

# PROPOSED RULEMAKING

## ENVIRONMENTAL QUALITY BOARD

[ 25 PA. CODE CHS. 87, 88 AND 90 ]

### Remining Requirements

The Environmental Quality Board (Board) proposes to amend the remining regulations in Chapter 87, Subchapter F, Chapter 88, Subchapter G and Chapter 90, Subchapter F (relating to surface coal mines: minimum requirements for remining areas with pollutional discharges; anthracite surface mining activities and anthracite bank removal and reclamation activities: minimum requirements for remining areas with pollutional discharges; and coal refuse disposal activities on areas with pre-existing pollutional discharges) to read as set forth in Annex A. This proposed rulemaking incorporates requirements of the Federal remining rules in 40 CFR Part 434, Subpart G (relating to coal remining) and the statistical methods in 40 CFR Part 434, Appendix B (relating to baseline determination and compliance monitoring for pre-existing discharges at remining operations).

This proposed rulemaking was adopted by the Board at its meeting of May 20, 2015.

#### A. Effective Date

This proposed rulemaking will be effective upon final-form publication in the *Pennsylvania Bulletin*.

#### B. Contact Persons

For further information, contact Thomas Callaghan, PG, Director, Bureau of Mining Programs, Rachel Carson State Office Building, 5th Floor, 400 Market Street, P. O. Box 8461, Harrisburg, PA 17105-8461, (717) 787-5015; or Joseph Iole, Assistant Counsel, Bureau of Regulatory Counsel, P. O. Box 8464, Rachel Carson State Office Building, Harrisburg, PA 17105-8464, (717) 787-9376. Information regarding submitting comments on this proposed rulemaking appears in Section J of this preamble. Persons with a disability may use the AT&T Relay Service, (800) 654-5984 (TDD users) or (800) 654-5988 (voice users). This proposed rulemaking is available on the Department of Environmental Protection's (Department) web site at [www.dep.state.pa.us](http://www.dep.state.pa.us) (select "Public Participation Center," then "The Environmental Quality Board").

#### C. Statutory Authority

This proposed rulemaking is authorized under the authority of section 5 of The Clean Streams Law (35 P. S. § 691.5), sections 4(a) and 4.2 of the Surface Mining Conservation and Reclamation Act (52 P. S. §§ 1396.4(a) and 1396.4b) and section 1920-A of The Administrative Code of 1929 (71 P. S. § 510-20).

#### D. Background and Purpose

The Commonwealth's existing remining program is implemented through Chapter 87, Subchapter F, Chapter 88, Subchapter G and Chapter 90, Subchapter F, as well as through technical guidance documents and individual permits. The regulations allow liability protection for remining operations conducted on abandoned mine lands with existing pollutional discharges by enabling the Department to determine the pollution baseline at a site and set effluent limitations accordingly. Currently, the Depart-

ment determines the pollution baseline using a single statistical method (Method 1), explained as follows, and incorporates the baseline in the individual permit. Likewise, effluent limitations are determined on a case-by-case basis.

Federal remining requirements are found in 40 CFR Part 434, Subpart G and Appendix B. The Federal requirements differ from the Pennsylvania requirements by providing the option of employing an alternative statistical method (Method 2) for determining the pollution baseline. The choice of methods depends on which method would more accurately characterize baseline levels due to site-specific factors.

The Federal regulations further provide for remining in cases in which the pollution baseline cannot be determined due to infeasibility of sampling and remining would result in significant water quality improvement that would not otherwise occur. Under these circumstances, the Federal regulations require an operator to submit a pollution abatement plan based on best management practices (BMP) without regard for numeric effluent limitations.

The preambles of the Federal remining regulations, proposed at 65 FR 19440 (April 11, 2000) and adopted at 67 FR 3370 (January 23, 2002), provide extensive additional background references explaining the statistical methods, BMPs and other requirements. Notably, the Federal regulations were informed by the extensive experience with remining in this Commonwealth.

The proposed rulemaking incorporates into the Commonwealth's regulations both statistical methods provided in the Federal regulations, eliminating the need to implement the methods through individual permits and providing flexibility regarding the choice of statistical method based on site-specific factors. The proposed rulemaking further provides for remining at sites in which it is infeasible to establish pollution baselines.

#### Summary of the Federal regulations

##### 40 CFR Part 434, Subpart G

Subpart G of 40 CFR Part 434 includes specialized definitions, applicability and effluent limitations for remining.

The following definitions are included in 40 CFR 434.70 (relating to specialized definitions): "coal remining operation," "pollution abatement area," "pre-existing discharge," "steep slope" and "new source remining operation."

Section 434.71 of 40 CFR (relating to applicability) includes a description of mine sites to which the regulations apply, requirements for water that is intercepted by remining activities, a grandfather clause for existing approved remining authorizations and a description of the time period during which the regulations apply.

The effluent limitations are established in four categories: best practicable control technology currently available (BPT); best available technology economically achievable (BAT); best conventional pollutant control technology (BCT); and new source performance standards (NSPS).

The BPT limitations in 40 CFR 434.72 (relating to effluent limitations attainable by the application of the best practicable control technology currently available (BPT)) are the most commonly applicable. The Federal BPT regulations require a site-specific pollution abate-

ment plan designed to reduce the pollution load. They also establish numerical effluent limitations for pre-existing discharges for total iron, total manganese, net acidity and total suspended solids. These effluent limitations may not exceed the baseline pollution load, as defined under the methods described in 40 CFR Part 434, Appendix B. The BPT limitations also allow for circumstances under which the numerical limitations are not applicable, specifically in cases in which it is infeasible to collect samples to establish the baseline pollution load.

The BAT limitations in 40 CFR 434.73 (relating to effluent limitations attainable by application of the best available technology economically achievable (BAT)) require a pollution abatement plan and compliance with the baseline pollution load for net acidity, iron and manganese.

The BCT limitations in 40 CFR 437.74 (relating to effluent limitations attainable by application of the best conventional pollutant control technology (BCT)) require a pollution abatement plan and compliance with the baseline pollution load for total suspended solids.

The NSPS limitations in 40 CFR 434.75 (relating to new source performance standards (NSPS)) require a pollution abatement plan and compliance with the baseline pollution load for acidity, iron, manganese and total suspended solids.

#### *40 CFR Part 434, Appendix B*

Appendix B of 40 CFR Part 434 includes the statistical methods for establishing the baseline pollution load and determining compliance with the numerical effluent limitations. There are two methods (Method 1 and Method 2) to establish the baseline provided in Appendix B. There are also two time frames to determine compliance, one on a monthly basis (single-observation) and the second on an annual basis. The thresholds to determine compliance are referred to as triggers.

Method 1 for the single-observation trigger uses a statistical method that determines the tolerance interval of the 95th percentile above the median and compares that value with the sample being evaluated. Method 2 for the single-observation trigger is a nonparametric estimate of the 99th percentile of loadings. Method 1 for the annual trigger compares the baseline with 1 year's monitoring data for loading using the 95th percentile confidence interval for the median of each data set. Method 2 for the annual trigger uses the Wilcoxon-Mann-Whitney test to compare the baseline and monitoring year being evaluated. The Wilcoxon-Mann-Whitney test is a ranking test.

When the single-observation trigger is exceeded in 2 consecutive months, accelerated (weekly, for 4 weeks) monitoring is required. If the accelerated sampling confirms the exceedance, then treatment of the discharge is required. If the accelerated sampling does not confirm the exceedance, then the accelerated sampling may be reduced to a monthly basis.

When the annual trigger is exceeded, treatment of the discharge is required.

#### *Project XL*

In April 2000, the United States Environmental Protection Agency (EPA) Region III and the Department entered into an agreement under the EPA's Project XL program which allowed for a modified approach to remining permits. Under this program, the water quality performance for eight pilot study remining sites was evaluated based on stream water quality rather than discharge pollutant

loading. Under this project, the basis for water quality evaluation was bimonthly receiving stream concentration data. The triggers were based on concentrations rather than loading.

The conclusion of the pilot study was that remining with in-stream monitoring was just as effective as the traditional discharge-based remining approach. Another conclusion was that the Project XL approach will encourage additional remining since it can be more cost-effective.

This proposed rulemaking deviates from the Federal regulations by requiring, in appropriate circumstances, in-stream baseline determinations and monitoring.

#### *Mining and Reclamation Advisory Board collaboration*

The Department collaborated with the Mining and Reclamation Advisory Board's (MRAB) Regulation, Legislation and Technical Committee to develop this proposed rulemaking. At its October 23, 2014, meeting, the MRAB voted for the proposed rulemaking to move forward in the regulatory process.

#### *E. Summary of Proposed Regulatory Requirements*

In drafting the proposed rulemaking, the Federal regulatory language was edited and inserted to fit the context of the Commonwealth's regulations. The edits include renumbering, formatting and substitutions of more specific references. For example, when the Federal regulations use "permitting authority," "Department" was substituted.

Some other proposed amendments are included to reflect current requirements that are included as permit conditions but will now be addressed in this regulation, instead.

#### *§§ 87.202, 88.502 and 90.302. Definitions*

The proposed rulemaking includes proposed definitions of "coal remining operation," "encountered discharge," "pollution abatement plan," "pre-existing discharge" and "steep slope." The definition of "abatement plan" is proposed to be deleted since this term is replaced by "pollution abatement plan." The definitions of "coal remining operation," "pollution abatement plan," "pre-existing discharge" and "steep slope" are based on the definitions in 40 CFR 434.70. The definition of "encountered discharge" is proposed since it is included in each remining permit issued.

The replacement of the definition of "abatement plan" with "pollution abatement plan" necessitates amendments throughout the proposed rulemaking to substitute the new term for the old one.

#### *§§ 87.203, 88.503 and 90.303. Applicability*

The rulemaking proposes to add §§ 87.203(c) and (d) and 90.303(c) and (d) (relating to applicability). Proposed subsection (c) is based on 40 CFR 434.71(a). Proposed subsection (d) is based on 40 CFR 434.71(c). Proposed amendments to § 88.503(a) (relating to applicability) apply the requirements to anthracite coal refuse disposal activities. Section 88.503(d) and (e) is proposed. Subsection (e) is based on 40 CFR 434.71(c). These proposed subsections establish the circumstances in which this rulemaking will apply.

#### *§§ 87.204, 88.504 and 90.304. Application for authorization*

Proposed amendments to §§ 87.204(a)(2)(ii), 88.504(a)(2)(ii) and 90.304(a)(2)(ii) (relating to application for authorization) add flow as a required monitoring

parameter because flow data is required to calculate loading. The proposed amendments also add "total" as a modifier of aluminum, since the water quality criterion for aluminum is expressed as a total.

Proposed amendments to §§ 87.204(a)(3), 88.504(a)(3) and 90.304(a)(3) reflect the requirements for a pollution abatement plan in 40 CFR 434.72(a). The existing requirements in §§ 87.204(a)(3), 88.504(a)(3) and 90.304(a)(3) are retained to provide more detail of what needs to be in a pollution abatement plan. Requirements in §§ 87.204(a)(3) and 88.504(a)(3) have been in place since 1985, and requirements in § 90.304(a)(3) have been in place since 2001. Each has proven effective.

Proposed §§ 87.204(a)(4) and (5), 88.504(a)(4) and (5) and 90.304(a)(4) and (5) clarify that the pollution abatement plan must include a calculation of the pollution baseline and the data used in its determination. This is currently required through the remining module of the application form for a coal mining permit.

Proposed amendments to §§ 87.204(b), 88.504(b) and 90.304(b) will allow, but not require, applicants to continue water monitoring after the baseline is established, but before the permit is issued. This approach was suggested by the MRAB Regulation, Legislation and Technical Committee. The Federal regulations are silent regarding this period of sampling.

*§§ 87.206, 88.506 and 90.306. Operational requirements*

Proposed amendments to §§ 87.206(1), 88.506(1) and 90.306(1) (relating to operational requirements) add more specific requirements for the monitoring program. These requirements are currently included in remining permits. Sections 87.206(3), 88.506(3) and 90.306(3), which include the requirement to notify the Department as steps of the abatement plan are initiated and completed, are proposed to be deleted. In addition, proposed amendments to these sections include notification requirements when accelerated sampling is required and to establish the triggers for when this accelerated sampling must begin and when it may end. These triggers regarding accelerated sampling are consistent with the requirements in paragraphs II.A.5 and II.B.5 of 40 CFR Part 434, Appendix B.

*§§ 87.207, 88.507 and 90.307. Treatment of discharges*

Proposed amendments to §§ 87.207(b), 88.507(b) and 90.307(b) (relating to treatment of discharges) allow for an exception from the requirement to treat individual discharges on sites where it is not feasible to collect samples to establish the baseline pollution load.

Sections 87.207(g)—(j), 88.507(g)—(j) and 90.307(g)—(j) are proposed to be added. Proposed subsection (g) requires a permittee to notify the Department if the treatment obligation is triggered subsequent to accelerated sampling. Proposed subsection (h) provides that the Department will notify the permittee if it has determined that the pollution baseline has been exceeded and that treatment must begin within 30 days of this notice. Proposed subsection (i) requires that encountered discharges be treated to meet the effluent limitations in the permit. Proposed subsection (j) provides clarification as to when the treatment of an encountered discharge may cease.

A cross-reference to § 88.292 (relating to hydrologic balance: effluent standards) is proposed to be added to § 88.507 to clarify that these requirements apply to anthracite coal refuse disposal activities. A cross-reference to § 88.295(b) (relating to hydrologic balance: diversions and conveyances) is proposed to be added to § 88.507(c).

*§§ 87.210, 88.510 and 90.310. Effluent limitations*

Proposed §§ 87.210, 88.510 and 90.310 (relating to effluent limitations) contain parallel subsections. Subsection (a) requires a pollution abatement plan, which must be approved by the Department and incorporated into the permit as an effluent limitation. Subsection (b) requires that the BMPs included in the pollution abatement plan be implemented. These subsections are based on 40 CFR 434.72(a).

The effluent limitations included in subsection (c)(1) are based on 40 CFR 434.72(b)(1). Subsection (c)(2) includes the exemption from the total suspended solids and settleable solids effluent limitations which are in the footnote to 40 CFR 434.72(b)(1)(iv).

Subsection (d) provides requirements for discharges for which it is not possible to establish the baseline pollutant levels. Subsection (d)(1) is based on 40 CFR 434.72(b)(2). The proposed requirements deviate from the Federal requirements in that they require the establishment of an in-stream baseline under some circumstances, while the Federal requirements do not require in-stream baseline determination under any circumstances. Subsection (d)(2) establishes the bimonthly stream sampling frequency to establish an in-stream pollution concentration baseline. Subsection (d)(3) establishes the monitoring and performance requirements for in-stream comparison with the baseline concentration. Subsection (d)(4) identifies the discharges for which it is not feasible to establish a pollutant baseline. This subsection lists the four categories explicitly identified under 40 CFR 434.72(b)(2). Subsection (d)(4) and 40 CFR 434.72(b)(2) allow for other categories. Subsection (d)(5) specifies the circumstances when in-stream monitoring is not indicative of the impact of remining. These circumstances were based on the experience from many years of observations of the in-stream impacts of remining and Project XL.

Subsection (e) provides for the possibility that pollutants other than iron, manganese, acidity or suspended solids may be eligible for effluent limitations using the approach established by Chapter 87, Subchapter F, Chapter 88, Subchapter G and Chapter 90, Subchapter F.

Subsection (f) identifies the discharges that are subject to the usual effluent limitations and not eligible for the limits established under the remining approach.

Subsection (g) describes when the limitations in subsection (f) are no longer applicable.

Subsection (h) states that the remining effluent limitations apply to eligible discharges until final bond release.

*§§ 87.211, 88.511 and 90.311. Baseline determination and compliance monitoring for pre-existing discharges at remining operations*

Proposed §§ 87.211—87.213, 88.511—88.513 and 90.311—90.313 contain parallel subsections and incorporate the statistical methods for determining baseline and compliance monitoring from 40 CFR Part 434, Appendix B.

Proposed §§ 87.211, 88.511 and 90.311 (relating to baseline determination and compliance monitoring for pre-existing discharges at remining operations) include procedures to be used for determining site-specific baseline pollutant loadings and for determining whether discharge loadings during coal remining operations have exceeded the baseline loading.

Subsection (a) requires that both monthly and annual compliance monitoring be done. This is based on the

requirement in paragraph I.a of 40 CFR Part 434, Appendix B. Subsection (b) requires at least one sample per month for determining the baseline and the annual compliance monitoring period. This is based on the requirement in paragraph I.b of 40 CFR Part 434, Appendix B. Subsection (c) requires the evaluation to be done of the load of the pollutant. This is based on the requirement in paragraph I.c of 40 CFR Part 434, Appendix B. Subsection (d) describes how the load is to be calculated. Subsection (e) allows for the substitution of values when the baseline concentration values are lower than the applicable technology-based effluent limitation guideline. Subsection (f) provides for the exceptions from the substitution of values allowed under subsection (e). Subsection (g) describes how the interquartile range is to be calculated. Subsections (e)—(g) are based on paragraph I.d of 40 CFR Part 434, Appendix B.

*§§ 87.212, 88.512 and 90.312. Procedure for calculating and applying a single-observation (monthly) trigger*

Proposed §§ 87.212, 88.512 and 90.312 (relating to procedure for calculating and applying a single-observation (monthly) trigger) provide two methods for calculating and applying the monthly trigger for compliance monitoring. Subsection (b) lists the steps for Method 1 for calculating the monthly trigger. This method is the same as the method used by the Department. Subsection (b) is based on paragraph II.A of 40 CFR Part 434, Appendix B. Subsection (c) lists the steps in applying the Method 1 monthly trigger. Subsection (d) lists the steps for Method 2 for calculating and applying the monthly trigger. This is based on paragraph II.B of Appendix B of 40 CFR 434.

*§§ 87.213, 88.513 and 90.313. Procedure for calculating and applying an annual trigger*

Sections 87.213, 88.513 and 90.313 (relating to procedure for calculating and applying an annual trigger) provide the two methods for calculating and applying the annual trigger specified in section III of 40 CFR Part 434, Appendix B. Subsection (b) lists the steps for Method 1 for calculating and applying the annual trigger. This is the same as the method used by the Department. It is based on paragraph III.A of 40 CFR Part 434, Appendix B. Subsection (c) lists the steps for Method 2 for calculating and applying the annual trigger. Method 2 for the annual trigger is a statistical test which uses ranking of the data. It is based on paragraph III.B of 40 CFR Part 434, Appendix B.

*§ 88.509. Criteria and schedule for release of bonds on pollution abatement areas*

Proposed amendments to § 88.509(b)(1) (relating to criteria and schedule for release of bonds on pollution abatement areas) include a cross-reference to § 88.287 (relating to vegetation-supporting material: available soil removal), which is applicable to anthracite coal refuse disposal activities. Proposed amendments to § 88.509(c)(1) include a cross-reference to § 88.133 (relating to postmining land use), which is applicable to anthracite surface mines. This is a correction of an omission from the original regulation.

*F. Benefits, Costs and Compliance*

*Benefits*

This proposed rulemaking will allow for additional reclamation of abandoned mine lands by providing protection to mine operators from long-term treatment liability. The proposed amendments that allow for remining in circumstances in which calculating the baseline pollution

load of discharges is not feasible have the potential to open up areas to remining where it was not previously possible. Remining typically results in substantial improvements in water quality.

*Compliance costs*

The primary compliance costs are related to water sampling and analysis and implementation of BMPs for the abatement of abandoned mine drainage. However, these costs are part of the planning process for a mine operator when they decide if an area is economically mineable. Overall, compliance costs for a mine operator are reduced since the proposed rulemaking will provide for protection from long-term treatment liability.

*Compliance Assistance Plan*

Compliance assistance for this proposed rulemaking will be provided through the Department's routine interaction with trade groups and individual applicants. There are about 500 licensed surface coal mining operators in this Commonwealth, most of which are small businesses that will be subject to the regulations.

*Paperwork requirements*

This proposed rulemaking requires additional information as part of a permit application in the form of a robust pollution abatement plan. Current applicants for remining are required to provide an abatement plan with a remining application. The additional requirements are more focused and may make it simpler to provide the required plans.

*G. Pollution Prevention*

The Pollution Prevention Act of 1990 (42 U.S.C.A. §§ 13101—13109) established a National policy that promotes pollution prevention as the preferred means for achieving state environmental protection goals. The Department encourages pollution prevention, which is the reduction or elimination of pollution at its source, through the substitution of environmentally friendly materials, more efficient use of raw materials and the incorporation of energy efficiency strategies. Pollution prevention practices can provide greater environmental protection with greater efficiency because they can result in significant cost savings to facilities that permanently achieve or move beyond compliance. Remining operations implement BMPs that result in pollution prevention.

*H. Sunset Review*

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

*I. Regulatory Review*

Under section 5(a) of the Regulatory Review Act (71 P. S. § 745.5(a)), on September 23, 2015, 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 Senate and House 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 any 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 which have not been met. The Regulatory Review Act specifies detailed procedures for review, prior to final publication of the rulemaking, by the Depart-

ment, the General Assembly and the Governor of comments, recommendations or objections raised.

#### J. Public Comments

Interested persons are invited to submit written comments, suggestions or objections regarding the proposed rulemaking to the Board. Comments, suggestions or objections must be received by the Board by November 2, 2015. In addition to the submission of comments, interested persons may also submit a summary of their comments to the Board. The summary may not exceed one page in length and must also be received by the Board by November 2, 2015. The one-page summary will be distributed to the Board and available publicly prior to the meeting when the final rulemaking will be considered.

Comments including the submission of a one-page summary of comments may be submitted to the Board online, by e-mail, by mail or by express mail as follows. 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.

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 the proposed rulemaking and a return name and address must be included in each transmission.

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.

JOHN QUIGLEY,  
Chairperson

**Fiscal Note:** 7-496. 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 I. LAND RESOURCES

#### CHAPTER 87. SURFACE MINING OF COAL

#### Subchapter F. SURFACE COAL MINES: MINIMUM REQUIREMENTS FOR REMINING AREAS WITH POLLUTIONAL DISCHARGES

#### § 87.202. Definitions.

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

[**Abatement plan**—An individual technique or combination of techniques, the implementation of which will result in reduction of the baseline pollution load. Abatement techniques include but are not limited to: Addition of alkaline material, special plans for managing toxic and acid forming material, regrading, revegetation and daylighting. ]

**Actual improvement**—The reduction of the baseline pollution load resulting from the implementation of the

approved **pollution** abatement plan; except that a reduction of the baseline pollution load achieved by water treatment may not be considered as actual improvement.

**Baseline pollution load**—The characterization of the pollution material being discharged from or on the pollution abatement area, described in terms of mass discharge for each parameter, including seasonal variations and variations in response to precipitation events. The Department will establish in each authorization the specific parameters, including, at a minimum, iron and acid loadings, it deems relevant for the baseline pollution load.

**Best professional judgment**—The highest quality technical opinion forming the basis for the terms and conditions of the treatment level required after consideration of all reasonably available and pertinent data. The treatment levels shall be established by the Department under sections 301 and 402 of the Federal [ **Water Pollution Control Act, act of June 30, 1948 (Ch. 758, 62 Stat. 1155)** ] **Clean Water Act (33 U.S.C.A. §§ 1311 and 1342)**.

**Best technology**—Measures and practices which will abate or ameliorate to the maximum extent possible pollutional discharges from or on the pollution abatement area. These measures include engineering, geochemical or other applicable practices.

**Coal remining operation**—A coal mining operation at a site on which coal mining was previously conducted and where the site has been abandoned or the performance bond has been forfeited.

#### **Encountered discharge**—

(i) A pre-existing discharge intercepted in the course of active surface mining activities, including, but not limited to, overburden removal, coal extraction and backfilling, or that occurs in the pit, any mining-related conveyance, sedimentation pond or treatment pond.

(ii) The term does not include diversions of surface water and shallow groundwater flow from areas undisturbed by the implementation of the pollution abatement plan which would otherwise drain into the affected area so long as they are designed, operated and maintained in accordance with § 87.105(b)—(g) (relating to hydrologic balance: diversions).

**Pollution abatement area**—The part of the permit area which is causing or contributing to the baseline pollution load, which shall include adjacent and nearby areas that must be affected to bring about significant improvement of the baseline pollution load, and which may include the immediate location of the discharges.

**Pollution abatement plan**—Best management practices (BMPs), including, but not limited to, the addition of alkaline material, special handling plans for managing toxic and acid forming material, regrading, revegetation and daylighting, that when implemented will result in reduction of the baseline pollution load.

#### **Pre-existing discharge**—

(i) Any discharge resulting from mining activities that have been abandoned prior to the time of a remining permit application.

(ii) The term includes a pre-existing discharge that is relocated as a result of the implementation BMPs in the pollution abatement plan.

*Steep slope—*

(i) Any slope, including abandoned mine land features, above 20 degrees or a lesser slope as may be defined by the Department after consideration of soil, climate and other characteristics of a region.

(ii) The term does not apply to situations in which an operator is mining on flat or gently rolling terrain, on which an occasional steep slope is encountered and through which the mining operation is to proceed, leaving a plain or predominantly flat area.

§ 87.203. Applicability.

\* \* \* \* \*

(b) Notwithstanding subsection (a), no authorization may be granted under this subchapter for repermitting under §§ 86.12 and 86.14 (relating to continued operation under interim permits; and permit application filing deadlines), permit renewals under § 86.55 (relating to permit renewals: general requirements) or permit transfers under § 86.56 (relating to transfer of permit).

(c) This subchapter applies to pre-existing discharges that are located within or are hydrologically connected to pollution abatement areas of a coal remining operation.

(d) When a coal remining operation seeks reissuance of an existing remining permit with best professional judgment limitations and the Department determines that it is not feasible for a remining operator to re-establish baseline pollutant levels in accordance with the statistical procedures in this subchapter, pre-existing discharge limitations at the existing remining operation remain subject to baseline pollutant levels established during the original permit application.

§ 87.204. Application for authorization.

(a) An operator who requests authorization under this subchapter shall comply with the permit application requirements of Chapter 86 (relating to surface and underground coal mining: general) and Subchapters A and C—E, except as specifically modified by this subchapter. The operator shall also:

(1) Delineate on a map the proposed pollution abatement area, including the location of the pre-existing discharges.

(2) Provide a description of the hydrologic balance for the proposed pollution abatement area that includes:

(i) Results of a detailed water quality and quantity monitoring program, including seasonal variations, variations in response to precipitation events and modeled baseline pollution loads using this monitoring program.

(ii) Monitoring for flow, pH, alkalinity, acidity, total iron, total manganese, total aluminum, sulfates, total suspended solids and other water quality parameters the Department deems relevant.

(3) Provide a [ description of the abatement plan that represents best technology and includes ] pollution abatement plan which must:

(i) Describe the pollution abatement area.

(ii) Be designed to reduce the pollution load from pre-existing discharges and identify the selected best management practices (BMPs) to be used.

(iii) Describe the design specifications, construction specifications, maintenance schedules, criteria for monitoring and inspection, and expected performance of the BMPs.

(iv) Represent best technology and include:

[ (i) ] (A) Plans, cross-sections and schematic drawings describing the pollution abatement plan proposed to be implemented.

[ (ii) ] (B) A description and explanation of the range of abatement level that probably can be achieved, costs and each step in the proposed pollution abatement plan.

[ (iii) ] (C) A description of the standard of success for revegetation necessary to insure success of the pollution abatement plan.

(v) Provide a description of and information on the pre-existing discharges hydrogeologically connected to the remining area.

(4) Determine the baseline pollution load.

(5) Provide the background data that are the bases for the baseline pollution load. The baseline pollution load shall be reported in pounds per day.

(b) The operator seeking this authorization [ shall ] may continue the water quality and quantity monitoring program required by subsection (a)(2) after making the authorization request. The operator [ shall ] may submit the results of this continuing monitoring program to the Department on a monthly basis until a decision on the authorization request is made.

§ 87.205. Approval or denial.

(a) Authorization may not be granted under this subchapter unless the operator seeking the authorization affirmatively demonstrates to the satisfaction of the Department on the basis of information set forth in the application that:

(1) Neither the operator, nor an officer, principal shareholder, agent, partner, associate, parent corporation, contractor or subcontractor, or a related party as defined in [ § 86.63(1) ] § 86.63(a)(1) (relating to compliance information) has either of the following:

(i) Legal responsibility or liability as an operator for treating the water pollution discharges from or on the proposed pollution abatement area.

(ii) Statutory responsibility or liability for reclaiming the proposed pollution abatement area.

(2) The proposed pollution abatement plan will result in significant reduction of the baseline pollution load and represents best technology.

(3) The land within the proposed pollution abatement area can be reclaimed.

(4) The surface mining operation on the proposed pollution abatement area will not cause additional ground water degradation.

(5) The standard of success for revegetation will be achieved. The standard of success for revegetation shall be at a minimum:

(i) A ground cover of living plants not less than can be supported by the best available topsoil or other suitable material in the reaffected area.

(ii) A ground cover no less than that existing before disturbance of the area by mining activities.

(iii) Adequate vegetation to control erosion. Vegetation may be no less than that necessary to insure the success of the **pollution** abatement plan.

\* \* \* \* \*

**§ 87.206. Operational requirements.**

An operator who receives an authorization under this subchapter shall comply with the requirements of Chapter 86 (relating to surface and underground coal mining: general) and Subchapters A and C—E except as specifically modified by this subchapter. The operator shall also:

(1) Implement the approved water quality and quantity monitoring program for the pollution abatement area until the requirements of § 87.209 (relating to criteria and schedule for release of bonds on pollution abatement areas) are met. **The monitoring program must conform to the following:**

(i) **Sampling shall be conducted on a monthly basis for the pre-existing discharges and should adequately represent the seasonal range in loading rates as well as the median loading rate from each pre-existing discharge or combination of discharges.**

(ii) **Results shall be submitted on a quarterly basis.**

(iii) **Data must include the flow measurements and loading calculations.**

(2) Implement the approved **pollution** abatement plan.

**[ (3) Notify the Department immediately prior to the completion of each step of the abatement plan.**

**(4) Provide progress reports to the Department within 30 days after the completion of each step of the abatement program that include a notarized statement signed by the operator, and if required by the Department, a statement signed by the supervising engineer, that all work has been performed in accordance with the terms and conditions of the pollution abatement authorization, the approved maps, plans, profiles and specifications. ]**

**(3) Notify the Department when more frequent sampling is required.**

(i) **Weekly sampling of the pre-existing discharges shall begin if any two consecutive monthly samples of pollution load at any of the monitoring points or hydrologic units exceed one or more of the triggers established by the baseline data.**

(ii) **Weekly sampling requirements shall continue until two consecutive weekly sample analyses indicate that all parameters which triggered weekly sampling have dropped below the trigger established by the baseline data.**

**§ 87.207. Treatment of discharges.**

(a) Except for [ **preexisting** ] **pre-existing** discharges which are not encountered during mining or the implementation of the **pollution** abatement plan, the operator shall comply with § 87.102 (relating to hydrologic balance: effluent standards).

(b) **[ The ] Except as provided in § 87.210(d) (relating to effluent limitations), the operator shall treat the [ preexisting ] pre-existing discharges which are not encountered during mining or implementation of the pollution abatement plan to comply with the effluent limitations established by best professional judgment. The**

effluent limitations established by best professional judgment may not be less than the baseline pollution load. If the baseline pollution load, when expressed as a concentration for a specific parameter, satisfies the effluent limitations at § 87.102 for that parameter, the operator shall treat the [ **preexisting** ] **pre-existing** discharge for that parameter to comply with either effluent limitations established by best professional judgment or the effluent limitations at § 87.102.

(c) For purposes of subsections (a) and (b), the term encountered may not be construed to mean diversions of surface water and shallow groundwater flow from areas undisturbed by the implementation of the **pollution** abatement plan which would otherwise drain into the affected area, so long as the diversions are designed, operated and maintained under § 87.105(b)—(g) (relating to hydrologic balance: diversions).

(d) An operator required to treat [ **preexisting** ] **pre-existing** discharges will be allowed to discontinue treating the discharges under subsection (b) when the operator affirmatively demonstrates to the Department's satisfaction that:

(1) The [ **preexisting** ] **pre-existing** discharges are meeting the effluent limitations established by subsection (b) as shown by groundwater and surface water monitoring conducted by the operator or the Department.

(2) Surface coal mining activities under the permit—including the pollution abatement area—are being or were conducted under the requirements of the permit and the authorization, and Chapter 86 (relating to surface and underground coal mining: general) and this chapter except as specifically modified by this subchapter.

(3) The operator has implemented each step of the **pollution** abatement plan as approved in the authorization.

(4) The operator did not cause or allow additional groundwater degradation by re-affecting the pollution abatement area.

(e) If after discontinuance of treatment of discharges under subsection (d) the discharges fail to meet the effluent limitations established by subsection (b), the operator shall reinstate treatment of the discharges under subsection (b). An operator who reinstates treatment under this subsection will be allowed to discontinue treatment if the requirements of subsection (d) are met.

(f) Discontinuance of treatment under subsection (d) may not be deemed or construed to be or to authorize a release of bond under § 87.209 (relating to criteria and schedule for release of bonds on pollution abatement areas).

**(g) If four consecutive weekly determinations of pollution load, as required under § 87.206(3)(i) (relating to operational requirements), exceed one or more triggers, the permittee shall notify the Department and begin treatment within 30 days of the fourth sample in accordance with the treatment limits established in the permit.**

**(h) If the Department determines, through analysis of any data submitted pursuant to the monitoring requirements or any data collected by the Department, that there has been pollution loading degradation at any of the monitoring points or hydrologic units, the Department will notify the permittee accordingly. The permittee shall begin**

treatment within 30 days in accordance with the treatment limits established in the permit.

(i) Any pre-existing pollutional discharge which is an encountered discharge shall be treated to the effluent limitations in the permit until the discharge is no longer encountered.

(j) For the purposes of determining applicable effluent limitations, a discharge will continue to be deemed to be an encountered discharge until the surface mining area which has been disturbed and which contributes to the discharge has been back-filled and regraded, and revegetation work has started.

§ 87.209. Criteria and schedule for release of bonds on pollution abatement areas.

\* \* \* \* \*

(b) The Department will release an additional amount of bond for the authorized pollution abatement area but retain an amount sufficient to cover the cost to the Department of reestablishing vegetation if completed by a third party if the operator demonstrates and the Department finds that:

(1) The operator has replaced the topsoil or material conserved under § 87.97(d) (relating to topsoil: removal), completed final grading, planting and established revegetation under the approved reclamation plan and achieved the standards of success for revegetation in § 87.205(a)(5) (relating to approval or denial).

(2) The operator has not caused or contributed to surface water pollution or groundwater degradation by reaffected or mining the pollution abatement area.

(3) The operator has complied with one of the following:

(i) Achieved the actual improvement of the baseline **pollution** load described in the approved **pollution** abatement plan and shown by ground and surface water monitoring conducted by the permittee for the time provided in the pollution abatement plan after completion of backfilling, final grading, drainage control, topsoiling and establishment of revegetation to achieve the standard of success for revegetation in § 87.205(a)(5).

(ii) Achieved the following:

(A) At a minimum has not caused degradation of the baseline pollution load as shown by ground and surface water monitoring conducted by the operator or the Department for one of the following:

(I) For the 12 months prior to the date of application for bond release and until the bond release is approved under subsection (b), if backfilling, final grading, drainage control, topsoiling and establishment of revegetation to achieve the standard of success for revegetation in § 87.205(a)(5) have been completed.

(II) If treatment has been initiated at any time after initial bond release under subsection (a) and § 87.207(e) (relating to treatment of discharges), for 12 months from the discontinuance of treatment under § 87.207(d), if backfilling, final grading, drainage control, topsoiling and establishment of revegetation to achieve the standard of success for revegetation in § 87.205(a)(5) have been completed.

(B) Conducted the measures provided in the approved **pollution** abatement plan and additional measures specified by the Department in writing at the time of initial bond release under subsection (a) for the area requested for bond release.

\* \* \* \* \*

(Editor's Note: Sections 87.210—87.213 are new and printed in regular type to enhance readability.)

§ 87.210. Effluent limitations.

(a) *Approval and incorporation into permit.* The pollution abatement plan for the pollution abatement area must be approved by the Department and incorporated into the permit as an effluent limitation.

(b) *Implementation of best management practices.* The best management practices (BMPs) in the pollution abatement plan shall be implemented as specified in the plan.

(c) *Pre-existing discharges.*

(1) Except as provided in subsection (d), the following effluent limits apply to pre-existing discharges:

<i>Parameter</i>	<i>Effluent Limit</i>
Total Iron	May not exceed baseline loadings (as determined by this subchapter).
Total Manganese	May not exceed baseline loadings (as determined by this subchapter).
Acidity, Net	May not exceed baseline loadings (as determined by this subchapter).
Suspended Solids	During remining and reclamation, may not exceed baseline loadings (as determined by this subchapter). Prior to bond release, the pre-existing discharge must meet the applicable standards for suspended solids or settleable solids in § 87.102 (relating to hydrologic balance: effluent standards).

(2) A pre-existing discharge is exempt from meeting standards in § 87.102 for suspended solids and settleable solids when the Department determines that the standards are infeasible or impractical based on the site-specific conditions of soil, climate, topography, steep slopes or other baseline conditions provided that the operator demonstrates that significant reductions of suspended solids and settleable solids will be achieved through the incorporation of sediment control BMPs into the pollution abatement plan as required under subsection (a).

(d) *In-stream requirements.*

(1) If the Department determines that it is infeasible to collect samples for establishing the baseline pollutant levels under this subsection, and that remining will result in significant improvement that would not otherwise occur, the permit applicant may establish an in-stream baseline concentration at a suitable point downstream from the remining operation and the numeric effluent limitations in subsection (c)(1) do not apply.



(2) The in-stream baseline period must include, at a minimum, twice monthly monitoring for a minimum of a 1-year period and must adequately represent the seasonal range and median pollutant concentrations.

(3) Upon issuance of a surface mining permit, the operator shall continue, at a minimum, monthly monitoring of pollutant concentrations at the in-stream monitoring point referenced in paragraph (1), and make a determination as to whether or not there has been degradation of in-stream water quality.

(i) This determination shall be made on a quarterly basis and for each year defined as each consecutive 12-month period.

(ii) The operator is not required to treat individual pre-existing sources of pollution except as may be needed to maintain the in-stream baseline concentration.

(iii) Unless the operator can demonstrate to the satisfaction of the Department that the degradation was the result of factors that are not related to the remining, the operator shall treat one or more pre-existing pollutional discharges or undertake other pollution abatement measures to restore or improve the in-stream pollutant concentration to its baseline conditions.

(4) Pre-existing discharges for which it is infeasible to collect samples for determination of baseline pollutant levels include, but are not limited to:

(i) Discharges that exist as a diffuse groundwater flow that cannot be assessed by the collection of samples.

(ii) A base flow to a receiving stream that cannot be monitored separate from the receiving stream.

(iii) A discharge on a steep or hazardous slope that is inaccessible for sample collection.

(iv) A number of pre-existing discharges so extensive that monitoring of individual discharges is infeasible.

(5) When in-stream monitoring is not indicative of the impact of remining, the in-stream monitoring requirement may be waived by the Department. In-stream monitoring is not indicative of the impact of remining in circumstances including, but not limited to, the following:

(i) Remining sites in drainage areas exceeding 10 square miles.

(ii) Remining sites in watersheds where there are other influences on the in-stream water quality that make it impossible to establish the cause of water quality changes.

(iii) Remining sites where the  $Q_{7-10}$  stream flow is zero.

(e) *Limits.* Pollutants for which there are no effluent limitations established in § 87.102 may be eligible for limits established under this subchapter.

(f) *Applicability of standards.* Section 87.102 applies to a pre-existing discharge that is:

(1) Intercepted by surface mining activities.

(2) Commingled with waste streams from operational areas for the purposes of water treatment.

(g) *Cessation of applicability of standards.* Section 87.102 does not apply to a pre-existing discharge described in subsection (f) when the pre-existing discharge is no longer intercepted by surface mining activities or is no longer commingled with waste streams from operational areas for the purposes of water treatment.

(h) *Bond release.* The effluent limitations in this subchapter apply to pre-existing discharges until bond

release under the procedures in Chapter 86 (relating to surface and underground coal mining: general).

**§ 87.211. Baseline determination and compliance monitoring for pre-existing discharges at remining operations.**

(a) The procedures in this section shall be used for determining site-specific baseline pollutant loadings, and for determining whether discharge loadings during coal remining operations have exceeded the baseline loading. A monthly (single-observation) procedure and an annual procedure shall be applied.

(b) At least one sample result per month shall be obtained for 12 months to characterize pollutant loadings for:

(1) Baseline determination.

(2) Each annual monitoring period. It is required that at least one sample be obtained per month for 12 months.

(c) Calculations described in this subchapter shall be applied to pollutant loadings.

(d) Each loading value shall be calculated as the product of a flow measurement and pollutant concentration taken on the same date at the same discharge sampling point using standard units of flow and concentration.

(e) If the baseline concentration in a baseline sample is below the daily maximum effluent limits established in § 87.102 (relating to hydrologic balance: effluent standards), the baseline sample concentration may be replaced with daily maximum effluent limit for the purposes of some of the statistical calculations in this subchapter.

(f) The substituted values should be used for all methods in this subchapter except for:

(1) The calculation of the interquartile range (R) in Method 1 for the annual trigger (Step 3).

(2) Method 2 for the single observation trigger (Step 3).

(g) The interquartile range (R) is calculated as the difference between the quartiles  $M_{-1}$  and  $M_1$ ; the values for quartiles  $M_{-1}$  and  $M_1$  should be calculated using actual loadings (based on measured concentrations) when they are used to calculate the interquartile range (R).

**§ 87.212. Procedure for calculating and applying a single-observation (monthly) trigger.**

(a) This section contains two alternative methods for calculating a single-observation trigger. One method must be proposed by the applicant to be approved and applied by the Department for a remining permit.

(b) Method 1 for calculating a single observation trigger (L) is accomplished by completing the following steps:

(1) Count the number of baseline observations taken for the pollutant of interest. Label this number n. To sufficiently characterize pollutant loadings during baseline determination and during each annual monitoring period, it is required that at least one sample result be obtained per month for 12 months.

(2) Order all baseline loading observations from lowest to highest. Let the lowest number (minimum) be  $x_{(1)}$ , the next lowest be  $x_{(2)}$ , and so forth until the highest number (maximum) is  $x_{(n)}$ .

(3) If fewer than 17 baseline observations were obtained, the single observation trigger (L) will equal the maximum of the baseline observations ( $x_{(n)}$ ).

(4) If at least 17 baseline observations were obtained, calculate the median ( $M$ ) of all baseline observations. If  $n$  is odd, then  $M$  equals  $x_{(n/2+1/2)}$ . If  $n$  is even, then  $M$  equals  $0.5 * (x_{(n/2)} + x_{(n/2+1)})$ .

(5) Next, calculate  $M_1$  as the median of the subset of observations that range from the calculated  $M$  to the maximum  $x_{(n)}$ ; that is, calculate the median of all  $x$  larger than or equal to  $M$ .

(6) Next, calculate  $M_2$  as the median of the subset of observations that range from the calculated  $M_1$  to  $x_{(n)}$ ; that is, calculate the median of all  $x$  larger than or equal to  $M_1$ .

(7) Next, calculate  $M_3$  as the median of the subset of observations that range from the calculated  $M_2$  to  $x_{(n)}$ ; that is, calculate the median of all  $x$  larger than or equal to  $M_2$ .

(8) Finally, calculate the single observation trigger ( $L$ ) as the median of the subset of observations that range from the calculated  $M_3$  to  $x_{(n)}$ .

(9) When subsetting the data for each of the steps in paragraphs (5)–(8), the subset should include all observations greater than or equal to the median calculated in the previous step. If the median calculated in the previous step is not an actual observation, it is not included in the new subset of observations. The new median value will then be calculated using the median procedure, based on whether the number of points in the subset is odd or even.

(c) The method for applying the single observation trigger ( $L$ ) to determine when the baseline level has been exceeded is as follows:

(1) If two successive monthly monitoring observations both exceed  $L$ , immediately begin weekly monitoring for 4 weeks (four weekly samples).

(2) If three or fewer of the weekly observations exceed  $L$ , resume monthly monitoring.

(3) If all four weekly observations exceed  $L$ , the baseline pollution loading has been exceeded.

(d) Method 2 for calculating a single observation trigger ( $L$ ) is accomplished by completing the following steps:

(1) Follow Method 1 in subsection (b) to obtain  $M_1$  (the third quartile, that is, the 75th percentile).

(2) Calculate  $M_{-1}$  as the median of the baseline data which are less than or equal to the sample median  $M$ .

(3) Calculate interquartile range,  $R = (M_1 - M_{-1})$ .

(4) Calculate the single observation trigger  $L$  as  $L = M_1 + 3 * R$ .

(5) If two successive monthly monitoring observations both exceed  $L$ , immediately begin weekly monitoring for 4 weeks (four weekly samples).

(6) If three or fewer of the weekly observations exceed  $L$ , resume monthly monitoring.

(7) If all four weekly observations exceed  $L$ , the baseline pollution loading has been exceeded.

**§ 87.213. Procedure for calculating and applying an annual trigger.**

(a) This section contains two alternative methods for calculating the annual trigger. One method shall be proposed by the applicant to be approved and applied by the Department for a reminging permit.

(b) Method 1 for calculating and applying an annual trigger ( $T$ ) is accomplished by completing the following steps:

(1) Calculate  $M$  and  $M_1$  of the baseline loading data as described under Method 1 for the single observation trigger in § 87.212(b) (relating to procedure for calculating and applying a single-observation (monthly) trigger).

(2) Calculate  $M_{-1}$  as the median of the baseline data which are less than or equal to the sample median  $M$ .

(3) Calculate the interquartile range,  $R = (M_1 - M_{-1})$ .

(4) The annual trigger for baseline ( $T_b$ ) is calculated as

$$T_b = M + (1.815 * R) / \text{SQRT}(n)$$

where  $n$  is the number of baseline loading observations.

(5) To compare baseline loading data to observations from the annual monitoring period, repeat the steps in paragraphs (1)–(3) for the set of monitoring observations. Label the results of the calculations  $M'$  and  $R'$ . Let  $m$  be the number of monitoring observations.

(6) The subtle trigger ( $T_m$ ) of the monitoring data is calculated as

$$T_m = M' - (1.815 * R') / \text{SQRT}(m)$$

(7) If  $T_m > T_b$ , the median loading of the monitoring observations has exceeded the baseline loading.

(c) Method 2 for calculating and applying an annual trigger ( $T$ ) is accomplished by completing the following steps:

(1) Let  $n$  be the number of baseline loading observations taken, and let  $m$  be the number of monitoring loading observations taken. To sufficiently characterize pollutant loadings during baseline determination and during each annual monitoring period, it is required that at least one sample result be obtained per month for a period of 12 months.

(2) Order the combined baseline and monitoring observations from smallest to largest.

(3) Assign a rank to each observation based on the assigned order: the smallest observation will have rank 1, the next smallest will have rank 2 and so forth, up to the highest observation, which will have rank  $n + m$ . If two or more observations are tied (have the same value), then the average rank for those observations should be used.

(4) Sum all the assigned ranks of the  $n$  baseline observations, and let this sum be  $S_n$ .

(5) Obtain the critical value ( $C$ ) from Table 1.

(6) Compare  $C$  to  $S_n$ . If  $S_n$  is less than  $C$ , then the monitoring loadings have exceeded the baseline loadings.

(7) Critical values for the Wilcoxon-Mann-Whitney test are as follows:

(i) When  $n$  and  $m$  are less than 21, use Table 1. To find the appropriate critical value, match column with correct  $n$  (number of baseline observations) to row with correct  $m$  (number of monitoring observations).

Table 1—Critical Values (C) of the Wilcoxon-Mann-Whitney Test (for a one-sided test at the 0.001 significance level)

n \ m	10	11	12	13	14	15	16	17	18	19	20
10	66	79	93	109	125	142	160	179	199	220	243
11	68	82	96	112	128	145	164	183	204	225	248
12	70	84	99	115	131	149	168	188	209	231	253
13	73	87	102	118	135	153	172	192	214	236	259
14	75	89	104	121	138	157	176	197	218	241	265
15	77	91	107	124	142	161	180	201	223	246	270
16	79	94	110	127	145	164	185	206	228	251	276
17	81	96	113	130	149	168	189	211	233	257	281
18	83	99	116	134	152	172	193	215	238	262	287
19	85	101	119	137	156	176	197	220	243	268	293
20	88	104	121	140	160	180	202	224	248	273	299

(ii) When  $n$  or  $m$  is greater than 20 and there are few ties, calculate an approximate critical value using the following formula and round the result to the next larger integer. Let  $N = n + m$ .

$$\text{Critical Value} = 0.5 * n * (N + 1) - 3.0902 * \text{SQRT}(n * m * (N + 1) / 12)$$

(iii) When  $n$  or  $m$  is greater than 20 and there are many ties, calculate an approximate critical value using the following formula and round the result to the next larger integer. Let  $S$  be the sum of the squares of the ranks or average ranks of all  $N$  observations. Let  $N = n + m$ .

$$\text{Critical Value} = 0.5 * n * (N + 1) - 3.0902 * \text{SQRT}(V)$$

In the preceding formula, calculate  $V$  using:

$$V = (n * m * S) / (N * (N - 1) - (n * m * (N + 1)^2 / (4 * (N - 1))))$$

## CHAPTER 88. ANTHRACITE COAL

### Subchapter G. ANTHRACITE SURFACE MINING ACTIVITIES AND ANTHRACITE BANK REMOVAL AND RECLAMATION ACTIVITIES: MINIMUM REQUIREMENTS FOR REMINING AREAS WITH POLLUTIONAL DISCHARGES

#### § 88.502. Definitions.

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

**[Abatement plan—An individual technique or combination of techniques, the implementation of which will result in reduction of baseline pollution load. Abatement techniques may include, but are not limited to: Addition of alkaline material, special plans for managing toxic and acid forming material, regrading, revegetation and daylighting. ]**

**Actual improvement—**The reduction of the baseline pollution load resulting from the implementation of the approved **pollution** abatement plan, except that a reduction of the baseline pollution load achieved by water treatment may not be considered as actual improvement.

**Baseline pollution load—**The characterization of the pollutional material being discharged from or on the pollution abatement area, described in terms of mass discharge for each parameter, including seasonal variations and variations in response to precipitation events. The Department will establish in each authorization the specific parameters, including, at a minimum, iron and acid loadings, it deems relevant for the baseline pollution load.

**Best professional judgment—**The highest quality technical opinion forming the basis for the terms and conditions of the treatment level required after consideration of reasonably available and pertinent data. The treatment levels shall be established by the Department in accordance with the requirements of sections 301 and 402 of the Federal [ **Clean Water Act of 1977, act of December 27, 1977 (Pub. L. No. 95-217, 91 Stat. 1566—1609) ] Clean Water Act (33 U.S.C.A. §§ 1311 and 1342).**

**Best technology—**Measures and practices which will abate or ameliorate to the maximum extent possible pollutional discharges from or on the pollution abatement area. These measures include engineering, geochemical or applicable practices.

**Coal remining operation—**A coal mining operation at a site on which coal mining was previously conducted and where the site has been abandoned or the performance bond has been forfeited.

**Encountered discharge—**

(i) A pre-existing discharge intercepted in the course of active surface mining activities, including, but not limited to, overburden removal, coal extraction and backfilling, or that occurs in the pit, any mining-related conveyance, sedimentation pond or treatment pond.

(ii) The term does not include diversions of surface water and shallow groundwater flow from areas undisturbed by the implementation of the pollution abatement plan which would otherwise drain into the affected area so long as they are designed, operated and maintained in accordance with § 88.95(b)—(g), § 88.190(b)—(g) or § 88.295(b)—(g) (relating to hydrologic balance: diversions; hydrologic balance: diversions; and hydrologic balance: diversions and conveyances), as applicable.

**Pollution abatement area—**The part of the permit area which is causing or contributing to the baseline pollution load, which shall include adjacent and nearby areas that must be affected to bring about significant improvement of the baseline pollution load, and which may include the immediate location of the discharges.

**Pollution abatement plan—**Best management practices (BMPs), including, but not limited to, the addition of alkaline material, special handling plans for managing toxic and acid forming material, regrading, revegetation and daylighting, that when implemented will result in reduction of the baseline pollution load.

*Pre-existing discharge—*

(i) Any discharge resulting from mining activities that have been abandoned prior to the time of a remining permit application.

(ii) The term includes a pre-existing discharge that is relocated as a result of the implementation BMPs in the pollution abatement plan.

*Steep slope—*

(i) Any slope, including abandoned mine land features, above 20 degrees or a lesser slope as may be defined by the Department after consideration of soil, climate and other characteristics of a region.

(ii) The term does not apply to situations in which an operator is mining on flat or gently rolling terrain, on which an occasional steep slope is encountered and through which the mining operation is to proceed, leaving a plain or predominantly flat area.

§ 88.503. Applicability.

(a) This subchapter is applicable only to surface mining activities and bank removal and reclamation activities as defined in § 88.1 (relating to definitions) and coal refuse disposal activities subject to Subchapter D (relating to anthracite refuse disposal: minimum environmental protection performance standards).

\* \* \* \* \*

(c) Notwithstanding subsection (a), no authorization may be granted under this subchapter for repermitting under §§ 86.12 and 86.14 (relating to continued operation under interim permits; and permit application filing deadlines), permit renewals under § 86.55 (relating to permit renewals: general requirements), or permit transfers under § 86.56 (relating to transfer of permit).

(d) This subchapter applies to pre-existing discharges that are located within or are hydrologically connected to pollution abatement areas of a coal remining operation.

(e) When a coal remining operation seeks reissuance of an existing remining permit with best professional judgment limitations and the Department determines that it is not feasible for a remining operator to re-establish baseline pollutant levels in accordance with the statistical procedures in this subchapter, pre-existing discharge limitations at the existing remining operation remain subject to baseline pollutant levels established during the original permit application.

§ 88.504. Application for authorization.

(a) An operator who requests authorization under this subchapter shall comply with the permit application requirements of Chapter 86 (relating to surface and underground coal mining: general) and [ Chapter 87, Subchapter B (Reserved), and Subchapter A and either Subchapters B or C—whichever is applicable—of this chapter ] Subchapter A (relating to general provisions) and either Subchapter B, C or D (relating to surface anthracite coal mines: minimum environmental protection performance standards; anthracite bank removal and reclamation: minimum environmental protection performance standards; and anthracite refuse disposal: minimum environmental protection performance standards), whichever is applicable, except as specifically

modified by this subchapter. The operator shall also comply with all of the following:

(1) Delineate on a map the proposed pollution abatement area, including the location of the [ preexisting ] pre-existing discharges.

(2) Provide a description of the hydrologic balance for the proposed pollution abatement area that includes:

(i) Results of a detailed water quality and quantity monitoring program, including seasonal variations, variations in response to precipitation events, and modeled baseline pollution loads using this monitoring program.

(ii) Monitoring for flow, pH, alkalinity, acidity, total iron, total manganese, total aluminum, sulfates, total suspended solids and other water quality parameters the Department deems relevant.

(3) Provide a [ description of the abatement plan that includes ] pollution abatement plan which must:

(i) Describe the pollution abatement area.

(ii) Be designed to reduce the pollution load from pre-existing discharges and must identify the selected best management practices (BMPs) to be used.

(iii) Describe the design specifications, construction specifications, maintenance schedules, criteria for monitoring and inspection, and expected performance of the BMPs.

(iv) Represent the best technology and include:

[ (i) ] (A) Plans, cross sections and schematic drawings describing the pollution abatement plan proposed to be implemented.

[ (ii) ] (B) A description and explanation of the range of abatement that probably can be achieved, costs and each step in the proposed pollution abatement plan.

[ (iii) ] (C) A description of the standard of success for revegetation necessary to insure success of the pollution abatement plan.

(v) Provide a description of and information on the pre-existing discharges hydrologically connected to the remining area.

(4) Determine the baseline pollution load.

(5) Provide the background data that are the bases for the baseline pollution load. The baseline pollution load shall be reported in pounds per day.

(b) The operator seeking this authorization [ shall ] may continue the water quality and quantity monitoring program required by subsection (a)(2) after making the authorization request. The operator [ shall ] may submit the results of this continuing monitoring program to the Department on a monthly basis until a decision on the authorization request is made.

§ 88.505. Approval or denial.

(a) No authorization may be granted under this subchapter unless the operator seeking the authorization affirmatively demonstrates to the satisfaction of the Department on the basis of information set forth in the application that:

(1) Neither the operator, nor an officer, principal shareholder, agent, partner, associate, parent corporation, contractor or subcontractor, or a related party as defined in [ § 86.63(1) ] § 86.63(a)(1) (relating to compliance information) has either of the following:

(i) Legal responsibility or liability as an operator for treating the water pollution discharges from or on the proposed pollution abatement area.

(ii) Legal responsibility or liability for reclaiming the proposed pollution abatement area.

(2) The proposed **pollution** abatement plan will result in significant reduction of the baseline pollution load and represents best technology.

(3) The land within the proposed pollution abatement area can be reclaimed.

(4) The surface mining operation on the proposed pollution abatement area will not cause additional groundwater degradation.

(5) The standard of success for revegetation will be achieved. The standard of success for revegetation shall be at a minimum:

(i) A ground cover of living plants not less than can be supported by the best available topsoil or other suitable material in the reaffected area.

(ii) A ground cover no less than that existing before disturbance of the area by mining activities.

(iii) Adequate vegetation to control erosion. Vegetation may not be less than that necessary to insure the success of the **pollution** abatement plan.

\* \* \* \* \*

#### § 88.506. Operational requirements.

An operator who receives an authorization under this subchapter shall comply with the requirements of [ Chapter 87, Subchapter B (Reserved), and Subchapter A and either Subchapters B or C—whichever is applicable—of this chapter ] Subchapter A (relating to general provisions) and either Subchapter B, C or D (relating to surface anthracite coal mines: minimum environmental protection performance standards; anthracite bank removal and reclamation: minimum environmental protection performance standards; and anthracite refuse disposal: minimum environmental protection performance standards), whichever is applicable, except as specifically modified by this subchapter. The operator shall also:

(1) Implement the approved water quality and quantity monitoring program for the pollution abatement area until the requirements of § 88.509 (relating to criteria and schedule for release of bonds on pollution abatement areas) are met. **The monitoring program must conform to the following:**

(i) **Sampling shall be conducted on a monthly basis for the pre-existing discharges and should adequately represent the seasonal range in loading rates as well as the median loading rate from each pre-existing discharge or combination of discharges.**

(ii) **Results shall be submitted on a quarterly basis.**

(iii) **Data must include the flow measurements and loading calculations.**

(2) Implement the approved **pollution** abatement plan.

[ (3) **Notify the Department immediately prior to the completion of each step of the abatement plan.**

(4) **Provide progress reports to the Department within 30 days after the completion of each step of**

**the abatement program that include a notarized statement signed by the operator, and if required by the Department, a statement signed by the supervising engineer, that all work has been performed in accordance with the terms and conditions of the pollution abatement authorization, the approved maps, plans, profiles and specifications. ]**

(3) **Notify the Department when more frequent sampling is required.**

(i) **Weekly sampling of the pre-existing discharges shall begin if any two consecutive monthly samples of pollution load at any of the monitoring points or hydrologic units exceed one or more of the triggers established by the baseline data.**

(ii) **Weekly sampling requirements shall continue until two consecutive weekly sample analyses indicate that all parameters which triggered weekly sampling have dropped below the trigger established by the baseline data.**

#### § 88.507. Treatment of discharges.

(a) Except for [ **preexisting** ] **pre-existing** discharges which are not encountered during mining or the implementation of the **pollution** abatement plan, the operator shall comply with §§ 88.92 [ **and** ], 88.187 **and 88.292** (relating to hydrologic balance: effluent standards[ ; **and hydrologic balance: effluent standards** ]).

(b) [ **The** ] **Except as provided in § 88.510(d) (relating to effluent limitations), the operator shall treat the [ preexisting ] pre-existing** discharges which are not encountered during mining or implementation of the **pollution** abatement plan to comply with the effluent limitations established by best professional judgment. The effluent limitations established by best professional judgment may not be less than baseline pollution load. If the baseline pollution load when expressed as a concentration for a specific parameter satisfies the effluent limitations at §§ 88.92 [ **and** ], 88.187 **and 88.292** for that parameter, the operator shall treat the [ **preexisting** ] **pre-existing** discharge for that parameter to comply with effluent limitations established by best professional judgment or the effluent limitations at §§ 88.92 [ **and** ], 88.187 **and 88.292**.

(c) For purposes of subsections (a) and (b), the term “encountered” may not be construed to mean diversions of surface water and shallow groundwater flow from areas undisturbed by the implementation of the **pollution** abatement plan which would otherwise drain into the affected area, so long as the diversions are designed, operated and maintained under §§ 88.95(b) [ **and** ], 88.190(b) **and 88.295(b)** (relating to hydrologic balance: diversions; **hydrologic balance: diversions; and hydrologic balance: diversions and conveyances**).

(d) An operator required to treat [ **preexisting** ] **pre-existing** discharges will be allowed to discontinue treating the discharges under this section when the operator affirmatively demonstrates to the Department’s satisfaction that:

(1) The [ **preexisting** ] **pre-existing** discharges are meeting the effluent limitations established by subsection (b) as shown by groundwater and surface water monitoring conducted by the operator or the Department.

(2) Surface coal mining activities under the permit—including the pollution abatement area—are being or were conducted in accordance with the requirements of the permit and the authorization, Chapter 86 (relating to surface and underground coal mining: general) and this chapter, except as specifically modified by this subchapter.

(3) The operator has implemented each step of the **pollution** abatement plan as approved in the authorization.

(4) The operator did not cause or allow additional groundwater degradation by reaffected the pollution abatement area.

(e) If after discontinuance of treatment of discharges under subsection (d) the discharges fail to meet the effluent limitations established by subsection (b), the operator shall reinstitute treatment of the discharges in accordance with subsection (b). An operator who reinstates treatment under this subsection will be allowed to discontinue treatment if the requirements of subsection (d) are met.

(f) Discontinuance of treatment under subsection (d) may not be deemed or construed to be or to authorize a release of bond under § 88.509 (relating to criteria and schedule for release of [ **bond** ] **bonds** on pollution abatement areas).

(g) **If four consecutive weekly determinations of pollution load, as required under § 88.506(3)(i) (relating to operational requirements), exceed one or more triggers, the permittee shall notify the Department and begin treatment within 30 days of the fourth sample in accordance with the treatment limits established in the permit.**

(h) **If the Department determines, through analysis of any data submitted pursuant to the monitoring requirements or any data collected by the Department, that there has been pollution loading degradation at any of the monitoring points or hydrologic units, the Department will notify the permittee accordingly. The permittee shall begin treatment within 30 days in accordance with the treatment limits established in the permit.**

(i) **Any pre-existing polluttional discharge which is an encountered discharge shall be treated to the effluent limitations in the permit until the discharge is no longer encountered.**

(j) **For the purposes of determining applicable effluent limitations, a discharge will continue to be deemed to be an encountered discharge until the surface mining area which has been disturbed and which contributes to the discharge has been back-filled and regraded, and revegetation work has started.**

**§ 88.509. Criteria and schedule for release of bonds on pollution abatement areas.**

\* \* \* \* \*

(b) The Department will release an additional amount of bond for the authorized pollution abatement area but retaining an amount sufficient to cover the cost to the Department of reestablishing vegetation if completed by a third party if the operator demonstrates and the Department finds that:

(1) The operator has replaced the topsoil or material conserved under §§ 88.87 [ **and** ], 88.183 **and** 88.287 (relating to vegetation-supporting material: available soil

removal; [ **and** ] vegetation-supporting material: soil; **and vegetative-supporting material: available soil removal**), completed final grading, planting and established revegetation in accordance with the approved reclamation plan and achieved the standard of success for revegetation in § 88.505(a)(5) (relating to approval or denial).

(2) The operator has not caused or contributed to surface water pollution or groundwater degradation by reaffected or mining the pollution abatement area.

(3) The operator has complied with one of the following:

(i) Achieved the actual improvement of the baseline pollution load described in the approved **pollution** abatement plan and shown by all ground and surface water monitoring conducted by the permittee for the period of time provided in the **pollution** abatement plan after completion of backfilling, final grading, drainage control, topsoiling and establishment of revegetation to achieve the standard of success for revegetation in § 88.505(a)(5).

(ii) Achieved all of the following:

(A) At a minimum has not caused degradation of the baseline pollution load as shown by all ground and surface water monitoring conducted by the operator or the Department:

(I) For 12 months prior to the date of application for bond release and until the bond release is approved under subsection (b), if backfilling, final grading, drainage control, topsoiling and establishment of revegetation to achieve the standard of success for revegetation in § 88.505(a)(5) have been completed.

(II) If treatment has been initiated at any time after initial bond release under subsection (a) and in accordance with § 88.507(e) (relating to treatment of discharges), for 12 months from the discontinuance of treatment under § 88.507(d), if backfilling, final grading, drainage control, topsoiling and establishment of revegetation to achieve the standard of success for revegetation in § 88.505(a)(5) have been completed.

(B) Conducted all measures provided in the approved **pollution** abatement plan and additional measures specified by the Department in writing at the time of initial bond release under subsection (a) for the area requested for bond release.

(C) Caused aesthetic or other environmental improvements or elimination of public health and safety problems by remining and reaffected the pollution abatement area.

(D) Stabilized the pollution abatement area.

(c) The Department will release the remaining portion of the amount of bond on the authorized pollution abatement area if the applicant demonstrates and the Department finds that:

(1) The operator has successfully completed all the approved abatement and reclamation plans and the pollution abatement area is capable of supporting the postmining land use approved under §§ 88.133, 88.221 and 88.334 (relating to **postmining land use**; postmining land use; and postdisposal land use).

(2) The operator has complied with the permit and the authorization, Chapter 86 and this chapter, except as specifically modified by this subchapter.

(3) The operator has not caused degradation of the baseline pollution load from the time of bond release under subsection (b) or, if treatment has been initiated after bond release under subsection (b) in accordance with § 88.507(e) for 5 years from the discontinuance of treatment under § 88.507(d).

(4) The applicable liability period has expired under § 86.151 (relating to period of liability).

*(Editor's Note: Sections 88.510—88.513 are new and printed in regular type to enhance readability.)*

**§ 88.510. Effluent limitations.**

(a) *Approval and incorporation into permit.* The pollution abatement plan for the pollution abatement area must be approved by the Department and incorporated into the permit as an effluent limitation.

(b) *Implementation of best management practices.* The best management practices (BMPs) in the pollution abatement plan shall be implemented as specified in the plan.

(c) *Pre-existing discharges.*

(1) Except as provided in subsection (d), the following effluent limits apply to pre-existing discharges:

Parameter	Effluent Limit
Total Iron	May not exceed baseline loadings (as determined by this subchapter).
Total Manganese	May not exceed baseline loadings (as determined by this subchapter).
Acidity, Net	May not exceed baseline loadings (as determined by this subchapter).
Suspended Solids	During remining and reclamation, may not exceed baseline loadings (as determined by this subchapter). Prior to bond release, the pre-existing discharge must meet the applicable standards for suspended solids or settleable solids in § 88.92, § 88.187 or § 88.292 (relating to hydrologic balance: effluent standards).

(2) A pre-existing discharge is exempt from meeting standards in § 88.92, § 88.187 or § 88.292 for suspended solids and settleable solids when the Department determines that the standards are infeasible or impractical based on the site-specific conditions of soil, climate, topography, steep slopes or other baseline conditions provided that the operator demonstrates that significant reductions of suspended solids and settleable solids will be achieved through the incorporation of sediment control BMPs into the pollution abatement plan as required under subsection (a).

(d) *In-stream requirements.*

(1) If the Department determines that it is infeasible to collect samples for establishing the baseline pollutant levels under this subsection, and that remining will result in significant improvement that would not otherwise occur, the permit applicant may establish an in-stream baseline concentration at a suitable point downstream from the remining operation and the numeric effluent limitations in subsection (c)(1) do not apply.

(2) The in-stream baseline period must include, at a minimum, twice monthly monitoring for a minimum of a 1-year period and must adequately represent the seasonal range and median pollutant concentrations.

(3) Upon issuance of a surface mining permit, the operator shall continue, at a minimum, monthly monitoring of pollutant concentrations at the in-stream monitoring point referenced in paragraph (1), and make a determination as to whether or not there has been degradation of in-stream water quality.

(i) This determination shall be made on a quarterly basis and for each year defined as each consecutive 12-month period.

(ii) The operator is not required to treat individual pre-existing sources of pollution except as may be needed to maintain the in-stream baseline concentration.

(iii) Unless the operator can demonstrate to the satisfaction of the Department that the degradation was the result of factors that are not related to the remining, the operator shall treat one or more pre-existing pollutional discharges or undertake other pollution abatement measures to restore or improve the in-stream pollutant concentration to its baseline conditions.

(4) Pre-existing discharges for which it is infeasible to collect samples for determination of baseline pollutant levels include, but are not limited to:

(i) Discharges that exist as a diffuse groundwater flow that cannot be assessed by the collection of samples.

(ii) A base flow to a receiving stream that cannot be monitored separate from the receiving stream.

(iii) A discharge on a steep or hazardous slope that is inaccessible for sample collection.

(iv) A number of pre-existing discharges so extensive that monitoring of individual discharges is infeasible.

(5) When in-stream monitoring is not indicative of the impact of remining, the in-stream monitoring requirement may be waived by the Department. In-stream monitoring is not indicative of the impact of remining in circumstances including, but not limited to, the following:

(i) Remining sites in drainage areas exceeding 10 square miles.

(ii) Remining sites in watersheds where there are other influences on the in-stream water quality that make it impossible to establish the cause of water quality changes.

(iii) Remining sites where the  $Q_{7-10}$  stream flow is zero.

(e) *Limits.* Pollutants for which there are not effluent limitations established in § 88.92, § 88.187 or § 88.292 may be eligible for limits established under this subchapter.

(f) *Applicability of standards.* Section 88.92, § 88.187 or § 88.292 applies to a pre-existing discharge that is:

(1) Intercepted by surface mining activities.

(2) Commingled with waste streams from operational areas for the purposes of water treatment.

(g) *Cessation of applicability of standards.* Section 88.92, § 88.187 or § 88.292 does not apply to a pre-existing discharge described in subsection (f) when the pre-existing discharge is no longer intercepted by surface mining activities or is no longer commingled with waste streams from operational areas for the purposes of water treatment.

(h) *Bond release.* The effluent limitations in this subchapter apply to pre-existing discharges until bond release under the procedures in Chapter 86 (relating to surface and underground coal mining: general).

**§ 88.511. Baseline determination and compliance monitoring for pre-existing discharges at remining operations.**

(a) The procedures in this section shall be used for determining site-specific baseline pollutant loadings, and for determining whether discharge loadings during coal remining operations have exceeded the baseline loading. A monthly (single-observation) procedure and an annual procedure shall be applied.

(b) At least one sample result per month shall be obtained for 12 months to characterize pollutant loadings for:

- (1) Baseline determination.
- (2) Each annual monitoring period. It is required that at least one sample be obtained per month for 12 months.
- (c) Calculations described in this subchapter shall be applied to pollutant loadings.
- (d) Each loading value shall be calculated as the product of a flow measurement and pollutant concentration taken on the same date at the same discharge sampling point using standard units of flow and concentration.

(e) If the baseline concentration in a baseline sample is below the daily maximum effluent limits established in § 88.92, § 88.187 or § 88.292 (relating to hydrologic balance: effluent standards), the baseline sample concentration may be replaced with daily maximum effluent limit for the purposes of some of the statistical calculations in this subchapter.

(f) The substituted values should be used for all methods in this subchapter except for:

- (1) The calculation of the interquartile range (R) in Method 1 for the annual trigger (Step 3).
- (2) Method 2 for the single observation trigger (Step 3).

(g) The interquartile range (R) is calculated as the difference between the quartiles  $M_{-1}$  and  $M_1$ ; the values for quartiles  $M_{-1}$  and  $M_1$  should be calculated using actual loadings (based on measured concentrations) when they are used to calculate the interquartile range (R).

**§ 88.512. Procedure for calculating and applying a single-observation (monthly) trigger.**

(a) This section contains two alternative methods for calculating a single-observation trigger. One method must be proposed by the applicant to be approved and applied by the Department for a remining permit.

(b) Method 1 for calculating a single observation trigger (L) is accomplished by completing the following steps:

(1) Count the number of baseline observations taken for the pollutant of interest. Label this number  $n$ . To sufficiently characterize pollutant loadings during baseline determination and during each annual monitoring period, it is required that at least one sample result be obtained per month for 12 months.

(2) Order all baseline loading observations from lowest to highest. Let the lowest number (minimum) be  $x_{(1)}$ , the next lowest be  $x_{(2)}$ , and so forth until the highest number (maximum) is  $x_{(n)}$ .

(3) If fewer than 17 baseline observations were obtained, the single observation trigger (L) will equal the maximum of the baseline observations ( $x_{(n)}$ ).

(4) If at least 17 baseline observations were obtained, calculate the median (M) of all baseline observations. If  $n$  is odd, then M equals  $x_{(n/2+1/2)}$ . If  $n$  is even, then M equals  $0.5 * (x_{(n/2)} + x_{(n/2+1)})$ .

(5) Next, calculate  $M_1$  as the median of the subset of observations that range from the calculated M to the maximum  $x_{(n)}$ ; that is, calculate the median of all  $x$  larger than or equal to M.

(6) Next, calculate  $M_2$  as the median of the subset of observations that range from the calculated  $M_1$  to  $x_{(n)}$ ; that is, calculate the median of all  $x$  larger than or equal to  $M_1$ .

(7) Next, calculate  $M_3$  as the median of the subset of observations that range from the calculated  $M_2$  to  $x_{(n)}$ ; that is, calculate the median of all  $x$  larger than or equal to  $M_2$ .

(8) Finally, calculate the single observation trigger (L) as the median of the subset of observations that range from the calculated  $M_3$  to  $x_{(n)}$ .

(9) When subsetting the data for each of the steps in paragraphs (5)–(8), the subset should include all observations greater than or equal to the median calculated in the previous step. If the median calculated in the previous step is not an actual observation, it is not included in the new subset of observations. The new median value will then be calculated using the median procedure, based on whether the number of points in the subset is odd or even.

(c) The method for applying the single observation trigger (L) to determine when the baseline level has been exceeded is as follows:

(1) If two successive monthly monitoring observations both exceed L, immediately begin weekly monitoring for 4 weeks (four weekly samples).

(2) If three or fewer of the weekly observations exceed L, resume monthly monitoring.

(3) If all four weekly observations exceed L, the baseline pollution loading has been exceeded.

(d) Method 2 for calculating a single observation trigger (L) is accomplished by completing the following steps:

(1) Follow Method 1 in subsection (b) to obtain  $M_1$  (the third quartile, that is, the 75th percentile).

(2) Calculate  $M_{-1}$  as the median of the baseline data which are less than or equal to the sample median M.

(3) Calculate interquartile range,  $R = (M_1 - M_{-1})$ .

(4) Calculate the single observation trigger L as  $L = M_1 + 3 * R$ .

(5) If two successive monthly monitoring observations both exceed L, immediately begin weekly monitoring for 4 weeks (four weekly samples).

(6) If three or fewer of the weekly observations exceed L, resume monthly monitoring.

(7) If all four weekly observations exceed L, the baseline pollution loading has been exceeded.

**§ 88.513. Procedure for calculating and applying an annual trigger.**

(a) This section contains two alternative methods for calculating the annual trigger. One method shall be



proposed by the applicant to be approved and applied by the Department for a reminging permit.

(b) Method 1 for calculating and applying an annual trigger (T) is accomplished by completing the following steps:

(1) Calculate M and  $M_1$  of the baseline loading data as described under Method 1 for the single observation trigger in § 88.512(b) (relating to procedure for calculating and applying a single-observation (monthly) trigger).

(2) Calculate  $M_{-1}$  as the median of the baseline data which are less than or equal to the sample median M.

(3) Calculate the interquartile range,  $R = (M_1 - M_{-1})$ .

(4) The annual trigger for baseline ( $T_b$ ) is calculated as  $T_b = M + (1.815 * R) / \text{SQRT}(n)$

where n is the number of baseline loading observations.

(5) To compare baseline loading data to observations from the annual monitoring period, repeat the steps in paragraphs (1)—(3) for the set of monitoring observations. Label the results of the calculations  $M'$  and  $R'$ . Let m be the number of monitoring observations.

(6) The subtle trigger ( $T_m$ ) of the monitoring data is calculated as

$$T_m = M' - (1.815 * R') / \text{SQRT}(m)$$

(7) If  $T_m > T_b$ , the median loading of the monitoring observations has exceeded the baseline loading.

(c) Method 2 for calculating and applying an annual trigger (T) is accomplished by completing the following steps:

(1) Let n be the number of baseline loading observations taken, and let m be the number of monitoring loading observations taken. To sufficiently characterize pollutant loadings during baseline determination and during each annual monitoring period, it is required that at least one sample result be obtained per month for a period of 12 months.

(2) Order the combined baseline and monitoring observations from smallest to largest.

(3) Assign a rank to each observation based on the assigned order: the smallest observation will have rank 1, the next smallest will have rank 2 and so forth, up to the highest observation, which will have rank n + m. If two or more observations are tied (have the same value), then the average rank for those observations should be used.

(4) Sum all the assigned ranks of the n baseline observations, and let this sum be  $S_n$ .

(5) Obtain the critical value (C) from Table 1.

(6) Compare C to  $S_n$ . If  $S_n$  is less than C, then the monitoring loadings have exceeded the baseline loadings.

(7) Critical values for the Wilcoxon-Mann-Whitney test are as follows:

(i) When n and m are less than 21, use Table 1. To find the appropriate critical value, match column with correct n (number of baseline observations) to row with correct m (number of monitoring observations).

Table 1—Critical Values (C) of the Wilcoxon-Mann-Whitney Test (for a one-sided test at the 0.001 significance level)

n \ m	10	11	12	13	14	15	16	17	18	19	20
10	66	79	93	109	125	142	160	179	199	220	243
11	68	82	96	112	128	145	164	183	204	225	248
12	70	84	99	115	131	149	168	188	209	231	253
13	73	87	102	118	135	153	172	192	214	236	259
14	75	89	104	121	138	157	176	197	218	241	265
15	77	91	107	124	142	161	180	201	223	246	270
16	79	94	110	127	145	164	185	206	228	251	276
17	81	96	113	130	149	168	189	211	233	257	281
18	83	99	116	134	152	172	193	215	238	262	287
19	85	101	119	137	156	176	197	220	243	268	293
20	88	104	121	140	160	180	202	224	248	273	299

(ii) When n or m is greater than 20 and there are few ties, calculate an approximate critical value using the following formula and round the result to the next larger integer. Let  $N = n + m$ .

$$\text{Critical Value} = 0.5 * n * (N + 1) - 3.0902 * \text{SQRT}(n * M(N + 1) / 12)$$

(iii) When n or m is greater than 20 and there are many ties, calculate an approximate critical value using the following formula and round the result to the next larger integer. Let S be the sum of the squares of the ranks or average ranks of all N observations. Let  $N = n + m$ .

$$\text{Critical Value} = 0.5 * n * (N + 1) - 3.0902 * \text{SQRT}(V)$$

In the preceding formula, calculate V using:

$$V = (n * m * S) / (N * (N - 1) - (n * m * (N + 1)^2 / (4 * (N - 1)))$$

**CHAPTER 90. COAL REFUSE DISPOSAL**

Subchapter F. COAL REFUSE DISPOSAL ACTIVITIES ON AREAS WITH [ **PREEXISTING** ] **PRE-EXISTING** POLLUTIONAL DISCHARGES

**§ 90.302. Definitions.**

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

[ **Abatement plan**—Any individual technique or combination of techniques, the implementation of which will result in reduction of the base line pollution load. Abatement techniques include, but are not limited to: Addition of alkaline material, special plans for managing toxic and acid-forming material, regrading, revegetation and relocating coal refuse to a coal refuse disposal area that

**includes systems to prevent adverse impacts to surface and groundwater and to prevent precipitation from contacting the coal refuse. ]**

*Actual improvement*—The reduction of the baseline pollution load resulting from the implementation of the approved **pollution** abatement plan; except that any reduction of the baseline pollution load achieved by water treatment may not be considered as actual improvement provided that treatment approved by the Department of the coal refuse before, during or after placement in the coal refuse disposal area will not be considered to be water treatment.

*Baseline pollution load*—The characterization of the pollutorial material being discharged from or on the pollution abatement area, described in terms of mass discharge for each parameter deemed relevant by the Department, including seasonal variations and variations in response to precipitation events. The Department will establish in each authorization the specific parameters it deems relevant for the baseline pollution load, including, at a minimum, iron and acid loadings.

*Best professional judgment*—The highest quality technical opinion forming the basis for the terms and conditions of the treatment level required after consideration of all reasonably available and pertinent data. The treatment levels shall be established by the Department under sections 301 and 402 of the Federal **Clean Water [ Pollution Control ] Act** (33 U.S.C.A. §§ 1311 and 1342).

*Best technology*—Measures and practices which will abate or ameliorate, to the maximum extent possible, discharges from or on the pollution abatement area. These measures include engineering, geochemical or other applicable practices.

*Coal refuse disposal activities*—

(i) The storage, dumping or disposal of any waste coal, rock, shale, slurry, culm, gob, boney, slate, clay, underground development wastes, coal processing wastes, excess soil and related materials, associated with or near a coal seam, that are either brought above ground or otherwise removed from a coal mine in the process of mining coal or are separated from coal during the cleaning or preparation operations.

(ii) The term does not include the removal or storage of overburden from surface mining activities.

**Coal remining operation**—A coal mining operation at a site on which coal mining was previously conducted and where the site has been abandoned or the performance bond has been forfeited.

*Encountered discharge*—

(i) A pre-existing discharge intercepted in the course of active surface mining activities, including, but not limited to, overburden removal, coal extraction and backfilling, or that occurs in the pit, any mining-related conveyance, sedimentation pond or treatment pond.

(ii) The term does not include diversions of surface water and shallow groundwater flow from areas undisturbed by the implementation of the pollution abatement plan which would otherwise drain into the affected area so long as they are designed, operated and maintained in accordance with § 90.104(b)—(g) (relating to hydrologic balance: diversions).

*Excess soil and related material*—

(i) Rock, clay or other material located immediately above or below a coal seam and which are extracted from a coal mine during the process of mining coal.

(ii) The term does not include topsoil or subsoil.

*Pollution abatement area*—

(i) The part of the permit area that is causing or contributing to the baseline pollution load.

(ii) The term includes adjacent and nearby areas that must be affected to bring about significant improvements of the baseline pollution load and may include the immediate locations of the discharges.

**Pollution abatement plan**—Best management practices (BMPs), including, but not limited to, the addition of alkaline material, special handling plans for managing toxic and acid forming material, regrading, revegetation and daylighting, that when implemented will result in reduction of the baseline pollution load.

*Pre-existing discharge*—

(i) Any discharge resulting from mining activities that have been abandoned prior to the time of a remining permit application.

(ii) The term includes a pre-existing discharge that is relocated as a result of the implementation BMPs in the pollution abatement plan.

*Steep slope*—

(i) Any slope, including abandoned mine land features, above 20 degrees or a lesser slope as may be defined by the Department after consideration of soil, climate and other characteristics of a region.

(ii) The term does not apply to situations in which an operator is mining on flat or gently rolling terrain, on which an occasional steep slope is encountered and through which the mining operation is to proceed, leaving a plain or predominantly flat area.

**§ 90.303. Applicability.**

\* \* \* \* \*

(b) Notwithstanding subsection (a), authorization will not be granted under this subchapter for repermitting under §§ 86.12 and 86.14 (relating to continued operation under interim permits; and permit application filing deadlines), permit renewals under § 86.55 (relating to permit renewals: general requirements) or permit transfers under § 86.56 (relating to transfer of permit).

(c) This subchapter applies to pre-existing discharges that are located within or are hydrologically connected to pollution abatement areas of a coal remining operation.

(d) When a coal remining operation seeks reissuance of an existing remining permit with best professional judgment limitations and the Department determines that it is not feasible for a remining operator to re-establish baseline pollutant levels in accordance with the statistical procedures in this subchapter, pre-existing discharge limitations at the existing remining operation remain subject to baseline pollutant levels established during the original permit application.

**§ 90.304. Application for authorization.**

(a) An operator who requests authorization under this subchapter shall comply with the permit application requirements of Chapter 86 (relating to surface and underground coal mining: general) and Subchapters A—D, except as specifically modified by this subchapter. The operator shall also:

(1) Delineate on a map the proposed pollution abatement area, including the location of the [ **preexisting** ] **pre-existing** discharges.

(2) Provide a description of the hydrologic balance for the proposed pollution abatement area that includes:

(i) Results of a detailed water quality and quantity monitoring program, including seasonal variations, variations in response to precipitation events and modeled baseline pollution loads using this monitoring program.

(ii) Monitoring for **flow**, pH, alkalinity, acidity, total iron, total manganese, **total** aluminum, sulfates, total suspended solids and other water quality parameters the Department deems relevant.

(3) Provide a [ **description of the abatement plan that represents best technology and includes the following** ] **pollution abatement plan which must:**

(i) **Describe the pollution abatement area.**

(ii) **Be designed to reduce the pollution load from pre-existing discharges and must identify the selected best management practices (BMPs) to be used.**

(iii) **Describe the design specifications, construction specifications, maintenance schedules, criteria for monitoring and inspection, and expected performance of the BMPs.**

(iv) **Represent best technology and include:**

[ (i) ] (A) Plans, cross-sections and schematic drawings describing the **pollution** abatement plan proposed to be implemented.

[ (ii) ] (B) A description and explanation of the range of abatement level that is anticipated to be achieved, costs and each step in the proposed **pollution** abatement plan.

[ (iii) ] (C) A description of the standard of success for revegetation necessary to ensure success of the **pollution** abatement plan.

(v) **Provide a description of an information on the pre-existing discharges hydrogeologically connected to the remaining area.**

(4) **Determine the baseline pollution load.**

(5) **Provide background data that are the bases for the baseline pollution load. The baseline pollution load shall be reported in pounds per day.**

(b) The operator seeking this authorization [ **shall** ] **may** continue the water quality and quantity monitoring program required by subsection (a)(2) after making the authorization request. The operator [ **shall** ] **may** submit the results of this continuing monitoring program to the Department on a monthly basis until a decision on the authorization request is made.

**§ 90.305. Application approval or denial.**

(a) Authorization may not be granted under this subchapter unless the operator seeking the authorization

affirmatively demonstrates the following to the satisfaction of the Department on the basis of information in the application:

(1) Neither the operator, nor an officer, principal shareholder, agent, partner, associate, parent corporation, subsidiary or affiliate, sister corporation, contractor or subcontractor, or a related party as defined in § 86.1 (relating to definitions) has either of the following:

(i) Legal responsibility or liability as an operator for treating the water pollution discharges from or on the proposed pollution abatement area.

(ii) Statutory responsibility or liability for reclaiming the proposed pollution abatement area.

(2) The proposed **pollution** abatement plan will result in significant reduction of the baseline pollution load and represents best technology.

(3) The land within the proposed pollution abatement area can be reclaimed.

(4) The coal refuse disposal activities on the proposed pollution abatement area will not cause additional surface water pollution or groundwater degradation.

(5) The standard of success for revegetation will be achieved. The standard of success for revegetation for sites previously reclaimed to the standards of this chapter and Chapters 87 and 88 (**relating to surface mining of coal; and anthracite coal**) shall be the standards set forth in § 90.159 (relating to revegetation: standards for successful revegetation). The standard of success for revegetation for sites not previously reclaimed to the standards of this chapter and Chapters 87 and 88 shall be, at a minimum, the following, provided the site is not a bond forfeiture site where the forfeited money paid into the fund is sufficient to reclaim the forfeited site to the applicable standards:

(i) A ground cover of living plants not less than can be supported by the best available topsoil or other suitable material in the reaffected area.

(ii) A ground cover no less than that existing before disturbance of the area by coal refuse disposal activities.

(iii) Adequate vegetation to control erosion. Vegetation may be no less than that necessary to ensure the success of the **pollution** abatement plan.

\* \* \* \* \*

**§ 90.306. Operational requirements.**

[ (a) ] An operator who receives an authorization under this subchapter shall comply with Chapter 86 (relating to surface and underground coal mining: general) and Subchapters A—D except as specifically modified by this subchapter. The operator shall also:

(1) Implement the approved water quality and quantity monitoring program for the pollution abatement area until the requirements of § 90.309 (relating to criteria and schedule for release of bonds on pollution abatement areas) are met. **The monitoring program must conform to the following:**

(i) **Sampling shall be conducted on a monthly basis for the pre-existing discharges and should adequately represent the seasonal range in loading rates as well as the median loading rate from each pre-existing discharge or combination of discharges.**

(ii) **Results shall be submitted on a quarterly basis.**

(iii) **Data must include the flow measurements and loading calculations.**

(2) Implement the approved **pollution** abatement plan.

**[ (3) Notify the Department immediately prior to the completion of each step of the abatement plan.**

**(4) Provide a progress report to the Department within 30 days after the completion of each step of the abatement program that includes a statement signed by the operator, and if required by the Department, a statement signed by the supervising engineer, that all work has been performed in accordance with the terms and conditions of the pollution abatement authorization, the approved maps, plans, profiles and specifications. ]**

**(3) Notify the Department when more frequent sampling is required.**

**(i) Weekly sampling of the pre-existing discharges shall begin if any two consecutive monthly samples of pollution load at any of the monitoring points or hydrologic units exceed one or more of the triggers established by the baseline data.**

**(ii) Weekly sampling requirements shall continue until two consecutive weekly sample analyses indicate that all parameters which triggered weekly sampling have dropped below the trigger established by the baseline data.**

**§ 90.307. Treatment of discharges.**

(a) Except for **[ preexisting ] pre-existing** discharges that are not encountered during coal refuse disposal activities or the implementation of the **pollution** abatement plan, the operator shall comply with § 90.102 (relating to hydrologic balance: water quality standards, effluent limitations and best management practices). **[ 281279 ]**

(b) **[ The ] Except as provided in § 90.310(d) (relating to effluent limitations), the operator shall treat the [ preexisting ] pre-existing discharges that are not encountered during coal refuse disposal activities or implementation of the pollution abatement plan to comply with the effluent limitations established by best professional judgment. The effluent limitations established by best professional judgment may not be less than the baseline pollution load. If the baseline pollution load, when expressed as a concentration for a specific parameter, satisfies the effluent limitation in § 90.102 for that parameter, the operator shall treat the [ preexisting ] pre-existing discharge for that parameter to comply with either effluent limitations established by best professional judgment or the effluent limitations in § 90.102.**

(c) For purposes of subsections (a) and (b), the term encountered may not be construed to mean diversions of surface water and shallow groundwater flow from areas undisturbed by the implementation of the **pollution** abatement plan that would otherwise drain into the affected area, as long as the diversions are designed, operated and maintained under § 90.104(b)—(h) (relating to hydrologic balance: diversions).

(d) An operator required to treat **[ preexisting ] pre-existing** discharges will be allowed to discontinue treating the discharges under subsection (b) when the operator affirmatively demonstrates the following to the Department's satisfaction:

(1) The **[ preexisting ] pre-existing** discharges are meeting the effluent limitations established by subsection (b) as shown by groundwater and surface water monitoring conducted by the operator or the Department.

(2) Coal refuse disposal activities under the permit—including the pollution abatement area—are being or were conducted under the requirements of the permit and the authorization, and Chapter 86 (relating to surface and underground mining: general) and this chapter except as specifically modified by this subchapter.

(3) The operator has implemented each step of the **pollution** abatement plan as approved in the authorization.

(4) The operator did not cause or allow additional surface water pollution or groundwater degradation by re-affecting the pollution abatement area.

(e) If after discontinuance of treatment of discharges under subsection (d) the discharges fail to meet the effluent limitations established by subsection (b), the operator shall reinstitute treatment of the discharges under subsection (b). An operator who reinstates treatment under this subsection will be allowed to discontinue treatment if the requirements of subsection (d) are met.

(f) Discontinuance of treatment under subsection (d) may not be deemed or construed to be or to authorize a release of bond under § 90.309 (relating to criteria and schedule for release of bonds on pollution abatement areas).

**(g) If four consecutive weekly determinations of pollution load, as required under § 90.306(3)(i) (relating to operational requirements), exceed one or more triggers, the permittee shall notify the Department and begin treatment within 30 days of the fourth sample in accordance with the treatment limits established in the permit.**

**(h) If the Department determines, through analysis of any data submitted pursuant to the monitoring requirements or any data collected by the Department, that there has been pollution loading degradation at any of the monitoring points or hydrologic units, the Department will notify the permittee accordingly. The permittee shall begin treatment within 30 days in accordance with the treatment limits established in the permit.**

**(i) Any pre-existing pollutional discharge which is an encountered discharge shall be treated to the effluent limitations in the permit until the discharge is no longer encountered.**

**(j) For the purposes of determining applicable effluent limitations, a discharge will continue to be deemed to be an encountered discharge until the surface mining area which has been disturbed and which contributes to the discharge has been back-filled and regraded, and revegetation work has started.**

**§ 90.309. Criteria and schedule for release of bonds on pollution abatement areas.**

\* \* \* \* \*

(b) The Department will release up to an additional 35% of the amount of bond for the authorized pollution abatement area but retain an amount sufficient to cover the cost to the Department of reestablishing vegetation if completed by a third party if the operator demonstrates and the Department finds the following:

(1) The operator has replaced the topsoil or material conserved under § 90.97 (relating to topsoil: removal), completed final grading, planting and established revegetation under the approved reclamation plan and achieved the standards of success for revegetation in § 90.305(a)(5) (relating to application approval or denial).

(2) The operator has not caused or contributed to groundwater or surface water pollution by re-affecting the pollution abatement area.

(3) The operator has achieved the following standards:

(i) Achieved the actual improvement of the baseline pollution load described in the approved **pollution** abatement plan as shown by groundwater and surface water monitoring conducted by the permittee for the time provided in the **pollution** abatement plan after completion of backfilling, final grading, drainage control, topsoiling and establishment of revegetation to achieve the standard for success in § 90.305(a)(5).

(ii) Achieved the following:

(A) At a minimum has not caused degradation of the baseline pollution load as shown by groundwater and surface water monitoring conducted by the operator or the Department for one of the following:

(I) For 12 months from the date of initial bond release under subsection (a), if backfilling, final grading, drainage control, placement of impermeable cover, topsoiling and establishment of revegetation to achieve the standard of success for revegetation in § 90.305(a)(5) have been completed.

(II) If treatment has been initiated at any time after initial bond release under subsection (a) and § 90.307(e) (relating to treatment of discharges), for 12 months from the date of discontinuance of treatment under § 90.307(d), if backfilling, final grading, drainage control, placement of impermeable cover, topsoiling and establishment of revegetation to achieve the standard of success for revegetation in § 90.305(a)(5) have been completed.

(B) Conducted all the measures provided in the approved **pollution** abatement plan and additional measures specified by the Department in writing at the time of initial bond release under subsection (a) for the area requested for bond release.

\* \* \* \* \*

*(Editor's Note: Sections 90.310—90.313 are new and printed in regular type to enhance readability.)*

**§ 90.310. Effluent limitations.**

(a) *Approval and incorporation into permit.* The pollution abatement plan for the pollution abatement area must be approved by the Department and incorporated into the permit as an effluent limitation.

(b) *Implementation of best management practices.* The best management practices (BMPs) in the pollution abatement plan shall be implemented as specified in the plan.

(c) *Pre-existing discharges.*

(1) Except as provided in subsection (d), the following effluent limits apply to pre-existing discharges:

<i>Parameter</i>	<i>Effluent Limit</i>
Total Iron	May not exceed baseline loadings (as determined by this subchapter).

<i>Parameter</i>	<i>Effluent Limit</i>
Total Manganese	May not exceed baseline loadings (as determined by this subchapter).
Acidity, Net	May not exceed baseline loadings (as determined by this subchapter).
Suspended Solids	During remining and reclamation, may not exceed baseline loadings (as determined by this subchapter). Prior to bond release, the pre-existing discharge must meet the applicable standards for suspended solids or settleable solids in § 90.102 (relating to hydrologic balance: water quality standards, effluent limitations and best management practices).

(2) A pre-existing discharge is exempt from meeting standards in § 90.102 for suspended solids and settleable solids when the Department determines that the standards are infeasible or impractical based on the site-specific conditions of soil, climate, topography, steep slopes or other baseline conditions provided that the operator demonstrates that significant reductions of suspended solids and settleable solids will be achieved through the incorporation of sediment control BMPs into the pollution abatement plan as required under subsection (a).

(d) *In-stream requirements.*

(1) If the Department determines that it is infeasible to collect samples for establishing the baseline pollutant levels under this subsection, and that remining will result in significant improvement that would not otherwise occur, the permit applicant may establish an in-stream baseline concentration at a suitable point downstream from the remining operation and the numeric effluent limitations in subsection (c)(1) do not apply.

(2) The in-stream baseline period must include, at a minimum, twice monthly monitoring for a minimum of a 1-year period and must adequately represent the seasonal range and median pollutant concentrations.

(3) Upon issuance of a surface mining permit, the operator shall continue, at a minimum, monthly monitoring of pollutant concentrations at the in-stream monitoring point referenced in paragraph (1), and make a determination as to whether or not there has been degradation of in-stream water quality.

(i) This determination shall be made on a quarterly basis and for each year defined as each consecutive 12-month period.

(ii) The operator is not required to treat individual pre-existing sources of pollution except as may be needed to maintain the in-stream baseline concentration.

(iii) Unless the operator can demonstrate to the satisfaction of the Department that the degradation was the result of factors that are not related to the remining, the operator shall treat one or more pre-existing pollutional discharges or undertake other pollution abatement measures to restore or improve the in-stream pollutant concentration to its baseline conditions.

(4) Pre-existing discharges for which it is infeasible to collect samples for determination of baseline pollutant levels include, but are not limited to:

(i) Discharges that exist as a diffuse groundwater flow that cannot be assessed by the collection of samples.

(ii) A base flow to a receiving stream that cannot be monitored separate from the receiving stream.

(iii) A discharge on a steep or hazardous slope that is inaccessible for sample collection.

(iv) A number of pre-existing discharges so extensive that monitoring of individual discharges is infeasible.

(5) When in-stream monitoring is not indicative of the impact of remining, the in-stream monitoring requirement may be waived by the Department. In-stream monitoring is not indicative of the impact of remining in circumstances including, but not limited to, the following:

(i) Remining sites in drainage areas exceeding 10 square miles.

(ii) Remining sites in watersheds where there are other influences on the in-stream water quality that make it impossible to establish the cause of water quality changes.

(iii) Remining sites where the  $Q_{7-10}$  stream flow is zero.

(e) *Limits.* Pollutants for which there are no effluent limitations established in § 90.102 may be eligible for limits established under this subchapter.

(f) *Applicability of standards.* Section 90.102 applies to a pre-existing discharge that is:

(1) Intercepted by surface mining activities.

(2) Commingled with waste streams from operational areas for the purposes of water treatment.

(g) *Cessation of applicability of standards.* Section 90.102 does not apply to a pre-existing discharge described in subsection (f) when the pre-existing discharge is no longer intercepted by surface mining activities or is no longer commingled with waste streams from operational areas for the purposes of water treatment.

(h) *Bond release.* The effluent limitations in this subchapter apply to pre-existing discharges until bond release under the procedures in Chapter 86 (relating to surface and underground coal mining: general).

**§ 90.311. Baseline determination and compliance monitoring for pre-existing discharges at remining operations.**

(a) The procedures in this section shall be used for determining site-specific baseline pollutant loadings, and for determining whether discharge loadings during coal remining operations have exceeded the baseline loading. A monthly (single-observation) procedure and an annual procedure shall be applied.

(b) At least one sample result per month shall be obtained for 12 months to characterize pollutant loadings for:

(1) Baseline determination.

(2) Each annual monitoring period. It is required that at least one sample be obtained per month for 12 months.

(c) Calculations described in this subchapter shall be applied to pollutant loadings.

(d) Each loading value shall be calculated as the product of a flow measurement and pollutant concentration taken on the same date at the same discharge sampling point using standard units of flow and concentration.

(e) If the baseline concentration in a baseline sample is below the daily maximum effluent limits established in § 90.102 (relating to hydrologic balance: water quality standards, effluent limitations and best management practices), the baseline sample concentration may be replaced with daily maximum effluent limit for the purposes of some of the statistical calculations in this subchapter.

(f) The substituted values should be used for all methods in this subchapter except for:

(1) The calculation of the interquartile range (R) in Method 1 for the annual trigger (Step 3).

(2) Method 2 for the single observation trigger (Step 3).

(g) The interquartile range (R) is calculated as the difference between the quartiles  $M_{-1}$  and  $M_1$ ; the values for quartiles  $M_{-1}$  and  $M_1$  should be calculated using actual loadings (based on measured concentrations) when they are used to calculate the interquartile range (R).

**§ 90.312. Procedure for calculating and applying a single-observation (monthly) trigger.**

(a) This section contains two alternative methods for calculating a single-observation trigger. One method must be proposed by the applicant to be approved and applied by the Department for a remining permit.

(b) Method 1 for calculating a single observation trigger (L) is accomplished by completing the following steps:

(1) Count the number of baseline observations taken for the pollutant of interest. Label this number  $n$ . To sufficiently characterize pollutant loadings during baseline determination and during each annual monitoring period, it is required that at least one sample result be obtained per month for 12 months.

(2) Order all baseline loading observations from lowest to highest. Let the lowest number (minimum) be  $x_{(1)}$ , the next lowest be  $x_{(2)}$ , and so forth until the highest number (maximum) is  $x_{(n)}$ .

(3) If fewer than 17 baseline observations were obtained, the single observation trigger (L) will equal the maximum of the baseline observations ( $x_{(n)}$ ).

(4) If at least 17 baseline observations were obtained, calculate the median (M) of all baseline observations. If  $n$  is odd, then M equals  $x_{(n/2+1/2)}$ . If  $n$  is even, then M equals  $0.5^*(x_{(n/2)} + x_{(n/2+1)})$ .

(5) Next, calculate  $M_1$  as the median of the subset of observations that range from the calculated M to the maximum  $x_{(n)}$ ; that is, calculate the median of all  $x$  larger than or equal to M.

(6) Next, calculate  $M_2$  as the median of the subset of observations that range from the calculated  $M_1$  to  $x_{(n)}$ ; that is, calculate the median of all  $x$  larger than or equal to  $M_1$ .

(7) Next, calculate  $M_3$  as the median of the subset of observations that range from the calculated  $M_2$  to  $x_{(n)}$ ; that is, calculate the median of all  $x$  larger than or equal to  $M_2$ .

(8) Finally, calculate the single observation trigger (L) as the median of the subset of observations that range from the calculated  $M_3$  to  $x_{(n)}$ .

(9) When subsetting the data for each of the steps in paragraphs (5)—(8), the subset should include all observations greater than or equal to the median calculated in the previous step. If the median calculated in the previous step is not an actual observation, it is not included in

the new subset of observations. The new median value will then be calculated using the median procedure, based on whether the number of points in the subset is odd or even.

(c) The method for applying the single observation trigger (L) to determine when the baseline level has been exceeded is as follows:

(1) If two successive monthly monitoring observations both exceed L, immediately begin weekly monitoring for 4 weeks (four weekly samples).

(2) If three or fewer of the weekly observations exceed L, resume monthly monitoring.

(3) If all four weekly observations exceed L, the baseline pollution loading has been exceeded.

(d) Method 2 for calculating a single observation trigger (L) is accomplished by completing the following steps:

(1) Follow Method 1 in subsection (b) to obtain  $M_1$  (the third quartile, that is, the 75th percentile).

(2) Calculate  $M_{-1}$  as the median of the baseline data which are less than or equal to the sample median M.

(3) Calculate interquartile range,  $R = (M_1 - M_{-1})$ .

(4) Calculate the single observation trigger L as  $L = M_1 + 3 * R$ .

(5) If two successive monthly monitoring observations both exceed L, immediately begin weekly monitoring for 4 weeks (four weekly samples).

(6) If three or fewer of the weekly observations exceed L, resume monthly monitoring.

(7) If all four weekly observations exceed L, the baseline pollution loading has been exceeded.

**§ 90.313. Procedure for calculating and applying an annual trigger.**

(a) This section contains two alternative methods for calculating the annual trigger. One method shall be proposed by the applicant to be approved and applied by the Department for a reming permit.

(b) Method 1 for calculating and applying an annual trigger (T) is accomplished by completing the following steps:

(1) Calculate M and  $M_1$  of the baseline loading data as described under Method 1 for the single observation trigger in § 90.312(b) (relating to procedure for calculating and applying a single-observation (monthly) trigger).

(2) Calculate  $M_{-1}$  as the median of the baseline data which are less than or equal to the sample median M.

(3) Calculate the interquartile range,  $R = (M_1 - M_{-1})$ .

(4) The annual trigger for baseline (Tb) is calculated as  $Tb = M + (1.815 * R) / \text{SQRT}(n)$

where n is the number of baseline loading observations.

(5) To compare baseline loading data to observations from the annual monitoring period, repeat the steps in paragraphs (1)—(3) for the set of monitoring observations. Label the results of the calculations M' and R'. Let m be the number of monitoring observations.

(6) The subtle trigger (Tm) of the monitoring data is calculated as

$$Tm = M' - (1.815 * R') / \text{SQRT}(m)$$

(7) If  $Tm > Tb$ , the median loading of the monitoring observations has exceeded the baseline loading.

(c) Method 2 for calculating and applying an annual trigger (T) is accomplished by completing the following steps:

(1) Let n be the number of baseline loading observations taken, and let m be the number of monitoring loading observations taken. To sufficiently characterize pollutant loadings during baseline determination and during each annual monitoring period, it is required that at least one sample result be obtained per month for a period of 12 months.

(2) Order the combined baseline and monitoring observations from smallest to largest.

(3) Assign a rank to each observation based on the assigned order: the smallest observation will have rank 1, the next smallest will have rank 2 and so forth, up to the highest observation, which will have rank n + m. If two or more observations are tied (have the same value), then the average rank for those observations should be used.

(4) Sum all the assigned ranks of the n baseline observations, and let this sum be  $S_n$ .

(5) Obtain the critical value (C) from Table 1.

(6) Compare C to  $S_n$ . If  $S_n$  is less than C, then the monitoring loadings have exceeded the baseline loadings.

(7) Critical values for the Wilcoxon-Mann-Whitney test are as follows:

(i) When n and m are less than 21, use Table 1. To find the appropriate critical value, match column with correct n (number of baseline observations) to row with correct m (number of monitoring observations).

Table 1—Critical Values (C) of the Wilcoxon-Mann-Whitney Test (for a one-sided test at the 0.001 significance level)

n \ m	10	11	12	13	14	15	16	17	18	19	20
10	66	79	93	109	125	142	160	179	199	220	243
11	68	82	96	112	128	145	164	183	204	225	248
12	70	84	99	115	131	149	168	188	209	231	253
13	73	87	102	118	135	153	172	192	214	236	259
14	75	89	104	121	138	157	176	197	218	241	265
15	77	91	107	124	142	161	180	201	223	246	270
16	79	94	110	127	145	164	185	206	228	251	276
17	81	96	113	130	149	168	189	211	233	257	281
18	83	99	116	134	152	172	193	215	238	262	287
19	85	101	119	137	156	176	197	220	243	268	293
20	88	104	121	140	160	180	202	224	248	273	299

(ii) When n or m is greater than 20 and there are few ties, calculate an approximate critical value using the following formula and round the result to the next larger integer. Let  $N = n + m$ .

$$\text{Critical Value} = 0.5 * n * (N + 1) - 3.0902 * \text{SQRT}(n * M * (N + 1) / 12)$$

(iii) When n or m is greater than 20 and there are many ties, calculate an approximate critical value using the following formula and round the result to the next larger integer. Let S be the sum of the squares of the ranks or average ranks of all N observations. Let  $N = n + m$ .

$$\text{Critical Value} = 0.5 * n * (N + 1) - 3.0902 * \text{SQRT}(V)$$

In the preceding formula, calculate V using:

$$V = (n * m * S) / (N * (N - 1) - (n * m * (N + 1)^2 / (4 * (N - 1)))$$

[Pa.B. Doc. No. 15-1758. Filed for public inspection October 2, 2015, 9:00 a.m.]

[ 25 PA. CODE CH. 109 ]

**Safe Drinking Water; Revised Total Coliform Rule**

The Environmental Quality Board (Board) proposes to amend Chapter 109 (relating to safe drinking water) to read as set forth in Annex A. The proposed amendments will supplement the Total Coliform Rule by requiring public water systems (PWS) that are vulnerable to microbial contamination to perform assessments to identify sanitary defects and subsequently take action to correct them.

The proposed amendments will protect public health through a multibarrier approach designed to guard against microbial contamination by evaluating the effectiveness of treatment and the integrity of drinking water distribution systems, and by finding and fixing sanitary defects.

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.

One or more of the proposed amendments will apply to all PWSs.

This proposed rulemaking was included in a two-part proposal which was submitted to the Board for consideration at its meeting on April 21, 2015. One part contained regulations necessary to assume primacy with respect to the Federal Revised Total Coliform Rule (RTCR) and the other part of the proposal included amendments to various other portions of Chapter 109. In response to a motion made at that meeting, the Board voted to approve the portion of the proposed rulemaking regarding the RTCR but to split the other proposed amendments into a separate rulemaking to provide an opportunity for further consideration by the Technical Assistance Center for Small Drinking Water Systems (TAC) and other interested parties. The other amendments will be resubmitted to the Board at a future date. This proposed rulemaking reflects the RTCR portion of the proposal approved by the Board at its April 21, 2015, meeting.

*A. Effective Date*

This proposed rulemaking will go into effect upon final-form publication in the *Pennsylvania Bulletin*.

*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 electronically through the Department of Environmental Protection's (Department) web site at [www.depweb.state.pa.us](http://www.depweb.state.pa.us).

*C. Statutory Authority*

The proposed rulemaking is being made under the authority of section 4 of the Pennsylvania Safe Drinking Water Act (35 P. S. § 721.4), which grants the Board the authority to adopt rules and regulations governing the provision of drinking water to the public, and 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*

In February 2013, the United States Environmental Protection Agency (EPA) adopted regulations amending 40 CFR Part 141 (relating to National primary drinking water regulations) to implement an RTCR. See 78 FR 10269 (February 13, 2013). Minor corrections to the RTCR were published at 79 FR 10665 (February 26, 2014). The compliance date for the RTCR is April 1, 2016. To maintain primacy with respect to the RTCR, it is imperative that the Board adopt regulations which are at least as stringent as those in the Federal regulations.

According to the preamble to the Federal RTCR, the rule aims to increase public health protection through the reduction of sanitary defects that could provide potential pathways of entry for fecal contamination into the distribution system or could indicate a failure or imminent failure of a barrier that is already in place. See 78 FR 10269, 10276. EPA guidance states that microbial contamination in the distribution system occurs when there is a source of contamination, a pathway for microbial pathogens to enter the distribution system and conditions that allow proliferation of the microorganisms, including the lack of a disinfectant residual or poor operation and maintenance practices. See *Revised Total Coliform Rule Assessments & Corrective Actions Guidance Manual*, EPA 815-R-14-006, September 2014. Since fecal contamination may contain waterborne pathogens including bacteria, viruses and parasitic protozoa, a decrease in fecal contamination should reduce the risk from these contaminants.

In addition, the Federal rule aims for greater public health protection than the 1989 Total Coliform Rule (TCR) in a cost-effective manner by: maintaining the objectives of the 1989 TCR (that is, to evaluate the effectiveness of treatment, to determine the integrity of the distribution system and to signal the possible presence of fecal contamination); using the optimal indicator for the intended objectives (that is, using total coliforms as an indicator of system operation and condition rather



than an immediate public health concern and using *E. coli* as a fecal indicator); and requiring systems that may be vulnerable to contamination, as indicated by the nature of their operation, to have in place procedures that will minimize the incidence of contamination (for example, requiring start-up procedures for seasonal systems). The EPA, therefore, anticipates greater public health protection under the RTCR compared to the 1989 TCR because of the RTCR's more preventive approach to identifying and fixing problems that affect or may affect public health. See 78 FR 10269, 10272, 10273.

This proposed rulemaking was presented to the TAC on June 18, 2014. The TAC met again on September 23, 2014, to review and revise their comments. 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 recommendations. As a result of the Board meeting on April 21, 2015, and the subsequent modification of the April 21, 2015, proposed rulemaking, the TAC's comments regarding the amendments not related to the RTCR do not apply to this proposed rulemaking and will be addressed in a separate rulemaking.

#### E. Summary of Regulatory Requirements

##### § 109.1. Definitions

Section 109.1 (relating to definitions) is proposed to be amended to add the following EPA definitions: "Level 1 assessment," "Level 2 assessment," "sanitary defect" and "seasonal system." The proposed amendments reflect the new definitions of the Federal RTCR in 40 CFR 141.2 (relating to definitions).

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

Section 109.202(c)(4) (relating to State MCLs, MRDLs and treatment technique requirements) is proposed to be added to define the triggers which require a system to conduct a Level 1 or Level 2 assessment and to specify that failure to conduct an assessment or complete a corrective action is a treatment technique violation. This proposed paragraph reflects 40 CFR 141.859 and 141.860(b)(1) (relating to coliform treatment technique triggers and assessment requirements for protection against potential fecal contamination; and violations). The TAC recommended that this proposed rulemaking include examples of situations when the Department would require a water system to conduct an assessment. A revision to § 109.202(c)(4)(iii) clarifies that the Department may direct a system to conduct an assessment if circumstances exist which may adversely affect drinking water system quality, including situations specified in § 109.701(a)(3)(iii) (relating to reporting and recordkeeping).

Section 109.202(c)(5) is proposed to be added to specify that failure by a seasonal water system to complete an approved start-up procedure prior to serving water to the public is a treatment technique violation. This proposed addition reflects 40 CFR 141.860(b)(2).

##### § 109.301. General monitoring requirements

Section 109.301(3) (relating to general monitoring requirements) is proposed to be amended to change "fecal coliform" to "*E. coli*" to be consistent with the Federal MCL specified under 40 CFR 141.63(c) (relating to maximum contaminant levels (MCLs) for microbiological contaminants).

Section 109.301(3)(i) is proposed to be amended to require all PWS to monitor on a monthly frequency. This proposed amendment reflects 40 CFR 141.854, 141.855, 141.856 and 141.857.

Monitoring frequency language in § 109.301(3)(i)(B) is proposed to be deleted due to the new monthly monitoring requirement. Clause (C) is proposed to be renumbered as clause (B) regarding coliform monitoring for unfiltered surface water systems. This clause is proposed to be amended to include *E. coli* Maximum Contaminant Level (MCL) and assessment language to clarify how compliance is determined for the RTCR. This proposed amendment reflects 40 CFR 141.63(c) and 141.859(a).

Proposed § 109.301(3)(i)(C) requires seasonal systems to collect coliform samples prior to serving water to the public each season. This requirement is proposed to be added to ensure that water is safe for public consumption prior to a seasonal system serving water each year. This addition reflects 40 CFR 141.854(i)(1) (relating to routine monitoring requirements for non-community water systems serving 1,000 or fewer people using only ground water).

Proposed § 109.301(3)(i)(D) clarifies that a water system may only collect more than the required minimum amount of samples to be used for compliance during a monitoring period if those samples are included in the sample siting plan. In addition, these extra samples must be included in determining whether a Level 1 or Level 2 assessment has been triggered. These proposed additions reflect 40 CFR 141.853(a)(4) (relating to general monitoring requirements for all public water systems).

Proposed § 109.301(3)(i)(E) clarifies that the Department may require community water systems with a population under 1,000 and noncommunity water systems to monitor on an alternate schedule. The Department would make this determination following a special monitoring evaluation. This proposed addition reflects 40 CFR 141.854(c)(2).

Section 109.301(3)(ii) is proposed to be amended to clarify when a public water supplier must conduct repeat monitoring by specifying each type of total coliform positive sample that would require repeat monitoring. This amendment reflects 40 CFR 141.858 (relating to repeat monitoring and *E. coli* requirements). This subparagraph is also proposed to be amended to change "certified" to "accredited" in reference to the type of laboratory acceptable to the Department. This proposed amendment reflects the revised terminology in Chapter 252 (relating to environmental laboratory accreditation).

Minor amendments are proposed to § 109.301(3)(ii)(A) to clarify repeat monitoring requirements for PWSs.

Section 109.301(3)(ii)(B), which requires systems collecting only one routine coliform sample per monitoring period to collect four check samples, is proposed to be deleted. This deletion reflects 40 CFR 141.858(a)(1) which requires all PWSs to collect a minimum of three check samples instead of four. The TAC recommended the Department allow alternate check sample locations. The Board is specifically requesting public comment on the TAC's recommendation as noted in Section I of this preamble. The Federal rule gives states an option to allow alternative sampling locations for repeat monitoring in lieu of the requirement to collect at least one repeat sample within five taps upstream or downstream of the original site. Under this provision, if alternative locations are allowed, a PWS may propose repeat monitoring locations to the state that the PWS believes to represent a pathway for contamination to the distribution system.

The Board is interested in comments regarding the following:

- Why alternative repeat monitoring locations should be allowed.
- How a PWS would demonstrate that an alternative repeat monitoring location represents the pathway for contamination that led to the original coliform-positive sample in the distribution system.
- Whether only fixed alternative repeat monitoring locations should be allowed or if a standard operating procedure for choosing locations may also be allowed and why.
- Whether alternative repeat monitoring locations must be submitted under the signature of a certified operator.
- Whether alternative repeat monitoring locations must be submitted under the seal of a professional engineer.
- Whether alternative locations should only be allowed for systems serving greater than 9,999 people.

Section 109.301(3)(ii)(C) is proposed to be renumbered as § 109.301(3)(ii)(B).

Section 109.301(3)(ii)(D) is proposed to be renumbered as § 109.301(3)(ii)(C). Proposed amendments require all check samples to be collected consecutively within a 3-day period for systems that only have one service connection. This proposed amendment reflects 40 CFR 141.858(a)(2).

Section 109.301(3)(ii)(E) is proposed to be renumbered as § 109.301(3)(ii)(D). Proposed amendments clarify repeat monitoring requirements following a positive check sample. The clause is also proposed to be amended to clarify reporting requirements to the Department for when a system determines it has triggered an assessment. These proposed amendments reflect 40 CFR 141.858(a)(3).

Section 109.301(3)(ii)(F) is proposed to be deleted to remove the requirement for a PWS which collects fewer than five routine coliform samples per month and has one or more valid total coliform positive samples to collect five routine samples the following month. This deletion reflects 40 CFR 141.854(j) and 40 CFR 141.855(f) (relating to routine monitoring requirements for community water systems serving 1,000 or fewer people using only groundwater) that apply to PWS sampling at a frequency less than monthly. Since proposed requirements in § 109.301(3)(i) specify all PWS must monitor on a monthly frequency, this provision will no longer apply.

Section 109.301(3)(ii)(G) is proposed to be renumbered as § 109.301(3)(ii)(E) and amended to require that all routine and check samples must be included in determining compliance with the *E. coli* MCL and whether a Level 1 or Level 2 assessment has been triggered. These proposed additions reflect 40 CFR 141.859(a).

Section 109.301(3)(iii)(A)(III) is proposed to be amended to include *E. coli* MCL and assessment language to clarify how compliance is determined for the RTCR. This proposed amendment reflects 40 CFR 141.63(c) and 141.859(a). This subclause is also proposed to be amended to include a requirement for the Department to document in writing any decision to invalidate a total coliform-positive sample. This proposed amendment reflects 40 CFR 141.853(c)(1)(iii).

Proposed 109.301(3)(iii)(B)(III) specifies an additional circumstance that would require a laboratory to invali-

date a total coliform sample. This proposed amendment reflects 40 CFR 141.853(c)(2).

Section 109.301(3)(iii)(C) is proposed to be amended to change “certified” to “accredited” in reference to the type of laboratory acceptable to the Department. This proposed amendment reflects the revised terminology in Chapter 252.

Section 109.301(3)(iv)(A) is proposed to be amended to clarify that subclauses (I)—(IV) list conditions which would cause a water system to be out of compliance with the MCL for *E. coli*.

Section 109.301(3)(iv)(C) is proposed to be amended to replace total coliforms with *E. coli* and renumbered as clause (B). Clause (B) is proposed to be deleted.

Section 109.301(3)(v) is proposed to be amended to clarify under what situations a sample would be considered special purpose. This subparagraph is also proposed to be amended to clarify that special purpose samples may not be used to determine the MCL for *E. coli* or whether an assessment has been triggered. This proposed amendment reflects 40 CFR 141.853(b).

#### § 109.303. Sampling requirements

Section 109.303(a)(2) (relating to sampling requirements) is proposed to be amended to include the *E. coli* MCL and assessment language to clarify how compliance is determined for the RTCR. This amendment reflects 40 CFR 141.63(c) and 141.859(a). In addition, “an approved” is proposed to be deleted to clarify that the Department is not required to approve sample siting plans. This proposed amendment reflects 40 CFR 142.16(q)(2)(i) (relating to special primacy requirements).

Proposed § 109.303(a)(2)(i)—(vi) clarifies what types of monitoring locations are considered to be representative of water throughout the distribution system. The proposed subparagraphs include existing language that was moved from § 109.701(a)(5) and additional examples of representative locations.

#### § 109.408. Tier 1 public notice—categories, timing and delivery of notice

Section 109.408(a)(1) (relating to Tier 1 public notice—categories, timing and delivery of notice) is proposed to be amended to clarify that an exceedance of the *E. coli* MCL is a situation that requires a Tier 1 public notice to be provided. This proposed amendment reflects 40 CFR 141.202(a) (relating to Tier 1 public notice—form, manner, and frequency of notice).

#### § 109.409. Tier 2 public notice—categories, timing and delivery of notice

Section 109.409(a)(1) (relating to Tier 2 public notice—categories, timing and delivery of notice) is proposed to be amended to include Chapter 109, Subchapter C (relating to monitoring requirements) in the list of subchapters which contain situations requiring a Tier 2 public notice to be provided.

Proposed § 109.409(a)(3) requires a Tier 2 public notice for any failure to report an *E. coli* MCL violation or *E. coli*-positive routine or check sample. Since *E. coli* is an acute contaminant, failure to report an *E. coli* MCL

violation or positive sample is a greater threat to public health than other reporting violations.

Section 109.409(a)(3) and (4) is proposed to be renumbered as § 109.409(a)(4) and (5) due to proposed § 109.409(a)(3).

Section 109.409(b)(3) is proposed to be amended to delete a reference to a violation which no longer exists. This proposed amendment reflects 40 CFR 141.203 (relating to Tier 2 public notice—form, manner, and frequency of notice).

#### § 109.701. Reporting and recordkeeping

Section 109.701(a)(3)(iv) is proposed to be added to clarify that an *E. coli*-positive sample result requires a public water supplier to report to the Department within 1 hour. The TAC recommended that notification occur by the end of the day. The TAC's recommended change was not made, as 1-hour reporting is consistent with existing regulations.

Section 109.701(a)(5) is proposed to be amended to clarify that repeat coliform monitoring locations must be included in a sample siting plan. This amendment reflects 40 CFR 141.853(a)(1). This paragraph is also proposed to be amended to require water systems currently operating to submit a sample siting plan to the Department by the effective date of adoption of this proposed rulemaking and for water systems which begin operation after the effective date of adoption of this proposed rulemaking to submit a sample siting plan to the Department prior to serving water to the public. This requirement is proposed to be added to allow the Department to meet the special primacy requirement in 40 CFR 142.16(q)(2)(i). The TAC noted that PWS would be negatively impacted by being able to use a routine sample location only once per month. Annex A was revised to reflect the TAC comment.

Language in § 109.701(a)(5)(i)(A) is proposed to be deleted and moved to § 109.303(a)(2), which explains the types of monitoring locations that are considered to be representative of water throughout the distribution system. The cross-reference to § 109.303(a)(2) is proposed to be added to help clarify what types of sample site locations should be included in the sample siting plan. The TAC recommended not deleting "available" from the existing language. The TAC's recommended change was not made, as this amendment reflects 40 CFR 141.853(a)(5).

Section 109.701(a)(5)(i)(C) is proposed to be amended to clarify that a sample collection schedule should be included in the sample siting plan. This proposed amendment reflects 40 CFR 141.853(a)(1).

Section 109.701(a)(5)(i)(D) is proposed to be added to clarify that repeat coliform monitoring locations must be included in sample siting plans. This amendment reflects 40 CFR 141.853(a)(1). The TAC noted that identifying specific addresses for check samples is unworkable for some water systems. However, this proposed amendment reflects 40 CFR 141.853(a)(1).

Section 109.701(a)(5)(i)(E) is proposed to be added to clarify that triggered source water monitoring locations must be added to confirm systems are collecting samples at the correct location. This proposed amendment reflects 40 CFR 141.853(a)(1).

Proposed § 109.701(a)(5)(i)(F) is proposed to be moved from existing § 109.701(a)(5)(ii)(A) to clarify that the population served by the system should be included in the sample siting plan.

Proposed § 109.701(a)(5)(i)(G) is proposed to be moved from existing § 109.701(a)(5)(ii)(B) to clarify that a description of the accessibility of sample sites should be included in the sample siting plan.

Proposed § 109.701(a)(5)(i)(H) is proposed to be added to clarify that seasonal systems must include the beginning and ending dates of each operating season in the sample siting plan.

Section 109.701(a)(5)(ii) is proposed to be moved to § 109.303(a)(2) and § 109.701(a)(5)(i).

Section 109.701(a)(5)(iii) and (iv) is proposed to be renumbered as § 109.701(a)(5)(ii) and (iii).

Proposed § 109.701(a)(9) clarifies reporting requirements for Level 1 and Level 2 assessments. Proposed § 109.701(a)(9)(i) has a time frame consistent with the Noncompliance Report requirements in § 109.701(a)(9). Proposed subparagraphs (ii) and (iii) reflect 40 CFR 141.859.

Section 109.701(a)(9) is proposed to be renumbered as § 109.701(a)(10).

Proposed § 109.701(d)(9) requires public water suppliers to maintain a copy of assessment forms and corrective action documentation for at least 5 years after completion of the assessment or corrective action. This proposed addition reflects 40 CFR 141.861(b)(1) (relating to reporting and recordkeeping).

#### § 109.702. Operation and maintenance plan

Section 109.702(a)(9) (relating to operation and maintenance plan) is proposed to be amended to be consistent with proposed term amendments to § 109.705 (relating to system evaluations and assessments).

#### § 109.705. System evaluations and assessments

The heading of § 109.705 is proposed to be amended from "sanitary surveys" to "system evaluations and assessments" to avoid confusion with the sanitary surveys conducted by Department personnel.

Section 109.705(b) is proposed to be deleted and replaced with new language to clarify a PWS's requirement to conduct Level 1 and Level 2 assessments. This subsection also requires a PWS to comply with actions required by the Department in the case of an *E. coli* MCL violation or other violations that require 1-hour reporting to the Department. These proposed amendments reflect 40 CFR 141.859(b)(4).

Section 109.705(b)(1) is proposed to be deleted and replaced with language regarding the minimum elements required for Level 1 and Level 2 assessments. The elements are identified in proposed § 109.705(b)(1)(i)—(v). These proposed amendments reflect 40 CFR 141.859(b)(2).

Section 109.705(b)(2) is proposed to be replaced with language requiring a PWS to complete a Level 1 or a Level 2 assessment and submit it to the Department within 30 days of triggering the assessment. This proposed amendment reflects 40 CFR 141.859(b)(3)(i). The Board would like to receive comments regarding interest in submitting these forms electronically.

Proposed § 109.705(b)(3) clarifies who is required to conduct a Level 1 assessment. This proposed paragraph is consistent with § 109.704(b) (relating to operator certification) to ensure competent personnel are used to conduct the assessment.

Section 109.705(b)(4) is proposed to be added to clarify who is required to conduct a Level 2 assessment. This proposed addition reflects 40 CFR 141.859(b)(1) and (4)(ii).

Section 109.705(b)(5) is proposed to be added to clarify that the Department may conduct a Level 1 or Level 2 assessment in addition to the assessment conducted by the water system. This proposed addition reflects 40 CFR 141.859(b).

Section 109.705(b)(6) is proposed to be added to clarify that a PWS must describe sanitary defects identified, corrective actions completed and a proposed timetable for corrective actions not completed in each assessment report. This paragraph also specifies that an assessment report may note that no sanitary defects were identified. This proposed addition reflects 40 CFR 141.859(b)(3)(i) and (4)(i).

Section 109.705(b)(7) is proposed to be added to clarify that a PWS must consult with the Department within 14 days of receiving written notification of an insufficient assessment and submit a revised assessment within 30 days. The 14-day requirement is proposed to ensure that a PWS completes a sufficient assessment in a timely manner and the 30-day time frame reflects 40 CFR 141.859(b)(3)(ii) and (4)(iii).

Section 109.705(b)(8) is proposed to be added to clarify corrective action requirements for sanitary defects found through a Level 1 or Level 2 assessment. This proposed addition reflects 40 CFR 141.859(c).

Section 109.705(b)(9) is proposed to be added to provide that the PWS or Department may request consultation with the other party at any time during the assessment process. This proposed addition reflects 40 CFR 141.859(d).

Section 109.705(c) is proposed to be deleted because there are no longer additional requirements for noncommunity water systems that do not collect five or more routine coliform samples per month. Section 109.705(d) and (e) is proposed to be renumbered as § 109.705(c) and (d).

#### § 109.715. *Seasonal systems*

Proposed § 109.715 (relating to seasonal systems) clarifies start-up procedure requirements for seasonal systems which are defined in § 109.1. This proposed section reflects 40 CFR 141.854(i)(1) and 141.861(a)(5) and 40 CFR 141.856(a)(4)(i) and 141.857(a)(4)(i) (relating to routine monitoring requirements for subpart H public water systems serving 1,000 or fewer people; and routine monitoring requirements for public water systems serving more than 1,000 people).

Proposed § 109.715(a)—(d) requires seasonal systems to submit a start-up procedure to the Department for approval. These proposed subsections reflect 40 CFR 141.854(i)(1), 141.856(a)(4)(i) and 141.857(a)(4)(i).

Proposed § 109.715(e) requires seasonal systems to demonstrate completion of a Department-approved start-up procedure by submitting a written certification prior to serving water to the public each season. This proposed subsection reflects 40 CFR 141.861(5).

#### § 109.810. *Reporting and notification requirements*

Section 109.810(b) (relating to reporting and notification requirements) is proposed to be amended to clarify laboratory reporting and notification requirements.

Section 109.810(b)(1)(ii) is proposed to be amended to change “certified” to “accredited” in reference to the type

of laboratory acceptable to the Department. This proposed amendment reflects the revised terminology in Chapter 252.

#### § 109.901. *Requirements for a variance*

Section 109.901(b) (relating to requirements for a variance) is proposed to be amended to change “total coliform” to “*E. coli*” to be consistent with the Federal *E. coli* MCL specified under 40 CFR 141.63(c).

#### § 109.903. *Requirements for an exemption*

Section 109.903(b) (relating to requirements for an exemption) is proposed to be amended to change “total coliforms” to “*E. coli*” to be consistent with the Federal *E. coli* MCL specified under 40 CFR 141.63(c).

#### § 109.1003. *Monitoring requirements*

Section 109.1003(a)(1)(i) and (2)(i) (relating to monitoring requirements) is proposed to be amended to clarify coliform and *E. coli* monitoring requirements for bottled, vended, bulk and retail water systems. This proposed amendment reflects 40 CFR 141.854, 141.855, 141.856, 141.857 and 141.858(a).

Minor proposed amendments to § 109.1003(c)(1) and (1)(ii) clarify repeat monitoring requirements for vended, retail and bulk water hauling water systems. The proposed amendments reflect 40 CFR 141.858(a)(1), which requires all PWSs to collect a minimum of three check samples instead of four.

Section 109.1003(c)(3) is proposed to be amended to clarify repeat monitoring requirements following a positive check sample. This proposed amendment reflects 40 CFR 141.858(a).

#### § 109.1008. *System management responsibilities*

The heading of § 109.1008(d) (relating to system management responsibilities) is proposed to be amended from “sanitary survey requirements” to “annual system evaluation requirements” to avoid confusion with the sanitary surveys conducted by Department personnel. Proposed amendments to this subsection replace “survey” with “evaluation” to be consistent with the proposed heading of this subsection.

Proposed § 109.1008(g) requires bottled, vended, retail and bulk hauling water systems to comply with the Level 1 and Level 2 assessment requirements specified in § 109.705(b). This proposed subsection reflects 40 CFR 141.859.

Proposed § 109.1008(h) requires bottled, vended, retail and bulk hauling water systems to comply with the seasonal system requirements in proposed § 109.715. This proposed subsection reflects 40 CFR 141.854, 141.856, 141.857 and 141.861.

#### *Additional TAC Comments*

The TAC recommended a 90-day comment period on the proposed rulemaking. Recognizing that a 30-day comment period would be inadequate, the Department recommended a 60-day comment period for the proposed rulemaking, including two public hearings. The Board approved a 60-day comment period for this proposed rulemaking with two public hearings.

The TAC requested that the Department provide written notification to the PWS within 30 days of receiving a complete/adequate assessment from a water system. This comment will be considered when developing staff guidance.

The TAC recommended that the Department consider alternative methods of delivery for both submission and receipt of assessments. This comment will be considered when developing staff guidance.

#### F. *Benefits, Costs and Compliance*

##### *Benefits*

This proposed rulemaking will affect all 8,868 PWSs serving approximately 12.75 million Pennsylvanians. The residents of this Commonwealth will benefit from 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.

As discussed by the EPA in the preamble to the Federal RTCR, the benefits of the Federal rule are largely unquantifiable but include the potential for decreased incidence of endemic illness from fecal contamination and other waterborne pathogens, increased knowledge regarding system operation, accelerated maintenance and repair, avoided costs of outbreaks and reductions in averting behavior. See 78 FR 10269, 10308—10320.

##### *Compliance costs*

Compliance costs were derived from the EPA's economic analysis. The Federal preamble defined these costs as "the net change in costs resulting from revisions to the 1989 TCR rather than absolute total costs of implementing the 1989 TCR as revised by the RTCR." National costs were adjusted to represent the ratio of PWSs in this Commonwealth compared to the number of PWSs Nationwide. It is estimated that water systems in this Commonwealth will bear nearly \$1.72 million of this total annual cost. The following figures represent estimated annual cost by system type: community water systems—\$126.77 per system/year; nontransient noncommunity water systems—\$128.90 per system/year; and transient noncommunity water systems: \$229.31 per system/year.

This estimate includes costs for all PWSs being required to monitor for total coliform monthly. It is important to note that mandating monthly monitoring for all PWSs will eliminate the Federal requirement to collect three additional samples in the month following a total coliform positive sample. Based on a 5-year average of approximately 580 positive samples per year, regulated noncommunity water systems are expected to not incur approximately \$40,000 per year in these extra sampling costs.

##### *Compliance Assistance Plan*

The Safe Drinking Water Program utilizes the Commonwealth's Pennsylvania Infrastructure Investment Authority Program to offer financial assistance to eligible PWSs. 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 established a network of regional 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, the Bureau of Safe Drinking Water has staff dedicated to providing both training and outreach support services to PWS operators. The Department's web site also provides timely and useful information for treatment plant operators.

#### *Paperwork requirements*

Paperwork requirements include the following: completion of a Level 1 or Level 2 assessment form, or both, when sample results indicate the presence of total coliform or *E. coli*, or both, in a sufficient number of samples as designated by the regulations; submission of a seasonal system start-up plan for PWSs that operate seasonally; and annual submission of a form to the Department certifying that a seasonal system start-up plan was implemented prior to opening for the season.

#### G. *Sunset Review*

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

#### H. *Regulatory Review*

Under section 5(a) of the Regulatory Review Act (71 P. S. § 745.5(a)), on September 22, 2015, 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 any 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 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 of comments, recommendations or objections raised.

#### I. *Public Comments*

The Board is particularly interested in comments regarding alternative sampling locations and electronic reporting of assessment forms. For more information on alternative sampling locations, refer to § 109.301(3)(ii)(B) in Section E of this preamble. If interested in providing comments on electronic reporting of assessment forms, refer to § 109.705(b)(2) in Section E of this preamble.

Interested persons are invited to submit written comments, suggestions or objections regarding the proposed rulemaking to the Board. Comments, suggestions or objections must be received by the Board by December 1, 2015. In addition to the submission of comments, interested persons may also submit a summary of their comments to the Board. The summary may not exceed one page in length and must also be received by the Board by December 1, 2015. The one-page summary will be distributed to the Board and available publicly prior to the meeting when the final-form rulemaking will be considered.

Comments, including the submission of a one-page summary of comments, may be submitted to the Board online, by e-mail, by mail or by express mail as follows. 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.

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. A subject heading of the proposed rulemaking and a return name and address must be included in each transmission.

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.

J. Public Hearings

The Board will hold two public hearings for the purpose of accepting comments on this proposed rulemaking. The hearings will be held at 1 p.m. on the following dates:

November 3, 2015 Department of Environmental Protection  
New Stanton District Office  
131 Broadview Road  
New Stanton, PA 15672

November 5, 2015 Department of Environmental Protection  
Southeast Regional Office  
Schuylkill and Delaware River  
Conference Rooms  
2 East Main Street  
Norristown, PA 19401

Persons wishing to present testimony at a hearing are requested to contact the Environmental Quality Board, P. O. Box 8477, Harrisburg, PA 17105-8477, (717) 787-4526 at least 1 week in advance of the hearing to reserve a time to present testimony. Oral testimony is limited to 5 minutes for each witness. Witnesses are requested to submit three written copies of their oral testimony to the hearing chairperson at the hearing. Organizations are limited to designating one witness to present testimony on their behalf at each hearing.

Persons in need of accommodations as provided for in the Americans with Disabilities Act of 1990 should contact the Board at (717) 787-4526 or through the Pennsylvania AT&T Relay Service at (800) 654-5984 (TDD) or (800) 654-5988 (voice users) to discuss how the Board may accommodate their needs.

JOHN QUIGLEY,  
Chairperson

**Fiscal Note:** 7-494. 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:

\* \* \* \* \*

*Lead service line*—A service line made of lead which connects a water main to a building inlet and a lead pigtail, gooseneck or other fitting which is connected to the lead line.

**Level 1 assessment**—An evaluation to identify the possible presence of sanitary defects, defects in distribution system coliform monitoring practices and, when possible, the likely reason that the system triggered the assessment.

**Level 2 assessment**—An evaluation to identify the possible presence of sanitary defects, defects in distribution system coliform monitoring practices and, when possible, the likely reason that the system triggered the assessment. This assessment provides a more detailed examination of the system, including the system's monitoring and operational practices, than does a Level 1 assessment through the use of more comprehensive investigation and review of available information, additional internal and external resources, and other relevant practices.

*Liquid from dewatering processes*—A stream containing liquids generated from a unit used to concentrate solids for disposal.

\* \* \* \* \*

*SUVA*—Specific ultraviolet absorption at 254 nanometers (nm)—An indicator of the humic content of water. [ it ] It is a calculated parameter obtained by dividing a sample's ultraviolet absorption at a wavelength of 254 nm (UV<sub>254</sub>) (in m<sup>-1</sup>) by its concentration of dissolved organic carbon (DOC) (in mg/L).

**Sanitary defect**—A defect that could provide a pathway of entry for microbial contamination into the distribution system or that is indicative of a failure or imminent failure in a barrier that is already in place.

*Sanitary survey*—An onsite review and evaluation of a public water system's source, facilities and equipment and the operation and maintenance procedures used by a public water supplier for producing and distributing safe drinking water.

**Seasonal system**—A noncommunity water system that is not operated as a public water system on a year-round basis and starts up and shuts down at the beginning and end of each operating season.

*Sedimentation*—A process for the removal of solids before filtration by gravity or separation.

\* \* \* \* \*

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.

\* \* \* \* \*

(3) A community public water system shall provide continuous disinfection and comply with Subchapter M (relating to additional requirements for groundwater sources) for groundwater sources.

(4) Public water systems shall conduct assessments in accordance with § 109.705(b) (relating to system evaluations and assessments) after meeting any of the triggers under subparagraph (i) or (ii). Failure to conduct an assessment or complete a corrective action in accordance with § 109.705(b) is a treatment technique violation requiring 1-hour reporting in accordance with § 109.701(a)(3) and public notification in accordance with § 109.409 (relating to Tier 2 public notice—categories, timing and delivery of notice).

(i) A Level 1 assessment is triggered if any of the following conditions occur:

(A) For systems taking 40 samples or more per month under § 109.301(3), the system exceeds 5.0% total coliform-positive samples for the month.

(B) For systems taking fewer than 40 samples per month under § 109.301(3), the system has 2 or more total coliform-positive samples in the same month.

(C) The system fails to take every required check sample under § 109.301(3) after any single total coliform-positive sample.

(ii) A Level 2 assessment is triggered if any of the following conditions occur:

(A) A system fails to meet the *E. coli* MCL as specified under subsection (a)(2).

(B) A system triggers another Level 1 assessment, as defined in subparagraph (i), within a rolling 12-month period, unless the Department has determined a likely reason that the samples that caused the first Level 1 assessment were total coliform-positive and has established that the system has corrected the problem.

(iii) The Department may direct a system to conduct a Level 1 or Level 2 assessment if circumstances exist which may adversely affect drinking water quality including, but not limited to, the situations specified in § 109.701(a)(3)(iii).

(5) Failure by a seasonal water system to complete the approved start-up procedure prior to serving water to the public as required under § 109.715 (relating to seasonal systems) is a treatment technique violation requiring 1-hour reporting in accordance with § 109.701(a)(3) and public notification in accordance with § 109.409.

(d) *Fluoride.* A public water system shall comply with the primary MCL for fluoride of 2 mg/L, except that a noncommunity water system implementing a fluoridation program approved by the Department of Health and using fluoridation facilities approved by the Department under § 109.505 (relating to requirements for noncommunity water systems) may exceed the MCL for fluoride but may not exceed the fluoride level approved by the Department of Health. The secondary MCL for fluoride of 2 mg/L established by the EPA under 40 CFR 143.3 (relating to secondary MCLs) is not incorporated into this chapter.

\* \* \* \* \*

**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 ] 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:

\* \* \* \* \*

(3) *Monitoring requirements for coliforms.* Public water systems shall determine the presence or absence of total coliforms for each routine or check sample; and, the presence or absence of [ fecal coliforms or ] *E. coli* for a total coliform positive sample in accordance with analytical techniques approved by the Department under § 109.304 (relating to analytical requirements). A system may forego [ fecal coliform or ] *E. coli* testing on a total coliform-positive sample if the system assumes that any total coliform-positive sample is also [ fecal coliform- ] *E. coli*-positive. A system which chooses to forego [ fecal coliform or ] *E. coli* testing shall, under § 109.701(a)(3), 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).

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

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

Population Served	Minimum Number of Samples per Month
25 to 1,000	1
1,001 to 2,500	2
2,501 to 3,300	3
3,301 to 4,100	4
4,101 to 4,900	5
4,901 to 5,800	6
5,801 to 6,700	7
6,701 to 7,600	8
7,601 to 8,500	9
8,501 to 12,900	10
12,901 to 17,200	15
17,201 to 21,500	20
21,501 to 25,000	25
25,001 to 33,000	30
33,001 to 41,000	40
41,001 to 50,000	50
50,001 to 59,000	60
59,001 to 70,000	70
70,001 to 83,000	80
83,001 to 96,000	90

<i>Population Served</i>	<i>Minimum Number of Samples per Month</i>
96,001 to 130,000	100
130,001 to 220,000	120
220,001 to 320,000	150
320,001 to 450,000	180
450,001 to 600,000	210
600,001 to 780,000	240
780,001 to 970,000	270
970,001 to 1,230,000	300
1,230,001 to 1,520,000	330
1,520,001 to 1,850,000	360
1,850,001 to 2,270,000	390
2,270,001 to 3,020,000	420
3,020,001 to 3,960,000	450
3,960,001 or more	480

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

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

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

**(C) ] (B) A public water system that uses either a surface water or a GUDI source and does not practice filtration in compliance with Subchapter B (relating to MCLs, MRDLs or treatment technique requirements) shall collect at least one total coliform sample at the entry point, or an equivalent location as determined by the Department, [ to the distribution system ] within 24 hours of each day that the turbidity level in the source water, measured as specified in paragraph (2)(i)(B), exceeds 1.0 NTU. The Department may extend this 24-hour collection limit to a maximum of 72 hours if the system adequately demonstrates a logistical problem outside the system's control in having the sample analyzed within 30 hours of collection. A logistical problem outside the system's control may include a source water turbidity result exceeding 1.0 NTU over a holiday or weekend in which the services of a Department certified laboratory are not available within the prescribed sample holding time. These sample results shall be included in determining compliance with the MCL for [ total coliforms ] *E. coli* established under § 109.202(a)(2) and whether an assessment has been triggered under § 109.202(c)(4).**

**(C) Prior to serving water to the public each season, a seasonal system shall collect one or more total coliform samples in accordance with the Department-approved start-up procedure specified in § 109.715 (relating to seasonal systems) until**

**coliforms are not detected in a set of samples. These samples are considered special purpose samples under subparagraph (v).**

**(D) A system may take more than the minimum number of required routine samples only if the samples are collected in accordance with § 109.303(a)(2) and are included in the sample siting plan in accordance with § 109.701(a)(5). These samples shall be included in determining whether an assessment has been triggered under § 109.202(c)(4).**

**(E) A community water system serving 1,000 people or fewer or a noncommunity water system may be required to begin monitoring on an alternate schedule established by the Department. This determination will be made based on the results of a special monitoring evaluation performed during a sanitary survey. The system shall continue monitoring on the alternate schedule until otherwise notified by the Department.**

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

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

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

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

**[ (D) ] (C) A system shall collect all check samples on the same day, except that a system with a single service connection may collect the required set of check samples all on the same day or consecutively over a [ 4-day ] 3-day period.**

**[ (E) ] (D) At a minimum, the system shall collect one set of check samples for each total coliform-positive routine sample. If a check sample is total coliform-positive, the public water system shall collect**



additional check samples in the manner specified in this subparagraph. The system shall continue to collect check samples until either total coliforms are not detected in a set of check samples, or the system determines that [ **the MCL for total coliforms as established under § 109.202(a)(2) has been exceeded and notifies the Department** ] an assessment has been triggered under § 109.202(c)(4) and notifies the Department in accordance with § 109.701(a)(9).

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

**(G) ] (E) Results of all routine and check samples not invalidated by the Department shall be included in determining compliance with the MCL for [ total coliforms ] *E. coli* as established under § 109.202(a)(2) or whether an assessment has been triggered under § 109.202(c)(4).**

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

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

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

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

(III) A total coliform-positive sample result is due to a circumstance or condition which does not reflect water quality in the distribution system. The Department's decision to invalidate a sample shall be based on evidence that the sample result does not reflect water quality in the distribution system. In this case, the system shall still collect all check samples required under subparagraph (ii) to determine compliance with the MCL for [ **total coliforms** ] *E. coli* as established under § 109.202(a)(2) or whether an assessment has been triggered under § 109.202(c)(4). The decision to invalidate a total coliform-positive sample result and supporting evidence will be documented by the Department, in writing, and approved and signed by the supervisor of the Department official who recommended the decision.

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

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

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

**(III) The sample produces a turbid culture in the absence of an acid reaction in the Presence-Absence Coliform Test.**

(C) If a laboratory invalidates a sample because of interference as specified in clause (B), the laboratory shall notify the system within 1 business day to collect another sample from the same location as the original sample within 24 hours of being notified of the interference and have it analyzed for the presence of total coliforms. The system shall resample within 24 hours of being notified of interference and continue to resample every 24 hours until it receives a valid result. The Department may extend this 24-hour limit to a maximum of 72 hours if the system adequately demonstrates a logistical problem outside the system's control in having the resamples analyzed within 30 hours. A logistical problem outside the system's control may include a notification of a laboratory sample invalidation, due to interference, which is received over a holiday or weekend in which the services of a Department [ **certified** ] **accredited** laboratory are not available within the prescribed sample holding time.

(iv) *Compliance determinations.*

[ **(A) The MCL is based on the presence or absence of total coliforms in a sample, rather than coliform density.**

**(I) For a system which collects at least 40 samples per month, if no more than 5.0% of the samples collected during a month are total coliform-positive, the system is in compliance with the MCL for total coliforms.**

**(II) For a system which collects fewer than 40 samples per month, if no more than one sample collected during the month is total coliform-positive, the system is in compliance with the MCL for total coliforms.**

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

**(A) A system is in compliance with the MCL for *E. coli* as specified under § 109.202(a)(2) for samples taken under this paragraph unless any of the following conditions occur:**

**(I) The system has an *E. coli*-positive check sample following a total coliform-positive routine sample.**

**(II) The system has a total coliform-positive check sample following an *E. coli*-positive routine sample.**

**(III) The system fails to take all required check samples following an *E. coli*-positive routine sample.**

**(IV) The system fails to test for *E. coli* when any check sample tests positive for total coliform.**

[ (C) ] (B) A public water system shall determine compliance with the MCL for [ **total coliforms in clauses (A) and (B)** ] *E. coli* in clause (A) for each month in which it is required to monitor for total coliforms.

(v) **Special purpose samples.** Special purpose samples, such as those taken to determine whether disinfection practices are sufficient following pipe placement, replacement or repair, **those taken to investigate potential problems in the distribution system or those collected as part of a seasonal system start-up procedure**, may not be used to determine compliance with the MCL for [ **total coliform** ] *E. coli* as established under § 109.202(a)(2) or whether an assessment has been triggered under § 109.202(c)(4). Check samples taken under subparagraph (ii) are not considered special purpose samples, and shall be used to determine compliance with the monitoring [ **and** ], MCL requirements and treatment technique requirements for total coliforms and *E. coli* established under [ **this paragraph and** ] § 109.202(a)(2) and (c)(4).

\* \* \* \* \*

**§ 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:

(1) Samples for determining compliance with the turbidity MCL shall be taken at each entry point associated with a surface water source that the Department has determined shall be filtered.

(2) Samples for determining compliance with the [ **total coliform MCL** ] *E. coli* MCL under § 109.202(a)(2) (relating to State MCLs, MRDLs and treatment technique requirements) and for determining whether an assessment is triggered under § 109.202(c)(4) shall be taken at regular intervals throughout the monitoring period at sites which are representative of water throughout the distribution system according to [ **an approved** ] a written sample siting plan as specified under § 109.701(a)(5) (relating to reporting and recordkeeping). **Representative locations include, but are not limited to, the following:**

- (i) **Dead ends.**
- (ii) **First service connection.**
- (iii) **Finished water storage facilities.**
- (iv) **Interconnections with other public water systems.**
- (v) **Areas of high water age.**
- (vi) **Areas with previous coliform detections.**

(3) Samples for determining compliance with the fluoride MCL shall be taken at each entry point.

\* \* \* \* \*

**Subchapter D. PUBLIC NOTIFICATION**

**§ 109.408. Tier 1 public notice—categories, timing and delivery of notice.**

(a) *General violation categories and other situations requiring a Tier 1 public notice.* A public water supplier shall provide Tier 1 public notice for the following circumstances:

(1) Violation of the MCL for [ **total coliforms when fecal coliforms or *E. coli* are present in the water distribution system** ] *E. coli*, as specified in § 109.202(a)(2) (relating to State MCLs, MRDLs [ **or** ] and treatment technique requirements), or when the water supplier fails to test for [ **fecal coliforms or** ] *E. coli* when any check sample tests positive for coliforms, as specified in § 109.301(3) (relating to general monitoring requirements).

\* \* \* \* \*

**§ 109.409. Tier 2 public notice—categories, timing and delivery of notice.**

(a) *General violation categories and other situations requiring a Tier 2 public notice.* A public water supplier shall provide Tier 2 public notice for the following circumstances:

(1) All violations of the primary MCL, MRDL, treatment technique requirements and failure to take corrective action in Subchapters B, C, G, K, L or M, except when a Tier 1 notice is required under § 109.408 (relating to Tier 1 public notice—categories, timing and delivery of notice) or when the Department determines that a Tier 1 notice is required. The tier assignment for fluoride is not incorporated by reference. Under § 109.202(d) (relating to State MCLs, MRDLs [ **or** ] and treatment technique requirements), a public water system shall comply with the primary MCL for fluoride of 2 mg/L. As such, a public water supplier shall provide Tier 2 public notice for violation of the primary MCL for fluoride.

(2) Violations of the monitoring requirements in Subchapter C, K or M (relating to monitoring requirements; lead and copper; and additional requirements for groundwater sources), when the Department determines that a Tier 2 rather than a Tier 3 public notice is required, taking into account potential health impacts and persistence of the violation.

(3) **Failure to report an *E. coli* MCL violation or an *E. coli*-positive routine or check sample as required under § 109.701(a)(3)(iv) (relating to reporting and recordkeeping).**

[ (3) ] (4) Failure to comply with the terms and conditions of any variance or exemption in place under Subchapter I (relating to variances and exemptions issued by the Department).

[ (4) ] (5) Other violations or situations determined by the Department to require a Tier 2 public notice, taking into account potential chronic health impacts and persistence of the violation.

(b) *Timing for a Tier 2 public notice.* A public water supplier shall do the following

(1) Report the circumstances to the Department within 1 hour of discovery of a violation under subsection (a)(1), in accordance with § 109.701(a)(3) [ **(relating to reporting and recordkeeping)** ].

(2) Provide the public notice as soon as possible, but no later than 30 days after the system learns of the violation. If the public notice is posted, the notice shall remain in place for as long as the violation or situation persists, but in no case for less than 7 days, even if the violation or situation is resolved. The Department may, in appropriate circumstances, allow additional time for the initial notice of up to 3 months from the date the system learns of the violation. The Department will not grant an extension across the board or for an unresolved violation. Extensions granted by the Department will be in writing.

(3) Repeat the notice every 3 months as long as the violation or situation persists, unless the Department determines that appropriate circumstances warrant a different repeat notice frequency. In no circumstances may the repeat notice be given less frequently than once per year. The Department will not allow less frequent repeat notices across the board; **[ or for an MCL violation for total coliforms established under § 109.202(a)(2); ]** or for a violation of a treatment technique requirement for pathogenic bacteria, viruses and protozoan cysts as defined in § 109.202(c); or for other ongoing violations. Determinations granted by the Department for less frequent repeat notices will be in writing.

\* \* \* \* \*

**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:

\* \* \* \* \*

(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:

\* \* \* \* \*

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

\* \* \* \* \*

(H) A lack of resources that adversely affect operations, such as staff shortages, notification by the power utility of planned lengthy power outages or imminent depletion of treatment chemical inventories.

**(iv) Any sample result is *E. coli*-positive.**

(4) *Notice.* The water supplier shall, within 10 days of completion of each public notification required under Subchapter D (relating to public notification) with the exception of a CCR, submit to the Department a certification that it has fully complied with the public notification requirements. The water supplier shall include with this certification a representative copy of each type of notice distributed, published, posted and made available to persons served by the system and to the media and a description of the means undertaken to make the notice available.

(5) *Siting plan.* The water supplier shall submit to the Department a written sample siting plan for routine and repeat coliform sampling as required **[ by § 109.303(a)(2) (relating to sampling requirements) within 30 days of receipt of the Department's re-**

**quest for this information ]** under § 109.301(3) by \_\_\_\_\_ (*Editor's Note: The blank refers to the effective date of adoption of this proposed rulemaking.*). A public water system that begins operation after \_\_\_\_\_ (*Editor's Note: The blank refers to the effective date of adoption of this proposed rulemaking.*) shall submit the sample siting plan prior to serving water to the public.

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

(A) A list of **[ available ]** sample site locations as specified in § 109.303(a)(2) (relating to sampling requirements) in the distribution system to be used for routine monitoring purposes **[ , including the first service connection (or Department approved equivalent) and dead ends ]**.

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

(C) **[ A time period by which available sites representative of the distribution system are to be sampled during each monitoring period. ]** A sample collection schedule.

(D) Available repeat monitoring locations for each routine monitoring location.

(E) Triggered source water monitoring locations as specified under § 109.1303 (relating to triggered monitoring requirements for groundwater sources).

(F) The population served by the system.

(G) A description of the accessibility of sample sites.

(H) The beginning and ending dates of each operating season for seasonal systems.

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

(A) The population served by the system.

(B) The accessibility of sample sites.

(C) The past monitoring history for the system.

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

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

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

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

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

(8) *Reporting requirements for disinfectant residuals.* In addition to the reporting requirements specified in paragraph (1), public water systems shall report MRDL monitoring data as follows:

(i) Systems monitoring for chlorine dioxide under § 109.301(13) shall report the number of days chlorine dioxide was used at each entry point during the last month.

(ii) Systems monitoring for either chlorine or chloramines under § 109.301(13) shall report the following:

(A) The number of samples taken during the month.

(B) The arithmetic average of all distribution samples taken in the last month.

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

**(i) Report to the Department within 48 hours of triggering a Level 1 or Level 2 assessment under § 109.202(c)(4).**

**(ii) 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).**

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

[ (9) ] (10) *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.

\* \* \* \* \*

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

\* \* \* \* \*

(8) Copies of public notifications issued under Subchapter D and certifications made to the Department under subsection (a)(4) shall be kept for 3 years after issuance.

**(9) A copy of any assessment form and documentation of corrective actions completed as a result of those assessments or other available summary documentation of the sanitary defects and corrective actions taken under § 109.705(b) shall be kept at least 5 years after completion of the assessment or corrective action.**

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

\* \* \* \* \*

**§ 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 contain at least the following information:

\* \* \* \* \*

(9) [ **Sanitary survey program** ] **System evaluation program as required under § 109.705(a) (relating to system evaluations and assessments)** including the wellhead protection program for any water system that develops one under § 109.713 (relating to wellhead protection [ **programs** ] **program**).

\* \* \* \* \*

**§ 109.705. [ Sanitary surveys ] System evaluations and assessments.**

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

\* \* \* \* \*

(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.

[ (b) **A community water system which does not collect five or more routine coliform samples per month shall do one of the following:**

(1) **Undergo a sanitary survey conducted by the Department by June 29, 1994, and thereafter undergo a subsequent sanitary survey conducted by the Department at a minimum frequency of every 3 years.**

(2) **Increase the number of routine coliform samples collected to at least five samples per month if the Department does not conduct a sanitary survey by June 29, 1994, or within 3 years following the initial or a subsequent sanitary survey. This increased sampling frequency shall be in place of the monitoring frequency requirements for coliforms in § 109.301(3)(i) (relating to general monitoring requirements) and remain in effect through the month in which the next sanitary survey is conducted by the Department.**

(c) **A noncommunity water system which does not collect five or more routine coliform samples per month shall do one of the following:**

(1) **Undergo an initial sanitary survey (1) conducted by the Department by June 29, 1999, and thereafter undergo a subsequent sanitary survey at a minimum of every 5 years after the initial sanitary survey.**

(2) **Increase the number of routine coliform samples collected to at least five samples per month if the Department does not conduct a sanitary survey by June 29, 1999, or within 5 years following the initial or a subsequent sanitary survey. This increased sampling frequency shall be in place of the monitoring frequency requirements for coliforms in § 109.301(3)(i) and shall remain in effect through the month in which the next sanitary survey is conducted by the Department. ]**

(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 expeditious actions or**

additional actions required by the Department in the case of an *E. coli* MCL violation.

(1) A Level 1 or Level 2 assessment must include review and identification of the following elements, at a minimum:

(i) Atypical events that could affect distributed water quality or indicate that distributed water quality was impaired.

(ii) Changes in distribution system maintenance and operation that could affect distributed water quality, including water storage.

(iii) Sources and treatment processes that impact distributed water quality.

(iv) Existing water quality monitoring data.

(v) Inadequacies in sample sites, sampling protocols and sample processing.

(2) Within 30 days of triggering a Level 1 or Level 2 assessment under § 109.202(c)(4), a public water system shall complete the appropriate assessment and submit a report to the Department on forms acceptable to the Department.

(3) A Level 1 assessment must be conducted by competent personnel qualified to operate and maintain the water system's facilities.

(4) A Level 2 assessment must be conducted by one or more individuals meeting the following criteria:

(i) Holds a valid certificate issued under Chapter 302 (relating to administration of the water and wastewater operators' certification program) to operate a water system.

(ii) Maintains certification in the appropriate class and subclassifications as defined in Chapter 302 for the size and treatment technologies for the water system being assessed.

(5) The Department may conduct a Level 1 or Level 2 assessment in addition to the assessment conducted by the public water system.

(6) In the completed assessment report, the public water system shall describe all sanitary defects identified, corrective actions completed and a proposed timetable for any corrective actions not already completed. The assessment report may also note that no sanitary defects were identified.

(7) If the Department determines that a Level 1 or Level 2 assessment is not sufficient, the public water system shall consult with the Department within 14 days of receiving written notification from the Department that the assessment is not sufficient. Following consultation, the Department may require a public water system to revise the assessment. A public water system shall submit a revised assessment form to the Department no later than 30 days from the date of consultation.

(8) Public water systems shall correct sanitary defects found through either a Level 1 or Level 2 assessment conducted in accordance with this subsection. For corrections not completed by the time of submission of the assessment report, the public water system shall complete the corrective actions in compliance with a timetable approved by the Department in consultation with the system. The system shall notify the Department when each scheduled corrective action is completed.

(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.

[ (d) ] (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.

[ (e) ] (d) Significant deficiencies identified by the Department at public water systems using groundwater shall comply with § 109.1302(c) (relating to [ **groundwater systems with significant deficiencies or source water *E. coli* contamination** ] treatment technique requirements).

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

#### § 109.715. Seasonal systems.

(a) A new seasonal system shall submit a start-up procedure with the construction permit application or brief description as required under § 109.505(a) (relating to requirements for noncommunity water systems).

(b) A seasonal system approved by the Department to operate prior to \_\_\_\_\_ (*Editor's Note: The blank refers to the effective date of adoption of this proposed rulemaking.*), shall submit a start-up procedure to the Department by \_\_\_\_\_ (*Editor's Note: The blank refers to 30 days after effective date of adoption of this proposed rulemaking.*).

(c) If the Department determines that a start-up procedure is not sufficient, the public water system shall submit a revised start-up procedure within 30 days of receiving written notification from the Department.

(d) A seasonal system shall submit to the Department for approval any revisions to an approved start-up procedure prior to serving water to the public the next season.

(e) A seasonal system shall demonstrate completion of a Department-approved start-up procedure by submitting written certification prior to serving water to the public each season.

#### 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 § 109.1102(a) (relating to [lead and copper] 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 under Subchapter M (relating to additional requirements for groundwater sources) is E. coli-positive:

(1) Notify the public water supplier by telephone within 1 hour of the laboratory's determination. If the supplier cannot be reached within that time, notify the Department by telephone within 2 hours of the determination. If it is necessary for the laboratory to contact the Department after the Department's routine business hours, the laboratory shall contact the appropriate Department regional office's after-hours emergency response telephone number and provide information regarding the occurrence, the name of a contact person and the telephone number where that individual may be reached in the event further information is needed. If the Department's appropriate emergency number cannot be reached, the laboratory shall notify the appropriate Department regional office by telephone within 1 hour of the beginning of the next business day. Each accredited laboratory shall be responsible for the following:

(i) Obtaining and then maintaining the Department's current after-hours emergency response telephone numbers for each applicable regional office.

(ii) Establishing or updating a standard operating procedure by November 8, 2002, and at least annually thereafter to provide the information needed to report the occurrences to the Department. The information regarding the public water system must include, but is not limited to, the PWSID number of the system, the system's name, the contaminant involved in the occurrence, the level of the contaminant found, where the sample was collected, the dates and times that the sample was collected and analyzed, the name and identification number of the [certified] accredited laboratory, the name and telephone number of a contact person at the laboratory and what steps the laboratory took to contact the public water system before calling the Department.

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**Subchapter I. VARIANCES AND EXEMPTIONS  
ISSUED BY THE DEPARTMENT**

**§ 109.901. Requirements for a variance.**

\* \* \* \* \*

(b) The MCL for [total coliforms] E. coli established under § 109.202(a) (relating to State MCLs, MRDLs and treatment technique requirements) is not eligible for a variance.

\* \* \* \* \*

**§ 109.903. Requirements for an exemption.**

\* \* \* \* \*

(b) The MCL for [total coliforms] E. coli established under § 109.202(a) (relating to State MCLs, MRDLs and treatment technique requirements) is not eligible for an exemption.

\* \* \* \* \*

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

**§ 109.1003. Monitoring requirements.**

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

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

(i) Monitor [for microbiological contaminants] weekly for the presence or absence of total coliform. For any total coliform positive routine or check sample, determine the presence or absence of E. coli. All analyses must be conducted in accordance with analytical techniques approved by the Department under § 109.304 (relating to analytical requirements). A system may forego E. coli testing on a total coliform-positive sample if the system assumes that any total coliform-positive sample is also E. coli-positive. A system which chooses to forego E. coli testing 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 § 109.1004 (relating to public notification).

\* \* \* \* \*

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

(i) Monitor monthly for [microbiological contaminants] the presence or absence of total coliform. For any total coliform positive routine or check sample, determine the presence or absence of E. coli. All analyses must be conducted in accordance with analytical techniques approved by the Department under § 109.304. A system may forego E. coli testing on a total coliform-positive sample if the system assumes that any total coliform-positive sample is also E. coli-positive. A system which chooses to forego E. coli testing shall, under § 109.701(a)(3), 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 § 109.1004.

\* \* \* \* \*

(c) *Repeat monitoring for microbiological contaminants.*

(1) If a sample collected in accordance with subsection (a)(1)(i) or (2)(i) is found to be total coliform-positive:

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

(ii) The vended water, retail water facility or bulk water hauling systems shall collect a set of [four] three

additional samples (check) from the same entry point (machine, point of delivery or carrier vehicle).

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

(3) [ If a check sample is total coliform-positive, the system shall be deemed to have violated the MCL for total coliforms established under § 109.1002 (relating to MCLs, MRDLs or treatment techniques). ] At a minimum, the system shall collect one set of check samples for each total coliform-positive routine sample. If a check sample is total coliform-positive, the public water system shall collect additional check samples in the manner specified in this subsection. The system shall continue to collect check samples until either total coliforms are not detected in a set of check samples, or the system determines that an assessment has been triggered under § 109.202(c)(4) (relating to State MCLs, MRDLs and treatment technique requirements).

(d) A bulk water hauling system that serves at least 25 of the same persons year around. A bulk water hauling system that is determined by the Department to serve at least 25 of the same persons year round shall comply with the monitoring requirements for community water systems in accordance with § 109.301.

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§ 109.1008. System management responsibilities.

\* \* \* \* \*

(d) [ Sanitary survey ] Annual system evaluation requirements. Bottled water and vended water systems, retail water facilities and bulk water hauling systems shall conduct [ a sanitary survey ] an evaluation of the water system at least annually[ , the survey to

include ] that includes the activities listed in paragraphs (1)—(4). A bottled water, vended water, bulk water hauling system or retail water facility obtaining finished water from a permitted public water system is not required to perform the activities in paragraphs (1) and (2) if the Department determines that there are no potential problems necessitating inspection and evaluation of the source.

\* \* \* \* \*

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

- (1) A description of the methods and procedures to be used.
- (2) An implementation schedule for the program.
- (3) A description of the methods and devices which will be used to protect the water system.

(g) Level 1 and Level 2 assessments. Bottled water systems, vended water systems, retail water facilities and bulk water hauling systems shall comply with the requirements of § 109.705(b) (relating to system evaluations and assessments). Bottled water systems, vended water systems, retail water facilities and bulk water hauling systems may use a Nationally-recognized organization which inspects bottled water systems for compliance with 21 CFR Part 129, such as NSF, or another organization, state or country which utilizes an inspection protocol as stringent as NSF's protocols to conduct the Level 2 assessment.

(h) Seasonal systems. A bottled water system, vended water system, retail water facility or bulk water hauling system that operates as a seasonal system shall comply with the requirements of § 109.715 (relating to seasonal systems).

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