is responsible for ensuring protection of their sources, when the source water protection program does not provide legal access or the authority for the water supplier to inspect or enforce up-gradient facilities that pose a potential source water contamination. The Department notes that this proposed amendment was not intended to mandate water supplier inspection or enforcement of up-gradient facilities. However, the proposed amendment has been revised to address the TAC’s concerns.

§ 109.716. *Significant deficiencies*

This proposed section is compiled from existing §§ 109.705 and 109.1302 (relating to system evaluations and assessments; and treatment technique requirements) to provide implementation consistency in identifying and responding to significant deficiencies by systems using surface and ground water sources. This proposed section will ensure that all Federal requirements are met.

§ 109.717. *Comprehensive monitoring plan*

This proposed section ensures that all sources and entry points are included in routine compliance monitoring at the entry point and within the distribution system. The plan must be specific to the system and include details about the various sources and entry points, and how the facilities are operated. The operation of each source and entry point dictates how compliance monitor-

ing is conducted to ensure that all sources and entry points are included in routine compliance monitoring.

Subsection (a) contains the basic components of the plan.

Subsection (b) clarifies that the monitoring plans required under other sections shall be added to the system’s comprehensive monitoring plan. In other words, all monitoring plans must be stored in the same comprehensive plan.

Subsection (c) contains the requirements for an annual PWS review and update of the plan. The date of each update shall be recorded on the plan.

Subsection (d) contains the requirements for submission of the plan to the Department. The plans are subject to Department review and revision.

§ 109.810. *Reporting and notification requirements*

Subsection (b) is proposed to be amended to clarify laboratory reporting and notification requirements.

§ 109.1003. *Monitoring requirements*

Subsection (b)(3) is proposed to be amended to clarify sampling and analysis requirements to be consistent with § 109.304(a) and is necessary to maintain primacy in response to EPA comments.

§ 109.1005. *Permit requirements*

Subsection (c)(5)(ii) is proposed to be amended to correct a cross-reference to § 109.606.

Subsection (e) is proposed to be amended to correct the name of the Department’s Drinking Water Bureau.

Subsection (i) is proposed to be amended to clarify that the permit fees have been moved to proposed Subchapter N.

§ 109.1105. *Permit requirements*

Subsection (b)(1) and (2) is proposed to be amended to clarify that CWSs and NTNCWSs should follow the requirements specified only until the effective date of adoption of the final-form rulemaking. After that time, they should follow the requirements specified in proposed paragraph (3).

Proposed subsection (b)(3) requires all CWSs and NTNCWSs to obtain a construction and operations permit for new corrosion control treatment beginning on the effective date of adoption of the final-form rulemaking. This paragraph is proposed to be added to be consistent with permitting requirements in Subchapter E (relating to permit requirements).

§ 109.1107. *System management responsibilities*

Subsection (a)(2)(i) is proposed to be amended to delete the reporting requirements under the Lead and Copper Rule that required accredited labs to calculate and submit the 90th percentile values. The Department now calculates the 90th percentile compliance values so labs are only required to report the individual lead and copper results. In addition, the requirements that information regarding the number of lead and copper samples required and the number of samples taken and whether a lead and copper action level has been exceeded are proposed to be deleted.

§ 109.1108. *Fees*

Fees for activities under the Lead and Copper Rule are proposed to be relocated to proposed Subchapter N.

§ 109.1202. *Monitoring requirements.*

Subsection (l) is proposed to be amended to clarify the heading.

The heading of subsection (n) is proposed to be amended to clarify that it applies to source water sample locations for plants with bank filtration. This proposed amendment is consistent with the headings of subsections (k) and (m).

The heading of subsection (o) is proposed to be amended to clarify that it applies to source water sample locations for plants with multiple sources. This proposed amendment is consistent with the headings of subsections (k) and (m).

§ 109.1203. *Bin classification and treatment technique requirements*

Subsection (f)(2) is proposed to be amended to clarify a citation regarding requirements for microbial toolbox components.

Subsection (g) is proposed to be amended to clarify a citation regarding requirements for microbial toolbox components.

§ 109.1204. *Requirements for microbial toolbox components*

Subsection (h) is proposed to be amended to clarify a citation regarding general monitoring requirements.

§ 109.1206. *Reporting and recordkeeping requirements*

Subsection (e)(1) is proposed to be amended to clarify a citation to account for the addition of a subparagraph.

Proposed subsection (e)(1)(viii) requires a system to report the concentration of oocysts per liter when reporting the results of each *Cryptosporidium* analysis.

Existing subsection (e)(1)(viii)—(x) is proposed to be renumbered to account for proposed subsection (e)(1)(viii).

§ 109.1302. *Treatment technique requirements*

The heading of subsection (c) is proposed to be amended to improve readability.

Subsection (c)(1) is proposed to be amended to delete significant deficiency language that is proposed to be incorporated in § 109.716.

Subsection (c)(2)(iii) is proposed to be deleted to remove a provision providing that a groundwater system with an *E. coli*-positive groundwater source sample will receive direction from the Department that it needs correction. This clarifies that all *E. coli*-positive source water samples require corrective action under § 109.716.

Subsection (c)(1) is proposed to be amended to delete significant deficiency language.

Subsection (c)(3) is proposed to be moved to § 109.716 with minor amendments. Proposed amendments to this paragraph include a cross-reference directing the PWS to § 109.716.

Subsection (c)(4) is proposed to be deleted.

§ 109.1303. *Triggered monitoring requirements for ground-water sources*

The corrective action provisions in subsection (h)(1) and (2) are proposed to be deleted. Paragraph (3) is proposed to be deleted and the Tier 1 notification provision is proposed to be added to subsection (h).

§ 109.1305. *Compliance monitoring*

Subsection (a)(1)(iii) is proposed to be amended to clarify grab sample and manual recording and reporting requirements in the case of a failure of continuous monitoring equipment. The proposed amendments are consistent with proposed amendments to § 109.301.

Subsection (a)(2)(i) is proposed to be amended to clarify that a groundwater system shall record the results of the follow up samples which are required under paragraph (2).

§ 109.1306. *Information describing 4-log treatment and compliance monitoring*

Subsection (b)(3) is proposed to be amended to correct the name of the Department's Drinking Water Bureau.

§ 109.1307. *System management responsibilities*

Subsection (a)(1)(ii) is proposed to be amended to further clarify the time period which constitutes a breakdown in treatment.

§ 109.1401. *General*

This proposed section contains the general requirements for fees being collected under the SDWA.

§ 109.1402. *Annual fees*

Proposed subsection (a) requires PWSs to pay an annual fee to support the cost of Department services provided under the SDWA. As described in Part II of this preamble, the Department has had a reduction in Safe Drinking Water Program staff of 25% since 2009. These proposed annual fees, as well as the proposed increases in permit fees in § 109.1404 (relating to community and noncommunity water system permitting fees), are expected to generate the \$7.5 million necessary to restore staffing levels and to provide services required under the SDWA to the 8,521 PWSs in this Commonwealth and the 10.7 million customers they serve.

The following table summarizes the proposed annual fees for CWSs, which are based on population and range from \$250 to \$40,000. The per-person costs range from \$0.35 to \$10 per person per year.

<i>Proposed CWS Annual Fees (Based on Population)</i>		
<i>Population Served</i>	<i>Annual Fee</i>	<i>Cost/Person/Year</i>
25—100	\$250	\$2.50—\$10.00
101—500	\$500	\$1.00—\$4.95
501—1,000	\$1,000	\$1.00—\$2.00
1,001—2,000	\$2,000	\$1.00—\$2.00
2,001—3,300	\$4,000	\$1.21—\$2.00
3,301—5,000	\$6,500	\$1.30—\$1.97
5,001—10,000	\$10,000	\$1.00—\$2.00

<i>Proposed CWS Annual Fees (Based on Population)</i>		
<i>Population Served</i>	<i>Annual Fee</i>	<i>Cost/Person/Year</i>
10,001—25,000	\$20,000	\$0.80—\$2.00
25,001—50,000	\$25,000	\$0.50—\$1.00
50,001—75,000	\$30,000	\$0.40—\$0.60
75,001—100,000	\$35,000	\$0.35—\$0.47
100,001 or more	\$40,000	≤ \$0.40

The Department analyzed the cost of providing services to administer the SDWA and its regulations. The cost of some services can be reasonably estimated, while the cost of other services depends on the specific circumstances and will vary widely. The following table summarizes the Department's costs of providing those services that can be reasonably estimated for CWSs serving various populations. The hourly rate was provided by the Department's fiscal office and includes salary, benefits and in-direct costs (supplies, and the like).

<i>Cost of Services that can be Estimated</i>				
<i>Activity</i>	<i>Hours/Activity/Year for CWSs Serving the Following Population</i>			
	<i>&lt;750</i>	<i>750—5,000</i>	<i>5,000—50,000</i>	<i>&gt;50,000</i>
Conduct sanitary surveys	7.5	10	25	37.5
Conduct other inspections	2.5	3.3	5	10
Determine compliance	12	12	15	15
Maintain PADWIS/eFACTS	7.5	7.5	10	10
Review plans/reports	7.5	10	15	15
Provide technical assistance/training	7.5	7.5	10	10
<i>Total Hours</i>	44.5	50.3	80	97.5
<i>at \$49/Hour =</i>	\$2,180	\$2,465	\$3,920	\$4,778

Examples of other services and costs that involve variable circumstances and preclude a single estimate for the services include the following:

*Sanitary surveys that take longer to conduct due to the complexity or size of the water system.* Examples of actual hours expended and costs to complete more complicated sanitary surveys at large water systems (that is, those serving populations > 50,000) are as follows:

System A (population = 57,000): 40.5 hours at a cost of \$1,984

System B (population = 66,500): 40 hours at a cost of \$1,960

System C (population = 87,000): 49 hours at a cost of \$2,401

System D (population = 105,000): 60 hours at a cost of \$2,940

System E (population = 120,000): 60 hours at a cost of \$2,940

System F (population = 747,500): 103 hours at a cost of \$5,047

System G (population = 1.6 million): 124 hours at a cost of \$6,076

*Additional follow-up actions taken by the Department in response to a violation.* When a drinking water standard is exceeded, Department staff are responsible for: consulting with and providing direction to the water system; ensuring that public notice is complete, timely and repeated as needed; tracking, reviewing and approving follow-up and corrective actions (such as collecting confirmation or additional samples, repairing/replacing/installing water treatment or taking contaminated sources offline); and determining when the system has returned to compliance.

For example, in 2016, monitoring results for a large water system in this Commonwealth indicated the 90th percentile lead value exceeded the action level established in the Lead and Copper Rule. This triggered lead service line replacement actions. Department staff spent at least 116 1/2 hours working to address this important issue. Services provided by the Department to achieve compliance included meetings, file reviews, drafting compliance documents, follow up action reviews and letters. The approximate cost for these services is \$5,708.

*Additional follow-up, corrective and emergency actions taken by the Department in response to a water supply emergency.* Water supply emergencies occur each year and require substantial resources from the Department. The following are examples of emergencies and associated costs for services provided by the Department.

In spring 2011, unexpected damage to a very large water main resulted in a major leak, loss of significant water quantity and pressure. The result was closure of multiple businesses and government agencies in a large city for 3 days due to lack of potable water supply. This emergency spanned approximately 5 consecutive days with approximately 66,500 customers impacted. The Department provided a variety of onsite support services at the site of the break and at the drinking water filtration plant. Department cost for services provided during this event equates to approximately 160 hours of staff time and a cost of \$7,840.

In summer 2012, significant construction delays in completing critical renovations and upgrades to a water filter plant threatened the ability to provide an adequate quantity of drinking water to approximately 210,000 customers. Department staff provided a variety of specialized engineering and operational support services over the course of several weeks. Total cost estimate of Depart-

ment services provided during this event includes 600 hours of staff time costing approximately \$29,400.

In summer 2015, runoff from a large fire at an industrial facility severely contaminated the intakes for two PWSs thereby rendering their normal source of surface water untreatable for almost 3 months. Together, the 2 public water suppliers impacted provided drinking water to approximately 43,000 customers. Several Department staff were involved in providing a wide variety of emergency support services, over the course of several months, to the water suppliers affected. Department cost estimates for this event include 515 staff hours (\$25,235) and emergency sampling costs (\$17,818). The total cost of Department services provided was approximately \$43,053.

In winter 2016, an equipment failure resulted in flooding at a surface water filtration plant which provides water to approximately 20,000 customers. This immobilized treatment and pumping capabilities for 6 consecutive days. The filter plant did not resume normal operations for approximately 2 weeks. Without combined efforts by the water system, the Department and neighboring water systems, 20,000 customers could have endured consecutive days without an adequate supply of water. Department services included coordination with neighboring water systems to identify alternate sources of water, emergency permit considerations, site assessments, engineering and operational support. Additionally, the Department loaned the PWS critical water quality monitoring equipment (valued at approximately \$24,000) for approximately 10 weeks to help verify that safe water was consistently provided. The total cost estimate of Department services provided during this event also includes 300 hours of staff time, which cost approximately \$14,700.

*Cost of samples collected by the Department during inspections and FPPEs, in response to complaint investigations, and to assess water quality and protect public health during water supply emergencies.* These sampling costs range from \$30 for inorganic analyses to \$400 for pesticides to \$1,200 for analysis of *Cryptosporidium* and *Giardia* to \$2,968 for a complete emergency sampling suite. Total Department lab costs average approximately \$680,000 per year.

*Costs associated with additional training when new regulations are promulgated.* One example is the numerous training sessions that were developed and delivered in 2015-2016 to roll-out implementation of the RTCR adopted to conform to Federal requirements. This train-

ing included 8 different training courses, workshops and webinars that were presented 160 times across this Commonwealth for a total of 482 hours of training. The cost to deliver 482 hours of training was \$23,618.

*Costs associated with specific follow-up actions established in new regulations.* The Federal RTCR became effective on April 1, 2016, and the Department and the EPA shared enforcement of the Federal rule until the Commonwealth's regulations were adopted at 46 Pa.B. 6005 (September 24, 2016). As part of the Department's enforcement responsibilities during this interim period, staff conducted Level 2 assessments at PWSs. A Level 2 assessment is triggered when a public water supply has an *E. coli* MCL violation or when two total coliform triggers occur during a 12-month period. During this interim period, Department staff completed 94 Level 2 Assessments at more than 85 regulated PWSs. These assessments identified over 400 defects that have been or are being corrected, thereby improving public health protection. Estimated costs for services provided by the Department were approximately \$3,000 per assessment for a total cost of \$282,000.

The additional costs described in the previous four paragraphs, as noted by italicized headings, are more evident in medium and large water systems due to their size, age, complexity and number of customers at risk. Because these additional costs are variable (that is, the costs are not incurred every year for every water system), it is not possible to establish an average cost for these services. However, these additional costs were considered when determining the annual fees for the medium and large water systems.

The proposed annual fees could have been based solely on the costs for the services that could be estimated. However, that approach would have resulted in a disproportionate impact on the smallest CWSs and would have failed to account for the additional costs incurred by the Department to provide services that cannot be readily estimated, such as those previously described, which result in substantially higher costs for medium and large water systems. Thus, the proposed annual fees were developed, to the extent possible, to bear a reasonable relationship to the actual costs of the services provided while achieving a reasonable cost to the 10.7 million customers served. The following table shows the per person costs associated with the proposed annual fees as compared to the per person costs associated with annual fees based solely on the cost of services that can be estimated.

<i>Annual Fees vs. Cost Per Person Per Year</i>				
<i>Population Served</i>	<i>Proposed Annual Fee</i>	<i>Cost Per Person Per Year</i>	<i>Estimated Cost of Services</i>	<i>Cost Per Person Per Year</i>
25—100	\$250	\$2.50—\$10.00	\$2,180	\$21.80—\$87.20
101—500	\$500	\$1.00—\$4.95	\$2,180	\$4.36—\$21.58
501—1,000	\$1,000	\$1.00—\$2.00	\$2,180	\$2.18—\$4.35
1,001—2,000	\$2,000	\$1.00—\$2.00	\$2,465	\$1.23—\$2.46
2,001—3,300	\$4,000	\$1.21—\$2.00	\$2,465	\$0.74—\$1.23
3,301—5,000	\$6,500	\$1.30—\$1.97	\$2,465	\$0.49—\$0.75
5,001—10,000	\$10,000	\$1.00—\$2.00	\$3,930	\$0.39—\$0.78
10,001—25,000	\$20,000	\$0.80—\$2.00	\$3,920	\$0.16—\$0.39
25,001—50,000	\$25,000	\$0.50—\$1.00	\$3,920	\$0.08—\$0.16

<i>Annual Fees vs. Cost Per Person Per Year</i>				
<i>Population Served</i>	<i>Proposed Annual Fee</i>	<i>Cost Per Person Per Year</i>	<i>Estimated Cost of Services</i>	<i>Cost Per Person Per Year</i>
50,001—75,000	\$30,000	\$0.40—\$0.60	\$3,920	\$0.05—\$0.08
75,001—100,000	\$35,000	\$0.35—\$0.47	\$4,778	\$0.05—\$0.06
100,001 or more	\$40,000	\$0.40 or less	\$4,778	\$0.05 or less

The Board is seeking comment on the proposed annual fees and the approach previously discussed used to develop them.

*Other alternatives considered*

Another approach that was considered, based on how some other states have established annual fees, is establishing the fee based on the number of service connections associated with the CWS. Two options were considered:

*Option No. 1: annual fees based on flat rate per number of connections.* The Department does not currently have accurate data on the number of service connections in PWSs in this Commonwealth. This is not a required field in the Federal and Commonwealth databases. To estimate the number of service connections, the population served by the CWS was divided by 2.7 persons per household. The estimated number of connections associated with CWSs in this Commonwealth range from 9 to almost 600,000, with total connections estimated to exceed 4.4 million. To base an annual fee on the number of connections, the \$7.5 million needed was divided by the estimated number of total connections to derive a per connection fee of \$1.70. This per connection fee would equate to an estimated per person cost of \$0.63. When the per connection fee is multiplied by the estimated number of CWS connections, the total annual fee paid by CWSs would range from \$15.30 to over \$1 million. While this approach may achieve approximately the same cost per person, the annual fees would not bear a reasonable relationship to the actual cost of providing services to the CWSs. Therefore, this alternative approach to developing the proposed annual fee was not recommended.

<i>Option No. 1: Annual Fees Based on Flat Rate/Connection vs. Cost of Providing Services</i>				
<i>Population Served</i>	<i>Number of Service Connections</i>	<i>Annual Fee</i>	<i>Minimum Cost of Services</i>	<i>Percentage of Cost of Minimum Services</i>
25	9	\$15.30	\$2,180	<1%
125	46	\$78.20	\$2,180	4%
750	278	\$472.60	\$2,180	22%
3,300	1,222	\$2,077.40	\$2,465	84%
10,000	3,704	\$6,296.80	\$3,920	160%
50,000	18,518	\$31,480.60	\$3,920	803%
100,000	37,037	\$62,962.90	\$4,778	1,318%
120,000	45,052	\$76,588.40	\$4,778	1,603%
160,000	59,259	\$100,740.30	\$4,778	2,108%
250,000	92,592	\$157,406.40	\$4,778	3,294%
660,000	244,444	\$415,554.80	\$4,778	8,697%
820,000	303,704	\$516,296.80	\$4,778	10,806%
1,600,000	592,593	\$1,007,408.10	\$4,778	21,084%

*Option No. 2: annual fees based on sliding rate with minimum fee.* A second per connection option considered was to use a sliding scale fee per connection. As illustrated in the following table, the annual fees generated using a sliding scale would not bear a reasonable relationship to the actual costs of the services provided. Therefore, this alternative approach to developing the proposed annual fees was not recommended.

<i>Option No. 2: Annual Fees Based on Sliding Scale/Connection vs. Cost of Providing Services</i>					
<i>Population Served</i>	<i>Number of Service Connections</i>	<i>Sliding Scale Fee Per Connection</i>	<i>Annual Fee</i>	<i>Minimum Cost of Services</i>	<i>Percentage of Cost of Minimum Services</i>
25	9	Flat fee	\$250.00	\$2,180	11%
125	46	Flat fee	\$250.00	\$2,180	11%
750	278	\$3.20	\$889.60	\$2,465	36%
3,300	1,222	\$3.20	\$3,910.40	\$2,465	150%
10,000	3,704	\$3.00	\$11,112.00	\$2,465	450%
50,000	18,518	\$1.70	\$31,480.60	\$3,920	803%
100,000	37,037	\$1.50	\$55,555.50	\$4,778	1,163%
120,000	45,052	\$1.50	\$67,578.00	\$4,778	1,414%

<i>Option No. 2: Annual Fees Based on Sliding Scale/Connection vs. Cost of Providing Services</i>					
<i>Population Served</i>	<i>Number of Service Connections</i>	<i>Sliding Scale Fee Per Connection</i>	<i>Annual Fee</i>	<i>Minimum Cost of Services</i>	<i>Percentage of Cost of Minimum Services</i>
160,000	59,259	\$1.50	\$88,888.50	\$4,778	1,860%
250,000	92,592	\$1.50	\$138,888.00	\$4,778	2,907%
660,000	244,444	\$1.00	\$244,444.00	\$4,778	5,116%
820,000	303,704	\$1.00	\$303,704.00	\$4,778	6,356%
1,600,000	592,593	\$1.00	\$592,593.00	\$4,778	12,402%

The TAC asserted that the public water supply community needs adequate time to review and evaluate the proposed fees. The TAC recommended that, prior to seeking fees from the regulated water suppliers, the Department should first request adequate funding from the General Assembly to maintain the Safe Drinking Water Program and its core functions, including upgraded information technology systems. Further, the TAC recommended that the Department should streamline operating costs and improve efficiencies before seeking fees. The TAC asserted that improving information technology systems would greatly improve the efficiency of the Department. Further, the TAC stated that the General Fund should subsidize the small systems, not the ratepayers of the medium and large systems.

The Department requested and will continue to request additional funding from the General Fund during the annual budget process to support the Safe Drinking Water Program. The decrease in funding has caused the need for the proposed annual fees. If funding becomes available, the Department will evaluate the continuing need for the proposed annual fees. As for the cost to customers of small versus medium and large CWSs, the proposed annual fees provide a reasonable relationship to the actual costs of the services provided by the Department when considering the minimum costs that can be estimated in advance and the cost of services that arise on a case-by-case basis previously discussed.

The Department has streamlined its operations in nearly all areas, except for e-Inspections. In response to many years of staffing and resource shortfalls, the program has been reduced to only those activities that are mandated by State and Federal laws, regulations and primacy requirements. Implementation of e-Inspections would streamline data management by eliminating the manual entry of inventory updates, inspection results, and the like, into PADWIS and eFACTS. However, the Department would need additional funding to purchase mobile devices and develop and maintain e-Inspection computer programs. If e-Inspections or other efficiencies are developed in the future, the ongoing 3-year review of fees will be updated accordingly. However, future efficiencies may also be offset by new regulations and mandates. All of these circumstances will be considered every 3 years. If overall Department costs go down due to improved efficiencies, the fees will be adjusted accordingly.

The TAC recommended that the Department also evaluate a surcharge rate factor based on gallons produced for each permitted facility to determine the annual fee for community, bottled, vended, retail and bulk hauling water systems. The TAC also claimed that bottled and vended water fees do not seem equitable in relationship to the cost of the product and asked why the fee is not based on the gallons produced. The Department does not currently have sufficient data to determine the gallons produced as this is not a required data field.

Regarding the other annual fees in subsection (a), proposed fees for NTNCWS range from \$100 to \$1,000, annual fees for transient noncommunity water systems (TNCWS) range from \$50 to \$500, annual fees for bottled water systems are \$2,500 and annual fees for vended, retail and bulk water systems are \$1,000.

These proposed fees were determined using the same criteria as previously discussed and are illustrated as follows. The total hours for services that can be estimated were as follows:

- For NTNCWSs, the total hours ranged from 16 to 22 hours.
- For TNCWSs, the total hours ranged from 8 to 13 hours.
- For BVRBs, the total hours ranged from 21 to 26 hours.

<i>Annual Fees vs. Cost Per Person Per Year</i>				
<i>Population Served</i>	<i>Proposed Annual Fee</i>	<i>Cost Per Person Per Year</i>	<i>Estimated Cost of Services</i>	<i>Cost Per Person Per Year</i>
<i>NTNCWSs</i>				
25—100	\$100	\$1.00—\$4.00	\$784	\$7.84—\$31.36
101—500	\$250	\$0.50—\$2.48	\$784	\$1.57—\$7.76
501—1,000	\$500	\$0.50—\$1.00	\$784	\$0.78—\$1.56
1,001—3,300	\$750	\$0.23—\$0.75	\$1,078	\$0.33—\$1.08
3,301 or more	\$1,000	\$0.30 or less	\$1,078	\$0.33 or less



<i>Annual Fees vs. Cost Per Person Per Year</i>				
<i>Population Served</i>	<i>Proposed Annual Fee</i>	<i>Cost Per Person Per Year</i>	<i>Estimated Cost of Services</i>	<i>Cost Per Person Per Year</i>
<i>TNCWSs</i>				
25—100	\$50	\$0.50—\$2.00	\$392	\$3.92—\$15.68
101—500	\$100	\$0.20—\$0.99	\$392	\$0.78—\$3.88
501—1,000	\$200	\$0.20—\$0.40	\$392	\$0.39—\$0.78
1,001 or more	\$500	\$0.50 or less	\$392	\$0.39 or less
<i>BVRBs</i>				
Bottled	\$2,500	N/A	\$1,274	N/A
Vended	\$1,000	N/A	\$1,029	N/A
Retail	\$1,000	N/A	\$1,029	N/A
Bulk	\$1,000	N/A	\$1,029	N/A

Subsection (b) specifies that the number of customers served shall be based on the Department's PWS inventory, PADWIS, at the time of billing for annual fees.

Subsection (c) contains a schedule of payments for the annual fees. The Department will allow quarterly payments for fees of \$10,000 or more.

§ 109.1403. *Monitoring waiver fees*

Proposed subsection (a) adds the fees for waiving the monitoring requirements for volatile organic chemicals, synthetic organic chemicals and inorganic chemicals for systems with a single source of drinking water.

Proposed subsection (b) adds the fees for renewing a waiver from monitoring requirements for systems with a single source of drinking water.

Proposed subsection (c) adds the fees for waiving the monitoring requirements for systems with more than one source of drinking water.

§ 109.1404. *Community and noncommunity water system permitting fees*

The proposed permitting fees were determined using a workload analysis. Costs were assigned based on the relative complexity of the permit review. Permit fees have not been increased since originally adopted in 1984.

The Department used the following milestones or steps in the permit review process (with time ranges in hours) to calculate the proposed fees:

- Administrative completeness review (1 hour)
- Technical review (range of 1—153 hours, average of 32 hours)
- Preparation of the construction permit (2 hours)
- Pre-operational inspection (1—3 hours)
- Preparation of the operation permit (1 hour)

A figure of \$64 per hour was used for technical staff time.

<i>Proposed Permit Fees</i>		
<i>Title</i>	<i>Current Fee</i>	<i>Proposed Fee</i>
<i>Permitting Fees (CWSs and NCWSs)</i>		
Permit/major amendment	\$750	\$300—\$10,000
Minor amendment	\$0	\$100—\$5,000
Operations permit	\$0	\$50
Emergency permit	\$0	\$100
Change in legal status	\$0	\$100
<i>Additional NCWS Fees</i>		
Application for approval	\$0	\$50
4-log permit	\$0	\$50
<i>Feasibility Study Fees</i>		
Feasibility study	\$0	\$300—\$10,000

Proposed subsection (a) adds the fee schedule for applications for construction permits or major construction permit amendments under § 109.503, except for an application for BVRB facilities under § 109.1005 (relating to permit requirements).

Proposed subsection (b) adds the fee schedule for requests for minor construction permit amendments under § 109.503, except for a change in legal status.

Proposed subsection (c) adds the fee for changes in legal status of the permit.

Proposed subsection (d) adds the fee for new or amended operations permits under § 109.504 (relating to public water system operating permits).

Proposed subsection (e) adds the fee for a request for an emergency permit.

The TAC recommended that permit fees should not be based on population. Rather, the TAC asserted that the fees should be based on the type, scope, size and complexity of the project. The TAC also commented that minor amendments should not require extensive review and should be substantially less than major amendments or new permits.

Based on a workload analysis and a review of historical permits, the Department determined that the assessment of permit fees by population generally takes into consideration the size and complexity of the project. Projects for larger systems are generally larger and more complex than projects for smaller systems. Larger systems generally have more complicated simultaneous compliance concerns, which add to the complexity of the project. The fees for minor amendments are lower than the fees for major amendments or new permits.

§ 109.1405. *Permitting fees for general permits*

This proposed section explains that fees for general permits will be established in the general permit and will not exceed \$500. The fee for each general permit will be based on a workload analysis prepared prior to issuance of a draft of the general permit for public comment and will reflect the Department’s estimated cost for providing services associated with the general permit, including reviewing and approving coverage or renewed coverage under the general permit and conducting inspections and providing other services to ensure compliance.

§ 109.1406. *Permitting fees for bottled water and vended water systems, retail water facilities, and bulk water hauling systems*

The Department used the following milestones or steps in the permit review process (with time ranges in hours) to calculate the proposed fees:

- Administrative completeness review (1 hour)
- Technical review (range of 1—153 hours, average of 32 hours)
- Preparation of the construction permit (2 hours)
- Pre-operational inspection (1—3 hours)
- Preparation of the operation permit (1 hour)

A figure of \$64 per hour was used for technical staff time.

<i>Proposed Permit Fees</i>		
<i>Title</i>	<i>Current Fee</i>	<i>Proposed Fee</i>
<i>Permitting Fees (BVRBs)</i>		
Permit/major amendment	\$750	\$100—\$10,000
Minor amendment	\$0	\$100—\$1,000
Operations permit	\$0	\$50
Change in legal status	\$0	\$100
Out-of-State bottled water	\$100	\$1,000
Emergency permit	\$0	\$100

Proposed subsection (a) adds the fees for construction permits or major construction permit amendments under § 109.1005, except an out-of-State facility or system using finished water as its sole source of water.

Proposed subsection (b) adds fees for a bottled water system, retail water facility or bulk water hauling system purchasing finished water as its sole source of water.

Proposed subsection (c) adds the fees for an out-of-State bottled water system submitting proof of out-of-State approval under § 109.1005.

Proposed subsection (d) adds the fees for minor construction permit amendments under § 109.1005, except for a change in legal status.

Proposed subsection (e) adds the fees for a change in legal status, such as a transfer of ownership, incorporation or merger.

Proposed subsection (f) adds the fees for a new or amended operations permit.

Proposed subsection (g) adds the fees for an emergency permit.

§ 109.1407. *Feasibility study*

This section adds the fees for feasibility study and pilot study review services from the Department. The average hours to review and approve a feasibility study or pilot study are 37 1/2 hours.

The TAC recommended that the fees should be based on the type, scope and complexity of the project, rather than the system population. The Department notes that system population takes into account the increasing complexity of water systems as population increases.

§ 109.1408. *Noncommunity water system application for approval*

This proposed section adds the fees for an application for approval for an NCWS that is released from the obligation to obtain a construction and an operation permit under § 109.505 (relating to requirements for noncommunity water systems).

§ 109.1409. *Noncommunity water system 4-log permit*

This proposed section adds the fees for NCWSs demonstrating 4-log treatment of viruses under Subchapter M (relating to additional requirements for groundwater sources).

§ 109.1410. *Payment of fees*

This proposed section adds requirements for paying the fees required under Subchapter N.

§ 109.1411. *Disposition of funds*

Per the SDWA, this proposed section requires that all fees be paid into the State Treasury into a special restricted revenue account in the General Fund known as the Safe Drinking Water Account, which is to be administered by the Department for use in protecting the public from the hazards of unsafe drinking water.

§ 109.1412. *Failure to remit fees*

As requested by the TAC, this proposed section adds provisions for the addition of 6% interest for systems that do not pay their annual fees in a timely manner.

The interest charges are extra costs associated with the collection of overdue fees. Section 4(c) of the SDWA provides that Department fees are to “. . . bear a reasonable relationship to the actual cost of providing a service.” The proposed interest charges relate to extra services necessary to collect overdue fees such as reminder notice mailings, NOV mailings, phone calls and e-mails to delinquent payers. The amount of interest actually charged will depend on how long it takes for the PWS to pay the overdue amount. The longer it takes to collect the fee, more services will be required of the Department to collect the overdue fee and the interest charges associated with that service.

This proposed section would also allow the Department to suspend technical services, such as issuing monitoring waivers, plan approvals or permits, for water systems with delinquent fees in excess of 180 days.

§ 109.1413. *Evaluation of fees*

This proposed section requires the Department to provide the Board with an evaluation of the fees in this chapter and recommend regulatory changes to the Board to address any disparity between the program income generated by the fees and the Department's cost of administering the program with the objective of ensuring fees meet program costs and programs are self-sustaining.

The TAC concurred with the 3-year cycle for evaluating fees.

F. *Benefits, Costs and Compliance*

*Benefits*

One or more of the proposed amendments affect all 8,521 PWSs serving approximately 12.7 million Pennsylvanians. The residents of this Commonwealth will benefit from: 1) the avoidance of a full range of health effects from the consumption of contaminated drinking water such as acute and chronic illness, endemic and epidemic disease, waterborne disease outbreaks and death; 2) the

continuity of a safe and adequate supply of potable water; and 3) the protection of public drinking water sources, which will result in maintaining the highest source water quality available, thereby minimizing drinking water treatment costs.

This proposed rulemaking will protect public health by providing increased protection from microbial pathogens and chemical contaminants in PWSs and strengthen system resiliency. Safe drinking water is vital to maintaining healthy and sustainable communities. Proactively avoiding incidents such as waterborne disease outbreaks can prevent loss of life, reduce the incidents of illness and reduce health care costs. Proper investment in PWS infrastructure and operations helps ensure a continuous supply of safe drinking water, enables communities to plan and build future capacity for economic growth, and ensures their long-term sustainability for years to come.

*Source water assessment, protection and permitting requirements.* The benefits of the source water assessment and protection program amendments are discussed in Section D of this preamble under “proposed amendments to source water assessment and protection program.”

In addition to those benefits, the proposed amendments regarding new sources of supply in § 109.503 will more clearly define the existing requirements regarding the proper order of the permitting process for developing a new PWS source. These clarifications are needed to help insure that the proper level of treatment is designed and installed in a timely manner, thereby resulting in less delay for permitting a new source that may be needed to meet public health protection requirements, or provide redundancy in the event of contamination of existing sources. The proposed amendments should result in cost savings due to the avoidance of expensive permitting mistakes.

West Virginia and Virginia, also in EPA Region III, require source water assessments for new sources. In Virginia, the goal is to have a source water assessment completed by Virginia drinking water program staff before the operations permit is issued. Under West Virginia's new statute on source water protection, an assessment is included as part of a local source water protection plan and shall be completed by the water supplier prior to operation for a surface water source.

Regarding the development of local source water protection programs, Delaware and West Virginia have requirements for source water protection by statute. Under these proposed amendments, the development of a local source water protection program will remain voluntary in this Commonwealth.

*Turbidity and filtration requirements.* Proposed amendments to the monitoring, calibration, recording and reporting requirements for the measurement of turbidity are more stringent than Federal requirements. The proposed amendments benefit more than 8 million Pennsylvanians that are supplied water by PWSs using filtration technologies. The proposed amendments are based on Department inspections and the evaluation of more than 1,250 filters through the Department's FPPE program. These evaluations have documented that existing requirements are not sufficient to prevent turbidity spikes or the shedding of particles and microbial pathogens into the finished water, which puts consumers at risk of exposure to microbial pathogens. Costs related to waterborne disease outbreaks are discussed in Section D of this preamble under “proposed amendments to surface water treatment requirements.”

Existing § 109.301(1)(i) requires turbidity monitoring of the CFE once every 4 hours. This period of intermittent sample review allows the production of significant volumes of water that are not monitored for compliance with the maximum allowable turbidity limit. The proposed amendments for CFE turbidity monitoring will require continuous monitoring and recording of the results every 15 minutes. This will also enable operators to identify problematic water quality trends and respond more quickly with necessary process control adjustments.

IFE monitoring ensures that filter deficiencies are identified and corrected before a CFE turbidity exceedance occurs. Existing regulations require continuous IFE turbidity monitoring at conventional and direct filtration plants. The proposed amendments for IFE monitoring include all filtration types. In recent years, the Department has documented breakdowns in treatment of individual filters at filter plants not classified as conventional or direct. The likelihood of a breakdown in treatment or physical integrity of an individual filter is a concern regardless of the specific type of filter technology utilized. Thus, an expansion of existing requirements is needed.

Health effects associated with microbial contaminants tend to be due to short-term, single dose exposure rather than long-term exposure. Therefore, if a short duration single turbidity exceedance of the existing maximum allowable turbidity limit occurs and goes unnoticed, consumers are at risk of exposure to microbial pathogens. By requiring continuous monitoring and recording of the results at least every 15 minutes at CFE and IFE locations for all filter plants, water suppliers will be better able to identify problems before an exceedance occurs and determine compliance with the maximum allowable turbidity limit at all times.

The proposed amendments lower IFE trigger levels to be consistent with CFE turbidity requirements. Exceeding an IFE trigger is not a violation; instead, it prompts the water supplier to investigate the cause of the problem and correct any deficiencies. If water suppliers are diligent, violations should not occur.

An additional proposed amendment will require all surface water filtration plants to implement a filter bed evaluation program that assesses the overall integrity of each filter to identify and correct problems before a turbidity exceedance or catastrophic filter failure occurs. Filters are the final barrier for removal of acute pathogens and are therefore critical to public health protection. For many systems in this Commonwealth and across the United States, this infrastructure is aging, and the proposed amendment to require a physical inspection once per year is a necessary minimum preventative action item.

All of the proposed filter plant performance provisions are part of a multibarrier approach to ensure treatment is adequate to provide safe and potable water to all users.

Thirty states responded to a survey conducted by ASDWA on behalf of the Commonwealth. Twenty states require continuous turbidity monitoring and recording of CFE and 14 states require continuous IFE monitoring and recording for all filtration types.

*Automatic alarms and shutdown capabilities.* Filter plants are complex and dynamic. In response to many circumstances, the water plant operator shall take an immediate action to protect public health, such as when source water quality changes, chemical feed pumps malfunction, filters require backwashing or other unforeseen

circumstances occur. Water plant operators are often required to perform other duties, which leave water plants unattended, and which limit operators' ability to respond immediately to treatment needs.

Automated alarms and shutdown capabilities play an important role in modern water treatment and public health protection. Many water suppliers have already taken advantage of readily available technology to reduce personnel costs while still providing safe water to their customers. The proposed amendments ensure that all surface water filtration plants have the minimum controls in place to ensure that operators are immediately alerted to major treatment problems. The proposed amendments also ensure that unmanned filter plants are automatically shutdown when the plant is producing water that is not safe to drink, which prevents contaminated water from being provided to customers for extended periods of time. These alarms and shutdown capabilities will allow operators at attended and unattended filtration plants to promptly respond to the water quality problems and treatment needs of the plant. The automated plant shutdown is intended to prevent poor quality water from reaching customers, which will protect public health, reduce PWS costs related to corrective actions and issuing public notice, reduce costs to the community and maintain consumer confidence.

Based on an ASDWA survey, 12 states responded that they require filter plants to be attended at all times while in operation. Of the 12 states that require attended operation, 7 states have regulations that establish standards for plant automation, alarms and shutdowns. The proposed amendments are less stringent than 12 other states since attended operation is not being required. In addition, the proposed amendments regarding plant automation, alarms and shutdown capabilities are less stringent than the 10 States Standards.

*Filter-to-waste requirements.* The Department's FPPE program has evaluated approximately 1,250 filters since 1999. The results of these evaluations show that filters are most likely to shed turbidity, particles and microbial organisms at the beginning of a filter run when the filter is first placed into service following filter backwash or maintenance, or both. The proposed amendments require all filter plants that have the ability to filter-to-waste to do so following filter backwash or maintenance, or both, and before placing the filter into service. Filtering to waste will reduce the likelihood of pathogens passing through filters and into the finished drinking water. The proposed amendments not require water suppliers without filter-to-waste capabilities or with undersized filter-to-waste capabilities to make a capital improvement.

All 30 states responding to an ASDWA survey require some of their filter plants to filter-to-waste. This proposed rulemaking is not expected to negatively affect the Commonwealth because implementation is not expected to require any capital improvements.

*Strengthen resiliency through auxiliary power or alternate provisions.* The proposed amendments to system service and auxiliary power requirements will strengthen system resiliency and ensure that safe and potable water is continuously supplied to consumers and businesses. A continuous and adequate supply of safe drinking water is vital to maintaining healthy and sustainable communities.

PWS sources and treatment facilities are susceptible to emergency situations resulting from natural and manmade disasters. Examples of emergencies from recent

years include tropical storms, flooding, high winds, ice, snow, industrial chemical plant runoff, pipeline ruptures and transportation corridor spills. These emergencies have resulted in significant impacts to consumers and businesses due to inadequate water quantity or quality, and in water supply warnings and advisories. Examples of emergencies that have occurred in this Commonwealth and demonstrate the benefit of these proposed amendments are provided in Section D of this preamble under “proposed amendments to system service and auxiliary power requirements.”

*New annual fees and amended permit fees.* To improve program performance, this proposed rulemaking is intended to supplement Commonwealth costs for administering the Safe Drinking Water Program by filling the funding gap. The proposed fees will total approximately \$7.5 million annually and will account for nearly 50% of the Safe Drinking Water Program’s Commonwealth funding. The fees will augment the Safe Drinking Water Program funding currently coming from the General Fund (\$7.7 million).

The proposed annual fees range from \$250 to \$40,000 for CWSs, \$50 to \$1,000 for NCWSs and \$1,000 to \$2,500 for BVRBs. The fees will most likely be passed on to the 10.7 million customers of these PWSs as a user fee. Per person costs are expected to range from \$0.35 to \$10 per year, depending on the water system size.

Refer to Sections D and E of this preamble for more information about the benefits and costs associated with the proposed fees.

*General permits.* The proposed amendments establish the regulatory basis for the issuance of general permits for high volume, low risk modifications or activities to streamline the permitting process. General permits provide a cost-effective method to regulate these activities.

*Requirements for NCWSs.* The proposed amendments clarify that NCWSs that are not required to obtain a permit shall still obtain Department approval of the facilities prior to construction and operation.

*Address gaps in monitoring, reporting and tracking back-up sources.* The proposed amendments address concerns regarding gaps in the monitoring, reporting and tracking of back-up water sources and entry points. Per State and Federal regulations, all sources and entry points must be included in routine compliance monitoring to ensure water quality meets safe drinking water standards. Sources and entry points that do not provide water continuously are required to be monitored when used. However, monitoring requirements for back-up sources are not currently tracked, which means that verifiable controls are not in place to ensure that all sources and entry points meet safe drinking water standards. Some of these sources have not been used in 5 to 10 years and, therefore, the Department does not know the water quality for these sources. These concerns were most recently highlighted by the EPA’s Office of Inspector General in the 2010 report “EPA Lacks Internal Controls to Prevent Misuse of Emergency Drinking Water Facilities” (Report No. 11-P-0001). The proposed amendments ensure that all sources and entry points are monitored at least annually. PWSs will also be required to document in a comprehensive monitoring plan how routine compliance monitoring will include all sources and entry points.

The use of unmonitored sources and entry points could adversely impact basic water quality, including pH, alkalinity, turbidity, corrosivity and lead solubility, dissolved inorganic carbon and natural organic matter. Water sup-

pliers may have limited information about how these sources or entry points will impact treatment efficacy and distribution system water quality. In addition, many sources may be offline due to poor water quality or MCL exceedances. The use of these back-up or emergency sources, without proper monitoring and verifiable controls, could lead to an increased risk to public health.

Treatment facilities and other appurtenances associated with these sources may also have gone unused and may no longer be in good working order. Back-up sources and entry points with unknown water quality or that are no longer in good working order provide a false sense of security in terms of system resiliency and emergency response. While the Department understands that many facilities are not used on a 24/7 basis, the proposed amendments ensure that all permitted sources and entry points are monitored at least annually.

#### *Compliance Costs*

The proposed general update provisions increase public health protection and system resiliency. Safe drinking water is vital to maintaining healthy and sustainable communities. Proactively avoiding incidents such as waterborne disease outbreaks can prevent loss of life, reduce the incidents of illness and reduce health care costs. For example, it is estimated that the total cost of an *E. coli* contamination incident in Walkerton, Ontario, was \$64.5 million. Costs related to the waterborne outbreak of cryptosporidiosis in Milwaukee, WI, were \$96.2 million. Waterborne disease outbreaks result in significant economic and health impacts and can have long-term impacts due to the loss of trust in PWSs.

Proper investment in PWS infrastructure and operations helps ensure a continuous supply of safe drinking water, enables communities to plan and build future capacity for economic growth, and ensures their long-term sustainability for years to come.

The proposed fees are necessary to improve program performance and fulfill the Department’s fiscal responsibility to cover most, if not all, of its Commonwealth program costs. Program costs are directly tied to the resources needed to meet Federal and State mandates for minimum program elements and for the administration of an effective State Drinking Water Program. Failure to meet minimum program elements may result in an increased risk to public health and the loss of primacy for the Safe Drinking Water Program and associated Federal funding.

*Source water protection and permitting requirements.* Per the Department’s records, approximately 30 new CWS sources are permitted each year. The Department estimates that an additional 8 hours of work completed by a professional geologist will be needed to comply with the new source permitting amendments. This extra time will amount to approximately \$1,176 per source permitted, based on current hourly rates charged by consulting firms.

*Revisions to turbidity monitoring, recording and reporting requirements.* Filter plants that need to install continuous monitoring and recording devices will need to spend about \$3,000 to \$4,000 per monitoring site (includes turbidimeter, controller and installation), with estimated annual costs for maintenance and calibration of \$500 per plant. It is estimated that 21 filter plants will need to install this equipment on individual filters and 52 filter plants will need to install this equipment at their CFE monitoring sites.

• *IFE and CFE monitoring costs.* Costs have been derived from vendors of HACH turbidimeters, the most commonly used turbidimeter in this Commonwealth. If the water supplier prefers a different brand of equipment, the cost may change. Some per instrument cost savings

may occur when multiple instruments are purchased. The following table, provided for illustrative purposes, shows costs related to installing and maintaining one HACH continuous monitoring and recording device:

<i>White Light Turbidimeter (Analog) and Chart Recorder (Analog)</i>			
<i>Items</i>	<i>Initial Cost for First Turbidimeter and Recorder</i>	<i>Estimated Annual Calibration and Maintenance Cost</i>	<i>Additional Turbidimeter and Recorder</i>
HACH 1720E and SC200 (analog signal)	\$2,881.00		\$2,881.00
Calibration cylinder	\$89.00		
20 NTU StablCal × (4) calibrations		\$556.00	
Lamp assembly replacement		\$62.00	
Chart recorder—duel pen	\$1,657.00		\$1,657.00
Chart recorder paper		\$60.00	
Chart recorder replacement pens		\$79.00	
Installation	\$1,000.00		
<i>Total (not including tax and shipping)</i>	\$5,627.00	\$757.00	\$4,538.00

<i>Laser Turbidimeter (Digital) and Chart Recorder (Analog)</i>			
<i>Items</i>	<i>Initial Cost for First Laser Turbidimeter and Recorder</i>	<i>Estimated Annual Calibration and Maintenance Cost</i>	<i>Additional Turbidimeter and Recorder</i>
HACH TU5400 laser turbidimeter (includes flow sensor RFID and system check)	\$6,142.00		\$6,142.00
HACH SC200 (includes flow sensor input, RFID and Modbus)	\$2,596.00		\$2,596.00
Maintenance/calibration kit (includes primary standards)		\$1,100.00 (\$349 to replace the primary standards that are included in the kit)	
Replacement desiccant cartridge		\$17.00	
Chart recorder—duel pen	\$1,657.00		\$1,657.00
Chart recorder paper		\$60.00	
Chart recorder replacement pens		\$79.00	
Installation	\$1,000.00		
<i>Total (not including tax and shipping)</i>	\$11,395.00	\$1,256.00 (1st year) \$505.00 (subsequent year)	\$10,395.00

• *IFE monitoring.* This Commonwealth has 353 filter plants, of which 263 are currently required to continuously monitor and record their IFE and already have instrumentation installed. The proposed amendments require the remaining 90 filter plants to comply with the IFE monitoring requirements of which 69 already have the needed instrumentation. Therefore, 21 filter plants will need to install 1 or more monitoring and recording devices. The majority of these 21 filter plants only have 2 filters. The estimated cost for a water supplier having two filters to install IFE monitoring and recording equipment is expected to be \$10,165 for white light turbidimeters or \$21,790 for laser turbidimeters. The annual maintenance cost for the monitoring and recording equipment on two filters is estimated to be \$757 for the white light turbidimeters or \$505 for laser turbidimeters. The cumu-

lative cost for the installation of the IFE monitoring and recording equipment at all 21 filter plants is estimated to be \$213,465 for white light turbidimeters or \$457,590 for laser turbidimeters. The cumulative cost for maintaining the monitoring and recording equipment at all 21 filter plants is estimated to be \$15,897 per year for white light turbidimeters and \$10,605 per year for laser turbidimeters.

• *CFE monitoring.* The majority of filter plants in this Commonwealth already continuously monitor and record their CFE. The exact number of filtration plants without this capability is not known, but based on a review of 90 filtration plants, it is estimated to be 15% of the 353 filter plants in this Commonwealth. The estimated cost to install CFE monitoring and recording equipment is \$5,627 per plant for white light turbidimeters and record-

ers or \$11,395 per plant for laser turbidimeters and recorders. The annual maintenance cost for the monitoring and recording equipment is estimated to be \$757 for the white light turbidimeters or \$505 for laser turbidimeters. The cumulative cost for an estimated 52 filter plants to install continuous monitoring and recording equipment is estimated to be \$292,604 for white light or \$592,540 for laser turbidimeters. The cumulative cost for maintaining the monitoring and recording equipment at all 52 filter plants is estimated to be \$39,364 per year for white light turbidimeters or \$26,260 per year for laser turbidimeters.

*Annual filter inspection program.* Significant additional costs are not expected to be associated with implementation of a filter inspection program.

*Filter-to-waste requirements.* No expected costs are associated with the proposed filtering to waste amendments.

*Automatic alarms/shutdown capabilities.* Depending on options chosen, systems may incur \$8,860 to \$11,980 per treatment plant with annual maintenance costs of \$600. It is estimated that 317 of the 353 filter plants already meet these provisions and therefore will not incur any additional costs.

The following information is provided as example cost estimates related to adding automated alarm and shutdown capabilities at a small surface/GUDI water filtration plant. The costs include the monitor, controller and alarm dial-out system. It is assumed that the existing filtration plant will already have the chlorine residual analyzer, turbidity analyzer and clear-well level transmitter. These instruments are required to maintain compliance with existing regulations. An estimated cost for the equipment installation is provided. However, systems could save costs if they install the equipment using in-house staff or a local contract electrician.

The controller and monitor will include adjustable alarm set-points with time delay for a relay output which can be wired to the plant for shutdown of the filter system upon the following conditions: high or low clear well level; high or low entry point chlorine residual; and high CFE turbidity.

The monitor and controller can be configured to send a pre-shutdown warning to allow operators the opportunity to go to the plant to try to resolve the problem before reaching the shutdown set-point. If the process value reaches the shutdown set-point, the filter plant shutdown command will occur and a shutdown alarm message will be sent to the plant operator by text message, e-mail or voice message.

If the facility already has an alarm dialer with capacity for three additional alarm inputs, the alarm dialer can be eliminated from the package. A deduction is shown for this on each equipment option. If the system is staffed continuously, then only alarm capabilities are necessary. This can be accomplished for a lower cost, or possibly no additional cost, depending on the capability of existing filter plant supervisory control and data acquisition equipment.

*Option A—Monitor/alarm system with standard dial-up phone line and alarm dialer*

1) One alarm control device with analog inputs for CFE chlorine residual, CFE turbidity and clear well level.

2) One eight-channel alarm auto-dialer with power supply and battery backup. Requires standard dial-up telephone line connected to alarm dialer. Provides voice message alarm only.

3) One system wiring diagram—custom wiring diagram for specific analyzer types in use at owner's site. Exact terminal numbers will be provided based on owner's equipment to allow installation by local electrical contractor.

4) Furnish onsite calibration, programming and alarm configuration for all equipment and provide full onsite testing for all equipment including alarm testing and dial-out for plant designated phone or pager numbers, or both.

5) Provide onsite operator training on maintenance and standardization of this equipment.

6) Four operation and maintenance manuals with complete instruction manuals for the system.

Total system price: \$8,860

Delivery: 2-3 weeks (standard delivery)

Estimated installation cost: \$2,000

Deduct for use of owner furnished alarm dialer: (\$1,400)

*Option B—Monitor/alarm system with standard dial-up phone line and alarm dialer*

1) One alarm control device with analog inputs for CFE chlorine residual, CFE turbidity and clear well level.

2) One eight-channel alarm auto-dialer with power supply and battery backup. Requires standard dial-up telephone line connected to alarm dialer. Provides voice message alarm only.

3) One system wiring diagram—custom wiring diagram for specific analyzer types in use at owner's site. Exact terminal numbers will be provided based on owner's equipment to allow installation by local electrical contractor.

4) Furnish onsite calibration, programming and alarm configuration for all equipment and provide full onsite testing for all equipment including alarm testing and dial-out for plant designated phone numbers or pager numbers, or both.

5) Provide onsite operator training on maintenance and standardization of this equipment.

6) Four operation and maintenance manuals with complete instruction manuals for the system.

Total system price: \$9,980

Delivery: 2-3 weeks (standard delivery)

Estimated installation cost: \$2,000

Deduct for use of owner furnished alarm dialer: (\$2,500)

*Option C—Monitor/alarm system with cellular alarm dialer*

1) One alarm control device with analog inputs for CFE chlorine residual, CFE turbidity and clear well level.

2) One cellular alarm notification system with eight-channel alarm input with power supply and battery backup. A dial-up telephone line is not required. Provides text and e-mail alarm notification.

3) One system wiring diagram—custom wiring diagram for specific analyzer types in use at owner's site. Exact terminal numbers will be provided based on owner's equipment to allow installation by local electrical contractor.

4) Furnish onsite calibration, programming and alarm configuration for all equipment and provide full onsite testing for all equipment including alarm testing and dial-out for plant designated phone or pager numbers, or both.

5) Provide onsite operator training on maintenance and standardization of this equipment.

6) Four operation and maintenance manuals with complete instruction manuals for the system.

Total system price: \$9,700

Delivery: 2-3 weeks (standard delivery)

Estimated installation cost: \$2,000

The Department estimates that 10% of the 353 filter plants in this Commonwealth will need to install a controller.

*Strengthened system resiliency through auxiliary power or alternate provisions.* All CWSs will be expected to review their existing emergency response plan and equipment to specifically develop a plan to provide a consistent supply of adequate quantity and quality of water during emergency situations. The Department estimates that 400 CWSs do not even have an updated emergency response plan. CWSs that do not have a functional generator or do not have existing capability to meet this requirement through the alternate provision options may need to purchase a generator. The generator should be adequately sized so that it can supply power to critical treatment components necessary to supply safe and potable water. Therefore, the cost of the generator will be proportional to the size of the system (for example, less expensive for small systems). It is difficult to predict system specific costs because of the various options to comply with the proposed amendments. Estimates for small systems are \$3,000 to \$4,000 for the installation of a transfer switch, generator and concrete pad. Costs for medium and large systems could range from \$50,000 to \$200,000 per treatment plant. Not all systems will require auxiliary power. Some systems may already meet reliability criteria through storage or interconnections. Several Mid-Atlantic states have already moved forward with mandatory requirements for auxiliary power supply, including New Jersey, New York and Connecticut.

An estimated 30% of small systems (<3,300) or 485 systems may need to install a back-up power supply. The cumulative cost is estimated to be \$1.94 million. The estimate for medium and large systems is that 20% or 65 systems may need to install a back-up power supply at a cumulative cost of \$8.125 million.

Cost savings of avoiding interruption of continuous supply of safe and potable water were evaluated using the Water Health and Economic Analysis Tool software developed by the EPA. The Department ran the model for a scenario of a water system serving 2,500 customers and experiencing a water outage for 2 days. The model outcomes regarding economic consequences are summarized as follows:

- The value of water sales that would have occurred if there wasn't a disruption in water service is estimated to be \$2,891.
- The value of additional operating costs incurred during the event, which may include bottled/replacement water, equipment, other remediation or miscellaneous costs, is estimated at \$24,775.
- Total economic impact on the water utility due to the 2-day outage (sum of the previous losses) is estimated at \$27,666.
- Regional economic consequences for this same event are estimated at \$926,486. This is the total value of economic activity lost among businesses directly affected by the water service disruption due to the contraction in business activity during the 2-day event.

If the water utility complies with the proposed amendments, the potential cost savings for this 2-day outage, offsetting the costs to install additional auxiliary power, emergency interconnections with neighboring water systems and/or finished water storage, are previously summarized. These costs would increase with each additional day that the water outage continues.

Additional costs savings to water systems and customers will be the prevention of dewatering of the distribution system piping and protection from damage to collapsed water lines (due to lack of ability to provide adequate quantity water to maintain positive pressure).

An estimated 250 BWAs occur each year and 25% or 63 BWAs are caused by water supply disruptions. The total annual cost savings to the regulated water systems is estimated at \$1,742,958. However, the regional economic cost savings to businesses is estimated at more than \$58 million. These cost savings will off-set the costs of improving system resiliency.

#### *Compliance Assistance Plan*

The Safe Drinking Water Program uses the Commonwealth's Pennsylvania Infrastructure Investment Authority Program to offer financial assistance to eligible PWS. This assistance is in the form of a low-interest loan, with some augmenting grant funds for hardship cases. Eligibility is based upon factors such as public health impact, compliance necessity and project/operational affordability.

The Safe Drinking Water Program has established a network of regional office and Central Office training staff that is responsive to identifiable training needs. The target audience in need of training may be either program staff or the regulated community.

In addition to this network of training staff, Bureau of Safe Drinking Water has staff dedicated to providing training and outreach support services to PWS operators. The Department web site also provides timely and useful information for treatment plant operators.

#### *Paperwork Requirements*

Paperwork requirements may include:

- Updating of a source water assessment report when a CWS's annual evaluation identifies changes to actual or probable sources of contamination.
- Additional reporting requirements for PWSs that exceed the lower IFE triggers.
- Reporting a failure of alarm or shutdown equipment.
- Development and maintenance of a distribution map for NCWSs.
- Development and maintenance of a comprehensive monitoring plan.
- CWSs will be required to update their existing emergency response plans to include specific information on how they will meet the requirements of this proposed rulemaking. To minimize the reporting burden and for maintaining security of sensitive documents, the system-specific plans for providing a continuous supply of safe and potable water (uninterrupted system service plan) will not be required to be reported to the Department. Rather, this information will be kept onsite for Department review during inspections or emergencies, or both. An uninterrupted system service plan template will be provided to water suppliers to help facilitate development of the plans.



### G. References

The following documents are referenced throughout this preamble:

Livernois, J. (2001), "The Economic Costs of the Walkerton Water Crisis."

Dearmont, D., McCarl, B.A. and Tolman, D.A. (1998), "Costs of Water Treatment Due to Diminished Water Quality: A Case Study in Texas," *Water Resources Research*, 34(4), 849—853.

The Trust for Public Land (2002), "The Cost of Not Protecting Source Waters."

Legislative Budget and Finance Committee (2013), "A Cost Effective Alternative Approach to Meeting Pennsylvania's Chesapeake Bay Nutrient Reduction Targets."

National Primary Drinking Water Regulations (EPA 816-F-09-004, May 2009).

Corso, P.S., et al. (2003), "Cost of Illness in the 1993 Waterborne *Cryptosporidium* Outbreak, Milwaukee, Wisconsin," *Emerging Infectious Diseases*, 9(4), 426—431.

Huck, P.M., et al. (2002), "Effects of Filter Operation on *Cryptosporidium* Removal," *Journal—American Water Works Association*, 94(6), 97—111.

Emelko, M.B., Huck, P.M. and Douglas, I.P. (2003) "Cryptosporidium and Microsphere Removal During Late In-Cycle Filtration," *Journal—American Water Works Association*, 95(5), 173—182.

EPA Water Supply Guidance 20 (1981) (<https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P100NEI3.txt>).

EPA Membrane Filtration Guidance (EPA 815-R-06-009, November 2005).

EPA, Office of Inspector General (2010), "EPA Lacks Internal Controls to Prevent Misuse of Emergency Drinking Water Facilities" (Report No. 11-P-0001).

### H. Sunset Review

Certain provisions in § 109.301(1) and (2) are proposed to sunset 1 year after the effective date of adoption of this proposed rulemaking. Otherwise, the Board is not establishing a sunset date for this proposed rulemaking since it is needed for the Department to carry out its statutory authority. The Department will continue to closely monitor the regulations for effectiveness and recommend updates to the Board as necessary.

### I. Regulatory Review

Under section 5(a) of the Regulatory Review Act (71 P.S. § 745.5(a)), on August 9, 2017, the Department submitted a copy of this proposed rulemaking and a copy of a Regulatory Analysis Form to the Independent Regulatory Review Commission (IRRC) and to the Chairpersons of the House and Senate Environmental Resources and Energy Committees. A copy of this material is available to the public upon request.

Under section 5(g) of the Regulatory Review Act, IRRC may convey comments, recommendations or objections to the proposed rulemaking within 30 days of the close of the public comment period. The comments, recommendations or objections must specify the regulatory review criteria in section 5.2 of the Regulatory Review Act (71 P.S. § 745.5b) which have not been met. The Regulatory Review Act specifies detailed procedures for review prior to final publication of the rulemaking by the Department, the General Assembly and the Governor.

### J. Public Comments

The Board is seeking comment on several amendments included in this proposed rulemaking. Comment is requested on specific proposed amendments as described in Section E of this preamble regarding §§ 109.301(11), 109.303, 109.511, 109.708 and 109.1402.

Interested persons are invited to submit written comments, suggestions, support or objections regarding this proposed rulemaking to the Board. Comments, suggestions, support or objections must be received by the Board by September 25, 2017.

Comments may be submitted to the Board online, by e-mail, by mail or express mail as follows.

Comments may be submitted to the Board by accessing eComment at <http://www.ahs.dep.pa.gov/eComment>.

Comments may be submitted to the Board by e-mail at [RegComments@pa.gov](mailto:RegComments@pa.gov). A subject heading of this proposed rulemaking and a return name and address must be included in each transmission.

If an acknowledgement of comments submitted online or by e-mail is not received by the sender within 2 working days, the comments should be retransmitted to the Board to ensure receipt. Comments submitted by facsimile will not be accepted.

Written comments should be mailed to the Environmental Quality Board, P.O. Box 8477, Harrisburg, PA 17105-8477. Express mail should be sent to the Environmental Quality Board, Rachel Carson State Office Building, 16th Floor, 400 Market Street, Harrisburg, PA 17101-2301.

PATRICK McDONNELL,  
Chairperson

**Fiscal Note:** 7-521. No fiscal impact; (8) recommends adoption.

### 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:

\* \* \* \* \*

*Nontransient noncommunity water system*—A noncommunity water system that regularly serves at least 25 of the same persons over 6 months per year.

**PDWEP—Guidelines for Public Drinking Water Equipment Performance issued by NSF.**

*Person*—An individual, partnership, association, company, corporation, municipality, municipal authority, political subdivision, or an agency of Federal or State government. The term includes the officers, employees and agents of a partnership, association, company, corporation, municipality, municipal authority, political subdivision, or an agency of Federal or State government.

\* \* \* \* \*

*Source*—The place from which water for a public water system originates or is derived, including, but not limited to, a well, spring, stream, reservoir, pond, lake or inter-connection.

*Source water assessment*—An evaluation documented in writing of the contamination potential of a drinking water source used by a public water system which includes identifying the contributing area to the water source, an inventory of potential contaminant sources and a determination of the susceptibility of the water source to contamination.

*Source water protection area*—A surface water intake protection area or a wellhead protection area, or both.

*Source water protection program*—A surface water intake protection program or a wellhead protection program, or both.

*Spent filter backwash water*—A stream containing particles dislodged from filter media when the filter is backwashed to clean the filter.

*Substantial modification*—A change in a public water system that may affect the quantity or quality of water served to the public or which may be prejudicial to the public health or safety and includes the addition of new sources; the expansion of existing facilities; changes in treatment processes; addition, removal, renovation or substitution of equipment or facilities; and interconnections.

*Surface water*—Water open to the atmosphere or subject to surface runoff. The term does not include finished water.

*Surface water intake protection area*—The surface and subsurface area surrounding a surface-water intake supplying a public water system through which contaminants are reasonably likely to move toward and reach the water source. A surface water intake protection area must consist of up to three zones:

- (i) *Zone A.* A 1/4-mile wide area inland from the edge of a waterway or surface water body and from an area 1/4-mile downstream of the intake to a 5-hour time-of-travel upstream.
- (ii) *Zone B.* A 2-mile wide area inland from the edge of a waterway or surface water body and extending upstream to the 25-hour time-of-travel.
- (iii) *Zone C.* For drainage basins greater than or equal to 100 square miles, the remainder of the upstream basin. Zone B and Zone C, if present, comprise the contributing area for the water source.

*Surface water intake protection program*—A comprehensive program designed to protect each surface water source used by a public water system from contamination.

*System*—

(i) A group of facilities used to provide water for human consumption including facilities used for collection, treatment, storage and distribution. The facilities shall constitute a system if they are adjacent or geographically proximate to each other and meet at least one of the following criteria:

\* \* \* \* \*

*Wellhead protection area*—The surface and subsurface area surrounding a water well, well field, spring or

infiltration gallery supplying a public water system, through which contaminants are reasonably likely to move toward and reach the water source. A wellhead protection area [ **shall consist of the following** ] **must consist of up to three zones:**

- (i) *Zone I.* The protective zone immediately surrounding a well, spring or infiltration gallery which shall be a 100-to-400-foot radius depending on site-specific source and aquifer characteristics.
- (ii) *Zone II.* The zone encompassing the portion of the aquifer through which water is diverted to a well or flows to a spring or infiltration gallery. Zone II shall be a [ **1/2 mile** ] 1/2-mile radius around the source unless a more detailed delineation is approved.
- (iii) *Zone III.* [ **The zone beyond Zone II that contributes surface water and groundwater to Zones I and II.** ] **As hydrogeologic conditions warrant, the zone beyond Zone II that provides groundwater recharge to Zones I and II. Zone II and Zone III, if present, comprise the contributing area for the water source.**

*Wellhead protection program*—A comprehensive program designed to protect [ **a** ] **each** well, spring or infiltration gallery used by a public water system from contamination.

*Wholesale system*—A public water system that treats source water as necessary to produce finished water and then delivers some or all of that finished water to another public water system. Delivery may be through a direct connection or through the distribution system of one or more public water systems.

§ 109.5. Organization of chapter.

(a) This subchapter and [ **Subchapter H** ] **Subchapters H and N** (relating to laboratory certification; and drinking water fees) apply to all public water systems.

\* \* \* \* \*

**Subchapter B. MCLs, MRDLs OR TREATMENT TECHNIQUE REQUIREMENTS**

§ 109.202. State MCLs, MRDLs and treatment technique requirements.

\* \* \* \* \*

(c) *Treatment technique requirements for pathogenic bacteria, viruses and protozoan cysts.* A public water system shall provide adequate treatment to reliably protect users from the adverse health effects of microbiological contaminants, including pathogenic bacteria, viruses and protozoan cysts. The number and type of treatment barriers and the efficacy of treatment provided shall be commensurate with the type, degree and likelihood of contamination in the source water.

(1) A public water supplier shall provide, as a minimum, continuous filtration and disinfection for surface water and GUDI sources. The treatment technique must provide at least 99.9% removal and inactivation of *Giardia lamblia* cysts, and at least 99.99% removal and inactivation of enteric viruses. Beginning January 1, 2002, public water suppliers serving 10,000 or more people shall provide at least 99% removal of *Cryptosporidium* oocysts. Beginning January 1, 2005, public water suppliers serving fewer than 10,000 people shall provide at least 99% removal of *Cryptosporidium* oocysts. The Department, depending on source water

quality conditions, may require additional treatment as necessary to meet the requirements of this chapter and to protect the public health.

(i) The filtration process shall meet the following performance requirements:

(A) *Conventional or direct filtration.*

\* \* \* \* \*

(IV) Beginning January 1, 2005, for public water systems serving fewer than 10,000 persons, the filtered water turbidity shall meet the following criteria:

(-a-) Be less than or equal to 0.3 NTU in at least 95% of the measurements taken each month under § 109.301(1).

(-b-) Be less than or equal to 1 NTU at all times, measured under § 109.301(1).

**(V) Beginning \_\_\_\_\_ (Editor's Note: The blank refers to 1 year after the effective date of adoption of this proposed rulemaking.), for all public water systems, the filtered water turbidity must meet the following criteria:**

**(-a-) Be less than or equal to 0.30 NTU in at least 95% of the measurements taken each month under § 109.301(1).**

**(-b-) Be less than or equal to 1.0 NTU at all times measured under § 109.301(1).**

(B) *Slow sand or diatomaceous earth filtration.*

(I) The filtered water turbidity shall be less than or equal to 1.0 NTU in 95% of the measurements taken each month under § 109.301(1).

(II) The filtered water turbidity shall be less than or equal to 2.0 NTU at all times, measured under § 109.301(1).

(C) *Membrane filtration.*

**(I) Beginning \_\_\_\_\_ (Editor's Note: The blank refers to 1 year after the effective date of adoption of this proposed rulemaking.), for all public water systems, the filtered water turbidity must be less than or equal to 0.15 NTU in at least 95% of the measurements taken each month under § 109.301(1).**

**(II) Beginning \_\_\_\_\_ (Editor's Note: The blank refers to 1 year after the effective date of adoption of this proposed rulemaking.), for all public water systems, the filtered water turbidity must be less than or equal to 1.0 NTU at all times, measured under § 109.301(1).**

[ (C) ] (D) *Other filtration technologies.* The same performance criteria as those given for conventional filtration and direct filtration in clause (A) shall be achieved unless the Department specifies more stringent performance criteria based upon onsite studies, including pilot plant studies, where appropriate.

(ii) The combined total effect of disinfection processes utilized in a filtration plant shall achieve at least a 90% inactivation of Giardia cysts and a 99.9% inactivation of viruses, as determined by CTs and measurement methods established by the EPA. The residual disinfectant concentration in the water delivered to the distribution system prior to the first customer may not be less than .2 mg/L for more than 4 hours, as demonstrated by measurement taken under § 109.301(1). Failure to maintain this level that extends beyond 4 hours constitutes a breakdown in treatment. A system that experiences a breakdown in

treatment shall, under § 109.701(a)(3) (relating to reporting and recordkeeping), notify the Department within 1 hour after the water system learns of the violation or the situation, and shall provide public notice in accordance with § 109.408 (relating to Tier 1 public notice—categories, timing and delivery of notice).

(iii) For an unfiltered surface water source permitted for use prior to March 25, 1989, the public water supplier shall:

\* \* \* \* \*

(B) Provide continuous filtration and disinfection in accordance with this paragraph according to the following schedule:

(I) By December 31, 1991, for a public water system that, prior to March 25, 1989, had a waterborne disease outbreak or Giardia contamination in its surface water source.

(II) Within 48 months after the discovery of one of the following conditions, or by December 31, 1995, whichever is earlier, for a public water system that experiences the condition after March 25, 1989:

(-a-) A waterborne disease outbreak.

(-b-) Giardia contamination in its surface water source.

(-c-) A violation of the microbiological MCL, the turbidity MCL or the monitoring or reporting requirements for the microbiological MCL.

(-d-) A violation of the source microbiological or turbidity monitoring requirements under [ § 109.301(2)(i)(A) and (B) ] § 109.301(2)(i) or the related reporting requirements.

\* \* \* \* \*

**§ 109.204. Disinfection profiling and benchmarking.**

(a) The disinfection profiling and benchmarking requirements, established by the EPA under the National Primary Drinking Water Regulations in 40 CFR 141.172, 141.530—141.536, 141.540—141.544, 141.570(c) and (d) [ and ], 141.708[ — ] and 141.709 are incorporated by reference except as otherwise established by this chapter.

(b) Public water suppliers that did not conduct TTHM and HAA5 monitoring under this section because they served fewer than 10,000 persons when the monitoring was required, but serve 10,000 or more persons before January 1, 2005, shall comply with this section. These suppliers shall also establish a disinfection benchmark [ and consult with the Department for approval ]. [ A supplier that decides to make a significant change to its disinfection practice, as described in this section, shall consult with the Department before making such a change. ]

(c) The public water supplier shall conduct disinfection profiling in accordance with the procedures and methods in the most current edition of the *Disinfection Profiling and Benchmarking Guidance Manual* published by the EPA. The results of the disinfection profiling and the benchmark, including raw data and analysis, shall be retained indefinitely on the water system premises or at a convenient location near the premises. Public water suppliers serving 10,000 or more persons and required to conduct disinfection profiling shall submit the disinfection profiling data and the benchmark data to the Department by June 1, 2001, in a format acceptable to the Department. Public water suppliers serving 500 to 9,999 persons shall submit the disinfection profiling data and the

benchmark to the Department by October 1, 2004. Public water suppliers serving less than 500 persons shall submit the disinfection profiling data and the benchmark to the Department by April 1, 2005, in a format acceptable to the Department.

(d) A public water supplier that obtains a permit or permit modification for filtration treatment for a surface water or GUDI source after \_\_\_\_\_ (*Editor's Note: The blank refers to the effective date of adoption of this proposed rulemaking.*), shall submit documentation with the permit application relative to operational parameters which will be used to maintain *Giardia lamblia* inactivation throughout the expected range of operating conditions.

(e) A public water supplier using surface water or GUDI sources shall consult with the Department before making a significant change to its disinfection practice or operating treatment processes in a manner that may result in an inactivation level that is lower than the level needed to meet the *Giardia lamblia* inactivation requirements specified in § 109.202(c)(1)(ii) (relating to State MCLs, MRDLs and treatment technique requirements). As part of the consultation, the water supplier shall submit the following information to the Department:

- (1) A completed disinfection profile and disinfection benchmark for *Giardia lamblia* and viruses.
- (2) A description of the proposed change.
- (3) An analysis of how the proposed change will affect the current level of disinfection.

**Subchapter C. MONITORING REQUIREMENTS**

**§ 109.301. General monitoring requirements.**

Public water suppliers shall monitor for compliance with MCLs, MRDLs and treatment technique requirements in accordance with the requirements established by the EPA under the National Primary Drinking Water Regulations, 40 CFR Part 141 (relating to 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 or GUDI sources shall 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) ] subparagraph (ii), a public water supplier:

(A) Shall determine and record the turbidity level of representative samples of the system's filtered water as follows until \_\_\_\_\_ (*Editor's Note: The blank refers to 1 year after the effective date of adoption of this proposed rulemaking.*):

(I) For systems that operate continuously, at least once every 4 hours that the system is in operation, except as provided in clause (B).

(II) For systems that do not operate continuously, at start-up, at least once every 4 hours that the system is in operation, and also prior to shutting down the plant, except as provided in clause (B).

(B) May substitute continuous turbidity monitoring and recording for grab sample monitoring and manual recording until \_\_\_\_\_ (*Editor's Note: The blank refers to 1 year after the effective date of adoption of this proposed rulemaking.*), if it validates the continuous measurement for accuracy on a regular basis using a procedure specified by the manufacturer. At a minimum, calibration with an EPA-approved primary standard shall be conducted at least quarterly. For systems using slow sand filtration or filtration treatment other than conventional filtration, direct filtration or diatomaceous earth filtration, the Department may reduce the sampling frequency to once per day.

(C) Shall continuously monitor the turbidity level of the combined filter effluent beginning \_\_\_\_\_ (*Editor's Note: The blank refers to 1 year after the effective date of adoption of this proposed rulemaking.*), using an analytical method specified in 40 CFR 141.74(a) (relating to analytical and monitoring requirements) and record the results at least every 15 minutes while the plant is operating. For systems that do not operate continuously, the turbidity level shall also be measured and recorded at start-up and immediately prior to shutting down the plant.

[ (C) ] (D) Shall continuously monitor and record 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 or recording equipment fails, the public water supplier may, upon notification of the Department under § 109.701(a)(3) (relating to reporting and recordkeeping), substitute grab sampling or manual recording every 4 hours in lieu of continuous monitoring. Grab sampling or manual recording may not be substituted for continuous monitoring or recording for longer than 5 days after the equipment fails.

[ (D) ] (E) Shall measure and record 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:

<i>System Size (People)</i>	<i>Samples/Day</i>
<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 ] (ii) Until \_\_\_\_\_ (*Editor's Note: The blank refers to 1 year after the effective date of adoption of this proposed rulemaking.*), 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.

[ (iv) ] (iii) A public water supplier providing conventional filtration treatment or direct filtration and serving 10,000 or more people and using surface water or GUDI sources shall, beginning January 1, 2002, conduct continuous monitoring of turbidity for each individual filter using an approved method under the EPA regulation in 40 CFR 141.74(a) [ **(relating to analytical and monitoring requirements)** ] and record the results at least every 15 minutes. Beginning January 1, 2005, public water suppliers providing conventional or direct filtration and serving fewer than 10,000 people and using surface water or GUDI sources shall conduct continuous monitoring of turbidity for each individual filter using an approved method under the EPA regulation in 40 CFR 141.74(a) and record the results at least every 15 minutes. **Beginning \_\_\_\_\_ (*Editor's Note: The blank refers to 1 year after the effective date of adoption of this proposed rulemaking.*), a public water supplier using surface water or GUDI sources and providing filtration treatment other than conventional or direct filtration shall conduct continuous monitoring of turbidity for each individual filter using an approved method under 40 CFR 141.74(a) and record the results at least every 15 minutes.**

[ (A) The water supplier shall calibrate turbidimeters using the procedure specified by the manufacturer. At a minimum, calibration with an EPA-approved primary standard shall be conducted at least quarterly.

(B) If there is failure in the continuous turbidity monitoring or recording equipment, or both, the system shall conduct grab sampling or manual recording, or both, every 4 hours in lieu of continuous monitoring or recording.

(C) A public water supplier serving 10,000 or more persons has a maximum of 5 working days following the failure of the equipment to repair or replace the equipment before a violation is incurred.

(D) A public water supplier serving fewer than 10,000 persons has a maximum of 14 days following the failure of the equipment to repair or replace the equipment before a violation is incurred. ]

(iv) In addition to the requirements of subparagraphs (i)—(iii), a public water supplier shall conduct grab sampling or manual recording, or both, every 4 hours in lieu of continuous monitoring or recording if there is a failure in the continuous monitoring or recording equipment, or both. The public water supplier shall notify the Department within 24 hours of the equipment failure. Grab sampling or manual recording may not be substituted for continuous monitoring for longer than 5 working days after the equipment fails. The Department will consider case-by-case extensions of the time frame to comply if the water supplier provides

written documentation that it was unable to repair or replace the malfunctioning equipment within 5 working days due to circumstances beyond its control.

(2) *Performance monitoring for unfiltered surface water and GUDI.* A public water supplier using unfiltered surface water or GUDI 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:

<i>System Size (People)</i>	<i>Samples/Week</i>
<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 as follows **until \_\_\_\_\_ (*Editor's Note: The blank refers to 1 year after the effective date of adoption of this proposed rulemaking.*)**:

(I) For systems that operate continuously, at least once every 4 hours that the system is in operation, except as provided in clause (C).

(II) For systems that do not operate continuously, at start-up, at least once every 4 hours that the system is in operation, and also prior to shutting down the plant, except as provided in clause (C).

(C) May substitute continuous turbidity monitoring for grab sample monitoring **until \_\_\_\_\_ (*Editor's Note: The blank refers to 1 year after the effective date of adoption of this proposed rulemaking.*)**, if it validates the continuous measurement for accuracy on a regular basis using a procedure specified by the manufacturer. At a minimum, calibration with an EPA-approved primary standard shall be conducted at least quarterly.

(D) Shall continuously monitor and record the turbidity of the source water immediately prior to disinfection **beginning \_\_\_\_\_ (*Editor's Note: The blank refers to 1 year after the effective date of adoption of this proposed rulemaking.*)**, using an analytical method specified in 40 CFR 141.74(a) and record the results at least every 15 minutes while the source is operating. If there is a failure in the continuous turbidity monitoring or recording equipment, or both, the supplier shall conduct grab sampling or manual recording, or both, every 4 hours in lieu of continuous monitoring or recording. The public water supplier shall notify the Department within 24 hours of the equipment failure. Grab sampling or manual recording may not be substituted for continuous monitoring for longer than 5 working days after the equipment fails. The Department will consider case-by-case extensions of the time frame to comply if the water supplier provides written documentation that it was unable

**to repair or replace the malfunctioning equipment within 5 working days due to circumstances beyond its control.**

**[ (D) ] (E)** Shall continuously monitor and record the residual disinfectant concentration required under § 109.202(c)(1)(iii) (relating to State MCLs, MRDLs 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 or recording equipment fails, the public water supplier may, upon notification of the Department under § 109.701(a)(3), substitute grab sampling or manual recording, or both, every 4 hours in lieu of continuous monitoring. Grab sampling or manual recording may not be substituted for continuous monitoring for longer than 5 days after the equipment fails.

**[ (E) ] (F)** 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 ] Until \_\_\_\_\_ (Editor's Note: The blank refers to 1 year after the effective date of adoption of this proposed rulemaking.),** 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:

<i>System Size (People)</i>	<i>Samples / Day</i>
<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 ] Until \_\_\_\_\_ (Editor's Note: The blank refers to 1 year after the effective date of adoption of this proposed rulemaking.),** 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.

\* \* \* \* \*

(11) *Monitoring requirements for entry points that do not provide water continuously.*

**(i)** Entry points from which water is not provided during every quarter of the year shall monitor in accordance with paragraphs (5)—(7) **and (14)**, 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.

**(ii)** At a minimum, all entry points shall provide water to the public on an annual basis to ensure all sources and entry points are included in routine

**compliance monitoring.**

(12) *Monitoring requirements for disinfection byproducts and disinfection byproduct precursors.* Community water systems and nontransient noncommunity water systems that use a chemical disinfectant or oxidant shall monitor for disinfection byproducts and disinfection byproduct precursors in accordance with this paragraph. Community water systems and nontransient noncommunity water systems that obtain finished water from another public water system that uses a chemical disinfectant or oxidant to treat the finished water shall monitor for TTHM and HAA5 in accordance with this paragraph. Systems that use either surface water or GUDI sources and that serve at least 10,000 persons shall begin monitoring by January 1, 2002. Systems that use either surface water or GUDI sources and that serve fewer than 10,000 persons, or systems that use groundwater sources, shall begin monitoring by January 1, 2004. Systems monitoring for disinfection byproducts and disinfection byproduct precursors shall take all samples during normal operating conditions. Systems monitoring for disinfection byproducts and disinfection byproduct precursors shall use only data collected under this chapter to qualify for reduced monitoring. Compliance with the MCLs and monitoring requirements for TTHM, HAA5, chlorite (where applicable) and bromate (where applicable) shall be determined in accordance with 40 CFR 141.132 and 141.133 (relating to monitoring requirements; and compliance requirements) which are incorporated herein by reference.

\* \* \* \* \*

**§ 109.302. Special monitoring requirements.**

(a) The Department may require a public water supplier to conduct monitoring in addition to that required by § 109.301 (relating to general monitoring requirements) if the Department has reason to believe the public water system is not in compliance with the **action level**, MCL, MRDL or treatment technique requirement for the contaminant.

\* \* \* \* \*

**§ 109.303. Sampling requirements.**

(a) **[ The samples taken to determine a public water system's compliance with MCLs or MRDLs or to determine compliance with monitoring requirements shall be taken at the locations identified in §§ 109.301 and 109.302 (relating to general monitoring requirements; and special monitoring requirements), or as follows: ]** The samples taken to determine a public water system's compliance with MCLs, MRDLs or treatment technique requirements or to determine compliance with monitoring requirements shall be taken at the locations identified in §§ 109.301, 109.302, 109.1003, 109.1103, 109.1202 and 109.1303 and as follows:

\* \* \* \* \*

(4) Samples for determining compliance with MCLs for organic contaminants listed by the EPA under 40 CFR 141.61 (relating to maximum contaminant levels for organic contaminants) **[ and ]**, inorganic contaminants listed by the EPA under 40 CFR 141.62 (relating to maximum contaminant levels (MCLs) for inorganic contaminants), **radionuclide contaminants listed by the EPA under 40 CFR 141.66 (relating to maximum contaminant levels for radionuclides)** and with the special monitoring requirements for unregulated contaminants under § 109.302(f) **(relating to special monitoring requirements)** shall be taken at each entry point to

the distribution system **which is representative of each source** after an application of treatment during periods of normal operating conditions. [ **If a system draws water from more than one source and the sources are combined prior to distribution, the system shall sample at the entry point where the water is representative of combined sources being used during normal operating conditions.** ] If a system draws water from more than one source and the sources are combined prior to distribution, the system shall sample at the entry point during periods of normal operating conditions when water is representative of all sources being used. If sources are blended at a consistent ratio prior to the entry point, a blended sample may be taken to determine compliance. If sources are not blended at a consistent ratio or if sources are alternated prior to the entry point, more than one sample shall be taken to ensure that the samples are representative of all sources.

\* \* \* \* \*

(h) Samples taken to determine compliance with beta particle and photon radioactivity under 40 CFR 141.66(d) may be composited as follows:

(1) Monitoring for gross beta-particle activity may be based on the analysis of a composite of 3 monthly samples.

(2) Monitoring for strontium-90 and tritium may be based on the analysis of a composite of 4 consecutive quarterly samples.

(i) **Samples taken to determine compliance with this chapter shall be taken in accordance with a written comprehensive monitoring plan as specified in § 109.717 (relating to comprehensive monitoring plan). These plans are subject to Department review and revision.**

**§ 109.304. Analytical requirements.**

\* \* \* \* \*

(c) For the purpose of determining compliance with the monitoring and analytical requirements established under this subchapter and Subchapters K, L and M (relating to lead and copper; long-term 2 enhanced surface water treatment rule; and additional requirements for groundwater sources), the Department will consider only samples analyzed by a laboratory accredited by the Department, except that measurements for turbidity, fluoridation operation, residual disinfectant concentration, temperature, pH, alkalinity, orthophosphates, silica, calcium, conductivity, daily chlorite[, ] and magnesium hardness may be performed by a person meeting one of the following requirements:

(1) A person meeting the requirements of § 109.704 (relating to operator certification).

(2) A person using a standard operating procedure as provided under authority of the Water and Wastewater Systems Operators' Certification Act (63 P.S. §§ 1001—1015.1) **and the regulations promulgated thereunder.**

(3) An environmental laboratory meeting the requirements of Chapter 252 (relating to environmental laboratory accreditation).

(d) A system shall have *Cryptosporidium* samples analyzed by a laboratory that is approved under the EPA's Laboratory Quality Assurance Evaluation Program for

Analysis of *Cryptosporidium* in Water or a laboratory that has been accredited for *Cryptosporidium* analysis by an equivalent Department laboratory accreditation program.

(e) **A water supplier shall calibrate all turbidimeters used for compliance monitoring using the procedure specified by the manufacturer. At a minimum, calibration with an EPA-approved primary standard shall be conducted at least every 90 days. The Department may extend this 90-day calibration frequency if the calibration due date coincides with a holiday or weekend, or during a water system emergency which prevents timely calibration.**

§ 109.305. [ Fees ] (Reserved).

[ (a) *Data management fees.* Community water systems shall submit the following data management fees to the Department by December 31, 1995:

<i>System Size (population served)</i>	<i>Fee</i>
<100	\$ 120
100—1,000	\$ 120
1,001—3,300	\$ 240
3,301—10,000	\$ 360
10,001—50,000	\$ 600
>50,000	\$1,200

(b) *Waivers.* A request for a waiver from the monitoring requirements in §§ 109.301 and 109.302 (relating to general monitoring requirements; and special monitoring requirements) shall be accompanied by the appropriate fee as follow:

<i>System Size (population served)</i>	<i>Fee</i>
<100	\$ 100
100—1,000	\$ 200
1,001—3,300	\$ 400
3,301—10,000	\$ 500
10,001—50,000	\$1,000
>50,000	\$2,000

Fees will be based on system size, taking into consideration the following conditions:

(1) For systems with one or more sources all in the same contribution area—for groundwater systems, the contribution area is the surface area overlying the portion of the aquifer through which water is diverted to a well or flows to a spring or infiltration gallery—the fee will be as indicated in this subsection.

(2) For systems with a single wellfield—one contribution area—the fee will be as indicated in this subsection.

(3) For systems with sources in two or more contribution areas, the fee will be as indicated in this subsection plus 1/2 of the system size fee as indicated in this subsection for each additional contribution area in which a source is located. ]

**Subchapter D. PUBLIC NOTIFICATION**

**§ 109.416. CCR requirements.**

This section applies only to community water systems and establishes the minimum requirements for the content of the annual CCR that each system [ **must** ] shall deliver to its customers. This report [ **shall** ] **must** contain information on the quality of the water delivered by the system and characterize the risks, if any, from exposure to contaminants detected in the drinking water in an accurate and understandable manner.

\* \* \* \* \*

(4) [ *Report delivery and recordkeeping* ]. Each community water system shall do the following:

(i) Mail or otherwise directly deliver to each customer [ **and to the Department one copy of the annual CCR no later than the date the water system is required to distribute the CCR to its customers** ] **one copy of the annual CCR no later than the date specified in paragraph (2).**

(ii) **Mail a paper copy of the annual CCR to the Department no later than the date the water system is required to distribute the CCR to its customers.**

[ (ii) ] (iii) Make a good faith effort to reach consumers who do not get water bills. The Department will determine “good faith” based on those methods identified in 40 CFR 141.155(b) (relating to **report delivery [ requirements ] and recordkeeping**), which are incorporated by reference.

[ (iii) ] (iv) Submit in writing to the Department no later than 3 months after the delivery of the annual CCR:

(A) A certification that the annual CCR has been distributed to customers and that the information contained in the report is correct and consistent with the compliance monitoring data previously submitted to the Department.

(B) A description of what was done to meet the good faith effort requirement described in subparagraph [ (ii) ] (iii).

[ (iv) ] (v) If another State agency or commission also regulates the community water system, submit a copy of the system’s annual CCR to the other agency or commission upon the specific request of that agency or commission no later than the date the water system is required to distribute the CCR to its customers. Each State agency or commission shall determine the way it requests a copy of the system’s CCR. Those agencies or commissions may include, but are not limited to, the following:

(A) The Pennsylvania Public Utility Commission and the Office of Consumer Advocate in the Office of the Attorney General, for water systems that are public utilities regulated under 66 Pa.C.S. (relating to Public Utility Code).

(B) The Department of [ **Public Welfare** ] **Human Services**, for self-contained community water systems serving personal care or other group housing facilities.

(C) The Department of Health, for self-contained community water systems serving skilled healthcare facilities.

[ (v) ] (vi) Make copies of its annual CCR available to the public on request.

[ (vi) ] (vii) If a community water system serves 100,000 or more people, post its current year’s report to a publicly accessible site on the Internet.

[ (vii) ] (viii) Retain copies of each annual CCR and the related information required in paragraph (3) on the premises of the system or at a convenient location near the premises for no less than 3 years after the date of its delivery to customers.

**Subchapter E. PERMIT REQUIREMENTS**

**§ 109.503. Public water system construction permits.**

(a) *Permit application requirements.* An application for a public water system construction permit 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 Standards and Facility Regulation** ] **Safe Drinking Water**, Post Office Box [ **8774** ] **8467**, Harrisburg, Pennsylvania 17105 which contains acceptable design standards and technical guidance. Water quality analyses shall be conducted by a laboratory accredited under this chapter.

(1) *General requirements.* An application must include:

\* \* \* \* \*

(iii) *Information describing new sources.* **Information describing new sources must include the items specified in clauses (A)—(F). The information specified in clauses (C) and (D) may not be more than 2 years old from the date the permit application is submitted unless the Department approves the use of data more than 2 years old.** The Department may accept approval of an out-of-State source by the agency having jurisdiction over drinking water in that state if the supplier submits adequate proof of the approval and the agency’s standards are at least as stringent as this chapter. [ **Information describing sources must include:**

**(A) A comprehensive sanitary survey of the physical surroundings of each new source of raw water and its proximity to potential sources of contamination. For surface water, this information shall include a description of the watershed topography and land uses within the watershed. For systems using wells, springs or infiltration galleries, this information shall include a hydrogeological report prepared and signed by a professional geologist who has complied with the requirements of the Engineer, Land Surveyor and Geologist Registration Law (63 P.S. §§ 148—158.2) describing the geology of the area including the source aquifers, overlying formations, hydrogeologic boundaries, aquifer porosity estimates, water table contour or potentiometric surface maps depicting prepumping conditions and other information deemed necessary to evaluate the hydraulic characteristics of the aquifer and demonstrate the suitability of the proposed source. At the discretion of the Department, these requirements may be altered for a proposed well, wellfield, spring or infiltration gallery that will be pumping less than or yielding less than 100,000 gallons per day.**

**(B) An evaluation of the quality of the raw water from each new source. This clause does not apply when the new source is finished water obtained from an existing permitted community water system unless the Department provides written notice that an evaluation is required. The evaluation must include analysis of the following:**

**(I) VOCs for which MCLs have been established by the EPA under the National Primary Drinking**



Water Regulations in 40 CFR 141.61(a) (relating to maximum contaminant levels for organic contaminants). Vinyl chloride monitoring is required only if one or more of the two-carbon organic compounds specified under § 109.301(5)(i) (relating to general monitoring requirements) are detected. Samples for VOCs shall be collected in accordance with § 109.303(d) (relating to sampling requirements).

(II) Except for asbestos, IOCs for which MCLs have been established by the EPA under the National Primary Drinking Water Regulations in 40 CFR 141.62 (relating to maximum contaminant levels for inorganic contaminants). The new source shall be monitored for asbestos if the Department has reason to believe the source water is vulnerable to asbestos contamination.

(III) Lead.

(IV) Copper.

(V) Total coliform concentration and, if total coliform-positive, analyze for the presence of *E. coli*.

(VI) SOCs.

(-a-) Except for SOCs that have been granted a Statewide waiver, SOCs for which MCLs have been established by the EPA under the National Primary Drinking Water Regulations in 40 CFR 141.61(c).

(-b-) Dioxin where there is a source of dioxin contamination within 1,000 feet of a groundwater source or within 1 mile upstream of a surface water source.

(-c-) Polychlorinated biphenyls (PCBs) where there is a source of PCB contamination within 1,000 feet of a groundwater source or within 1 mile upstream of a surface water source.

(VII) Gross Alpha ( $\alpha$ ), radium-226, radium-228, uranium and Gross Beta ( $\beta$ ).

(VIII) Aluminum, chloride, color, foaming agents, iron, manganese, pH, silver, sulfate, total dissolved solids and zinc for which MCLs have been established by the EPA under the National Secondary Drinking Water Regulations in 40 CFR 143.3 (relating to secondary MCLs).

(IX) Alkalinity.

(X) Hardness.

(XI) Temperature.

(XII) For surface water or GUDI sources, *E. coli* or *Cryptosporidium*, or both, as specified in § 109.1202 (relating to monitoring requirements).

(XIII) Other contaminants that the Department determines necessary to evaluate the potability of the source. ]

(A) A source water assessment of each new raw water source.

(B) A pre-drilling plan for a new groundwater source prepared and signed by a professional geologist licensed to practice in this Commonwealth. The pre-drilling plan shall be submitted and approved by the Department prior to well construction and conducting an aquifer test. At a minimum, the pre-drilling plan must include preliminary results of the source water assessment, a hydrogeologic description, an aquifer test monitoring plan and the proposed well construction design.

(C) An evaluation of the quantity of the raw water from each new source. Flow data shall be submitted for springs, infiltration galleries or surface water sources. Aquifer test data, including drawdown and recovery data and the derivation of hydraulic conductivity, transmissivity and storage coefficient of the aquifer, shall be submitted for wells. At the discretion of the Department, these requirements may be altered for wells or wellfields pumping less than 100,000 gallons per day. The Department may require [ that other information be submitted ] additional information to evaluate the safe or sustainable yield of the source. The safe or sustainable yield is the amount of water that can be withdrawn from an aquifer without causing an undesired result, such as adverse dewatering of an aquifer, induced potential health threats or impacts upon stream uses.

(D) [ A Department approved delineation of the Zone I wellhead protection area for community water system wells, springs or infiltration galleries. ] An evaluation of the quality of the raw water from each new source. For groundwater sources, the evaluation shall be conducted at the conclusion of the constant rate aquifer test. This clause does not apply when the new source is finished water obtained from an existing permitted community water system unless the Department provides written notice that an evaluation is required. The evaluation must include analysis of all of the following:

(I) VOCs for which MCLs have been established by the EPA in 40 CFR 141.61(a) (relating to maximum contaminant levels for organic contaminants). Vinyl chloride monitoring is required only if one or more of the two-carbon organic compounds specified in § 109.301(5)(i) (relating to general monitoring requirements) are detected. Samples for VOCs shall be collected in accordance with § 109.303(d) (relating to sampling requirements).

(II) IOCs, including asbestos, for which MCLs have been established by the EPA in 40 CFR 141.62 (relating to maximum contaminant levels for inorganic contaminants).

(III) Lead.

(IV) Copper.

(V) Total coliform and *E. coli* concentration.

(VI) SOCs, including dioxin and PCBs, for which MCLs have been established by the EPA in 40 CFR 141.61(c).

(VII) Gross Alpha ( $\alpha$ ), radium-226, radium-228, uranium and Gross Beta ( $\beta$ ).

(VIII) Aluminum, chloride, color, foaming agents, iron, manganese, pH, silver, sulfate, total dissolved solids and zinc for which MCLs have been established by the EPA in 40 CFR 143.3 (relating to secondary maximum containment levels).

(IX) Alkalinity.

(X) Hardness.

(XI) Temperature.

(XII) For surface water or GUDI sources, *E. coli* or *Cryptosporidium*, or both, as specified in § 109.1202 (relating to monitoring requirements).

(XIII) Turbidity.

(XIV) For groundwater sources, the monitoring specified in § 109.302(f) (relating to special monitor-

ing requirements) if the Department determines that the source is susceptible to surface water influence.

(XV) Other contaminants that the Department determines necessary to evaluate the potability of the source.

(E) A hydrogeologic report for a new groundwater source. For wells, springs or infiltration galleries, this information must include a description of the geology of the area including the source aquifers, overlying formations, hydrogeologic boundaries, aquifer porosity estimates, water table contour or potentiometric surface maps depicting pre-pumping conditions and other information deemed necessary to evaluate the hydraulic characteristics of the aquifer and demonstrate the suitability of the proposed source and a Department approved delineation of the Zone I and Zone II wellhead protection areas. All information included in the source water assessment, in addition to the results of the water quantity and quality evaluations as specified in clauses (C) and (D), must be included in a hydrogeological report prepared and signed by a professional geologist licensed to practice in this Commonwealth.

(F) A description of the watershed topography and land uses within the watershed for a new surface water source.

(iv) Chapter 102 requirements. An erosion and sedimentation control plan which meets the requirements contained in Chapter 102 (relating to erosion and sediment control) when earth-moving activities are involved.

\* \* \* \* \*

(c) Permit fees. An application for a permit from the Department under this subchapter must be accompanied by a fee in the amount specified in Subchapter N (relating to drinking water fees).

[ (1) An application for a permit or a major permit amendment under subsection (a)(1), except for an application for construction or modification of corrosion control treatment facilities under § 109.1105 (relating to permit requirements), shall be accompanied by a check in the amount of \$750, payable to the "Commonwealth of Pennsylvania," except a fee is not required for an application submitted by a State regulatory agency, or an application submitted for a public water system serving 100 or fewer individuals. The fees for permitting and related services under § 109.1105 for corrosion control treatment facilities are established under § 109.1108 (relating to fees).

(2) A fee is not required for an application for an emergency permit under § 109.506 (relating to emergency permits) or an amendment under subsection (b)(2). ]

(d) Department's review.

\* \* \* \* \*

§ 109.505. Requirements for noncommunity water systems.

(a) A noncommunity water system shall obtain a construction permit under § 109.503 (relating to public water system construction permits) and an operation permit under § 109.504 (relating to public water system operation permits), unless the noncommunity water system satisfies paragraph (1) or (2). The Department retains the right to require a noncommunity water system

that meets the requirements of paragraph (1) or (2) to obtain a construction and an operation permit, if, in the judgment of the Department, the noncommunity water system cannot be adequately regulated through standardized specifications and conditions. A noncommunity water system which is released from the obligation to obtain a construction and an operation permit shall comply with the other requirements of this chapter, including design, construction and operation requirements described in Subchapters F and G (relating to design and construction standards; and system management responsibilities).

\* \* \* \* \*

(2) A noncommunity water system not covered under paragraph (1) is not required to obtain a construction and an operation permit if it satisfies the following specifications and conditions:

(i) The sources of supply for the system are groundwater sources requiring treatment no greater than [ disinfection to ] hypochlorite or ultraviolet light disinfection to reduce total coliform bacteria concentrations to undetectable levels in the finished water, and otherwise provide water of a quality that meets the primary MCLs established under Subchapter B (relating to MCLs, MRDLs or treatment technique requirements).

(ii) [ The water supplier files a brief description of the system, including raw source quality data, on forms acceptable to the Department. Amendments to the system description shall be filed when a substantial modification is made to the system. Descriptions of new systems or modifications shall be submitted and approved by the Department prior to construction. ] The water supplier submits a noncommunity water system application, including raw source water quality data, on forms acceptable to the Department, and receives Department approval of the facilities prior to construction or operation. The water supplier shall also submit a noncommunity water system application to the Department for proposed modifications to the system or a change of ownership, and receive Department approval prior to construction or operation.

(3) A noncommunity water system which satisfies the requirements of paragraphs (1) and (2) shall provide the Department with the following information describing new sources, including an evaluation of the quality of the raw water from each new source. Water quality analyses shall be conducted by a laboratory certified under this chapter. This paragraph does not apply when the new source is finished water obtained from an existing permitted community water system or an existing permitted or approved noncommunity water system unless the Department provides written notice that one or more of the provisions of this paragraph apply.

\* \* \* \* \*

(ii) For nontransient noncommunity water systems, the evaluation must include the information required under [ § 109.503(a)(1)(iii)(B) ] § 109.503(a)(1)(iii)(D).

\* \* \* \* \*

(Editor's Note: The following section is proposed to be added and printed in regular type to enhance readability.)

§ 109.511. General permits.

(a) The Department may issue a general permit, instead of issuing a construction and operation permit under this subchapter, for a specific category of modifications if all of the following conditions are met:

(1) The modifications in the category are the same or substantially similar in nature.

(2) The modifications in the category are not prejudicial to the public health and can be adequately regulated utilizing standardized specifications and conditions.

(3) The modifications in the category will comply with the design and construction standards under Subchapter F (relating to design and construction standards).

(b) The Department may suspend, revoke, modify, reissue or terminate coverage under a general permit issued under this chapter for noncompliance with a condition of the permit, or upon a finding of a condition prejudicial to the public health.

(c) Issuance of a general permit does not exempt a person from compliance with this chapter.

#### Subchapter F. DESIGN AND CONSTRUCTION STANDARDS

##### § 109.602. Acceptable design.

(a) A public water system shall be designed to provide an adequate and reliable quantity and quality of water to the public. The design must ensure that the system will, upon completion, be capable of providing water that complies with the primary and secondary MCLs, MRDLs and treatment techniques established in Subchapters B, K, L and M [ **(relating to MCLs, MRDLs or treatment technique requirements; long-term 2 enhanced surface water treatment rule; and additional requirements for groundwater sources)** ] except as further provided in this section.

\* \* \* \* \*

(e) Point-of-use devices which are treatment devices applied to a single tap are not an acceptable treatment method for complying with an MCL, MRDL or treatment technique requirement.

(f) A public water system that provides filtration of surface water or GUDI sources must be equipped with alarm capabilities that meet the requirements of subsection (i) by \_\_\_\_\_. (*Editor's Note: The blank refers to 12 months after the effective date of adoption of this proposed rulemaking.*)

(g) A public water system that provides filtration of surface water or GUDI sources and that is not staffed continuously while the plant is operating must be equipped with alarm and shutdown capabilities that meet the requirements of subsection (i) by \_\_\_\_\_. (*Editor's Note: The blank refers to 12 months after the effective date of adoption of this proposed rulemaking.*)

(h) In addition to public water systems covered under subsection (f) or (g), the Department may require a public water system to meet the requirements of subsection (i), according to a schedule set forth in a permit or order issued by the Department.

(i) Alarm and shutdown capabilities must conform to all of the following:

(1) Be set forth in the water system's operation and maintenance plan and set at a level no less stringent than the level needed for the facility to continuously maintain compliance with applicable MCLs, MRDLs and treatment technique requirements.

(2) Be established for the following parameters, at a minimum:

(i) Individual filter effluent turbidity and combined filter effluent turbidity for filter plants treating surface water or GUDI sources.

(ii) Entry point disinfectant residual.

(iii) Clearwell water levels.

(iv) Any other operational parameter determined by the Department as necessary for the system to maintain compliance.

(3) Be capable of notifying the available operator on duty of events triggering an alarm or plant shutdown.

##### § 109.606. Chemicals, materials and equipment.

(a) Chemicals [ or ], materials or equipment which may come in contact with the water or affect the quality of the water may not be used unless the chemicals [ or ], materials or equipment are acceptable to the Department.

(b) Chemicals used by a public water supplier which may come in contact with or affect the quality of the water and which are certified for conformance with ANSI/NSF Standard 60 (Drinking Water Treatment Chemicals—Health Effects—National Sanitation Foundation) or meet the food grade standards of the *United States Pharmacopeia* are deemed acceptable to the Department.

(c) Materials or equipment used in the construction or modification of a public water system, including waterline extensions, mechanical devices and drinking water treatment equipment, which may come into contact with or affect the quality of the water and which are certified for conformance with ANSI/NSF Standard 61 (Drinking Water System Components—Health Effects—National Sanitation Foundation) are deemed acceptable to the Department.

(d) Drinking water treatment equipment used in the construction or modification of a public water system that may come into contact with or affects the quality of the water and that is certified for inactivation, reduction or removal performance in conformance with PDWEP is deemed acceptable to the Department.

[ (d) ] (e) Acceptable certification under subsection (b) [ or (c) ], (c) or (d) related to ANSI/NSF Standards 60 and 61 or PDWEP includes that performed by NSF International or other certification organization acceptable to the Department. To be acceptable to the Department, a certification organization shall be accredited by ANSI as a third party certification organization and meet the following requirements. The organization shall:

(1) Demonstrate it is independent of manufacturers using the certification organization's services.

(2) Require that a registered mark or seal be placed upon each product certified under ANSI/NSF Standard 60 or 61 or PDWEP, as applicable.

(3) Maintain an ongoing quality assurance and quality control program that includes, at a minimum, the following:

(i) Periodic announced and unannounced factory follow-ups and audits at sufficient frequency and in sufficient detail to assure the product evaluated is the same as the product being manufactured.

(ii) Maintenance of or accessibility to a laboratory certified by the Department meeting the minimum laboratory certification criteria for drinking water analysis.

(iii) Maintenance of staff toxicologists or accessibility to toxicologists to perform the toxicological review and evaluation portions of the product assessments.

(iv) Maintenance of procedures for notification and recall of the use of the registered mark or seal for previously certified products which do not meet the certification requirements of ANSI/NSF Standards 60 and 61 or PDWEP.

(v) For equipment that is claimed to remove or reduce a specific contaminant, the name of the organization that meets the accreditation standards of the American National Standards Institute and that has certified the device to verify its inactivation, reduction or removal performance for that contaminant, the name of the testing protocol or standard used to test the device, a statement from the testing laboratory giving the date of the test, a summary of the results and the date, if any, by which the device shall be retested for verification of the removal or reduction performance to remain effective.

(4) Require appropriate product reevaluation depending upon the results of the factory follow-ups and audits and changes in the standards themselves.

(5) Perform certification evaluations for any manufacturer or applicant.

(6) Evaluate and certify an appropriately broad range of products—additives, direct additives or indirect additives.

(7) Maintain and publish a listing of certified products and distribute the listing to State regulatory agencies and others, as appropriate, at least annually.

[ (e) ] (f) Facilities or equipment, including, but not limited to, pipes, pumping facilities and storage tanks, previously or currently used for the treatment, storage or transportation of wastewater, petroleum products or other nonfood products, except for facilities or equipment used to store or transport chemicals used in treating drinking water, may not be used for the treatment, transportation or storage of drinking water.

§ 109.612. POE devices.

\* \* \* \* \*

(b) POE devices and components used by a public water supplier shall be tested and certified by the NSF or other certification organization acceptable to the Department against ANSI/NSF standards established for drinking water treatment devices. To be acceptable to the Department a certification organization other than NSF shall have a program at least as stringent as the NSF program and meet the requirements under [ § 109.606(d) ] § 109.606(e) (relating to chemicals, materials and equipment) as applicable to ANSI/NSF standards for drinking water treatment devices.

\* \* \* \* \*

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:

\* \* \* \* \*

(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 or GUDI sources must include the following at a minimum:

(A) For the combined filter effluent turbidity performance monitoring:

\* \* \* \* \*

(VII) Instead of subclauses (III) and (IV), beginning January 1, 2002, for public water systems that serve 10,000 or more people and use other filtration technologies:

(-a-) The number of filtered water turbidity measurements that are less than or equal to 0.3 NTU or a more stringent turbidity performance level requirement that is based upon onsite studies and is specified by the Department.

(-b-) The date, time and values of any filtered water turbidity measurements exceeding 1 NTU or a more stringent turbidity performance level requirement that is based upon onsite studies and is specified by the Department.

(VIII) Instead of subclauses (III)—(VII), beginning \_\_\_\_\_ (Editor's Note: The blank refers to 1 year after the effective date of adoption of this proposed rulemaking.), the number of filtered water turbidity measurements that are less than or equal to all of the following:

(-a-) 0.30 NTU for conventional or direct filtration technologies.

(-b-) 1.0 NTU for slow sand or diatomaceous earth filtration technologies.

(-c-) 0.15 NTU for membrane filtration technologies.

(-d-) 0.30 NTU for other filtration technologies unless a more stringent turbidity performance level requirement is specified by the Department.

(IX) Instead of subclauses (III)—(VII), beginning \_\_\_\_\_ (Editor's Note: The blank refers to 1 year after the effective date of adoption of this proposed rulemaking.), the date, time and values of any filtered water turbidity measurements exceeding all of the following:

(-a-) 1.0 NTU for conventional, direct or membrane filtration technologies.

(-b-) 2.0 NTU for slow sand or diatomaceous earth filtration technologies.

(-c-) 1.0 NTU for other filtration technologies unless a more stringent turbidity performance level requirement is specified by the Department.

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

\* \* \* \* \*

(ii) The test results of performance monitoring required under § 109.301(2) for public water suppliers using unfiltered surface water or GUDI sources [ shall ] must 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.

**(III) Instead of subclauses (I) and (II), beginning \_\_\_\_\_ (Editor's Note: The blank refers to 1 year after the effective date of adoption of this proposed rulemaking.):**

**(-a-) The number of source water turbidity measurements taken each month.**

**(-b-) For measurements in which the source water turbidity is greater than 1.0 NTU, the date, time and value for each occurrence that the turbidity exceeds 1.0 NTU and the subsequent date, time and value that the turbidity is less than or equal to 1.0 NTU.**

**(-c-) The date, time and highest turbidity value for each day the source water turbidity remains less than or equal to 1.0 NTU.**

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

\* \* \* \* \*

(3) *One-hour reporting requirements.* A public water supplier shall report the circumstances to the Department within 1 hour of discovery for the following violations or situations:

(i) A primary MCL or an MRDL has been exceeded or a treatment technique requirement has been violated under Subchapter B, K, L or M.

(ii) A sample result requires the collection of check samples under § 109.301.

(iii) Circumstances exist which may adversely affect the quality or quantity of drinking water including, but not limited to:

(A) The occurrence of a waterborne disease outbreak.

(B) A failure [ or ], significant interruption or **break-down** in key water treatment processes.

(C) A [ **natural** ] disaster that disrupts the water supply or distribution system.

\* \* \* \* \*

(9) *Level 1 and Level 2 assessments.* A public water supplier shall:

(i) Submit an assessment form completed in accordance with § 109.705(b) (relating to system evaluations and assessments) to the Department within 30 days after the system learns that it has exceeded a trigger under § 109.202(c)(4).

(ii) Submit a revised assessment form in accordance with § 109.705(b) within 30 days of notification from the Department that revisions are necessary.

**(10) Reporting requirements for disinfection byproducts.** In addition to the reporting requirements specified in paragraph (1), public water systems monitoring for disinfection byproducts under § 109.301(12) shall report the individual constituents for total trihalomethanes and haloacetic acids.

[ (10) ] (11) *Noncompliance report.* Except where a different reporting period is specified in this chapter, the water supplier shall report to the Department within 48

hours the failure to comply with any National Primary Drinking Water Regulation, including the failure to comply with any monitoring requirement set forth in this chapter.

\* \* \* \* \*

(e) *Reporting requirements for public water systems required to perform individual filter monitoring under § 109.301(1)(iv).*

(1) Public water systems required to perform individual filter monitoring shall report that they have conducted individual filter monitoring within 10 days following the end of each month that the system serves water to the public.

(2) Public water systems required to perform individual monitoring **under § 109.301(1)(iii)** shall report individual filter turbidity results if individual filter turbidity measurements demonstrate that one or more of the following conditions exist:

(i) An individual filter has a measured turbidity level greater than 1.0 NTU in two consecutive measurements taken 15 minutes apart.

(ii) An individual filter has a measured turbidity level of greater than 0.5 NTU in two consecutive measurements taken 15 minutes apart at the end of the first 4 hours of continuous filter operation after the filter has been backwashed or otherwise taken offline.

(iii) An individual filter has a measured turbidity level greater than 1.0 NTU in two consecutive measurements taken 15 minutes apart at any time in each of 3-consecutive months.

(iv) An individual filter has a measured turbidity level greater than 2.0 NTU in two consecutive measurements taken 15 minutes apart at any time in each of 2-consecutive months.

**(v) Instead of subparagraph (i), beginning \_\_\_\_\_ (Editor's Note: The blank refers to 1 year after the effective date of adoption of this proposed rulemaking.), an individual filter has a measured turbidity level greater than 0.30 NTU for conventional, direct or other filtration technologies, 0.15 NTU for membrane filtration technologies or 1.0 NTU for slow sand or diatomaceous earth filtration technologies in two consecutive measurements taken 15 minutes apart.**

**(vi) Instead of subparagraph (ii), beginning \_\_\_\_\_ (Editor's Note: The blank refers to 1 year after the effective date of adoption of this proposed rulemaking.), an individual filter has a measured turbidity level of greater than 0.30 NTU for conventional, direct or other filtration technologies, 0.15 NTU for membrane filtration technologies or 1.0 NTU for slow sand or diatomaceous earth filtration technologies in two consecutive measurements taken 15 minutes apart at the end of the first 4 hours of continuous filter operation after the filter has been backwashed or otherwise taken offline.**

**(vii) Instead of subparagraph (iii), beginning \_\_\_\_\_ (Editor's Note: The blank refers to 1 year after the effective date of adoption of this proposed rulemaking.), an individual filter has a measured turbidity level greater than 0.30 NTU for conventional, direct or other filtration technologies, 0.15 NTU for membrane filtration technologies or 1.0 NTU for slow sand or diatomaceous earth**

filtration technologies in two consecutive measurements taken 15 minutes apart at any time in each of 3 consecutive months.

(viii) Instead of subparagraph (iv), beginning \_\_\_\_\_ (Editor's Note: The blank refers to 1 year after the effective date of adoption of this proposed rulemaking.), an individual filter has a measured turbidity level greater than 1.0 NTU for conventional, direct, membrane or other filtration technologies, or 2.0 NTU for slow sand or diatomaceous earth filtration technologies in two consecutive measurements taken 15 minutes apart at any time in each of 2 consecutive months.

(3) Individual filter turbidity monitoring reported as required under paragraph (2) [ shall ] must include the following at a minimum:

\* \* \* \* \*

§ 109.702. Operation and maintenance plan.

(a) A community water supplier shall develop an operation and maintenance plan for the community water system. The operation and maintenance plan must generally conform to the guidelines contained in the Department's Public Water Supply Manual and must contain at least the following information:

\* \* \* \* \*

(13) An interconnect, valve [ and blowoff ], blowoff, alarm and shutdown, and auxiliary power equipment exercise and testing program.

\* \* \* \* \*

§ 109.703. Facilities operation.

(a) Public water system facilities approved by written permit from the Department shall be operated in a manner consistent with the terms and conditions of the permit to achieve the level of treatment for which the facilities were designed.

(b) For surface water or GUDI sources, a public water supplier using filtration shall comply with the following requirements:

(1) [ By July 1, 1990, suppliers using conventional or direct filtration shall, after filter backwash, and before putting the backwashed filter back on line, filter-to-waste until the filter bed effluent turbidity is less than 0.5 NTU at the normal production flow rate. ] Water suppliers using conventional or direct filtration shall, prior to returning a filter to service, filter-to-waste for one full filter volume and until the filter bed effluent turbidity is less than 0.30 NTU at the normal production flow rate. Water suppliers may implement filter-to-waste for a period of time less than one full filter bed volume if an alternate operating technique is properly utilized to minimize the postbackwash turbidity spike to less than 0.15 NTU. Alternate techniques may include extended terminal subfluidization backwash, permitted addition of coagulant during the backwash or a post-backwash offline filter resting period. Water suppliers implementing alternate techniques shall keep records to document consistent and proper utilization of the technique.

(2) [ Beginning May 16, 1992, a ] A water supplier using slow sand filtration shall, following sanding, scraping or resanding of slow sand filters, filter-to-waste until one of the following occurs:

(i) The filter bed effluent turbidity is less than 1.0 NTU at the normal production flow rate.

(ii) A reduction in turbidity is achieved when the source water turbidity is less than 1.0 NTU.

(3) [ Beginning May 16, 1992, a ] A water supplier using diatomaceous earth filtration shall, following backwashing and recoating of diatomaceous earth filters, filter-to-waste until one of the following occurs:

(i) The filter bed effluent turbidity is less than 1.0 NTU at the normal production flow rate.

(ii) A reduction in turbidity is achieved when the source water turbidity is less than 1.0 NTU.

(4) For a conventional or direct filtration facility permitted prior to March 25, 1989, without filter-to-waste capability, the Department, upon the supplier's request, may allow the supplier to utilize other operating techniques which minimize the initial increased turbidity peak when a filter is initially placed back into service after backwashing. The technique, which may include filter settling periods, ramping open the effluent valve or use of a coagulant in the backwash water, shall be justified by a filter performance study approved by the Department.

(5) [ Except for public water systems covered under § 109.301(1)(iv) (relating to general monitoring requirements), a system with conventional or direct filtration facilities permitted prior to March 25, 1989, without individual filter bed turbidity monitoring capabilities shall conduct an annual filter bed evaluation program, acceptable to the Department, which includes an evaluation of filter media, valves, surface sweep and sampling of filter turbidities over one entire filter run; and shall submit to the Department, with the Annual Water Supply Report, a study that demonstrates that the water supplier's filter-to-waste or alternate approved operating procedures are meeting the operating conditions under paragraph (1) or (4). ] A system with filtration facilities shall implement a filter bed evaluation program, acceptable to the Department, which includes an evaluation of filter media, filter bed expansion, valves, surface sweep and sampling of filter turbidities over one entire filter run. The results of the evaluation shall be maintained on file and submitted to the Department upon request.

(c) A public water supplier required to install alarm or shutdown capabilities, or both, under § 109.602 (relating to acceptable design) shall comply with the following:

(1) Test the alarm and shutdown capabilities at least quarterly and document the results in the plant's operational log. To avoid unnecessary disruptions in treatment, simulated testing of shutdown capabilities is acceptable.

(2) For any failures of alarm or shutdown equipment:

(i) Ensure the plant is adequately staffed until the equipment is operational.

(ii) Notify the Department as soon as possible of any failure that cannot be corrected within 24 hours.

(iii) Restore the equipment to operation within 5 working days of the failure unless a longer period of time is approved by the Department.

**§ 109.704. Operator certification.**

(a) Community and nontransient noncommunity water systems shall have personnel certified under the Water and Wastewater Systems Operators' Certification Act (63 P.S. §§ 1001—1015.1) **and the regulations promulgated thereunder** to operate and maintain a public water system.

(b) Transient noncommunity water systems shall have competent personnel qualified to operate and maintain the system's facilities.

**§ 109.705. System evaluations and assessments.**

(a) A community water supplier shall conduct an evaluation of the water system at least annually. The evaluation shall include the following activities:

(1) [ **Watershed surveillance consisting of an** ] An inspection of portions of the [ **drainage area or well-head** ] **source water** protection area necessary to identify and evaluate actual and [ **probable** ] **potential** sources of contamination.

(i) An inspection of a [ **wellhead** ] **source water** protection area shall include a review of available information pertaining to possible sources of contamination such as underground storage tanks, onlot disposal systems and other activities that may have an adverse impact on water quality or quantity.

(ii) Specific hydrogeological studies of sources of contamination are not necessary unless required under § 109.4, § 109.602 or § 109.603 (relating to general requirements; acceptable design; and source quality and quantity) or other rules of the Department.

(iii) **Revisions to the source water assessment if the inspection identified changes to actual or potential sources of contamination.**

(2) Evaluation of [ **source protection,** ] intake structures 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 and the distribution system.

(5) Pressure surveys consisting of a measurement of pressures at representative points in the distribution system, which shall include new water line extensions. Surveys shall be made during periods of maximum and minimum usage. Records of these surveys shall show the date and time of the beginning and end of the test and the location at which the test was made.

**(6) The results of the annual system evaluation must be documented and made available to the Department upon request.**

(b) A public water system shall conduct Level 1 and 2 assessments required under § 109.202(c)(4) (relating to State MCLs, MRDLs and treatment technique requirements). The public water system shall also comply with any expedited actions or additional actions required by the Department in the case of an *E. coli* MCL violation.

\* \* \* \* \*

(9) At any time during the assessment or corrective action phase, either the public water system or the Department may request a consultation with the other party to determine the appropriate actions to be taken.

The public water system may consult with the Department on all relevant information that may impact its ability to comply with a requirement of this subsection.

[ (c) **The following apply to significant deficiencies identified at public water systems supplied by a surface water source and public water systems supplied by a groundwater source under the direct influence of surface water:**

(1) **For sanitary surveys performed by the Department, a system shall respond in writing to significant deficiencies identified in sanitary survey reports no later than 45 days after receipt of the report, indicating how and on what schedule the system will address significant deficiencies noted in the survey.**

(2) **A system shall correct significant deficiencies identified in sanitary survey reports according to the schedule approved by the Department, or if there is no approved schedule, according to the schedule reported under paragraph (1) if the deficiencies are within the control of the system.**

(d) **Significant deficiencies identified by the Department at public water systems using groundwater shall comply with § 109.1302(c) (relating to treatment technique requirements). ]**

§ 109.706. System [ **distribution** ] map.

(a) [ **The community** ] A public water supplier shall prepare and maintain on file a detailed map of the water [ **system's transmission and distribution facilities** ] **system. A copy of the map shall be submitted to the Department upon request.**

(b) [ **A noncommunity water supplier shall submit a detailed map of the water system's transmission and distribution facilities at the request of the Department. ] At a minimum the map must include all of the following:**

(1) **Source and treatment plant locations.**

(2) **Size and location of storage facilities.**

(3) **Pump station locations.**

(4) **Size, location and construction material of pipes.**

(5) **Pressure zones.**

(6) **Interconnections with other public water systems.**

(7) **Monitoring locations.**

(c) [ **The map shall include information sufficient to allow the Department to analyze the distribution system and determine quantity, pressure and direction of flow from the sources to the customers, and shall include the type and size of pipes within the distribution system. The map shall be updated at least annually. ] The map shall be reviewed by the water supplier at least annually and updated as necessary. Water suppliers may meet this requirement by maintaining a calibrated hydraulic model instead of paper maps.**

§ 109.708. [ **Planned service interruptions** ] **System service and auxiliary power.**

(a) **System service.** No later than the dates specified in paragraphs (1)—(3), a community water supplier shall ensure operation of the sources,

treatment and pumping facilities necessary to ensure that safe and potable water is continuously supplied to users in accordance with subsection (b) or (c), or both. A continuous supply of safe and potable water is one that meets all applicable MCLs, MRDLs and treatment techniques specified in § 109.202 (relating to State MCLs, MRDLs and treatment technique requirements) and is sufficient to maintain system pressure specified in § 109.607 (relating to pressures) throughout the distribution system.

(1) By \_\_\_\_\_ (*Editor's Note: The blank refers to 12 months after the effective date of adoption of this proposed rulemaking.*), for systems serving 3,300 or fewer persons.

(2) By \_\_\_\_\_ (*Editor's Note: The blank refers to 24 months after the effective date of adoption of this proposed rulemaking.*), for systems serving 3,301–10,000 persons.

(3) By \_\_\_\_\_ (*Editor's Note: The blank refers to 36 months after the effective date of adoption of this proposed rulemaking.*), for systems serving greater than 10,000 persons.

(b) *Auxiliary power.* System service must be provided through one or more of the following methods:

(1) Connection to at least two independent power feeds from separate substations.

(i) The power feeds may not be located in the same conduit or supported from the same utility pole.

(ii) If overhead power feeds are used, the power feeds may not cross or be located in an area where a single plausible occurrence (for example, a fallen tree) could disrupt both power feeds.

(2) Onsite auxiliary power sources (that is, generators or engines).

(c) *Alternate provisions.* The Department may approve alternate provisions, such as finished water storage capacity or interconnections with another public water system, to meet the requirements of subsection (a).

(d) *Planned service interruptions.* The public water supplier shall give reasonable notice to the affected customers prior to a planned service interruption affecting quantity or quality of the water delivered to the customer. If the interruption is scheduled to exceed 8 hours and affect 15 or more service connections the water supplier shall also notify the Department.

§ 109.713. [ **Wellhead** ] **Source water** protection program.

(a) For water suppliers seeking to obtain Department approval for a [ **wellhead** ] **source water** protection program, the [ **wellhead** ] **source water** protection program shall, at a minimum, consist of all of the following elements:

(1) A steering committee composed of the necessary representatives, including, but not limited to, the water supplier, local government officials from the affected jurisdictions and potentially affected industry, to designate responsibilities for the planning and implementation of [ **wellhead** ] **source water** protection activities.

(2) Public participation and education activities to promote awareness and encourage local support of [ **wellhead** ] **source water** protection activities.

(3) [ **Zone II and Zone III wellhead protection area delineation performed in accordance with methodology provided by the Department. Methods applicable to that hydrogeologic setting shall be utilized and site-specific hydraulic and hydrogeologic information shall include, but is not limited to, pumping rate or yield, aquifer properties, water table or potentiometric surface configuration and hydrogeologic mapping.** ] A map depicting the source water protection areas that were delineated in accordance with the methodology provided by the Department.

(4) [ **Identification of existing and potential sources of contamination within each wellhead protection area.** ] A source water assessment for each source. If a source water assessment has not been previously conducted, identification of the source's susceptibility to potential and existing sources of contamination within each source's contributing area conducted in accordance with the methodology provided by the Department.

(5) Development and implementation of [ **wellhead** ] **source water** protection area management approaches to protect the water supply source from activities that may contaminate the source. These approaches may include, but are not limited to, one or more of the following actions:

(i) Purchase of the [ **wellhead** ] **source water** protection area by the water system.

(ii) Adoption of municipal ordinances or regulations controlling, limiting or prohibiting future potential sources of contamination within the [ **wellhead** ] **source water** protection area.

(iii) Adoption of municipal ordinances or regulations establishing design and performance standards for potential sources of contamination within the [ **wellhead** ] **source water** protection area.

(iv) Transfer of development rights within the [ **wellhead** ] **source water** protection area to land outside of the [ **wellhead** ] **source water** protection area.

(v) [ **A** ] **For groundwater sources, a groundwater monitoring network that serves as an early warning system.**

(vi) Public education programs.

(vii) Other methods approved by the Department which will ensure an adequate degree of protection for the source.

(6) Contingency planning for the provision of alternate water supplies in the event of contamination of a [ **well, spring or infiltration gallery** ] **source** and emergency responses to incidents that may impact water supply source quality.

(7) [ **New water supply source siting provisions to ensure the protection of new wells, springs or infiltration galleries.** ] **Provisions to ensure the protection of sites identified for development as new water sources.**

(b) **Water suppliers with an approved source water protection program shall review and update the program on an annual basis to ensure it is accurate and reflects current activities, and shall complete and submit the current version of the Department-provided annual update form.**



(Editor's Note: Sections 109.716 and 109.717 are proposed to be added and printed in regular type to enhance readability.)

§ 109.716. Significant deficiencies.

The following apply to significant deficiencies identified by the Department:

(1) Within 30 days of receiving written notification, the public water supplier shall consult with the Department regarding appropriate corrective actions unless the Department directs the system to implement a specific corrective action.

(2) The public water supplier shall respond in writing to significant deficiencies no later than 45 days after receipt of written notification from the Department, indicating how and on what schedule the system will address significant deficiencies.

(3) Corrective actions shall be completed in accordance with applicable Department plan review processes or other Department guidance or direction, if any, including Department-specified interim measures.

(4) The public water supplier shall correct significant deficiencies identified within 120 days of receiving written notification from the Department, or earlier if directed by the Department, or according to the schedule approved by the Department.

(5) If the Department specifies interim measures for protection of the public health pending Department approval of the corrective action plan and schedule or pending completion of the corrective action plan, the public water supplier shall comply with these interim measures as well as with any schedule specified by the Department.

(6) The public water supplier shall request and obtain approval, in writing, from the Department for any subsequent modifications to a Department-approved corrective action plan and schedule.

§ 109.717. Comprehensive monitoring plan.

(a) A community or nontransient noncommunity water supplier shall develop a comprehensive monitoring plan to assure that all sources and entry points are included in routine compliance monitoring at the entry points and within the distribution system. The plan must contain at least all of the following:

(1) A list of all sources and associated treatment plants and entry points. This list must also include purchased interconnections.

(2) A schematic of all sources and associated treatment plants and entry points, purchased interconnections and the relative locations of the points of entry into the distribution system.

(3) For each entry point, a description of system operations, including whether the entry point provides water continuously, whether each source provides water continuously, whether sources are alternated or blended and on what cycle or blending ratio, and whether the blending ratio is consistent.

(4) A description of how all sources and entry points are included in routine compliance monitoring.

(b) The plan must include the sample siting plans and monitoring plans required under other sections of this chapter, including the total coliform sample siting plan required under § 109.701(a)(5) (relating to reporting and recordkeeping), the monitoring plan for disinfectants, DBPs and DBP precursors required under § 109.701(g), the lead and copper sample site location plan required

under § 109.1107(a)(1) (relating to system management responsibilities) and the source water sampling plan required under § 109.1202(h) (relating to monitoring requirements).

(c) The water supplier shall review and update the plan at least annually and as necessary to reflect changes to facilities or operations. The date of each update must be recorded on the plan.

(d) The water supplier shall submit the initial plan. The water supplier shall review the plan annually and submit an updated plan to the Department, if revisions are made. These plans are subject to Department review and revision.

Subchapter H. LABORATORY CERTIFICATION

§ 109.810. Reporting and notification requirements.

\* \* \* \* \*

(b) A laboratory accredited under Chapter 252 shall whenever the results of test measurements or analyses performed by the laboratory under this chapter indicate an MCL, MRDL or a treatment technique performance requirement under § 109.202 (relating to State MCLs, MRDLs and treatment technique requirements) is exceeded, or [ an action level under ] any individual tap sample result exceeds the action level value specified in § 109.1102(a) (relating to action levels and treatment technique requirements) [ is exceeded ], or a sample result requires the collection of check or confirmation samples under § 109.301 (relating to general monitoring requirements), or any check sample collected under § 109.301(3) is total coliform-positive, or a sample collected by a seasonal system as part of a Department-approved start-up procedure under § 109.301(3)(i)(c) is total coliform-positive, or a sample collected under Subchapter M (relating to additional requirements for groundwater sources) is *E. coli*-positive:

\* \* \* \* \*

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

§ 109.1003. Monitoring requirements.

\* \* \* \* \*

(b) Sampling requirements.

\* \* \* \* \*

(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. ] Sampling and analysis shall be performed in accordance with analytical techniques adopted by the EPA under the Federal act or methods approved by the Department.

\* \* \* \* \*

§ 109.1005. Permit requirements.

\* \* \* \* \*

(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 chap-

ter 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:

\* \* \* \* \*

(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 ] **must** 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) ] § 109.606(e) as applicable to the appropriate ANSI/NSF standard for the treatment technology.

\* \* \* \* \*

(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 Standards and Facility Regulation** ] **Safe Drinking Water**, 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 ] **must** include:

\* \* \* \* \*

(i) *Permit fees.* **An application for a permit from the Department under this subchapter must be accompanied by a fee in the amount specified in Subchapter N (relating to drinking water 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).** ]

**Subchapter K. LEAD AND COPPER**

**§ 109.1105. Permit requirements.**

(a) *General permit requirements.* A person may not construct, substantially modify or operate corrosion control facilities to comply with this subchapter without having obtained the appropriate permit approvals under Subchapter E (relating to permit requirements) and this section.

(b) *Construction permits and permit amendments.* The water supplier shall submit an application for a public water system construction permit for a newly-created system or an amended construction permit for a currently-permitted system for corrosion control treatment facilities by the applicable deadline established in § 109.1102(b)(2) (relating to action levels and treatment technique requirements), unless the system complies with paragraph (1) or (2) or otherwise qualifies for a minor permit amendment under § 109.503(b) (relating to public water system construction permits). The permit application must comply with § 109.503 and contain the applicable information specified therein. The application must include recommended water quality parameter performance requirements for optimal corrosion control treatment as specified in § 109.1102(b)(5) and other data, information or documentation necessary to enable the Department to consider the application for a permit for construction of the facilities.

(1) *Community water system minor permit amendments.* [ **The** ] **Until** \_\_\_\_\_ (*Editor’s Note: The blank refers to the effective date of adoption of this proposed rulemaking.*), a community water supplier may submit a written request for an amended construction permit to the Department if the system satisfies the conditions under subparagraphs (i)—(iv). A request for an amended construction permit under this paragraph [ shall ] **must** describe the proposed change in sufficient detail to allow the Department to adequately evaluate the proposal.

(i) The system is a small water system.

(ii) The sources of supply for the system are not surface water sources.

(iii) Except for corrosion control treatment, the sources require treatment no greater than disinfection to provide water of a quality that meets the MCLs and treatment

technique requirements established under Subchapter B (relating to MCLs, MRDLs or treatment technique requirements).

(iv) The proposed corrosion control treatment is limited to alkalinity or pH adjustment, or both.

(2) *Nontransient noncommunity water system permits.* [ The ] Until \_\_\_\_\_ (*Editor's Note: The blank refers to the effective date of adoption of this proposed rulemaking.*), a nontransient noncommunity water supplier is not required to obtain a construction permit or permit amendment under subsection (b) if the system satisfies the following specifications and conditions:

- (i) The system is a small water system.
- (ii) The sources of supply for the system are not surface water sources.
- (iii) Except for corrosion control treatment, the sources require treatment no greater than disinfection to provide water of a quality that meets the MCLs and treatment technique requirements established under Subchapter B.
- (iv) The proposed corrosion control treatment is limited to alkalinity or pH adjustment, or both.
- (v) The water supplier files a brief description of the proposed treatment, including recommended water quality parameter performance requirements for optimal corrosion control treatment as specified in § 109.1102(b)(5), on forms acceptable to the Department. Descriptions of modifications shall be submitted and approved by the Department prior to construction.

(3) **Beginning \_\_\_\_\_** (*Editor's Note: The blank refers to the effective date of adoption of this proposed rulemaking.*), **community water systems and nontransient noncommunity water systems required to install optimal corrosion control treatment in accordance with § 109.1102(b) shall obtain a construction and operations permit.**

(c) *Operation permits.* Except for nontransient noncommunity water systems complying with subsection (b)(2), the water supplier shall obtain an operation permit or amended operation permit following completion of construction and prior to initiation of operation of corrosion control treatment facilities. The permit will be issued in accordance with § 109.504 (relating to public water system operation permits). The Department will not issue an operation permit under this subchapter unless the water system complies with the operation and maintenance plan requirements under § 109.1107(b) (relating to system management responsibilities) and the operator certification requirements under § 109.1107(c). The water supplier for a community water system or nontransient noncommunity water system shall submit a request for Department designation of optimal corrosion control treatment performance requirements in accordance with § 109.1102(b)(2) and the Department will issue an amended operation permit designating the performance requirements as specified in § 109.1102(b)(5).

**§ 109.1107. System management responsibilities.**

(a) *Reporting and recordkeeping.* Systems shall comply with the following requirements and otherwise comply with § 109.701 (relating to reporting and recordkeeping):

\* \* \* \* \*

(2) *Reporting of monitoring results.* The water supplier shall assure that the results of analyses conducted in accordance with § 109.1103 are reported to the Department

within the first 10 days following the end of each applicable monitoring period as stipulated by § 109.1103. Additional monitoring results beyond that required under § 109.1103 shall be kept on record by the water supplier and presented or submitted to the Department upon request.

(i) *Lead and copper tap monitoring results.* The following minimum information is required when reporting lead and copper tap monitoring results to the Department.

(A) The name, address and public water system identification number (PWSID) of the public water system from which the samples are taken.

- (B) The contaminant ID.
- (C) The parameter name.
- (D) The sample period.
- (E) The sample type.

[ (F) **The number of samples required and the number of samples taken.**

(G) ] (F) The analytical methods used.

[ (H) ] (G) The results of analyses conducted in accordance with this subchapter for lead and copper tap monitoring.

[ (I) ] (H) The sample location.

[ (J) **The 90th percentile result.**

(K) **Whether an action level has been exceeded.**

(L) ] (I) The name, address and identification number of the certified laboratory performing the analysis.

\* \* \* \* \*

**§ 109.1108. Fees.**

[ A system receiving permitting and related services from the Department under § 109.1105 (relating to permit requirements) for corrosion control treatment facilities shall pay the applicable fees in this section by a check in the amount specified in this section to the "Commonwealth of Pennsylvania."

(1) **An application for a construction permit or major permit amendment under § 109.1105(b) shall be accompanied by payment for the applicable fee as follows:**

<i>System size</i>	<i>Fee</i>
<b>Small</b>	<b>\$250</b>
<b>Medium</b>	<b>\$500</b>
<b>Large</b>	<b>\$1,750</b>

(2) **A system not required to submit an application for a construction permit or major permit amendment under § 109.1105(b) shall submit payment for the applicable fee with its request for Department designation of optimal corrosion control treatment performance requirements in accordance with § 109.1102(b)(2) (relating to action levels and treatment technique requirements):**

<i>System size</i>	<i>Fee</i>
<b>Small</b>	<b>\$125</b>
<b>Medium</b>	<b>\$375</b>
<b>Large</b>	<b>\$1,250 ]</b>

**An application for the review of a corrosion control treatment feasibility study under § 109.1102(b)(3) (relating to action levels and treat-**

ment technique requirements), a permit from the Department under this subchapter or a Department designation of optimal corrosion control treatment performance requirements in accordance with § 109.1102(b)(2)(ii) must be accompanied by a fee in the amount specified in Subchapter N (relating to drinking water fees).

**Subchapter L. LONG-TERM 2 ENHANCED SURFACE WATER TREATMENT RULE**

**§ 109.1202. Monitoring requirements.**

\* \* \* \* \*

(l) [ *Chemical treatment prior to sampling location.* ] *Source water sample locations for plants with chemical treatment.* Systems shall collect source water samples prior to chemical treatment, such as coagulants, oxidants and disinfectants.

\* \* \* \* \*

(n) [ *Bank filtration.* ] *Source water sample locations for systems with bank filtration.*

(1) Systems that receive *Cryptosporidium* treatment credit for bank filtration to meet existing treatment technique requirements of § 109.202(c) (relating to State MCLs, MRDLs and treatment technique requirements), as applicable, shall collect source water samples in the surface water prior to bank filtration.

\* \* \* \* \*

(o) [ *Multiple sources.* ] *Source water sample locations for systems with multiple sources.* Systems with plants that use multiple water sources, including multiple surface water sources and blended surface water and groundwater sources, shall collect samples as specified in paragraph (1) or (2). The use of multiple sources during monitoring [ **must** ] shall be consistent with routine operational practice. Sources not adequately evaluated during the monitoring period will be considered new sources and the requirements under subsection (f) will apply. Systems may begin monitoring a new source as soon as a sampling schedule and plan have been approved by the Department.

\* \* \* \* \*

**§ 109.1203. Bin classification and treatment technique requirements.**

\* \* \* \* \*

(f) *Treatment and management options for filtered systems, microbial toolbox.*

(1) Filtered systems shall use one or more of the treatment and management options listed in § 109.1204 (relating to requirements for microbial toolbox components), termed the microbial toolbox, to comply with the additional *Cryptosporidium* treatment required in subsection (e).

(2) Systems using sources classified in Bin 3 and Bin 4 shall achieve at least 1-log of the additional *Cryptosporidium* treatment required under § 109.1204(a) using either one or a combination of the following: bag filters, bank filtration, cartridge filters, chlorine dioxide, membranes, ozone or UV, as described in [ § 109.1204(b), (c) and (n)—(q) (relating to requirements for microbial toolbox components) ] § 109.1204.

(g) *Failure to meet treatment credit.* Failure by a system in any month to achieve treatment credit by meeting criteria in [ § 109.1204(b), (c) and (n)—(q) ]

§ 109.1204 for microbial toolbox options that is at least equal to the level of treatment required in subsection (e) is a violation of the treatment technique requirement.

\* \* \* \* \*

**§ 109.1204. Requirements for microbial toolbox components.**

\* \* \* \* \*

(h) *Individual filter performance.* Systems using conventional filtration treatment or direct filtration treatment will receive 0.5-log *Cryptosporidium* treatment credit, which can be in addition to the 0.5-log credit under subsection (g), during any month the system meets the criteria in this subsection. Compliance with these criteria must be based on individual filter turbidity monitoring as described in [ § 109.301(1)(iv) ] § 109.301(1)(ii) (relating to general monitoring requirements), as applicable.

\* \* \* \* \*

**§ 109.1206. Reporting and recordkeeping requirements.**

\* \* \* \* \*

(e) *Source water reporting data elements.* Systems shall report the applicable information in paragraphs (1) and (2) for the source water monitoring required under § 109.1202.

(1) *Cryptosporidium data elements.* Systems shall report data elements in subparagraphs (i)—[ (vii) ] (viii) for each *Cryptosporidium* analysis. Systems shall report, in a form acceptable to the Department, data elements in subparagraphs [ (viii)—(x) ] (ix)—(xi) as applicable.

\* \* \* \* \*

(vii) Number of oocysts occurred.

(viii) **The concentration of oocysts per liter.**

[ (viii) ] (ix) For matrix spike samples, systems shall also report the sample volume spiked and estimated number of oocysts spiked. These data are not required for field samples.

[ (ix) ] (x) For samples in which less than 10 L is filtered or less than 100% of the sample volume is examined, systems shall also report the number of filters used and the packed pellet volume.

[ (x) ] (xi) For samples in which less than 100% of sample volume is examined, systems shall also report the volume of resuspended concentrate and volume of this resuspension processed through immunomagnetic separation.

\* \* \* \* \*

**Subchapter M. ADDITIONAL REQUIREMENTS FOR GROUNDWATER SOURCES**

**§ 109.1302. Treatment technique requirements.**

\* \* \* \* \*

(c) *Groundwater systems with [ significant deficiencies or ] source water E. coli contamination or significant deficiencies.*

(1) A groundwater system with [ a significant deficiency or ] an *E. coli*-positive groundwater source sample collected under § 109.505(a)(3), § 109.1303(a) or § 109.1304(a) (relating to requirements for noncommunity water systems; triggered monitoring requirements for groundwater sources; and assessment source water

monitoring) [ shall correct all significant deficiencies and, if directed by the Department, ] shall implement one or more of the following corrective actions:

- (i) Provide an alternative source of water.
- (ii) Eliminate the source of contamination.
- (iii) Submit information required under § 109.1306 and provide treatment that reliably achieves at least 4-log treatment of viruses before the first customer for the groundwater source or sources and comply with compliance monitoring requirements under § 109.1305.

(2) A groundwater system with a significant deficiency or an *E. coli*-positive groundwater source sample collected under § 109.1303(a) or § 109.1304(a) will receive one of the following forms of notification:

- (i) Written notice from the Department of a significant deficiency.
- (ii) Notification from a laboratory under § 109.810(b) (relating to reporting and notification requirements) that a groundwater source sample collected under § 109.1303(a) or § 109.1304(a) was found to be *E. coli*-positive.

[ (iii) Direction from the Department that an *E. coli* positive sample collected under § 109.1303(a) requires corrective action. ]

(3) [ Within 30 days of receiving initial notification under paragraph (2), the groundwater system shall consult with the Department regarding the appropriate corrective action unless the Department directs the groundwater system to implement a specific corrective action. ] A groundwater system with a significant deficiency or an *E. coli*-positive source water sample collected under § 109.1303(a) or § 109.1304(a) shall comply with § 109.716 (relating to significant deficiencies).

[ (4) Within 120 days of receiving initial notification under paragraph (2), or earlier if directed by the Department, the groundwater system shall correct all significant deficiencies if applicable and shall either:

(i) Have completed corrective action in accordance with applicable Department plan review processes or other Department guidance or direction, if any, including Department-specified interim measures.

(ii) Be in compliance with a Department-approved corrective action plan and schedule subject to the following conditions:

(A) The groundwater system shall request and obtain approval from the Department for any subsequent modifications to a Department-approved corrective action plan and schedule.

(B) If the Department specifies interim measures for protection of the public health pending Department approval of the corrective action plan and schedule or pending completion of the corrective action plan, the system shall comply with these interim measures as well as with any schedule specified by the Department. ]

### § 109.1303. Triggered monitoring requirements for groundwater sources.

\* \* \* \* \*

(h) For an *E. coli*-positive source water sample collected under subsection (a) that is not invalidated under subsection (g)[ : ], the system shall comply with Tier 1 public notification requirements under § 109.408 (relating to Tier 1 public notice—categories, timing and delivery of notice).

[ (1) The Department may require a groundwater system to perform a corrective action as described under § 109.1302(c) (relating to treatment technique requirements).

(2) If the Department does not require corrective action under § 109.1302(c), the system shall collect five additional source water samples from the same source within 24 hours of being notified of the *E. coli*-positive sample. If one of the additional samples collected under this paragraph is *E. coli*-positive, the groundwater system shall perform a corrective action as described under § 109.1302(c).

(3) The system shall comply with Tier 1 public notification requirements under § 109.408 (relating to Tier 1 category, timing and delivery of notice). ]

(i) Systems providing water to another public water system receiving notification under subsection (e) shall comply with subsection (a).

### § 109.1305. Compliance monitoring.

(a) *Chemical disinfection.* Groundwater systems demonstrating at least 4-log treatment of viruses using chemical disinfection shall monitor for and maintain the Department-approved residual disinfection concentration every day the system serves the public from the groundwater source.

(1) A groundwater system serving greater than 3,300 people shall:

(i) Continuously monitor the residual disinfectant concentration at the entry point or other location approved by the Department and record the results at least every 15 minutes each day that water from the groundwater source is served to the public.

(ii) Maintain the Department-approved minimum residual disinfectant concentration every day the public water system serves water from the groundwater source to the public.

(iii) Conduct grab sampling every 4 hours until the continuous monitoring equipment is returned to service if there is a failure in the continuous monitoring equipment and notify the Department within 24 hours of the equipment failure that grab sampling is being conducted. [ The system shall resume continuous residual disinfectant monitoring within 14 days. ] Grab sampling or manual recording may not be substituted for continuous monitoring for longer than 5 working days after the equipment fails unless a longer period of time is approved by the Department.

(2) A groundwater system serving 3,300 or fewer people shall comply with one of the following subparagraphs:

(i) The groundwater system shall maintain the Department-approved minimum residual disinfectant concentration every day the public water system serves water from the groundwater source to the public. The

groundwater system shall take a daily grab sample at the entry point or other location approved by the Department during the hour of peak flow or at any other time specified by the Department. If any daily grab sample measurement falls below the Department-approved minimum residual disinfectant concentration, the groundwater system shall take follow up samples every 4 hours **and record the results** until the residual disinfectant concentration is restored to the Department-approved minimum level.

\* \* \* \* \*

**§ 109.1306. Information describing 4-log treatment and compliance monitoring.**

\* \* \* \* \*

(b) A noncommunity water system not covered under subsection (a) demonstrating at least 4-log treatment of viruses under § 109.1302 (relating to treatment technique requirements) shall:

\* \* \* \* \*

(3) Submit 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 Standards and Facility Regulation** ] **Safe Drinking Water**, Post Office Box [ **8774** ] **8467**, Harrisburg, Pennsylvania 17105 which contains acceptable design standards and technical guidance. Water quality analyses shall be conducted by a laboratory accredited under this chapter.

\* \* \* \* \*

**§ 109.1307. System management responsibilities.**

(a) *Reporting.* Groundwater systems shall comply with the following requirements and otherwise comply with § 109.701 (relating to reporting and recordkeeping):

(1) A groundwater system conducting compliance monitoring under § 109.1305 (relating to compliance monitoring):

\* \* \* \* \*

(ii) That experiences a breakdown in treatment shall notify the Department within 1 hour after the water system learns of the violation or the situation and provide public notice in accordance with § 109.408 (relating to Tier 1 public notice—categories, timing and delivery **of notice**). A breakdown in treatment occurs whenever the system fails to meet, for greater than 4 [ **continuous** ] hours **of operation**, any Department-specified requirements relating to:

\* \* \* \* \*

(*Editor’s Note:* The following subchapter is proposed to be added and printed in regular type to enhance readability.)

**Subchapter N. DRINKING WATER FEES**

- Sec.
- 109.1401. General.
- 109.1402. Annual fees.
- 109.1403. Monitoring waiver fees.
- 109.1404. Community and noncommunity water system permitting fees.
- 109.1405. Permitting fees for general permits.
- 109.1406. Permitting fees for bottled water and vended water systems, retail water facilities and bulk water hauling systems.
- 109.1407. Feasibility study.
- 109.1408. Noncommunity water system application for approval.
- 109.1409. Noncommunity water system 4-log permit.
- 109.1410. Payment of fees.

- 109.1411. Disposition of funds.
- 109.1412. Failure to remit fees.
- 109.1413. Evaluation of fees.

**§ 109.1401. General.**

(a) This subchapter establishes fees for each public water system for services provided by the Department to implement the act, retain primacy, and protect the public health and safety.

(b) This subchapter applies to each public water system.

**§ 109.1402. Annual fees.**

(a) *Annual fee.* Each public water system shall pay an annual fee as set forth in this section.

(1) For community water systems, the annual fees are as follows:

<i>Population Served</i>	<i>Fee</i>
25—100	\$250
101—500	\$500
501—1,000	\$1,000
1,001—2,000	\$2,000
2,001—3,300	\$4,000
3,301—5,000	\$6,500
5,001—10,000	\$10,000
10,001—25,000	\$20,000
25,001—50,000	\$25,000
50,001—75,000	\$30,000
75,001—100,000	\$35,000
100,001 or more	\$40,000

(2) For nontransient noncommunity water systems, the annual fees are as follows:

<i>Population Served</i>	<i>Fee</i>
25—100	\$100
101—500	\$250
501—1,000	\$500
1,001—3,300	\$750
3,301 or more	\$1,000

(3) For transient noncommunity water systems, the annual fees are as follows:

<i>Population Served</i>	<i>Fee</i>
25—100	\$50
101—500	\$100
501—1,000	\$200
1,001 or more	\$500

(4) For bottled water or vended water systems, retail water facilities or bulk water hauling systems, the annual fees are as follows:

<i>Type</i>	<i>Fee</i>
Bottled—in-State	\$2,500
Bottled—out-of-State	\$2,500
Vended	\$1,000
Retail	\$1,000
Bulk	\$1,000

(b) *Basis for “population served.”* The “population served” shall be based on the Department’s public water system inventory at the time of billing.

(c) *Payment of fees.*

(1) All fees payable under this section are due according to the following schedule:

<i>Population Served</i>	<i>Submit Annual Fee By</i>
25—100	September 30
101—500	December 31

<i>Population Served</i>	<i>Submit Annual Fee By</i>
501—3,300	March 31
3,301 or more	June 30

(2) New systems that begin operation after January 1 will not be assessed an annual fee for partial calendar year periods. Annual fees shall be payable on or before the date indicated in paragraph (1) of the next calendar year, and each year thereafter.

(3) For annual fees of \$10,000 or more, a public water system may request to divide its annual fee payment into equal quarterly installments by submitting a written request to the Department. Quarterly installments shall be due on March 31, June 30, September 30 and December 31.

#### § 109.1403. Monitoring waiver fees.

(a) *New waivers.* An application for a new waiver from the monitoring requirements in §§ 109.301 and 109.302 (relating to general monitoring requirements; and special monitoring requirements) for a single source must be accompanied by a fee as follows:

<i>Waiver Type</i>	<i>New Waiver Fee</i>
VOC use waiver	\$100
SOC use waiver	\$100
SOC susceptibility waiver	\$300
IOC waiver	\$100

(b) *Waiver renewals.* An application for a waiver renewal from the monitoring requirements in §§ 109.301 and 109.302 for a single source must be accompanied by the appropriate fee as follows:

(1) For renewal applications with no changes in land uses or potential sources of contamination, the fee is \$50.

(2) For renewal applications with changes in land uses or potential sources of contamination, the fee will be based on the type of waiver and the fee for that waiver set forth in subsection (a).

(c) *Waiver fees for systems with more than one source.*

(1) For systems with multiple sources all in the same contributing area, the fee will be as indicated in subsection (a) or (b), as applicable. For groundwater systems, the contributing area is the surface area overlying the portion of the aquifer through which water is diverted to a well or flows to a spring or infiltration gallery.

(2) For systems with sources in two or more contributing areas, the fee will be as indicated in subsection (a) or (b), as applicable, for the first source, plus 1/2 of the applicable fee for each additional contributing area in which a source is located.

#### § 109.1404. Community and noncommunity water system permitting fees.

(a) An application for a construction permit or a major construction permit amendment under § 109.503 (relating to public water system construction permits), except for an application for BVRB facilities under § 109.1005 (relating to permit requirements), must be accompanied by a fee as follows:

<i>Population Served</i>	<i>Fee</i>
25—100	\$300
101—500	\$600
501—3,300	\$1,000
3,301—10,000	\$2,500
10,001—50,000	\$5,000
50,001—100,000	\$7,500

<i>Population Served</i>	<i>Fee</i>
100,001 or more	\$10,000

(b) A written request for a minor construction permit amendment under § 109.503, except for a change in legal status (relating to paragraph 3), must be accompanied by a fee as follows:

<i>Population Served</i>	<i>Fee</i>
25—100	\$100
101—500	\$250
501—3,300	\$500
3,301—10,000	\$750
10,001—50,000	\$1,000
50,001—100,000	\$2,500
100,001 or more	\$5,000

(c) A written request for a change in legal status, such as a transfer of ownership, incorporation or merger, must be accompanied by a fee of \$100.

(d) A written request for a new or amended operations permit under § 109.504 (relating to public water system operating permits) must be accompanied by a fee of \$50.

(e) A written request for an emergency permit must be accompanied by a fee of \$100.

#### § 109.1405. Permitting fees for general permits.

Fees for coverage under a general permit under § 109.511 (relating to general permits) will be established in the general permit. Fees may not exceed \$500. An eligible person shall submit to the Department the applicable fee before the Department approves coverage under the general permit for that person.

#### § 109.1406. Permitting fees for bottled water and vended water systems, retail water facilities and bulk water hauling systems.

(a) An application for a construction permit or a major construction permit amendment under § 109.1005 (relating to permit requirements), except an out-of-State facility or system using finished water as its sole source of water, must be accompanied by a fee as follows:

<i>System Type</i>	<i>Fee</i>
Bottled water system (population served)	
25—100	\$500
101—500	\$750
501—3,300	\$1,000
3,301—10,000	\$2,500
10,001—50,000	\$5,000
50,001—100,000	\$7,500
100,001 or more	\$10,000
Vended water system	\$100
Retail water facilities	\$250
Bulk water hauling system	\$500

(b) An application from a bottled water system, retail water facility or bulk water hauling system whose sole source of water is finished water purchased from another public water system must be accompanied by a fee as follows:

<i>System Type</i>	<i>Fee</i>
Bottled water system (population served)	
25—100	\$100
101—500	\$250
501—3,300	\$500
3,301—10,000	\$750

<i>System Type</i>	<i>Fee</i>
10,001—50,000	\$1,000
50,001—100,000	\$2,500
100,001 or more	\$5,000
Retail water facilities	\$100
Bulk water hauling system	\$100

(c) An application from an out-of-State bottled water system submitting proof of out-of-State approval under § 109.1005 must be accompanied by a fee of \$1,000.

(d) A written request for a minor construction permit amendment under § 109.1005, except for a change in legal status, must be accompanied by a fee as follows:

<i>System Type</i>	<i>Fee</i>
Bottled water system	\$1,000
Vended water system	\$100
Retail water facilities	\$100
Bulk water hauling system	\$100

(e) A request for a change in legal status, such as a transfer of ownership, incorporation or merger, must be accompanied by a fee of \$100.

(f) A written request for a new or amended operations permit must be accompanied by a fee of \$50.

(g) A written request for an emergency permit must be accompanied by a fee of \$100.

**§ 109.1407. Feasibility study.**

An application for a review of a feasibility study or pilot study must be accompanied by a fee as follows:

<i>Population Served</i>	<i>Fee</i>
25—100	\$300
101—500	\$600
501—3,300	\$1,000
3,301—10,000	\$2,500
10,001—50,000	\$5,000
50,001—100,000	\$7,500
100,001 or more	\$10,000

**§ 109.1408. Noncommunity water system application for approval.**

For a noncommunity water system that is released from the obligation to obtain a construction and an operation permit under § 109.505 (relating to require-

ments for noncommunity water systems), the application for approval required under § 109.505(a)(2)(ii) must be accompanied by a fee of \$50.

**§ 109.1409. Noncommunity water system 4-log permit.**

For noncommunity water systems demonstrating 4-log treatment of viruses under Subchapter M (relating to additional requirements for groundwater sources), the permit application must be accompanied by a fee of \$50.

**§ 109.1410. Payment of fees.**

All fees under this subchapter shall be payable by a check to the “Commonwealth of Pennsylvania” or through a secure computer application provided by the Department.

**§ 109.1411. Disposition of funds.**

All fees shall be paid into the State Treasury into a special restricted revenue account in the General Fund known as the Safe Drinking Water Account administered by the Department for use in protecting the public from the hazards of unsafe drinking water and which funds are hereby appropriated to the Department for the purposes as are authorized in the act.

**§ 109.1412. Failure to remit fees.**

(a) If fees are not remitted as required under § 109.1402 (relating to annual fees), interest will accrue on the entire amount from the original date payment was due at a rate of 6% per annum until payment is remitted.

(b) For any system delinquent in payment of fees in excess of 180 days, the Department may suspend technical services provided by the Department until payment is remitted.

**§ 109.1413. Evaluation of fees.**

At least every 3 years, the Department will provide the EQB with an evaluation of the fees in this chapter and recommend regulatory changes to the EQB to address any disparity between the program income generated by the fees and the Department’s cost of administering the program with the objective of ensuring fees meet all program costs and programs are self-sustaining. The evaluation will include an assessment of program completion and workload.

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