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| <h1>Regulatory Analysis Form</h1> <p>(Completed by Promulgating Agency)</p> <p><b>(All Comments submitted on this regulation will appear on IRRC's website)</b></p>   |  | <p><b>INDEPENDENT REGULATORY REVIEW COMMISSION</b></p>   |  |
| (1) Agency: Department of Environmental Protection  |  | <p>2015 SEP 23 PM 2:51</p> <p>IRRC</p>   |  |
| (2) Agency Number:<br>Identification Number: 7-496  |  |  |  |
| (3) PA Code Cite: 25 Pa. Code Chapters 87, 88 & 90  |  |  |  |
| (4) Short Title: Remining Requirements  |  |  |  |
| (5) Agency Contacts (List Telephone Number and Email Address):<br>Primary Contact: Laura Edinger, 783-8727, ledinger@pa.gov<br>Secondary Contact: Patrick McDonnell 783-8727, pmcdonnell@pa.gov   |  |  |  |
| (6) Type of Rulemaking (check applicable box):<br><input checked="" type="checkbox"/> Proposed Regulation<br><input type="checkbox"/> Final Regulation<br><input type="checkbox"/> Final Omitted Regulation   |  | <input type="checkbox"/> Emergency Certification Regulation;<br><input type="checkbox"/> Certification by the Governor<br><input type="checkbox"/> Certification by the Attorney General |  |
| (7) Briefly explain the regulation in clear and nontechnical language. (100 words or less)<br><br>This proposed rulemaking will update the Commonwealth's remining regulations to reflect the federal regulatory requirements in 40 C.F.R. Part 434. The federal requirements are different from the current state requirements in two ways. First, the federal requirements include two options for the statistical methods for determining the pollution baseline, while the state requirements only allow for one of these methods. Second, the federal regulations provide for remining in cases where the pollution baseline cannot be determined. |  |  |  |
| (8) State the statutory authority for the regulation. Include <u>specific</u> statutory citation.<br><br>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)  |  |  |  |
| (9) Is the regulation mandated by any federal or state law or court order, or federal regulation? Are there any relevant state or federal court decisions? If yes, cite the specific law, case or regulation as well as, any deadlines for action.<br><br>No. The rulemaking is not mandated by any federal or state law.   |  |  |  |

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(10) State why the regulation is needed. Explain the compelling public interest that justifies the regulation. Describe who will benefit from the regulation. Quantify the benefits as completely as possible and approximate the number of people who will benefit.

This rulemaking will allow for additional reclamation of abandoned mine lands by providing protection to mine operators from long-term treatment liability. The provisions of the rulemaking, that allow for remining in circumstances where 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 in addition to the land reclamation.

(11) Are there any provisions that are more stringent than federal standards? If yes, identify the specific provisions and the compelling Pennsylvania interest that demands stronger regulations.

Yes. The proposed rulemaking is more stringent than the federal requirements at 40 CFR 434 with respect to discharges for which it is infeasible to calculate a baseline pollutant load. The federal requirements rely exclusively on the pollution abatement plan for these mine sites. The proposed rulemaking at § 87.210 (d)(2), (3) & (5), includes requirements to establish an in-stream pollutant baseline in certain circumstances. These provisions are focused on assuring that the pollution abatement plans prevent any further pollution which will protect, and in many cases, enhance the water quality of Pennsylvania's streams.

(12) How does this regulation compare with those of the other states? How will this affect Pennsylvania's ability to compete with other states?

Pennsylvania has been a national leader in the implementation of remining requirements. Other states are required to comply with the effluent limitations established for coal mining at 40 CFR 434. The proposed rulemaking continues Pennsylvania's leadership in coal remining in the United States.

(13) Will the regulation affect any other regulations of the promulgating agency or other state agencies? If yes, explain and provide specific citations.

No.

(14) Describe the communications with and solicitation of input from the public, any advisory council/group, small businesses and groups representing small businesses in the development and drafting of the regulation. List the specific persons and/or groups who were involved. ("Small business" is defined in Section 3 of the Regulatory Review Act, Act 76 of 2012.)

During the development of the proposed rulemaking, the Department engaged with the Mining and Reclamation Advisory Board's (MRAB) Regulation, Legislation and Technical committee through a series of meetings over the course of two years. The proposed rulemaking reflects the results of this effort. Progress reports were provided to the MRAB throughout this interaction. The MRAB represents a cross-section of the coal mining industry and citizens, including the mine operators which are small businesses.

(15) Identify the types and number of persons, businesses, small businesses (as defined in Section 3 of the Regulatory Review Act, Act 76 of 2012) and organizations which will be affected by the regulation. How are they affected?

There are about 500 licensed surface coal mining operators in Pennsylvania, most of which are small businesses that will be subject to this regulation if they choose to remine. Generally, the impact on these operators will be positive because the proposed rulemaking will allow for mining of reserves that were previously not feasible to mine. Some additional sampling costs are anticipated. However these costs are not out of line with the costs incurred through the typical planning process that is required for permitting a coal mine site.

(16) List the persons, groups or entities, including small businesses, that will be required to comply with the regulation. Approximate the number that will be required to comply.

There are about 500 licensed surface coal mining operators in Pennsylvania, most of which are small businesses that will be subject to this regulation if they choose to remine. The proposed rulemaking has a specific scope - remining sites - which limits the number of entities which will need to comply with the requirements. It is a business decision for each applicant as to whether they want to undertake a project which entails remining. The proposed rulemaking provides protection for these mine operators from the potential long-term pollution liability associated with post-mining discharges.

(17) Identify the financial, economic and social impact of the regulation on individuals, small businesses, businesses and labor communities and other public and private organizations. Evaluate the benefits expected as a result of the regulation.

These regulations will allow mining to occur in areas where it was not previously feasible due to the number or location of pre-existing discharges. Remining results in substantial reclamation that would otherwise not be completed because of the legacy of unregulated mining in Pennsylvania. In addition, the proposed rulemaking provides greater flexibility than the existing regulations because it allows for additional statistical methods to establish a pollutant baseline and determine compliance.

(18) Explain how the benefits of the regulation outweigh any cost and adverse effects.

The additional costs resulting from this proposed rulemaking are minimal. The costs will only be incurred if the mine operator chooses to take advantage of the protections provided under the regulation. It is likely that additional sites will be feasible to mine due to the implementation of the proposed rulemaking.

(19) Provide a specific estimate of the costs and/or savings to the **regulated community** associated with compliance, including any legal, accounting or consulting procedures which may be required. Explain how the dollar estimates were derived.

It is not possible to quantify the costs or savings to the regulated community since these will depend upon how many mine permit applications will be subject to the regulations. The decision-making of the applicant and the coal market will ultimately determine the scale of costs or savings. Savings will result from the protection from perpetual liability for discharge treatment which can be very costly, depending upon the volume and water quality of the discharge.

(20) Provide a specific estimate of the costs and/or savings to the **local governments** associated with compliance, including any legal, accounting or consulting procedures which may be required. Explain how the dollar estimates were derived.

This proposed rulemaking is not applicable to local governments so there will be no costs or saving.

(21) Provide a specific estimate of the costs and/or savings to the **state government** associated with the implementation of the regulation, including any legal, accounting, or consulting procedures which may be required. Explain how the dollar estimates were derived.

There are no known additional costs to the state government.

(22) For each of the groups and entities identified in items (19)-(21) above, submit a statement of legal, accounting or consulting procedures and additional reporting, recordkeeping or other paperwork, including copies of forms or reports, which will be required for implementation of the regulation and an explanation of measures which have been taken to minimize these requirements.

It is not anticipated that additional reporting, recordkeeping or other paperwork will be required as a result of this rulemaking. It may be necessary to revise some of the forms currently used, but these will depend on the final regulation.

(23) In the table below, provide an estimate of the fiscal savings and costs associated with implementation and compliance for the regulated community, local government, and state government for the current year and five subsequent years.

|                             | <b>Current FY<br/>Year</b> | <b>FY +1<br/>Year</b> | <b>FY +2<br/>Year</b> | <b>FY +3<br/>Year</b> | <b>FY +4<br/>Year</b> | <b>FY +5<br/>Year</b> |
|-----------------------------|----------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| <b>SAVINGS:</b>             | \$                         | \$                    | \$                    | \$                    | \$                    | \$                    |
| <b>Regulated Community</b>  |                            |                       |                       |                       |                       |                       |
| <b>Local Government</b>     |                            |                       |                       |                       |                       |                       |
| <b>State Government</b>     |                            |                       |                       |                       |                       |                       |
| <b>Total Savings</b>        |                            |                       |                       |                       |                       |                       |
| <b>COSTS:</b>               |                            |                       |                       |                       |                       |                       |
| <b>Regulated Community</b>  |                            |                       |                       |                       |                       |                       |
| <b>Local Government</b>     |                            |                       |                       |                       |                       |                       |
| <b>State Government</b>     |                            |                       |                       |                       |                       |                       |
| <b>Total Costs</b>          |                            |                       |                       |                       |                       |                       |
| <b>REVENUE LOSSES:</b>      |                            |                       |                       |                       |                       |                       |
| <b>Regulated Community</b>  |                            |                       |                       |                       |                       |                       |
| <b>Local Government</b>     |                            |                       |                       |                       |                       |                       |
| <b>State Government</b>     |                            |                       |                       |                       |                       |                       |
| <b>Total Revenue Losses</b> |                            |                       |                       |                       |                       |                       |

(23a) Provide the past three year expenditure history for programs affected by the regulation.

| <b>Program</b>  | <b>FY -3<br/>(2011-12)</b> | <b>FY -2<br/>(2012-13)</b> | <b>FY -1<br/>(2013-14)</b> | <b>Current FY<br/>(2014-15)</b> |
|---|----------------------------|----------------------------|----------------------------|---------------------------------|
| Interstate Mining                                     | \$0                        | \$30,000                   | \$30,000                   | \$30,000                        |
| Environmental Protection Operations                   | \$8,451,388                | \$7,659,447                | \$8,375,310                | \$6,150,471                     |
| Environmental Program Management                      | \$1,556,200                | \$1,685,383                | \$1,161,917                | \$913,736                       |
| General Government Operations                         | \$279                      | \$66,238                   | \$0                        | \$17,422                        |
| General Operations                                    | \$408,664                  | \$376,511                  | \$762,272                  | \$506,482                       |
| Coal & Clay Mine Subsidence Fund - General Operations | \$91,079                   | \$287,231                  | \$143,450                  | \$94,540                        |
| Bituminous Mine Subsidence & Land Conservation Act    | \$0                        | \$69,378                   | \$79,096                   | \$124,460                       |
| Clean Water Fund                                      | \$0                        | \$0                        | \$517,481                  | \$779,434                       |
| Well Plugging Acct                                    | \$67,280                   | \$55,010                   | \$41,768                   | \$31,022                        |
| Reclamation Fee O&M Trust                             | \$5,439                    | \$28,145                   | \$16,660                   | \$15,371                        |

(24) For any regulation that may have an adverse impact on small businesses (as defined in Section 3 of the Regulatory Review Act, Act 76 of 2012), provide an economic impact statement that includes the following:

- (a) An identification and estimate of the number of small businesses subject to the regulation.
- (b) The projected reporting, recordkeeping and other administrative costs required for compliance with the proposed regulation, including the type of professional skills necessary for preparation of the report or record.
- (c) A statement of probable effect on impacted small businesses.
- (d) A description of any less intrusive or less costly alternative methods of achieving the purpose of the proposed regulation.

This regulation is not expected to have an adverse impact on small businesses.

(25) List any special provisions which have been developed to meet the particular needs of affected groups or persons including, but not limited to, minorities, the elderly, small businesses, and farmers.

There are no special provisions.

(26) Include a description of any alternative regulatory provisions which have been considered and rejected and a statement that the least burdensome acceptable alternative has been selected.

During the interaction with the MRAB Regulation, Legislation and Technical committee, the alternative of adopting only one of the two methods in the federal regulations was considered. The analysis was based upon the fact that Method 1 has been used in Pennsylvania since 1985. Method 2 has not been used in Pennsylvania. The recommendation of the committee was to adopt both methods in order to maintain the maximum amount of flexibility. The proposed rulemaking reflects this recommendation.

(27) In conducting a regulatory flexibility analysis, explain whether regulatory methods were considered that will minimize any adverse impact on small businesses (as defined in Section 3 of the Regulatory Review Act, Act 76 of 2012), including:

- a) The establishment of less stringent compliance or reporting requirements for small businesses;
- b) The establishment of less stringent schedules or deadlines for compliance or reporting requirements for small businesses;
- c) The consolidation or simplification of compliance or reporting requirements for small businesses;
- d) The establishment of performing standards for small businesses to replace design or operational standards required in the regulation; and
- e) The exemption of small businesses from all or any part of the requirements contained in the regulation.

These regulatory methods were not considered because the final regulations must be approved by the federal Office of Surface Mining Reclamation and Enforcement. The criteria for approval include consistency with the federal requirements, which do not allow for the alternatives listed.

(28) If data is the basis for this regulation, please provide a description of the data, explain in detail how the data was obtained, and how it meets the acceptability standard for empirical, replicable and testable data that is supported by documentation, statistics, reports, studies or research. Please submit data or supporting materials with the regulatory package. If the material exceeds 50 pages, please provide it in a searchable electronic format or provide a list of citations and internet links that, where possible, can be accessed in a searchable format in lieu of the actual material. If other data was considered but not used, please explain why that data was determined not to be acceptable.

Data was not used as the basis for this regulation.

(29) Include a schedule for review of the regulation including:

- |   |                          |
|---|--------------------------|
| A. The date by which the agency must receive public comments:                               | <u>November 2015</u>     |
| B. The date or dates on which public meetings or hearings will be held:                     | <u>NA</u>                |
| C. The expected date of promulgation of the proposed regulation as a final-form regulation: | <u>Quarter 3 of 2016</u> |
| D. The expected effective date of the final-form regulation:                                | <u>Quarter 3 of 2016</u> |
| E. The date by which compliance with the final-form regulation will be required:            | <u>Quarter 3 of 2016</u> |
| F. The date by which required permits, licenses or other approvals must be obtained:        | <u>Quarter 3 of 2016</u> |

(30) Describe the plan developed for evaluating the continuing effectiveness of the regulations after its implementation.

The coal mining program in Pennsylvania is subject to oversight by the Office of Surface Mining Reclamation and Enforcement. This oversight will routinely review the effectiveness of the coal mining program which will include this specific regulation.





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Copy below is hereby approved as to form and legality.  
Attorney General

By:   
(Deputy Attorney General)

**AUG 20 2015**  
DATE OF APPROVAL

Check if applicable  
Copy not approved. Objections attached.

Copy below is hereby certified to be true and  
correct copy of a document issued, prescribed or  
promulgated by:

DEPARTMENT OF ENVIRONMENTAL  
PROTECTION  
ENVIRONMENTAL QUALITY BOARD

(AGENCY)

DOCUMENT/FISCAL NOTE NO. 7-496

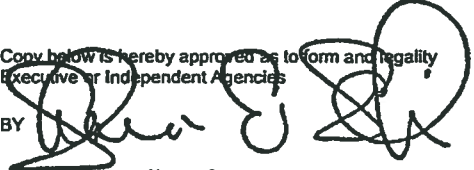
DATE OF ADOPTION May 20, 2015

BY 

TITLE JOHN QUIGLEY  
ACTING CHAIRMAN

EXECUTIVE OFFICER CHAIRMAN OR SECRETARY

Copy below is hereby approved as to form and legality  
Executive or Independent Agencies

BY 

**JUN 23 2015**

DATE OF APPROVAL

(Deputy General Counsel)  
(~~Chief Counsel - Independent Agency~~)  
(Strike inapplicable title)

Check if applicable. No Attorney General Approval  
or objection within 30 days after submission.

**NOTICE OF PROPOSED RULEMAKING**

**DEPARTMENT OF ENVIRONMENTAL PROTECTION  
ENVIRONMENTAL QUALITY BOARD**

**Remining Requirements**

**25 Pa. Code, Chapters 87, 88, 90**



**ENVIRONMENTAL QUALITY BOARD**  
**[25 PA CODE CHS. 87, 88, 90]**  
**Remining Requirements**

The Environmental Quality Board (Board) proposes to amend the remining regulations at 25 Pa. Code Chapter 87, Subchapter F (relating to Surface Coal Mines: minimum requirements for remining areas with polluttional discharges), 25 Pa. Code Chapter 88, Subchapter G (relating to Anthracite Surface Mining Activities and Anthracite Bank Removal and Reclamation Activities: minimum requirements for remining areas with polluttional discharges) and 25 Pa. Code Chapter 90, Subchapter F (relating to Coal Refuse Activities on Remining Areas with Polluttional Discharges) to incorporate requirements of the federal remining rules found at 40 C.F.R. Part 434, Subpart G (relating to coal remining) and adopting the statistical methods found at Appendix B to 40 C.F.R. Part 434.

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, 5<sup>th</sup> 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 select "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 existing Pennsylvania remining program is implemented through 25 Pa. Code Chapter 87, Subchapter F, 25 Pa. Code Chapter 88, Subchapter G, and 25 Pa. Code 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 Department determines the pollution baseline using a single statistical method (“Method 1”), explained below, and incorporates the baseline in the individual permit. Likewise, effluent limitations are determined on a case-by-case basis.

Federal remining requirements are codified at 40 C.F.R. Part 434, Subpart G and Appendix B (regarding the procedures for establishing effluent limitations for pre-existing discharges). 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 such circumstances, the federal regulations require an operator to submit a pollution abatement plan based on best management practices without regard for numeric effluent limitations.

The preambles of the federal remining regulations, proposed in the Federal Register on April 11, 2000 (65 Fed. Reg. 19440), and finalized on January 23, 2002 (67 Fed. Reg. 3370), provide extensive additional background references explaining the statistical methods, best management practices, and other requirements. Notably, the federal regulations were informed by the extensive experience with remining in this Commonwealth.

The proposed rulemaking incorporates into the Pennsylvania 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.

The following is a summary of the federal regulations.

#### *Subpart G of 40 C.F.R. Part 434*

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

Five terms are included in the definitions: “coal remining operation,” “pollution abatement area,” “pre-existing discharge,” “steep slope,” and “new source remining operation.” (40 C.F.R. § 434.70)

The applicability section 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 reminging authorizations and a description of the time period during which the regulations apply. (40 C.F.R. § 434.71)

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 are the most commonly applicable. The federal BPT regulations require a site-specific pollution abatement 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 Appendix B of 40 C.F.R. Part 434. 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 in order to establish the baseline pollution load. (40 C.F.R. § 434.72)

The BAT limitations require a pollution abatement plan and compliance with the baseline pollution load for net acidity, iron and manganese. (40 C.F.R. § 434.73)

The BCT limitations require a pollution abatement plan and compliance with the baseline pollution load for total suspended solids. (40 C.F.R. § 434.74)

The NSPS limitations require a pollution abatement plan and compliance with the baseline pollution load for acidity, iron, manganese and total suspended solids. (40 C.F.R. § 434.75)

#### *Appendix B of 40 C.F.R. Part 434*

Appendix B of 40 C.F.R. 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 a 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 two consecutive months, accelerated (weekly, for four 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, EPA Region III and the Department entered into an agreement under 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 bi-monthly 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.

The proposed regulations deviate 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 rulemaking 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, where the federal regulations use the term "permitting authority," "Department" was substituted.

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

### *Sections 87.202, 88.502, and 90.302 Definitions*

The proposed rulemaking includes the addition of definitions of "coal remining operation," "encountered discharge," "pollution abatement plan," "pre-existing discharge" and "steep slope." The term "abatement plan" and its definition are being 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 at 40 C.F.R. §

434.70. The term “encountered discharge” was added since it is included in each remining permit issued.

The replacement of the term “abatement plan” with “pollution abatement plan” in the definitions necessitates revisions throughout the proposed rulemaking to substitute the new term for the old one.

#### *Sections 87.203, 88.503, and 90.303 Applicability*

The proposed rulemaking adds subsections (c) and (d) in Section 87.203 and in Section 90.303. Subsection (c) is based on 40 C.F.R. § 434.71(a). Subsection (d) is based on 40 C.F.R. § 434.71(c). Regarding Section 88.503, the proposed rulemaking amends subsection (a) to apply the requirements to anthracite coal refuse disposal activities and adds subsections (d) and (e). Subsection (e) is based on 40 C.F.R. § 434.71(c). These additional subsections establish the circumstances in which this rulemaking applies.

#### *Sections 87.204, 88.504, and 90.304 Application for authorization*

The proposed rulemaking amends subsections 87.204(a)(2)(ii), 88.504(a)(2)(ii), and 90.304(a)(2)(ii) to add flow as a required monitoring parameter because flow data is required to calculate loading, and also to insert “total” as a modifier of aluminum, since the water quality criterion for aluminum is expressed as a total.

The proposed rulemaking amends subsections 87.204(a)(3), 88.504(a)(3), and 90.304(a)(3) to reflect the regulatory requirements for a pollution abatement plan found at 40 C.F.R. § 434.72(a). The existing requirements in subsections 87.204(a)(3), 88.504(a)(3), and 90.304(a)(3) are being retained to provide more detail of what needs to be in a pollution abatement plan. Requirements in subsections 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, and each have proven effective.

The proposed rulemaking adds subsections 87.204(a)(4), 87.204(a)(5), 88.504(a)(4), 88.504(a)(5), 90.304(a)(4) and 90.304(a)(5) to 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.

The proposed rulemaking revises subsections 87.204(b), 88.504(b), and 90.304(b) to 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.

#### *Sections 87.206, 88.506, and 90.306 Operational Requirements*

The proposed rulemaking revises subsections 87.206(1), 88.506(1), and 90.306(a)(1) to add more specific requirements for the monitoring program. These requirements are currently included in remining permits. The proposed rulemaking also deletes subsection 88.506(3) which includes the requirement to notify the Department as steps of the abatement plan are initiated and

completed. In addition, these sections are being revised to 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 relating to accelerated sampling are consistent with the requirements in paragraphs II.A.5 and II.B.5 of Appendix B of 40 C.F.R. Part 434.

*Sections 87.207, 88.507, and 90.307 Treatment of discharges*

The proposed rulemaking revises subsections 87.207(b), 88.507(b), and 90.307(b) to 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 and to include a reference to Section 88.292. The proposed rulemaking also adds subsections 87.207, 88.507, and 90.307 (g) through (j). The proposed rulemaking revises subsection 88.507(a) to add a reference to Section 88.292 to clarify that these requirements apply to anthracite coal refuse disposal activities. The proposed rulemaking revises subsection 88.507(c) to include a reference to subsection 88.295(b). Subsection (g) requires a permittee to notify the Department if the treatment obligation is triggered subsequent to accelerated sampling. 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. Subsection (i) requires that encountered discharges be treated to meet the effluent limitations in the permit. Subsection (j) provides clarification as to when the treatment of an encountered discharge may cease.

*Sections 87.210, 88.510, and 90.310 Effluent limitations*

The proposed regulations add Sections 87.210, 88.510, and 90.310, with 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 best management practices included in the pollution abatement plan be implemented. These subsections are based on the federal requirements at 40 C.F.R. § 434.72(a).

The effluent limitations included in subsection (c)(1) are based on the requirements at 40 C.F.R. § 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 C.F.R. § 434(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 C.F.R. § 434(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 in order 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 C.F.R. § 434.72(b)(2). Both subsection (d)(4) and 40 C.F.R. § 434.72(b)(2) allow for other categories. Subsection (d)(5) specifies the circumstances where 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 subchapter F for Chapters 87 and 90 and Subchapter G for Chapter 88.

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.

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

The proposed rulemaking adds Sections 87.211-87.213, 88.511-88.513, and 90.311-90.313, with parallel subsections. Sections 87.211-87.213, 88.511-88.513, and 90.311-90.313 incorporate the statistical methods for determining baseline and compliance monitoring from Appendix B to 40 C.F.R. Part 434.

Sections 87.211, 88.511, and 90.311 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 Appendix B of 40 C.F.R. Part 434. 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 Appendix B of 40 C.F.R. Part 434. 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 Appendix B of 40 C.F.R. Part 434. 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), (f) and (g) are based on paragraph I.d of Appendix B of 40 C.F.R. Part 434.

*Sections 87.212, 88.512, and 90.312 Procedure for Calculating and Applying a Single-Observation (Monthly) Trigger*

Sections 87.212, 88.512, and 90.312 provide two methods for calculating and applying the monthly trigger for compliance monitoring. Subsection (a) lists the steps for Method 1 for calculating the monthly trigger. This method is the same as the method used by the Department.

Subsection (a) is based on paragraph II.A of Appendix B of 40 C.F.R. Part 434. Subsection (b) lists the steps in applying the Method 1 monthly trigger. Subsection (c) 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.

*Section 87.213, 88.513, and 90.313 Procedure for Calculating and Applying an Annual Trigger*

Sections 87.213, 88.513, and 90.313 provide the two methods for calculating and applying the annual trigger specified in Section III of Appendix B of 40 C.F.R. Part 434. Subsection (a) 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 Appendix B of 40 C.F.R. Part 434. Subsection (b) 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 Appendix B of 40 C.F.R. Part 434.

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

The proposed rulemaking amends subsection 88.509(b)(1) to include a reference to Section 88.287, which is applicable to anthracite coal refuse disposal activities. The proposed rulemaking amends subsection 88.509(c)(1) to include a reference to Section 88.133 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 rulemaking will allow for additional reclamation of abandoned mine lands by providing protection to mine operators from long-term treatment liability. The provisions of the rulemaking 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 best management practices 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 rulemaking will provide for protection from long-term treatment liability.

*Compliance Assistance Plan*

Compliance assistance for this 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 Pennsylvania, most of which are small businesses that will be subject to this regulation.

#### *Paperwork requirements*

This 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 best management practices 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 (71 P.S. § 745.5(g)), the Commission 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 of comments, recommendations or objections raised, prior to final publication of the rulemaking, by the Department, the General Assembly and the Governor.

## *J. Public Comments*

Interested persons are invited to submit written comments, suggestions or objections regarding the proposed rulemaking to the Environmental Quality 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 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,  
Chairman  
Environmental Quality Board

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.

\* \* \* \* \*

*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 -- A preexisting 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. Encountered discharges do 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).**

*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), that include but are not limited to: 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** -- any discharge resulting from mining activities that have been abandoned prior to the time of a remining permit application. This term shall include a pre-existing discharge that is relocated as a result of the implementation of best management practices (BMPs) contained in the pollution abatement plan.

**Steep slope** -- any slope, including abandoned mine land features, above twenty degrees or such lesser slope as may be defined by the Department after consideration of soil, climate, and other characteristics of a region. This term does not apply to those 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.

\* \* \* \* \*

**(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) Where coal remining operations seek 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 contained in this subchapter, pre-existing discharge limitations at existing remining operations shall 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] pollution abatement plan [that represents best technology and includes] which shall:**

(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:**

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

(B*[ii]*) 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.

(C*[iii]*) 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 preexisting discharges hydrogeologically connected to the remaining 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 lbs/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) (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.

(6) The surface mining operation on permitted areas other than the proposed pollution abatement area will not cause surface water pollution or ground water degradation.

(7) Requirements of § 86.37(a) (relating to criteria for permit approval or denial) that are not inconsistent with this section have been met.

\* \* \* \* \*

**§ 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 shall conform to the following:**

**(i) Sampling shall be conducted on a monthly basis for the preexisting 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 shall 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.]**

**Notify the Department when more frequent sampling is required.**

**(a) Weekly sampling of the preexisting 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.**

**(b) 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 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) **Except as provided under § 87.210 (d), relating to discharges for which baseline pollution load cannot be established, the**[The] operator shall treat the preexisting 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 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 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 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.

\* \* \* \* \*

**(g) If four (4) consecutive weekly determinations of pollution load, as required under § 86.206(3)(a), exceed one or more triggers, the permittee shall notify the Department and commence treatment within thirty (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 then commence**

**treatment within thirty (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 set forth in the permit until such time as the discharge is no longer encountered.**

**(j) For the purposes of determining applicable effluent limitations, a discharge shall continue to be deemed to be an encountered discharge until such time as the surface mining area which has been disturbed and which contributes to the discharge has been backfilled and regraded, and revegetation work has commenced.**

**§ 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.

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

(D) Stabilized the pollution abatement area

\* \* \* \* \*

### **§ 87.210 Effluent limitations**

**(a) 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) The best management practices (BMPs) in the pollution abatement plan must be implemented as specified in the plan.**

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

| <b><u>Parameter</u></b>        | <b><u>Effluent Limit</u></b>  |
|--------------------------------|---|
| <b><u>Total Iron</u></b>       | <b><u>May not exceed baseline loadings (as determined by this subchapter)</u></b>   |
| <b><u>Total Manganese</u></b>  | <b><u>May not exceed baseline loadings (as determined by this subchapter)</u></b>   |
| <b><u>Acidity, Net</u></b>     | <b><u>May not exceed baseline loadings (as determined by this subchapter)</u></b>   |
| <b><u>Suspended Solids</u></b> | <b><u>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 at § 87.102.</u></b> |

**(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 by subsection (a) of this section.

(d) (1) If the Department determines that it is infeasible to collect samples for establishing the baseline pollutant levels pursuant to this subsection, and that remining will result in significant improvement that would not otherwise occur, then 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) of this section do not apply.

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

(3) Upon issuance of a surface mining permit, the operator will continue, at a minimum, monthly monitoring of pollutant concentrations at the in-stream monitoring point referenced in subsection (d)(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 preexisting 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 preexisting 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 via 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) Where in-stream monitoring are 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) Pollutants for which there are not effluent limitations established in § 87.102 may be eligible for limits established under this subchapter.

(f) The provisions of § 87.102 (relating to Hydrologic balance: effluent standards) apply to:

- (1) A pre-existing discharge that is intercepted by surface mining activities.
- (2) A pre-existing discharge that is commingled with waste streams from operational areas for the purposes of water treatment.

(g) The provisions of § 87.102 (relating to Hydrologic balance: effluent standards) cease to 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) The effluent limitations in this subchapter apply to pre-existing discharges until bond release under the procedures in Chapter 86.

#### § 87.211 Baseline Determination and Compliance Monitoring for Pre-existing Discharges at Remining Operations.

(a) The procedures described 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. Both a monthly (single-observation) procedure and an annual procedure shall be applied.

(b) At least one sample result per month shall be obtained for a period of 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 a period of 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, 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)In 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

Two alternative methods are provided for calculating a single-observation trigger. One method must be proposed by the applicant to be approved and applied by the Department for any given remaining permit.

(a) 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. In order 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 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, then 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 steps (a)(5) through (a)(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.

(b) Method for applying the single observation trigger (L) to determine when the baseline level has been exceeded

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

(c) Method 2 for Calculating a Single Observation Trigger (L) is accomplished by completing the following steps:

(1) Follow Method 1 above 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 four 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

Two alternative methods are provided for calculating the annual trigger. One method must be proposed by the applicant to be approved and applied by the Department for any given remaining permit.

(a) 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 above under Method 1 for the single observation 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 steps 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<sub>m</sub>) of the monitoring data is calculated as:

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

(7) If T<sub>m</sub> > T<sub>b</sub>, the median loading of the monitoring observations has exceeded the baseline loading.

(b) 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. In order 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<sub>n</sub>.

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

(6) Compare C to S<sub>n</sub>. If S<sub>n</sub> is less than C, then the monitoring loadings have exceeded the baseline loadings.

#### Critical Values for the Wilcoxon-Mann-Whitney Test

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

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

---

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

**(b) 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.**

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

**(c) 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:

$$V = \frac{(n * m * S)}{N * (N-1)} - \frac{(n * m * (N+1)^2)}{4 * (N-1)}$$

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.

*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** -- A preexisting 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. Encountered discharges do 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) 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), that include but are not limited to: 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* -- any discharge resulting from mining activities that have been abandoned prior to the time of a remining permit application. This term shall include a pre-existing discharge that is relocated as a result of the implementation of best management practices (BMPs) contained in the pollution abatement plan.

*Steep slope* -- any slope, including abandoned mine land features, above twenty degrees or such lesser slope as may be defined by the Department after consideration of soil, climate, and other characteristics of a region. This term does not apply to those 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.

\* \* \* \* \*

(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) Where coal remining operations seek 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 contained in this subchapter, pre-existing discharge limitations at

**existing remining operations shall 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 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 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] pollution abatement plan [that includes]which shall:**

(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:**

**(ii)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.

**(ii)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 remaining 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 lbs/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) (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.

(6) The surface mining operation on permitted areas other than the proposed pollution abatement area will not cause surface water pollution or groundwater degradation.

(7) All requirements of § 86.37(a) (relating to criteria for permit approval or denial) that are not inconsistent with this section have been met.

\* \* \* \* \*

### **§ 88.506. 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 Chapter 87, Subchapter B (Reserved), and Subchapter A and either Subchapters B or C—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 shall conform to the following:**

**(i) Sampling shall be conducted on a monthly basis for the preexisting 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 shall 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.]**

**Notify the Department when more frequent sampling is required.**

(a) Weekly sampling of the preexisting 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.

(b) 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 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; **hydrologic balance: effluent standards**; and hydrologic balance: effluent standards).

(b) **Except as provided under § 88.210(d), relating to discharges for which baseline pollution load cannot be established), the [The]** operator shall treat the preexisting 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 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) (relating to hydrologic balance: diversions) **and 88.295(b) (relating to hydrologic balance: diversions an conveyances)**.

(d) An operator required to treat preexisting 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 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 re-affecting the pollution abatement area.

\* \* \* \* \*

**(g) If four (4) consecutive weekly determinations of pollution load, as required under § 88.506(3)(a), exceed one or more triggers, the permittee shall notify the Department and commence treatment within thirty (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 then commence treatment within thirty (30) days, in accordance with the treatment limits established in the permit.**

**(i) Any pre-existing pollutorial discharge which is an encountered discharge shall be treated to the effluent limitations set forth in the permit until such time as the discharge is no longer encountered.**

**(j) For the purposes of determining applicable effluent limitations, a discharge shall continue to be deemed to be an encountered discharge until such time as the surface mining area which has been disturbed and which contributes to the discharge has been backfilled and regraded, and revegetation work has commenced.**

\* \* \* \* \*

**§ 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 (relating to vegetation-supporting material: available soil removal; and vegetation-supporting material: soil), **and 88.287 (relating to vegetative-supportive 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 re-affecting 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 re-mining and re-affecting 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).

\* \* \* \* \*

**§ 88.510 Effluent limitations**

**(a) 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) The best management practices (BMPs) in the pollution abatement plan must be implemented as specified in the plan.**

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

| <b><u>Parameter</u></b>        | <b><u>Effluent Limit</u></b>   |
|--------------------------------|--|
| <b><u>Total Iron</u></b>       | <b><u>May not exceed baseline loadings (as determined by this subchapter)</u></b>  |
| <b><u>Total Manganese</u></b>  | <b><u>May not exceed baseline loadings (as determined by this subchapter)</u></b>  |
| <b><u>Acidity, Net</u></b>     | <b><u>May not exceed baseline loadings (as determined by this subchapter)</u></b>  |
| <b><u>Suspended Solids</u></b> | <b><u>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 at § 88.92, §88.187 or §88.292.</u></b> |

**(c)(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 by subsection (a) of this section.**

**(d) (1) If the Department determines that it is infeasible to collect samples for establishing the baseline pollutant levels pursuant this subsection, and that remining will result in significant improvement that would not otherwise occur, then 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) of this section do not apply.**

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

**(3) Upon issuance of a surface mining permit, the operator will continue, at a minimum, monthly monitoring of pollutant concentrations at the in-stream monitoring point referenced in subsection (d)(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 preexisting 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 preexisting 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 via 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) Where in-stream monitoring are 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) 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) The provisions of § 88.92 (relating to Hydrologic balance: effluent standards), § 88.187 (relating to Hydrologic balance: effluent standards), or § 88.292 (relating to Hydrologic balance: effluent standards) apply to:**

(1) A pre-existing discharge that is intercepted by surface mining activities.

(2) A pre-existing discharge that is commingled with waste streams from operational areas for the purposes of water treatment.

(g) The provisions of § 88.92 (relating to Hydrologic balance: effluent standards), § 88.187 (relating to Hydrologic balance: effluent standards) or § 88.292 (relating to Hydrologic balance: effluent standards) cease to 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) The effluent limitations in this subchapter apply to pre-existing discharges until bond release under the procedures in Chapter 86.

§ 88.511 Baseline Determination and Compliance Monitoring for Pre-existing Discharges at Remining Operations.

(a) The procedures described 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. Both a monthly (single-observation) procedure and an annual procedure shall be applied.

(b) At least one sample result per month shall be obtained for a period of 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 a period of 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, 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)In 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

Two alternative methods are provided for calculating a single-observation trigger. One method must be proposed by the applicant to be approved and applied by the Department for any given remaining permit.

(a) 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. In order 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 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, then 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 steps (a) (5) through (a) (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.

(b) Method for applying the single observation trigger (L) to determine when the baseline level has been exceeded

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

(c) Method 2 for Calculating a Single Observation Trigger (L) is accomplished by completing the following steps:

(1) Follow Method 1 above 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 four 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

Two alternative methods are provided for calculating the annual trigger. One method must be proposed by the applicant to be approved and applied by the Department for any given reming permit.

(a) 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 above under Method 1 for the single observation 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 steps 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.**

**(b) 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. In order 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.**

**Critical Values for the Wilcoxon-Mann-Whitney Test**

**(a) When  $n$  and  $m$  are less than 21, use Table 1. In order 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)**

| <u>nm</u> | <u>10</u> | <u>11</u> | <u>12</u> | <u>13</u>  | <u>14</u>  | <u>15</u>  | <u>16</u>  | <u>17</u>  | <u>18</u>  | <u>19</u>  | <u>20</u>  |
|-----------|-----------|-----------|-----------|------------|------------|------------|------------|------------|------------|------------|------------|
| <u>10</u> | <u>66</u> | <u>79</u> | <u>93</u> | <u>109</u> | <u>125</u> | <u>142</u> | <u>160</u> | <u>179</u> | <u>199</u> | <u>220</u> | <u>243</u> |
| <u>11</u> | <u>68</u> | <u>82</u> | <u>96</u> | <u>112</u> | <u>128</u> | <u>145</u> | <u>164</u> | <u>183</u> | <u>204</u> | <u>225</u> | <u>248</u> |



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

**(b) 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.**

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

**(c) 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 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.

\* \* \* \* \*

*Coal refuse disposal activities*—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. 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** -- A preexisting 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. Encountered discharges do 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).**

*Excess soil and related material*—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. The term does not include topsoil or subsoil.

*Pollution abatement area*—The part of the permit area that is causing or contributing to the baseline pollution load. 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), the implementation of which will result in reduction of the baseline pollution load. BMPs include but are not limited to: addition of alkaline material, special handling plans for managing toxic and acid forming material, regrading, revegetation and daylighting.**

**Pre-existing discharge -- any discharge resulting from mining activities that have been abandoned prior to the time of a remining permit application. This term shall include a pre-existing discharge that is relocated as a result of the implementation of best management practices (BMPs) contained in the pollution abatement plan.**

**Steep slope -- any slope, including abandoned mine land features, above twenty degrees or such lesser slope as may be defined by the Department after consideration of soil, climate, and other characteristics of a region. This term does not apply to those 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.

\* \* \* \* \*

**(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) Where coal remining operations seek 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 contained in this subchapter, pre-existing discharge limitations at existing remining operations shall 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 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] pollution abatement plan [that represents best technology and includes the following] which shall:**

- (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:**

(**ii**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.

(**ii**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 lbs/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 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.

(6) The coal refuse disposal activities on permitted areas other than the proposed pollution abatement area will not cause surface water pollution or groundwater degradation.

(7) Requirements of § 86.37(a) (relating to criteria for permit approval or denial) that are consistent with this section have been met.

\* \* \* \* \*

### **§ 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 shall conform to the following:**

**(i) Sampling shall be conducted on a monthly basis for the preexisting 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 shall 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.]**

**Notify the Department when more frequent sampling is required.**

**(a) Weekly sampling of the preexisting 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.**

**(b) 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 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).

(b) **Except as provided under 90.310(d), relating to discharges for which a baseline pollution load cannot be established, the**~~The~~ operator shall treat the preexisting 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 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 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 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.

\* \* \* \* \*

**(g) If four (4) consecutive weekly determinations of pollution load, as required under § 86.306(3)(a), exceed one or more triggers, the permittee shall notify the Department and commence treatment within thirty (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 then commence treatment within thirty (30) days, in accordance with the treatment limits established in the permit.**

**(i) Any pre-existing pollutorial discharge which is an encountered discharge shall be treated to the effluent limitations set forth in the permit until such time as the discharge is no longer encountered.**

**(j) For the purposes of determining applicable effluent limitations, a discharge shall continue to be deemed to be an encountered discharge until such time as the surface mining area which has been disturbed and which contributes to the discharge has been backfilled and regraded, and revegetation work has commenced.**

**§ 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.

(C) Caused aesthetic or other environmental improvements and the elimination of public health and safety problems by engaging in coal refuse disposal activities and re-affecting the pollution abatement area.

(D) Stabilized the pollution abatement area.

\* \* \* \* \*

**§ 90.310 Effluent limitations**

**(a) 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) The best management practices (BMPs) in the pollution abatement plan must be implemented as specified in the plan.**

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

| <b><u>Parameter</u></b>  | <b><u>Effluent Limit</u></b>  |
|--------------------------|---|
| <b><u>Total Iron</u></b> | <b><u>May not exceed baseline loadings (as determined by this subchapter)</u></b> |

|                         |  |
|-------------------------|--|
| <u>Total Manganese</u>  | <u>May not exceed baseline loadings (as determined by this subchapter)</u>   |
| <u>Acidity, Net</u>     | <u>May not exceed baseline loadings (as determined by this subchapter)</u>   |
| <u>Suspended Solids</u> | <u>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 at § 90.102.</u> |

(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 by subsection (a) of this section.

(d) (1) If the Department determines that it is infeasible to collect samples for establishing the baseline pollutant levels pursuant to this subsection, and that remining will result in significant improvement that would not otherwise occur, then 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) of this section do not apply.

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

(3) Upon issuance of a surface mining permit, the operator will continue, at a minimum, monthly monitoring of pollutant concentrations at the in-stream monitoring point referenced in subsection (d)(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 preexisting 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 preexisting 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 via 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) Where in-stream monitoring are 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) Pollutants for which there are not effluent limitations established in § 90.102 may be eligible for limits established under this subchapter.

(f) The provisions of § 90.102 (relating to Hydrologic balance: effluent standards) apply to:

(1) A pre-existing discharge that is intercepted by surface mining activities.

(2) A pre-existing discharge that is commingled with waste streams from operational areas for the purposes of water treatment.

(g) The provisions of § 90.102 (relating to Hydrologic balance: effluent standards) cease to 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) The effluent limitations in this subchapter apply to pre-existing discharges until bond release under the procedures in Chapter 86.

### § 90.311 Baseline Determination and Compliance Monitoring for Pre-existing Discharges at Remining Operations.

(a) The procedures described 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. Both a monthly (single-observation) procedure and an annual procedure shall be applied.

(b) At least one sample result per month shall be obtained for a period of 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 a period of 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, 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)In 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

Two alternative methods are provided for calculating a single-observation trigger. One method must be proposed by the applicant to be approved and applied by the Department for any given remaining permit.

(a) 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. In order 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 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, then 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 steps(a) (5) through (a)(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.

(b) Method for applying the single observation trigger (L) to determine when the baseline level has been exceeded

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

(c) Method 2 for Calculating a Single Observation Trigger (L) is accomplished by completing the following steps:

(1) Follow Method 1 above 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 four 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

Two alternative methods are provided for calculating the annual trigger. One method must be proposed by the applicant to be approved and applied by the Department for any given reminging permit.

**(a) 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 above under Method 1 for the single observation 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 steps 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.**

**(b). 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. In order 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.**

**Critical Values for the Wilcoxon-Mann-Whitney Test**

**(a) When n and m are less than 21, use Table 1. In order 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)**

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

|           |           |            |            |            |            |            |            |            |            |            |            |
|-----------|-----------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| <u>20</u> | <u>88</u> | <u>104</u> | <u>121</u> | <u>140</u> | <u>160</u> | <u>180</u> | <u>202</u> | <u>224</u> | <u>248</u> | <u>273</u> | <u>299</u> |
|-----------|-----------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|

**(b) 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.**

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

**(c) 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:**

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



September 23, 2015

David Sumner  
Executive Director  
Independent Regulatory Review Commission  
333 Market Street, 14th Floor  
Harrisburg, PA 17120

Re: Proposed Rulemaking: Remining Requirements (#7-496)

Dear Mr. Sumner:

Pursuant to Section 5(a) of the Regulatory Review Act, please find enclosed a copy of a proposed regulation for review and comment by the Independent Regulatory Review Commission (Commission). This proposal is scheduled for publication in the *Pennsylvania Bulletin* on October 3, 2015, with a 30-day public comment period. The Environmental Quality Board (EQB) adopted this proposal on May 20, 2015.

The enclosed rulemaking, authorized under the Surface Mining Conservation and Reclamation Act, The Clean Streams Law, and the Administrative Code of 1929, proposes to update the Commonwealth's coal mining remining requirements for pre-existing mine discharges to incorporate the federal effluent limit guidelines. The proposed rulemaking is focused on consistency with the federal regulations, as it is subject to approval by the Office of Surface Mining Reclamation and Enforcement. Provisions are proposed that appropriately incorporate remining effluent limits in regulation, rather than the current practice of including limits in remining permit conditions.

The existing Pennsylvania remining program is implemented through regulations at 25 Pa. Code 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 pollution discharges by enabling the Department of Environmental Protection (DEP or Department) to determine the pollution baseline at a site and set effluent limitations accordingly.

Currently, DEP determines the pollution baseline using a single statistical method. Effluent limitations are determined on a case-by-case basis using best professional judgment. The federal requirements differ from the Pennsylvania requirements by providing the option of employing an alternative statistical method for determining the pollution baseline, depending on which method would more accurately characterize baseline levels due to site-specific factors. The proposed rulemaking incorporates into the Pennsylvania regulations both statistical methods provided in the federal regulations, eliminating the need to implement the methods via 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.

This proposed rulemaking will allow for additional reclamation of abandoned mine lands by providing protection to mine operators from long-term treatment liability. The provisions of the rulemaking 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.

There are about 500 licensed surface coal mining operators in Pennsylvania, most of which are small businesses, which will be subject to this regulation. The primary compliance costs are related to water sampling and analysis and implementation of best management practices for the abatement of abandoned mine drainage. However, these costs are part of the planning process for mine operators when they decide if an area is economically mineable. Overall, compliance costs for mine operators are reduced, as the rulemaking will provide for protection from long-term treatment liability. Compliance assistance for this rulemaking will be provided through the Department's routine interaction with trade groups and individual applicants.

The proposed rulemaking is the result of extensive interaction with the Mining and Reclamation Advisory Board (MRAB)'s Regulation, Legislation and Technical committee. MRAB, the full Board, recommended that DEP proceed with this rulemaking at its October 23, 2014 meeting.

The Department will provide the Commission with the assistance required to facilitate a thorough review of this proposal. Section 5(g) of the Regulatory Review Act provides that the Commission may, within 30 days of the close of the comment period, convey to the agency its comments, recommendations and objections to the proposed regulation. The Department will consider any comments, recommendations or suggestions made by the Commission, as well as the Committees and public commentators, prior to final adoption of this rulemaking.

Please contact me by e-mail at [ledinger@pa.gov](mailto:ledinger@pa.gov) or by telephone at 717.783.8727 if you have any questions or need additional information.

Sincerely,



Laura Edinger  
Regulatory Coordinator

Enclosures



**TRANSMITTAL SHEET FOR REGULATIONS SUBJECT TO THE  
REGULATORY REVIEW ACT**

**I.D. NUMBER:** 7-496  
**SUBJECT:** Remining Requirements  
**AGENCY:** DEPARTMENT OF ENVIRONMENTAL PROTECTION

**TYPE OF REGULATION**

- X Proposed Regulation
- Final Regulation
- Final Regulation with Notice of Proposed Rulemaking Omitted
- 120-day Emergency Certification of the Attorney General
- 120-day Emergency Certification of the Governor
- Delivery of Tolled Regulation
  - a. With Revisions
  - b. Without Revisions

2015 SEP 23 PM 2: 51

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**FILING OF REGULATION**

| <u>DATE</u> | <u>SIGNATURE</u>      | <u>DESIGNATION</u>   |
|-------------|-----------------------|--|
|             |                       | <i>HOUSE COMMITTEE ON ENVIRONMENTAL RESOURCES &amp; ENERGY</i>         |
| 9-23-15     | <i>Shelly Weener</i>  | MAJORITY CHAIR <i>Representative John Maher</i>                        |
| 9-23-15     | <i>Teri K. Koller</i> | MINORITY CHAIR <i>Representative Greg Vidali</i>                       |
|             |                       | <i>SENATE COMMITTEE ON ENVIRONMENTAL RESOURCES &amp; ENERGY</i>        |
| 9-23-15     | <i>Liz Clancy</i>     | MAJORITY CHAIR <i>Senator Gene Yaw</i>                                 |
| 9/23/15     | <i>[Signature]</i>    | MINORITY CHAIR <i>Senator John Yudichak</i>                            |
| 9/23/15     | <i>K Cooper</i>       | <i>INDEPENDENT REGULATORY REVIEW COMMISSION</i><br><i>David Sumner</i> |
|             |                       | <i>ATTORNEY GENERAL (for Final Omitted only)</i>                       |
| 9-23-15     | <i>[Signature]</i>    | <i>LEGISLATIVE REFERENCE BUREAU (for Proposed only)</i>                |

