

RULES AND REGULATIONS

Title 25—ENVIRONMENTAL PROTECTION

ENVIRONMENTAL QUALITY BOARD

[25 PA. CODE CH. 89]

Mine Subsidence Control, Subsidence Damage Repair and Water Supply Replacement

Preamble

The Environmental Quality Board (Board) by this order amends Chapter 89 (relating to the underground mining of coal and coal preparation facilities). The amendments pertain to the control and repair of mine subsidence damage and the replacement of water supplies affected by underground bituminous coal mining.

This order was adopted by the Board at its meeting of March 17, 1998.

A. *Effective Date*

These amendments will go into effect upon publication in the *Pennsylvania Bulletin* as final rulemaking.

B. *Contact Persons*

For further information contact Roderick A. Fletcher, Director, Bureau of Mining and Reclamation, P. O. Box 8461, Rachel Carson State Office Building, Harrisburg, PA 17105-8461, (717) 787-5103, or Joseph Pizarchik, Assistant Counsel, Bureau of Regulatory Counsel, P. O. Box 2063, Rachel Carson State Office Building, Harrisburg, PA 17105-2063, (717) 787-7060. Persons with a disability may use the AT&T Relay Service by calling (800) 654-5984 (TDD users) or (800) 654-5988 voice (users). This rulemaking is available electronically through the Department of Environmental Protection's (Department) Web site (<http://www.dep.state.pa.us>).

C. *Statutory Authority*

The amendments are adopted under the authority of The Bituminous Mine Subsidence and Land Conservation Act (BMSLCA) (52 P. S. §§ 1406.1—1406.21); and section 1920-A of The Administrative Code of 1929 (71 P. S. § 510-20).

D. *Background and Summary*

This rulemaking is intended to bring the Commonwealth's regulations on mine subsidence control, subsidence damage repair and water supply replacement into conformance with the act of June 22, 1994 (P. L. 357, No. 54) (Act 54) amendments to the BMSLCA. In addition to inserting the new provisions implemented by Act 54, this rulemaking also incorporates several changes aimed at clarifying and facilitating the implementation of the new statutory provisions.

This rulemaking also includes changes which are intended to bring the Commonwealth's underground coal mining regulatory program into closer conformance with its Federal counterpart. While the Commonwealth's program is generally broader in terms of the scope of structures covered by subsidence damage repair requirements and the scope of water supplies covered by replacement requirements, there are some areas where the Commonwealth's regulations are not as inclusive as the Federal regulations or incorporate different approaches for resolving damage claims. Regulations are included to

resolve these differences to the extent practical and permissible under the BMSLCA.

This rulemaking also includes changes that are intended to eliminate the confusion over utility protection requirements, which has arisen as a result of an Environmental Hearing Board (EHB) decision in *P.U.S.H. et al. v. DEP, et al.* EHB Docket No. 95-232-R (Consolidated) (Opinion and Order on Motions for Summary Judgment issued November 27, 1996) pp. 5-13. Since the decision, there has been controversy between mine operators and utility owners regarding the measures which must be taken to protect utilities and who bears the burden of taking protective measures. The revised regulations include provisions which are intended to restore the conventional arrangements made between mine operators and utility owners prior to the EHB's *P.U.S.H.* decision.

Finally, the rulemaking also includes changes made for purposes of clarifying the existing regulations. These changes were made in accordance with Executive Order 1996-1.

The following is a description of the final-form regulations by section.

§ 89.5. Definitions.

A definition of the term "de minimis cost increase" was added for clarity. The term identifies a threshold below which an operator is not responsible for compensating a landowner or water user for the increased cost of operating a replacement water supply. The definition is consistent with that employed in the Department's surface mining regulatory program which is derived from Commonwealth case law.

A definition of the term "dwelling" was added for clarity.

A definition of the term "fair market value" was added for clarification. The term is used to determine the amount of compensation an operator must provide to a landowner whose water supply cannot be replaced. The definition is taken from *Blacks Law Dictionary*.

A definition of the term "irreparable damage" was added for clarity. The term is used to describe a level of damage which must be prevented to dwellings and certain agricultural buildings unless the structure owner consents. The definition is modified from that presented in the proposed rulemaking. The final definition includes criteria relating to structural stability, special architectural characteristics and practicality of repairs.

A definition of the term "material damage" was added for clarity and to conform with to the Federal definition in 30 CFR 701.5 (relating to definitions).

A definition of "noncommercial building" was added for clarity and to demonstrate conformance with the Federal definition in 30 CFR 701.5. The term includes "community or institutional buildings" defined in § 86.101 (relating to definitions).

A definition of the term "permanently affixed appurtenant structures" was added for clarity. The term is used to describe structures associated with dwellings and buildings accessible to the public which must be repaired. The term is defined to conform to the Federal term "structures related thereto" which is used to describe structures that are covered in association with occupied residential dwellings.

A definition of the term "public buildings and facilities" was added for clarity. The definition is based on the Federal definition of "public building" in 30 CFR 761.5 (relating to definitions) and the dictionary definition of "facility." The definition is used to clarify which buildings and facilities cannot be undermined if subsidence will cause material damage or reduce the reasonably foreseeable use of the building or facilities.

A definition of the term "public water supply system" was added for clarity. The term is used to designate those aquifers and water bodies that are protected against material damage or reduction in reasonably foreseeable use. If a well or spring supplies a water supply system which falls within the scope of the definition, the source aquifer which recharges that well or spring is eligible for special protection. Similarly, streams and other water bodies supplying these systems are afforded special protection. The definition is based partially on the definition of community water supply system as used in the safe drinking water program. It also includes systems serving public buildings, churches, schools, hospitals and nursing homes.

The term "rebuttable presumption area" was defined to facilitate descriptions of the term when it is used in information requirements and performance standards. The term refers to an area within the proximity of a mine where an operator is presumed responsible for impacting water supplies. The term is defined to encompass an area above the mine, which is determined by projecting a line along a 35° angle from the outside of a coal removal area to the land surface.

Definitions were provided for the terms "underground mining" and "underground mining operations." These terms are used to describe subcategories of activities within the broader term "underground mining activities." Underground mining operations includes all operations which take place in an underground mine, while underground mining refers to the actual extraction of coal. These terms are used to tailor regulatory requirements to the appropriate activity.

A definition of the term "water supply" was added for clarity and convenience. The definition is taken from the language in section 5.1 of the BMSLCA (52 P.S. § 1406.5a) and relates to the types of water supplies which must be replaced when affected by underground mining activities.

§ 89.33. Geology.

Section 89.33 was revised to add coal seam thickness as an information requirement in permit applications. This addition is intended to achieve consistency with the Federal regulation in 30 CFR 784.20(b)(3) (relating to subsidence control plans).

§ 89.34. Hydrology.

Section 89.34 was revised to add the ownership of wells and springs to the list of information which must be provided in the groundwater inventory. This change is intended to achieve consistency with the Federal counterpart regulation in 30 CFR 784.14(b) (relating to hydrologic information).

Section 89.34 was also revised to replace the term "potentially impacted offsite area" with the term "adjacent area." The term "adjacent area" has a specific meaning while the former term does not.

§ 89.35. Prediction of the hydrologic consequences.

Section 89.35 was revised to require permit applicants to predict whether underground mining activities may

result in contamination, diminution or interruption of water supplies. This language is intended to conform to the Federal requirement in 30 CFR 784.14(e).

§ 89.36. Protection of the hydrologic balance.

A new subsection was added to require an operator to describe the measures which the operator will use to replace water supplies impacted by the mining operation. This requirement reflects those contained in section 5.2(j) of the BMSLCA (52 P.S. § 1406.5b(j)) and 30 CFR 784.20(b)(8).

§ 89.67. Support facilities.

Section 89.67 was revised to clarify that this section applies to surface sites associated with underground mining activities. Surface sites include shaft sites, slope sites, drift entry sites, borehole sites, coal loading sites, coal preparation sites and other sites where surface operations associated with underground mining activity take place.

§ 89.141. Subsidence Control: application requirements.

Subsection (a) was revised to require a description of geologic conditions which affect the likelihood or extent of subsidence or subsidence related damage. This revision is intended to conform to the Federal requirement in 30 CFR 784.20(b)(3). Additional language was also inserted to clarify the relationship between the geologic information requirements of § 89.33 and this subsection.

The introductory paragraph in subsection (d) was revised to clarify the area which must be covered by the subsidence control plan. Subsidence control plans must now include all areas where structures, facilities and features may be materially damaged by mine subsidence. At a minimum, the plan must cover the area within a 30° angle of draw of proposed mining to ensure inclusion of all structures that are covered by the Federal rebuttable presumption on subsidence damage.

Subsection (d)(2) is a new information requirement. It requires a description of the potential impacts of subsidence on overlying structures, surface lands and water supplies. This requirement was included to conform to the Federal requirement in 30 CFR 784.20(a)(2).

Subsection (d)(3) requires descriptions of the measures to be taken to prevent material damage to or reduction in the reasonably foreseeable uses of certain structures and features listed in § 89.142a(c). These structures and features include: public buildings and facilities; churches, schools and hospitals; and impoundments and water bodies with storage capacities greater than 20 acre-feet (2.47 hectare-meters). This paragraph was revised from that which appeared in the proposed rulemaking to better clarify a mine operator's options for mining beneath and adjacent to these structures and features.

Subsection (d)(4) requires a description of anticipated effects due to mine subsidence. This paragraph was added to conform to the Federal requirements in 30 CFR 784-20(f).

Subsection (d)(5) requires a general description of the measures a mine operator will take to correct material damage to surface lands if damage occurs as a result of underground mining. Subsection (d)(6) requires a general description of the measures a mine operator will take to prevent irreparable damage to structures enumerated in § 89.142a(f)(1)(iii)–(v). Subsection (d)(7) requires a description of any monitoring the mine operator will conduct in conjunction with his subsidence control plan.

Subsection (d)(8) requires a description of the measures that will be taken to maximize mine stability in accordance with § 89.142a(a). Subsection (d)(9) and (10) require descriptions of the measures that will be taken to protect perennial streams and, in particular, those perennial streams and aquifers which serve as significant sources to public water supply systems.

Subsection (d)(11) is a new information requirement which is intended to elicit additional information on utilities and the measures that will be used for their protection. New subsection (d)(11) requires information concerning the construction, use and approximate age of pipelines, which will enable the Department to better assess the potential of damage which would result in an imminent hazard to human safety.

Subsection (d)(12) and (13) require information relating to subsidence control measures that must be taken to comply with statutes other than the BMSLCA, and authorizes the Department to require any additional information as needed to properly evaluate subsidence control plans.

§ 89.142a. Subsidence control: performance standards.

Subsection (a) sets forth general subsidence control requirements including the requirement to mine in accordance with an approved subsidence control plan, the requirement to maximize mine stability and the restriction on mining beneath structures in areas where the cover thickness is less than 100 feet (30.48 meters). Paragraph (3) is revised to clarify the requirements for mining beneath structures in areas where cover thickness is less than 100 feet (30.48 meters).

Subsection (b) is a new requirement pertaining to premining structure surveys. Mine operators are now required to conduct premining surveys of dwellings, buildings that are accessible to the public, noncommercial buildings customarily used by the public, barns, silos and certain agricultural structures. The surveys must be conducted prior to the time the structure falls within a 30° angle of draw of underground mining. Surveys must describe the premining condition of the structure and, if the structure is historically or architecturally significant, the presence of any architectural characteristics that will require special craftsmanship to restore or replace. Requirements also call for survey results to be kept confidential.

Subsection (c) sets forth the special protections afforded to public buildings and facilities, churches, schools, hospitals, impoundments and water bodies of 20 acre-feet (2.47 hectare-meters) and larger, and aquifers and perennial streams which serve as significant sources to a public water supply system. Subsection (c) retains the existing requirements for mining beneath these structures and features. The default standard for mining beneath these structures and features is 50% coal support although the Department may require a greater percentage if the overburden thickness is sufficient to render 50% coal support inadequate or if the Department finds that 50% coal support is proving insufficient in a particular mine. Subsection (c) also clarifies alternatives to the coal support standard including surface measures which may be undertaken in conjunction with planned and controlled subsidence.

Subsection (d) prohibits a mine operator from mining in a manner which would cause irreparable damage to dwellings and permanently affixed appurtenant structures, barns, silos and certain permanently affixed structures of 500 or more square feet (46.45 or more square

meters) used for agricultural purposes. The prohibition is predicated upon the Department determining that irreparable damage would result from the proposed mining. The proposed mining can occur if the mine operator obtains the consent of the structure owner to allow the damage to occur. Alternatively, the proposed mining can proceed if the mine operator, prior to mining, implements measures approved by the Department to minimize or reduce the irreparable damage which would result from subsidence.

Subsection (e) is a revised version of an existing regulation concerning the repair of damage to surface lands. The former regulation was vague in that it required operators to maintain the value and reasonably foreseeable use of surface lands. The revised version specifies that an operator must correct material damage to surface lands. The revised language also parallels that of the Federal counterpart regulation 30 CFR 817.121(c)(1) (relating to subsidence control).

Subsection (f) is a new regulatory section which reflects the provisions of section 5.4 of the BMSLCA (52 P. S. § 1406.5d). It sets forth an operator's responsibility to repair or compensate for subsidence damage to buildings that are accessible to the public and their permanently affixed appurtenant structures; noncommercial buildings customarily used by the public; barns, silos and certain agricultural structures of 500 or more square feet (46.45 square meters) in area; and, dwellings, permanently affixed appurtenant structures and certain improvements. It should be noted that section 5.4(a)(3) of the BMSLCA and the corresponding clause in § 89.142a(f)(1)(iii) are now being interpreted to require the operator to repair all dwellings in place at the time of underground mining and all permanently affixed appurtenant structures in place at the time of underground mining. This interpretation is based on the rule of statutory construction known as "the rule of the last antecedent" which is also an accepted principle of English grammar. This rule provides that unless plainly meant otherwise a modifying clause operates only upon the phrase preceding it. This interpretation differs from the Department's previous interpretation in that the requirement to be in place on August 21, 1994, the date of first publication of the permit application, or date of first publication of a permit renewal application is no longer viewed as applicable to dwellings or permanently affixed appurtenant structures. Under the rule of the last antecedent, the requirement for being in place on one of the specified dates applies only to improvements. In addition, language has been added to the text of the amendment to clarify that the requirements also pertain to mining conducted on August 21, 1994, the effective date of Act 54.

Subsection (g) is a revised version of the current regulation regarding protection of utilities. Subsection (g) includes the basic requirement to minimize damage, destruction or disruption in services provided by utilities, which is derived from the Federal regulation in 30 CFR 817.180 (relating to utility installations). Paragraph (2) describes various measures a mine operator may take in complying with the performance standard, including a program for detecting subsidence damage and minimizing disruption in service; providing timely notice of proposed mining to the utility operator; providing support in accordance with the utility owner's support rights; providing temporary or alternate utility service to customers; and demonstrating that mine subsidence will not materially damage the utility. This represents a change from the proposed rulemaking in that it will allow notification to suffice for meeting the requirement to minimize damage, destruction or disruption in services provided by utilities.

It will then be up to the investor-owned utility to protect the utility line. If the utility line is owned by a government agency, mining beneath the utility line will not be allowed to occur if subsidence will cause material damage to the utility line or reduce its reasonably foreseeable use.

Subsection (h) is an existing regulation on perennial stream protection which has been relocated during this rulemaking. Subsection (h) requires mine operators to take measures to maintain the value and reasonably foreseeable uses of perennial streams and to restore to the extent technologically and economically feasible any streams which have been adversely impacted by mining.

Subsection (i) relates to the prevention of imminent hazards to human safety. Paragraph (1) restates the former regulation found under § 89.143(f). It requires the Department to suspend underground mining beneath urbanized areas, certain buildings and facilities and perennial streams if the mining poses an imminent hazard to human safety. Paragraph (1) was relocated from former § 89.143(f) and modified to limit protection of solid and hazardous waste disposal facilities to those which contain a liner. Paragraph (2) restates section 9.1(a) of the BMSLCA (52 P. S. § 1406.9a(a)) and gives the Department broad authority to restrict or prohibit mining if it determines that there will be an imminent hazard to human safety.

Subsection (j) is a performance standard relocated from § 89.143(g). It prohibits mining in an area that is not covered by an approved subsidence control plan.

Subsection (k) is a new performance standard which requires mine operators to report mine subsidence damage claims to the Department. This requirement will enable the Department to investigate subsidence damage incidents near the time of occurrence when details relating to causation and extent of damage are best observed.

Subsection (l) is an advisory statement that has been added at final rulemaking. It clarifies that the Department does not have the authority to resolve disputes over property rights.

§ 89.143a. Subsidence control: procedure for resolution of subsidence damage claims.

Section 89.143a is a new section which describes the responsibilities of mine operators, structure owners and the Department in resolving claims of mine subsidence damage. These responsibilities are taken directly from section 5.5 of the BMSLCA.

§ 89.144a. Subsidence control: relief from responsibility.

Section 89.144a is a new section which describes the conditions under which an operator may be relieved of responsibility to repair or compensate for damage to a structure. This section comes directly from the BMSLCA, and is included to alert operators and structure owners of their rights and responsibilities under the BMSLCA.

§ 89.145a. Water supply replacement: performance standards.

Section 89.145a is an entirely new regulatory section that pertains to the restoration or replacement of water supplies which are contaminated, diminished or interrupted by underground mining.

Subsection (a) requires mine operators to conduct premining surveys of all water supplies prior to mining in an area which could result in the water supplies being impacted. The subsection establishes a default distance of 1,000 feet (304.80 meters) for determining the timing of surveys. It further provides that the Department may

increase or decrease this distance based on site specific considerations. Paragraph (2) describes the minimum information to be obtained during the survey and limits information acquisition to that which is reasonably available. Paragraph (3) describes the procedures a mine operator must follow when the landowner or water user denies access to conduct a survey.

Subsection (b) sets forth a mine operator's basic responsibility to restore or replace a water supply that has been contaminated, diminished or interrupted by the operator's underground mining activities. The language has been revised from that of the proposed rulemaking to reference underground mining activities rather than underground mining. This change was made to conform to the language of the statute. Language has been added to clarify that this subsection does not apply to those aspects of underground mining activities that are regulated as surface mining activities under Chapter 87 (relating to surface mining of coal).

Subsection (c) requires a mine operator to notify the Department within 24 hours of receiving a complaint that the operator's underground mining activity has affected a water supply.

Subsection (d) repeats the statutory requirement to diligently investigate all complaints of water supply contamination, diminution or interruption. It also requires the operator to notify the Department of the results of investigations in a timely manner.

Subsection (e) sets forth the requirement to provide temporary water when a water supply has been impacted by underground mining activity within the rebuttable presumption zone and the landowner or water user is without a readily available alternate source of water. It also establishes basic criteria for the quality and quantity of temporary water supplies.

Subsection (f) sets forth the criteria for determining the adequacy of a permanently restored or replacement water supply. It establishes standards for quality, quantity, reliability, cost, maintenance and control. The requirements specified in this subsection are for the most part the same as those of the Department's surface mining program which is based on similar statutory language and several court decisions interpreting that language. In regard to costs, subsection (f) requires that a mine operator must provide for the permanent payment of increased operation and maintenance costs which are more than de minimis. Subsection (f) also includes a clause which provides for the assumption of reasonable expansion in determining the water needs of agricultural operations.

§ 89.146a. Water supply replacement: procedure for resolution of water supply damage claims.

Section 89.146a is a new regulatory section which summarizes the responsibilities of mine operators, landowners, water users and the Department in resolving claims of water supply contamination, diminution or interruption. The procedures described in this section are based on section 5.2 of the BMSLCA (52 P. S. § 1406.5b).

§ 89.152. Water supply replacement: relief from responsibility.

Section 89.152 is a new section which describes the conditions under which an operator may be relieved of responsibility to restore or replace a water supply. These releases are based on sections 5.1 and 5.2 of the BMSLCA.

§ 89.153. Water supply replacement: rebuttable presumption.

Section 89.153 is a new regulatory section which describes the effect of the rebuttable presumption provision under section 5.2 of the BMSLCA, and the means by which an operator may rebut the presumption that he is liable for the contamination, diminution or interruption of a water supply.

§ 89.154. Maps.

Section 89.154 describes the contents of mine subsidence control plan maps and 6 month maps. Most of these requirements are existing and have been relocated from § 89.142. Subsection (a) describes the coverage and content of the general mine map which is submitted at the time of permit application. Subsection (b) describes the coverage and content of 6-month maps, which are submitted semiannually during permitted operations.

In subsection (a), the scope of the general mine map has been modified to comply with Federal mapping requirements in 30 CFR 784.20(a)(1). Under the proposal, the map must show all areas where structures may be damaged by mine subsidence, and at a minimum cover the area within a 30° angle of draw of the limits of underground mining. This latter provision is intended to assure that all structures covered by the rebuttable presumption under the federal program are considered in the Commonwealth's subsidence control plans.

Subsections (a) and (b) also list the details which must be shown on subsidence control maps. Many of these details are the same as those required by current regulation. Some additional details have been added in conjunction with the Act 54 amendments to the BMSLCA. The maps must now include all water supplies and all structures covered by subsidence damage repair and compensation provisions. In addition, subsection (a)(6)(x) and (xi) has been added to require the depiction of all utilities listed under § 89.142a(g).

§ 89.155. Public notice.

This section contains public notice requirements which have been relocated from § 89.144. Two additional parties have been added to the list of persons to be notified. Owners of all structures and owners of all utilities must now be notified of proposed mining.

Deleted regulations.

Sections 89.142—89.145 are deleted under this rulemaking. Many of these former provisions are incorporated in §§ 89.142a, 89.154 and 89.155.

E. Summary of Comments and Responses on the Proposed Rulemaking

At its meeting on March 18, 1997, the Board approved publication of proposed amendments. The proposed amendments were published at 27 Pa.B. 2379 (May 10, 1997). Comments were accepted from May 10 to July 9, 1997. A public hearing was held in regard to the proposed rulemaking on June 18, 1997.

Comments were received from 45 persons during the course of the public comment period. Commentators included private citizens, mining interests, utility interests and the Independent Regulatory Review Commission (IRRC). In addition, informal comments were received from the United States Office of Surface Mining Reclamation and Enforcement (OSM).

The comment period associated with the May 10 notice represents the second opportunity for the public to comment on this rulemaking package. In September 1996,

the Department conducted an advance notice of proposed rulemaking (ANPR), in which it made draft amendments available for public review and comment. The availability of the ANPR proposed amendments was published at 26 Pa.B. 4693 (September 28, 1996) and a 6-week comment period was provided.

The following is a discussion of comments received on the proposed rulemaking that was published on May 10, 1997.

Definition of "de minimis cost increase"

One comment was received regarding the proposed definition of "de minimis cost increase." The commentator recommended deleting the \$60 per year figure on the basis that it will become obsolete with time.

The Board believes that it is appropriate to retain the \$60 figure to define a minimum threshold for requiring compensation arrangements. Long term financial arrangements for amounts less than \$60 per year are difficult to maintain because of administration costs. A detailed discussion on the rationale behind the figures included in the definition is provided in the Preamble to the Board's proposed rulemaking on water supply protection/replacement, Chapter 87 and 88 at 27 Pa.B. 2246 (May 3, 1997).

Definition of "irreparable damage"

Six comments were received regarding the proposed definition of "irreparable damage." One commentator recommended that the term be tied to ability to be repaired rather than cost. Two commentators recommended deleting the reference to structural components because they believed it could be subject to a wide range of interpretations and lead to unnecessary restrictions of full extraction mining. A third commentator recommended that the definition should include damage which renders a structure less strong or less valuable than it was prior to mining. A fourth commentator recommended revising the definition to include criteria relating to the structural stability of the repaired structure and other parameters which insurance companies normally consider when selecting an approach to repair. The fourth commentator also recommended deleting the references to regulations in which the term appears, noting that the references were incomplete and unnecessary.

After reviewing these comments, the Board decided to revise the definition of "irreparable damage" based on the recommendations of the fourth commentator. The recommended definition is reasonable and addresses the concerns raised by other commentators. The revised definition includes considerations relating to structural stability, the cost of repairs, compliance with building codes and the presence of architectural characteristics which will require special craftsmanship to restore or replace. It also provides that architectural characteristics need only be considered in cases where the main structure is historically or architecturally significant. The Board believes that the revised definition will facilitate determinations relating to the occurrence or likelihood of irreparable damage.

In regard to the concern about restricting mining, the Board notes that the performance standard in § 89.142a(d) provides three options for dealing with situations when irreparable damage is predicted. An operator may take measures on the surface to reduce the level of damage. An operator may also obtain the consent of the structure owner to allow irreparable damage. As a third option, the operator may restrict mining so as to reduce the level of resultant damage.

The final definition is also revised to delete references to information requirements and performance standards where the term "irreparable damage" appears. The term only appears in reference to subsidence damage to structures, so there is no need to qualify its use.

Definition of "material damage"

One comment was received in regard to the proposed definition of "material damage." The commentator noted that the definition was inconsistent with the Federal definition in that it included physical changes which result in significant loss in production or income to the owner or user of the land. The commentator noted that the Federal definition does not include the phrase "to the owner or user of the land."

Since the objective of defining material damage is to conform to the Federal definition, the phrase is deleted in the final definition.

Definition of "noncommercial building"

One commentator noted that the term "noncommercial building" was not defined in § 89.5. The commentator believed that a definition is necessary to ensure that the term includes all structures covered by the Federal definition. The commentator also noted that the term must include "community or institutional buildings" to be as effective as the Federal regulations.

A definition of "noncommercial building" is included in the final rulemaking. The term is defined in a manner which conforms to the Federal definition.

Definition of "permanently affixed appurtenant structures"

Four comments were received regarding the proposed definition of "permanently affixed appurtenant structures". One commentator was concerned that the term may exclude some structures covered under the Federal program because they are not permanently affixed. One commentator supported the inclusion of customer-owned utilities, while another commentator proposed revising the definition to include all utilities. One commentator also noted errors in the references that were included in the definition.

In regard to the first commentator's concern, the definition of "permanently affixed appurtenant structures" includes only those structures which are attached to the ground in a permanent manner. While this definition may not include all structures encompassed by the Federal definition, it does not render the Commonwealth's program less effective than the Federal program. Structures which are not permanently affixed are rarely susceptible to subsidence damage. In addition, the Commonwealth's program addresses damage to certain "improvements," a term which covers many structures that are not "permanently affixed."

The Board does not believe it is appropriate to include all utilities in the definition of "permanently affixed appurtenant structures." This could be interpreted to require repair of damage to pipelines owned by investor-owned utilities. The Board does not believe that the BMSLCA authorizes these provisions. The responsibility for repairing damage to investor-owned utilities is governed by the respective property rights of mine operators and utility owners. The final-form regulations therefore retain the reference to customer-owned utilities.

The reference to other structures in the first sentence of the definition is corrected to include § 89.142a(f)(1)(i) and (iii).

Definition of "public water supply system"

Four comments were received regarding the proposed definition of "public water supply system". One commentator believed that the definition may be less inclusive than the Federal definition. A second commentator recommended revising the definition to clarify that hunting camps and resorts are not included. Two commentators questioned the need to include water systems serving public buildings, churches, schools, hospitals and nursing homes since water supplies serving these facilities are already covered by replacement provisions. The commentator further noted that many of the systems covered by the definition could withstand temporary losses of water without creating an imminent hazard to human safety.

No changes were made in response to these comments. In reviewing the Federal regulations, it was noted that the term "public water supply system" is not defined in the Federal regulations. Consequently, there is no basis for the assertion that the Commonwealth's definition is less inclusive than the Federal term.

Even though the term is not intended to include hunting camps and resorts, there is no reason to specifically address them in the definition. The current definition includes sufficient criteria to exclude these facilities from coverage. Generally, neither of these facilities have year round residents, nor do they qualify as public buildings, churches, schools, hospitals or nursing homes.

The fact that public water supplies are covered by water supply replacement provisions has nothing to do with the protections afforded to source aquifers and water bodies that serve public water supply systems. These aquifers and water bodies are set aside for special protection under section 9.1(a) of BMSLCA (52 P.S. § 1406.9a(a)). Also, the requirement to prevent material damage to these features is not limited by the qualification that the material damage must also create an imminent hazard to human safety.

Definition of "rebuttable presumption area"

Two comments were received regarding the proposed definition of "rebuttable presumption area." One commentator noted that the Federal regulations do not include a rebuttable presumption of causation which is applicable to water supply replacement. The commentator further asserted that there is no basis for applying a rebuttable presumption to water supply impacts. The second commentator recommended that the term be revised to reference the 3-year limitation of liability for water supply replacement provided by the BMSLCA.

In response to the first comment, the Board notes that the configuration of the rebuttable presumption area is specified in the BMSLCA. It must therefore be included without regard to its technical basis. The Board does, however, note that the 35° angle used to define the area of probable impacts is generally consistent with figures published by researchers at the Pennsylvania State University and West Virginia University.

The Board does not believe that it is appropriate to insert language relating to the 3-year period of liability. The BMSLCA does not provide for the 3-year limit to serve as the basis for rebutting the presumption of liability. Rather, it provides for an operator to be relieved of liability in cases where water supply impacts occur more than 3 years after the completion of underground mining activities. The 3-year release only applies when the mine is closed and reclamation was completed more than 3 years prior to the time the impacts occurred.

Definitions of "underground mining" and "underground mining operations"

The Preamble to the proposed rulemaking assigned specific meanings to the terms "underground mining" and "underground mining operations" to distinguish the manner in which these terms are used in the revised regulations. IRRC recommended that the Board formally incorporate these terms and definitions in § 89.5. The Board has included these terms and definitions in the final rulemaking. The term "underground mining" is defined to mean the extraction of coal in an underground mine. The term "underground mining operations" is defined to include underground mining and other operations which take place underground, such as the operation and reclamation of shafts and adits, the operation of underground support facilities, in situ processing, hauling, storage and blasting.

Definition of "water supply"

Three comments were received regarding the proposed definition of "water supply." One commentator recommended amending the definition to include the phrase "as used in this chapter" to clarify that the meaning of the term does not apply outside the scope of Chapter 89. Another commentator questioned whether the term would include appurtenant delivery systems and water supplies which are used to irrigate noncommercial gardens and agricultural fields like the Federal regulations. A third commentator questioned whether the term would include water supplies used to irrigate noncommercial gardens and agricultural fields.

No changes were made in response to these comments. It is unnecessary to state that the definition of "water supply" in § 89.5 applies only to Chapter 89 because the lead sentence in § 89.5(a) already indicates this.

The definition does not include the term "appurtenant delivery system" because it is based on the language of the statute, which does not include the term. Further, the Board does not wish to include language which could be interpreted to include investor-owned water transmission and distribution mains which are rightfully classified as utilities. The Board notes that this definition does not limit in any way the duty of an operator to provide pumping equipment and connecting piping when the mine operator is required to replace a water supply under § 89.145a.

The definition of "water supply" is expected to include all water supplies covered under the Federal program, including those which are used for irrigating noncommercial gardens and noncommercial agricultural operations. The definition only excludes water supplies which are used in production agriculture and serve irrigation systems installed after August 21, 1994.

Predicting hydrologic consequences and protecting the hydrologic balance

Numerous comments were received regarding proposed revisions to §§ 89.35 and 89.36. Section 89.35 was revised to incorporate the Federal requirements to predict whether underground mining activities may result in contamination, diminution or interruption of water supplies within the permit or adjacent area. Section 89.36 was revised to require a description of the measures which will be taken to replace water supplies which are contaminated, diminished or interrupted by underground mining activities.

One commentator recommended that the existing language of § 89.35 be revised to require the use and verification of models to predict hydrologic impacts.

This recommendation was not adopted because models are only one method that a permit applicant may use to develop his prediction. Equivalent or better predictions can often be made by observing and reporting the hydrologic impacts of nearby mines.

Two commentators expressed concern that requirements to predict water supply impacts in § 89.35 and to describe replacement measures in § 89.36 could lead to permit denial, if this information indicated the mining would affect water supplies.

The Board does not believe that a prediction of impacts to water supplies will typically result in permit denial. The general requirement under the BMSLCA is to restore or replace those supplies which are impacted. The prediction in this part is intended to make the operator aware of the extent of his responsibilities and inform the public about the nature of impacts which are likely to occur. Nevertheless, the Department could deny a permit if it determined that mining would eliminate the available water resources over a large area (under authority granted by The Clean Streams Law (35 P. S. §§ 691.1—691.1001)).

One commentator thought that the term "underground mining activities" should be replaced with the term "underground mining" to clarify that the predictions and descriptions required in §§ 89.35 and 89.36 pertain only to water supplies which are impacted by the extraction of coal in an underground mine.

This recommendation was not adopted because the predictions and descriptions required by these sections must address the hydrologic impacts of the entire mine, including those impacts resulting from underground mining, underground mining operations and activities conducted at surface sites.

Several commentators expressed disappointment that § 89.36 and the regulations in general allowed for the contamination, diminution or interruption of water supplies.

The Board acknowledges the concerns of these commentators but notes that the BMSLCA clearly allows for a water supply to be impacted as long as it is replaced or the affected landowner or water user receives appropriate compensation. The regulations follow the parameters established in the statute by the General Assembly for addressing contamination, diminution or interruption of water supplies.

One commentator recommended that § 89.36 be revised to require site specific descriptions of the replacement measures that will be taken for each impacted water supply. The commentator felt that general descriptions such as "will drill deeper or wider" were insufficient.

The Board does not believe that it is necessary to provide details that are applicable to the level of an individual water supply. It is likely that many water supplies in a given area will be able to be replaced by the same means. Further, simple proposals such as drilling to a deeper aquifer may be sufficient if the permit application documents the presence of suitable water in the general area where replacement may be necessary.

One commentator recommended revising § 89.36 to incorporate the statutory provision that "nothing contained herein shall be construed as authorizing the Department to require a mine operator to provide a replacement water supply prior to mining as a condition of securing a permit to conduct underground mining."

Section 89.36 is revised to reflect the proviso in section 5.2(j) of the BMSLCA. However, the Board also notes that section 9.1 of the BMSLCA provides that nothing in the act shall be construed to amend, modify or otherwise supersede standards related to the prevailing hydrologic balance requirement of the Surface Mining Control and Reclamation Act of 1977 (30 U.S.C.A. §§ 1201—1328) (Federal SMCRA). In accordance with this provision, the Department would have authority to deny permits in situations when mining would eliminate the available water resources over a large area or where a replacement source was not available.

Requirements for support activities

Four comments were received regarding proposed revisions to § 89.67 relating to support facilities. Three of the commentators favored retaining the existing language of the section. Two of these commentators objected to narrowing the scope of the regulation, while the other supported keeping the language the same as the Federal counterpart regulation. Two commentators recommended adding the provision that a mine operator's responsibility to protect utilities would be limited in accordance with its property rights.

The Board believes that it is appropriate to narrow the scope of this regulation to address only those activities which take place at surface sites associated with an underground mine. There is sufficient authority in Chapter 89, Subchapter F (relating to subsidence control) to regulate those aspects of the underground mining activity which take place underground. Together, these requirements are no less effective than the Federal regulation in 30 CFR 817.180.

In regard to concerns about mining rights, the Board believes that it is appropriate to restrict surface operations in the vicinity of utilities without regard to a mine operator's right to mine the coal. Activities at surface sites associated with an underground mine are regarded as surface mining activities and are therefore subject to the Federal SMCRA. Furthermore, the activities which typically take place at surface sites do not involve the mining of coal.

Subsidence control plans

Numerous comments were submitted regarding proposed revisions to § 89.141(d). Proposed changes included inserting new requirements relating to water supply replacement and repair of subsidence damage and revising language to clarify several existing information requirements.

Two commentators noted that subsidence control plan requirements did not include potential impacts on "renewable resource lands." The commentators noted that Federal regulations require these impacts on renewable resources lands to be assessed.

The Board does not believe it is necessary to revise § 89.141(d) to include references to renewable resource lands. Chapter 89 does not use the term renewable resource lands, per se. Chapter 89 does, however, address aquifers, water supplies, perennial streams and surface lands, to cover all features which may fall within the scope of the term, as it is used in the Federal regulations. Section 89.141(d) currently includes specific references to aquifers, water supplies, perennial streams and surface lands and the means which will be used to protect these features.

One commentator observed that subsidence control plan coverage could be limited to areas within a 30° angle of

draw of the proposed mine. The commentator believed that this could provide less coverage than the Federal regulations which require subsidence control plans to consider all areas where the value or reasonably foreseeable uses of structures and renewable resource lands will be diminished by mine subsidence.

The Board notes that § 89.141(d) provides that subsidence control plans must address all areas where structures, facilities and features may be damaged by mine subsidence, and that the 30° angle of draw is only used as a minimum criterion for defining this coverage. Subsidence control plans prepared under subsection (d) should therefore be no less inclusive than those required by the Federal regulations.

Two commentators recommended adding planned and controlled subsidence to the list of available options for protecting public buildings and other structures listed in § 89.141(d)(3) and (6). The commentators also recommended eliminating references to support areas which they assert were eliminated when section 4 of the BMSLCA (52 P. S. § 1406.4) was repealed.

The Board did not adopt this recommendation because planned and controlled subsidence by itself does not meet the intent of the statute. These paragraphs pertain to the special protection afforded to public buildings and facilities, churches, schools, hospitals and impoundments and water bodies with volumes of 20 acre-feet (2.47 hectare-meters) or more. If any of these structures or features are to be subsided, it will usually be necessary to take surface measures in conjunction with planned and controlled subsidence to achieve the necessary level of protection. It is these surface measures which constitute the means of protection rather than the planned and controlled subsidence. Furthermore, there is a need to retain the concept of support areas beneath structures and features which have been set aside for special protection under the BMSLCA. Even if alternative protection measures are proposed, these measures must be taken prior to the time mining advances into the area where it could damage the structure or feature.

Two commentators noted that proposed § 89.141(d)(6) included contradictory provisions. One provision prohibited mining within the support area of public buildings and other protected structures. Another provision required 50% coal support while allowing planned and controlled subsidence if the latter would provide protection equivalent to that provided by coal support.

After reviewing this matter, the Board decided to delete proposed subsection (d)(6) in its entirety. Subsection (d)(6) was found to be both internally inconsistent and repetitive of requirements specified in § 89.141(d)(3). Information requirements relating to the protection of public buildings and facilities, churches, schools, hospitals and other selected features are now covered entirely in subsection (d)(3).

Another commentator thought that the subsidence control plans should include more detailed information concerning the steps to be taken to prevent subsidence damage to utilities, homes and other structures.

In response, the Board notes that the BMSLCA limits the operator's responsibility to prevent material damage to a small list of structures and features, that is, public buildings and facilities, churches, schools, hospitals and large water bodies. Dwellings and certain agricultural structures are protected against irreparable damage but not against lesser levels of damage. While the BMSLCA does protect "public facilities," it does not require the

prevention of material damage to investor-owned utilities. Section 89.141(d) requires permit applicants to describe the measures that will be taken to comply with the various performance standards in the statute and the regulations. Generally, this information is provided in a manner that addresses groups of structures. Because of similarities among structures within the same group, the measures that are proposed for a particular group can be expected to apply to any structure within the group. It is usually unnecessary to tailor descriptions to individual structures unless an applicant can predict in advance that a specific structure within a group will require special treatment. In addition, if a new structure is built after permit issuance, approved measures are already in place to provide for its treatment. In some cases, it may be acceptable for an applicant to propose several options so that he can decide upon the best method nearer to the time the structure is undermined.

One commentator recommended using the term "underground mining" rather than "underground mining activities" and "underground mining operations" in § 89.141(d)(6) and (9). The commentator noted that these paragraphs address subsidence concerns which are associated with coal extraction.

The Board agreed with this recommendation and incorporated these revisions into the final-form regulations.

One commentator recommended inserting the terms "material" or "materially" to modify the word "damage" in § 89.141(d) and in paragraphs (2), (3) and (5). The commentator also recommended modifying subsection (d)(5) to clarify that damage minimization measures with respect to dwellings and agricultural structures are only required if "irreparable damage" will occur. The commentator further recommended deleting the reference to preventing damage to dwellings, agricultural structures and surface land as found in paragraph (7).

The Board agreed with the commentator's recommendation to use the term "material damage" in § 89.141(d)(2), (3) and (5). These changes are in accordance with the protections provided by the BMSLCA. Paragraph (5) has been revised to delete the reference to structures identified in § 89.142a(f)(1) since the specific plans to minimize irreparable damage to a particular structure are best determined near the time of mining rather than at the time of permit application. Paragraph (5) has also been revised to require correction of damage rather than mitigation of damage. No changes were made to paragraph (7) since this requirement only pertains to situations where an operator opts to prevent irreparable damage using a subsidence monitoring program. It is further noted that paragraph (7) restates a Federal program requirement.

One commentator recommended that "facilities" associated with churches, schools and hospitals should also be protected against material damage under § 89.141(d)(3) and (6). The Board did not adopt this recommendation.

One commentator asserted that there should be no requirement to minimize subsidence or subsidence-related damage in cases where planned subsidence is proposed. The commentator further asserted that the Federal regulations include this provision.

The Board does not agree with this assertion. Public buildings and facilities, churches, schools, hospitals, large impoundments and water bodies, and aquifers and bodies of water which are significant sources to public water supply systems have been set aside for special protection under the BMSLCA and the Federal regulations. It is,

therefore, appropriate to restrict coal extraction when necessary to prevent material damage or reductions in the reasonably foreseeable uses of these structures and features. The Federal program follows the same approach.

One commentator recommended that § 89.141(d)(3) or (6) should be revised to provide for owners of public buildings and facilities, churches, schools and hospitals to waive the protection afforded to their structures under section 9.1 of the BMSLCA.

The Board did not adopt this recommendation because the BMSLCA does not provide that this protection can be waived by the owner of these structures. Even so, it may be possible to conduct full extraction mining under certain protected structures if the structure owner consents and the mine operator takes surface measures to prevent material damage.

Eleven commentators recommended revising § 89.141(d)(11) to require more detailed descriptions of the measures a mine operator will take to protect overlying utilities. One commentator recommended revising subsection (d)(11) to simply restate the Federal requirement and include a provision that notice to the utility company is sufficient to fulfill the utility protection requirement. One commentator recommended that subsection (d)(11) should be revised to require information that will enable the Department to identify situations involving imminent hazards to human safety. IRRC recommended defining the term "utilities" to clarify the scope of paragraph (11).

After reviewing these and other comments regarding the protection of utilities, the Board decided to revise the final-form regulations in subsection (d)(11) to require additional information about utilities and the measures which mine operators or utility companies, or both, will take to minimize damage, destruction or disruption in service. This information will enable the Department to identify situations which could lead to imminent hazards to human safety and serve to inform interested members of the public about the measures which will be employed to protect utilities. In some circumstances, proposing notice to the utility owner will constitute a satisfactory protection plan. The Board also added a cross reference to § 89.142a(g) to clarify the specific utilities covered by subsection (d)(11).

One commentator expressed concern that the requirements in proposed § 89.141(d) lacked the clarity needed to guide permit reviewers. As an example, the commentator suggested that the description of potential impacts on overlying structures in subsection (d)(2) could be satisfied by the response there will be no impacts.

The Board does not share this view. Section 89.141(d) was revised to match information requirements with the performance standards in § 89.142a. In addition, § 89.141(d)(3) was added to clarify the requirements for mining beneath public buildings and facilities, churches, schools, hospitals and other protected features.

Mining beneath shallow cover and maximizing mine stability

Several comments were received regarding the proposed revisions to § 89.142a(a). One commentator recommended reinstating the language allowing development of mine openings without the need for stability demonstrations. Another commentator was concerned that the added language on stability demonstrations would open shallow cover areas to mining. The second commentator noted the history of mine subsidence problems associated with shallow cover mining in this Commonwealth.

The Board made no changes to § 89.142a(a) in response to these comments. The purpose of the proposed revisions was to clarify the requirements for mining in areas where the cover is less than 100 feet (30.48 meters). Mine workings in the interval between the surface and 100-foot depth may be unstable due to geologic conditions. The revised regulations require that workings in this interval be designed to be stable, especially in settings where there are overlying structures. Most mine openings should be able to meet stability requirements because they are designed for long-term use.

One commentator recommended deleting the requirement to maximize mine stability in § 89.142a(a)(4). The Board does not believe that it is appropriate to delete this requirement, because it is derived from section 5(e) of the BMSLCA.

Premining structure surveys

Numerous comments were received regarding proposed requirements for premining surveys of structures.

One commentator noted that the Federal regulations require the results of premining surveys to be included in permit applications so that this information is available to the landowner and the public.

The Board does not agree with the Federal concept of requiring survey results to be included in permit applications. Survey results are more accurate if they are obtained nearer to the time of mining. Several years may elapse between the time of permit application and the time a structure is undermined. Over this time the structure owner may make improvements or the structure may undergo natural deterioration which would not be reflected in a survey conducted at the time of permit application. Furthermore, since survey results may include photographs showing the contents of people's homes, there is a reason for keeping this information confidential rather than making it available for public review.

One commentator recommended that § 89.142a(b) includes a listing of landowner's rights so that people do not have to refer to the BMSLCA when reviewing mine operator's requests to gain access to their property.

While this recommendation has some merit, the Board believes that there is little to be gained by attempting to restate these rights in the regulation. It would be unwieldy to incorporate the full text of several sections of the statute in the regulations. Further, any attempt to paraphrase the statute could lead to conflicting interpretations. The Board believes that the best way to apprise landowners of their rights is for the Department to develop information sheets relating to survey requirements and include on those sheets the text of relevant sections of the BMSLCA.

One commentator recommended that surveys should only be required when a structure will undergo planned subsidence.

The Board does not believe that that limitation is appropriate. Except for structures covered by § 89.142a(c), few structures will be afforded support which qualifies as permanent. As a result, there could be instances of unplanned subsidence.

Two commentators recommended that mine operators should be required to submit all survey results to the Department. One commentator questioned how the Department will be able to verify the accuracy of structure survey results if it does not collect the results of every survey.

The Board believes that the statute and the regulations provide sufficient incentives for mine operators to conduct accurate surveys. The intent of the survey is to document premining conditions and damage so that the operator is not required to repair damage which is unrelated to mine subsidence. It is therefore in the operator's interest to conduct a thorough and accurate survey. In addition, the regulations require mine operators to provide copies of survey results to structures owners. The structure owner can report any discrepancies to the Department for follow up investigation.

The Board does not believe it is necessary to require mine operators to submit all survey results to the Department. The Department does not necessarily need to know survey results unless it is called upon to intervene in the resolution of a claim. The provision that the claims need only be submitted to the Department at its request has been included to help ensure the confidentiality of survey information. In addition, the Department can verify whether or not surveys are being conducted by contacting structure owners at random and reviewing information during the course of claim investigations.

One commentator recommended that a provision be added to relieve a mine operator of the requirement to conduct a survey in the event the structure is erected just a few days before mining.

The Board revised § 89.142a(b) to include a provision releasing a mine operator of the requirement to conduct a premining survey when the structure is constructed less than 15 days prior to the date on which the structure will fall within the 30° angle of draw. The Board notes that the release of the responsibility to conduct a survey in no way releases a mine operator from the responsibility to repair the structure if it is damaged.

One commentator recommended deleting the requirement to document components which cannot be repaired or replaced with identical structural components. The Board has responded by revising § 89.142a(b)(1)(i). Surveys must now document architectural characteristics which will require special craftsmanship to replace. In addition, these characteristics must only be documented for structures which are of historical or architectural significance.

One commentator expressed concern that the requirements for documenting denial of access were too vague. After reviewing the requirements of proposed § 89.142a(b)(2), the Board revised paragraph (2) to clarify documentation requirements. Similar changes are also incorporated in § 89.145a(2) relating to surveys of water supplies.

One commentator noted that subsidence effects can extend beyond the 30° angle of draw which is used to determine the timing of surveys. The Board notes that the Department has only documented a few cases when structures were damaged outside the 30° angle of draw. The Board also notes that the Department has established an inspection program in which its inspectors will check for damage outside the 30° angle of draw.

One commentator requested that the regulations include requirements relating to the confidential treatment of survey results and the qualifications of persons conducting surveys.

In response, the Board has added requirements relating to the confidentiality of survey results. Under the final-form regulations, a mine operator must store survey results in a secure location and limit access to them. In

addition, survey results may not be released to anyone other than the structure owner or the Department without the structure owner's consent.

Mining beneath and adjacent to public buildings and other protected structures and features

One commentator noted that the Federal regulations in 30 CFR 817.121 do not allow mining beneath public buildings and other protected structures unless the subsidence control plan demonstrates that there will be no material damage or reduction in reasonably foreseeable uses. The commentator questioned the adequacy of 50% coal support and recommended that the support area be configured around a 30° angle of draw. The commentator also questioned whether support areas should be rectangular or conical in shape.

The Board notes that the Department has used the 15° angle of draw, 50% support standard and rectangular support area for protecting structures for over 30 years, and that these criteria have proven effective in preventing material damage. These criteria are already part of Commonwealth's approved program for protecting the structures listed under Federal regulation in 30 CFR 817.121(d). In regard to the shape of support areas, a rectangular support area will be larger and, therefore, offer greater protection than one computed by conical projection. Section 89.142a(c) also includes provisions allowing the Department to increase support area requirements in cases where it believes that the basic standards will not provide sufficient protection.

Two commentators questioned how full extraction could meet the standard for protecting public buildings and other structures.

The Board believes that in some situations full extraction mining could be conducted beneath public buildings and other structures without causing material damage or reductions in reasonably foreseeable uses. In some cases, surface measures could be taken to protect the structures during the occurrence of planned and controlled subsidence. In other cases, an operator may be able to demonstrate that planned and controlled subsidence will not cause material damage based on observations at a comparison site.

One commentator noted that proposed § 89.142a(c) required all alternative mining plans to be supported by engineering reports, geologic information and elevation surveys. The commentator further noted that the previous regulation allowed technical reviewers to determine what information was necessary. The Board has revised § 89.142a(c) to delete this language and simply require the submission of a report demonstrating that the structure or feature will not be materially damaged by mine subsidence.

One commentator recommended deleting the requirement to prevent material damage to the structures listed in § 89.142a(c), noting that some of these structures were listed among those covered by repair and compensation provisions under the BMSLCA.

The Board did not adopt this recommendation because the structures listed in § 89.142a(c) have been identified for special protection under the BMSLCA. The directive in these cases is to prevent material damage or prevent a reduction in the reasonably foreseeable use of the structure. Accordingly, the Board has retained permanent coal support as the default standard for protecting these structures. Mine operators may use alternative measures, but they must first demonstrate that those alternative measures will not allow the onset of material damage or

reductions in reasonably foreseeable uses. The statutory requirement to repair these structures only serves to ensure repairs if damage occurs despite the operator's efforts to prevent it.

One commentator noted that the BMSLCA does not necessarily prohibit full extraction mining beneath a perennial stream or aquifer that serves as a significant source to a public water supply system. The Board acknowledges the commentator's observation but notes that the Department has technical guidances which aid permit reviewers in determining when to apply restrictions.

One commentator recommended reinstating coal refuse disposal areas to the list of protected structures and features. The Board did not adopt this recommendation because coal refuse disposal areas are not listed under section 9.1 of the BMSLCA.

One commentator questioned whether contamination would constitute material damage to an aquifer. The Board notes that the contamination of an aquifer is regarded as a hydrologic impact covered by The Clean Streams Law. In addition, the contamination of an aquifer which serves as a significant source to a public water supply system would constitute material damage under § 89.142a(c).

Irreparable damage to dwellings and agricultural structures

Three comments were received in regard to § 89.142a(d).

One commentator recommended that damage to homes should be prevented and another recommended that damage minimization measures should be required when even material damage is predicted. The Board did not adopt these recommendations because the BMSLCA allows for homes to be damaged as long as the damages are repaired or the structure owner is compensated. In addition, the act only specifically provides for damage minimization when a structure is likely to be irreparably damaged.

One commentator noted that the BMSLCA does not require a mine operator to take damage minimization measures unless the Department notifies the operator that irreparable damage is likely to occur. After considering this comment, the Board revised § 89.142a(d) to more closely conform to the BMSLCA. Subsection (d) now requires the Department to notify the mine operator that irreparable damage will occur prior to requiring the operator to take damage minimization measures. Subsection (d) also provides for irreparable damage to occur if the structure owner consents.

Repair of damage to surface lands

One comment was received regarding proposed § 89.142a(e). The commentator recommends that there should be a requirement to restore the land to a condition capable of supporting the value and reasonably foreseeable uses that it was capable of supporting prior to subsidence damage.

The Board believes that the commentator's concern is addressed by the language of the regulation. The concept of restoring the land to its premining value and reasonably foreseeable uses is implicit in the responsibility to correct material damage. The definition of "material damage" includes considerations relating to the affected land's capability to support any current or reasonably foreseeable uses and significant losses in production or income.

Repair of subsidence damage to dwellings and other structures

Numerous comments were received regarding § 89.142a(f) relating to the repair of subsidence damage to dwellings and other structures under section 5.4 of the BMSLCA.

Two commentators observed that the dwellings and permanently affixed appurtenant structures built after August 21, 1994, and after the first public notice of the mine permit application were excluded from subsidence damage repair and compensation requirements. The commentators further noted that these structures are not excluded from repair and compensation under the Federal program.

In considering this comment, the Board researched the rules of statutory construction and concluded that appropriate application of the rules directly addresses the commentator's concern. Under the rule of statutory construction known as the "rule of the last antecedent," section 5.4(a) of BMSLCA and § 89.142a(f) are to be interpreted to require an operator to repair all dwellings in place at the time of underground mining and all permanently affixed appurtenant structures in place at the time of underground mining. The dates in section 5.4(a) of the BMSLCA and § 89.142a(f) which limit an operator's repair obligations only apply to improvements. As a result of this interpretation, dwellings and permanently affixed appurtenant structures are subject to repair and compensation requirements equivalent to those required by Federal law.

One commentator also observed that repair and compensation requirements only apply to those dwellings and permanently affixed appurtenant structures which are within the boundary of the mine.

Under the rule of statutory construction known as "the rule of the last antecedent," only the "improvements" must be within the boundary of the entire mine as depicted in the permit application. Dwellings and permanently affixed appurtenant structures are not subject to this qualification.

One commentator questioned whether structures that are installed beneath the ground would qualify for protection. The Board believes that all structures which are installed beneath the ground would qualify as permanently affixed appurtenant structures. The very aspect of being in the ground causes these structures to be considered permanently affixed.

One commentator questioned whether the requirement to compensate for the reasonable cost of repair would be equal to the Federal requirement to fully repair or compensate. The commentator also questioned who makes the determination as to what is reasonable.

The Board believes that the compensation provided under § 89.142a(f) will equal or exceed that provided by the Federal program in all cases. Both programs should provide equal compensation up to the point when damage is irreparable. In cases involving irreparable damage, the Commonwealth's program offers greater compensation because the amount is determined on the basis of replacement value rather than fair market value. In regard to determining what is reasonable, the Department has the final say.

Two commentators noted that the Commonwealth's regulations do not contain a rebuttable presumption relating to subsidence damage to structures like the Federal program. The Board acknowledges that

§ 89.142a(f) does not contain a rebuttable presumption relating to subsidence damage. The reason is because the BMSLCA does not provide for one. The Board has, however, made provisions to bring the Commonwealth's program closer to the Federal program on this matter. The premining survey requirements in § 89.142a(b) include provisions for obtaining baseline information prior to the time mining enters the rebuttable presumption area defined in the Federal regulations. The availability of baseline information of structures will facilitate enforcement of subsidence damage repair and compensation requirements.

One commentator questions whether dwellings which are used temporarily, occasionally or seasonally for human habitation qualify for subsidence damage repair and compensation provisions. The Board believes that all dwellings mentioned by the commentator would be covered under § 89.142a(f) if they meet the criteria for being in place at the time underground mining occurs.

One commentator noted that § 89.142a(f) does not provide for prompt repair or compensation in a manner similar to the Federal program. The Board acknowledges that the BMSLCA does not provide for the Department to become involved until the mine operator and structure owner have had 6 months to come to terms. The Board notes, however, that final repairs cannot be completed until subsidence is complete and the land has stabilized. Based on this consideration, final repairs should be completed within the same time frames under both State and Federal programs.

One commentator expressed concern that § 89.142a(f) did not specifically address multilevel mining. The commentator was concerned that once a home is undermined in one seam, operators of future mines in overlying or underlying seams could be relieved of responsibility to repair future damage.

The Board acknowledges the commentator's concern, but believes that this matter is covered by the regulations. Section 89.142a(f) is applicable to individual mines and their associated damages. The only potential problem is the situation when a landowner signs a voluntary agreement releasing a mine operator from damages caused by future mining. In the absence of these agreements, the mine operator would be liable to repair or compensate for subsequent damage resulting from mining additional coal seams.

One commentator noted that the proposed regulation in § 89.142a(f)(2)(i) was missing a reference to structures covered in § 89.142a(f)(1)(i)—(v). The Board has revised the final-form regulation to correct this oversight.

One commentator recommended revising § 89.142a(f)(2)(ii) to require a mine operator to promptly notify a landowner of its decision to replace a damaged agricultural structure with an alternate type structure. The commentator noted that this would allow the mine operator and landowner to work matters out prior to the end of the 6-month negotiation period. While the Board agrees that this recommendation has some merit, it notes that the regulation, as written, allows the mine operator and landowner to work matters out prior to the end of the 6-month period.

One commentator pointed out that subsidence does not necessarily cease within a few months. There are some cases where subsidence continues after 12 years. The Board acknowledges the commentator's concern and notes that § 89.142a(f) does not limit the time frame in which a mine operator is responsible to repair or compensate for

subsidence damage. Likewise, there is no limit on the number of times an operator must repair or compensate for damage resulting from successive episodes of subsidence.

One commentator recommended that § 89.142a(f) should include facilities that are associated with buildings which are accessible to the public and noncommercial buildings customarily used by the public. The Board notes that permanently affixed appurtenant structures are covered in association with buildings that are accessible to the public. Other than this specific provision, the BMSLCA does not provide repair or compensation for facilities associated with either of these types of structures.

One commentator noted that §§ 89.142a(f) and 89.143a(b) seem to give the mine operator the choice of repairing or compensating for structural damage. The commentator believed this choice should be left to the landowner. The Board notes that the BMSLCA is silent on which party gets the choice in the matter. In cases when there is a dispute regarding which remedy to apply, the Department would make the final determination after considering the wishes of both the mine operator and landowner. The Board has revised § 89.143(d)(3) to correct this matter.

One commentator noted that the construction of § 89.142a(f)(2)(ii) did not provide compensation for relocation expenses when a structure owner's home was being repaired. The Board acknowledges this error and has corrected this matter in the final-form regulation.

One commentator questioned who is responsible for the safety of livestock and any injury to livestock when agricultural buildings are damaged. The Board acknowledges the commentator's concern, but notes that the BMSLCA does not address this matter. Consequently, any claims relating to injury to livestock would have to be settled through the courts.

Protection of utilities

Over 100 comments were received regarding proposed §§ 89.141(d)(11) and 89.142a(g) relating to the protection of utilities. These comments came primarily from mining and utility interests including gas companies, water companies, sewer authorities and railroads. IRRC also provided comments on these aspects of the regulations.

Utility interests focused on several basic issues. They were concerned that the proposed revisions would strip them of protections afforded in the recent EHB decision in *P.U.S.H.* Commentators were especially concerned about the deletion of regulations which in their opinion required mine operators to provide coal support or take surface measures to protect utility lines. The utility interests also expressed concern that the proposed revisions could subject their lines and facilities to even more damage than previously allowed. Many commentators believed that the proposed amendments would allow mine operators to fulfill utility protection requirements by merely notifying the utility company of planned mining. Some commentators recommended preventing material damage to vital utilities such as gas and water lines.

In support of their contentions, utility interests submitted information relating to the need to provide additional protection to utilities. Some commentators asserted that the safety of their customers is jeopardized when gas mains and transmission lines and rail lines are undermined. Some commentators representing gas and water utilities asserted that service to large areas can be disrupted when large mains and transmission lines are

damaged or must be shut down. Some commentators noted that some utility pipelines are difficult to protect because of their construction, or because they run through streets, buildings or other areas where conventional means of protection will not work. Utility interests also indicated that they incur considerable expenses in taking precautionary measures to prevent damage and in repairing lines which are damaged by mine subsidence and that some of these costs must be passed on to utility customers. Some commentators also felt the language of proposed § 89.142a(g) could make the Commonwealth's regulation less effective than the Federal counterpart regulation.

Mining interests were generally concerned that the proposed revisions could force them to assume a larger role in protecting utilities than they had assumed in the past. Some commentators favored simply reinstating the language of the Federal regulation in 30 CFR 817.180. Mining interests were especially concerned that the proposed amendments could upset the system of rights and responsibilities which existed between mining operators and utility companies for many years. Mining interests also recommended that amendments should focus primarily on maintaining utility service rather than preventing damage to utility lines.

In support of their position, mining interests described situations when tens of thousands of feet of utility lines had been undermined without incident under the current arrangement where mine operators notified utility companies of planned mining and utility companies took precautionary measures at the surface. Some commentators cited examples of situations when utility pipelines were kept in service and left undamaged by subsidence even in the absence of surface precautions. Some commentators also pointed out that certain utilities have the right to acquire coal support by eminent domain. Commentators also noted that the requirement to protect utilities is derived from the Federal regulations and there is nothing in the BMSLCA which affords utilities any specific right to protection. One commentator also noted that courts in Ohio have upheld a miner's right to mine the coal.

IRRC also presented comments in regard to utility protection. IRRC noted that the issue has arisen as to which party is responsible for the cost of mitigating damages incurred by investor-owned utilities. In the IRRC's view, the Department has no authority to make this determination. Rather, the issue is between two parties that would have to be resolved through litigation if an agreement could not be reached. IRRC also recommended that the Preamble to the final-form regulations address the measures mine operators are expected to take in protecting utilities, and that the final-form regulation in § 89.155 requires mine operators to notify utilities of planned mining by certified mail.

One commentator also asked to what extent mine operators were required to protect customer-owned utilities.

The traditional system in which mine operators and utility companies carried out their respective duties in accordance with their respective property rights appears to have been effective in preventing hazards to human safety. Over the past 15 years, the Department has received only two or three reports of significant damage due to the undermining of utility lines. While the occurrence of any incident is unfortunate, the Board believes

that this is a commendable record considering the tens of thousands of feet of utility lines which have been undermined.

In addition, the BMSLCA does not afford any specific protections to utilities other than those which may qualify as public facilities under section 9.1 of the BMSLCA. The term "public buildings and facilities" was defined to mean those which are owned by a government agency, such as a sewer or water authority. A utility owned by a government agency is covered by §§ 89.141(d)(3) and 89.142a(c).

The Board agrees that the matter of who should bear the costs for taking precautionary measures should be primarily based on which party owns the right of support. When the mine operator owns the right of support, the owner's responsibilities may be limited to providing timely notice to the investor-owned utility operator of imminent mining beneath the utility line. By providing notice to the utility operator, the mine operator may have satisfied § 89.142a(g)(1) and minimized damage, destruction or disruption of utility services. When the investor-owned utility possesses the right to support, a mine operator must provide support and bear the costs associated with providing support. The Board does, however, find that the BMSLCA provides sufficient authority for the Department to intervene in situations which could result in an imminent hazard to human safety without regard to the property rights of either party.

The Board believes that it is appropriate to require a mine operator to take measures to minimize breakage of customer-owned gas and water service connections, since this matter goes more toward protecting coal field residents than investor-owned utilities. The connecting lines are by definition "permanently affixed appurtenant structures." An operator who damages them by subsidence is required to repair them or compensate for the damage.

The Board also believes that it is appropriate to describe acceptable utility protection measures in the regulations and to require subsidence control plans to include information that can be used to assess the potential hazards associated with undermining individual utilities which are located above underground mines. The Board also believes that it is appropriate to provide notification to utility companies whose utility lines may be affected by underground mining.

As a result of its findings, the Board has made several changes to the final-form regulations. Section 89.141(d)(11) is revised to require additional information regarding the nature, use and construction of utilities. Section 89.142a(g) has been revised to restate the Federal regulation in 30 CFR 817.180 and to describe the measures a mine operator may use to minimize damage, destruction or disruption in services provided by a utility. Section 89.155 is revised to require notification of utility owners by certified mail.

Protecting perennial streams

Three comments were submitted in regard to § 89.142a(h) relating to perennial stream protection. This subsection was relocated under this rulemaking but was otherwise left unchanged.

Two commentators expressed concern that the existing requirements for protecting perennial streams were inadequate. The commentators suggested revising the subsection to requiring more intensive sampling and flow measurement. The Board made no change in response to this recommendation. The Board believes that the current regulation in combination with the Department's technical guidance on perennial stream protection (TGD 563-

2000-655) provides sufficient protection for perennial streams located above and adjacent to underground mines. Since implementing the guidance in January 1994, the Department has not encountered any situations when perennial streams have been adversely affected by diminution due to underground mining. The Board notes that the subsection applies only to larger streams which flow continuously throughout the calendar year, and that there are interests who believe that its application should be expanded to include smaller streams.

One commentator believed that the subsection on perennial stream protection was in conflict with § 86.102 which prohibits mining within 100 feet (30.48 meters) of a perennial stream. The Board notes that § 86.102(12) provides for the distance between mining and perennial stream to be measured horizontally and not vertically. Section 86.102 pertains only to activities conducted at the land surface.

Prevention of hazards to human safety

Seven comments were received regarding proposed § 89.142a(i) relating to prevention of hazards to human safety.

Three commentators recommended revising subsection (i)(1) to more clearly track the Federal regulation in 30 CFR 817.121(f). Two of these commentators recommended deleting the language referring to the undermining of perennial streams, industrial and commercial buildings, solid waste facilities and hazardous waste facilities. These same two commentators also asserted that there should be no presumed need to suspend mining beneath all commercial structures.

After considering these comments, the Board made several changes to the language of the proposed rulemaking. Paragraph (1) has been modified to clarify that restrictions do not apply unless the Department first determines that there is an imminent hazard to human safety. The list in paragraph (1) remains largely unchanged because it tracks the Federal requirement in 30 CFR 817.121(f) except for its reference to solid and hazardous waste disposal facilities. The Board has decided to retain the reference to solid and hazardous waste disposal facilities but has added language to clarify that considerations will generally focus on those facilities which are lined. Lined facilities are designed to contain contaminants and it is important for the Department to consider the effects of leakage resulting from subsidence damage. Although subsidence to unlined waste disposal facilities is unlikely to cause an imminent hazard, the provisions of subsection (i)(2) will allow the Department to restrict mining beneath an unlined facility if an imminent hazard is identified.

One commentator questioned how perennial streams would pose an imminent hazard to human safety. The Board believes that there could be situations wherein the undermining of a large stream in a populated area would endanger persons residing in the vicinity of the stream. In these situations, subsidence could cause flooding by altering the profile of the stream.

One commentator recommended revising § 89.142a(i) (2) to include an imminent hazard to an individual as opposed to an entire community. The Board believes that § 89.142a(i) applies to situations when there is an imminent hazard to an individual.

Two commentators recommended revising § 89.142a(i) (2) to track the language of section 9.1 of the BMSLCA and to substitute the word "hazard" for the word "danger." The Board has revised § 89.142a(i)(2) to track the lan-

guage of section 9.1 of the BMSLCA. This change involved incorporating the word "hazard" in place of "danger."

IRRC recommended revising § 89.142a(i) to add the undermining of utilities to the list of conditions which could result in imminent hazards to human safety. The Board accepted this recommendation but opted to incorporate it in § 89.142a(g) which is specific to the undermining of utilities. The Board believes that this approach focuses more attention on the matter.

Procedure for resolution of subsidence damage claims

Seven comments were received regarding proposed § 89.143a.

One commentator pointed out that the Federal regulations require prompt actions by the mine operator and regulatory authority while § 89.143a does not provide for the Department to become involved until 6 months after the claim is filed. The commentator also pointed out that in the worst-case scenario, damage repairs could be postponed for up to 21.5 months. The commentator further noted that under the Federal program the bond must be increased if subsidence damage is not repaired or compensated within 90 days.

The Board acknowledges the commentator's concern, but finds that the BMSLCA does not provide for the Department to intervene in subsidence damage claims for 6 months. The Board does, however, note that the Department has taken steps to encourage landowners to report subsidence damage to the Department as soon as the damage is discovered. This will enable the Department to obtain the facts surrounding the case early in the process. It will reduce the time needed for investigations following the 6-month negotiation period.

The Board also notes that the BMSLCA provides for an escrow program rather than relying on bonding to ensure the satisfaction of subsidence damage claims. An operator is required to deposit sufficient escrow to guarantee satisfaction of the claim to perfect his appeal of a Department order to repair or compensate for subsidence damage. The amount of escrow is established in the Department's order and is payable directly to the landowner if the operator does not prevail in its appeal.

One commentator recommended revising subsection (c) to require the Department to forward any claims it receives from structure owners to the mine operator. The Board agrees that that this is a reasonable request and has revised § 89.143a(c) to require the Department to forward claims to the mine operator.

One commentator recommended that § 89.143a be revised to require the Department to issue an order in the when it does not find a mine operator responsible for causing subsidence damage. The commentator believes that this provision is necessary to ensure that a structure owner can protect his rights by filing an appeal.

The Board does not agree that it is necessary to insert a provision of this nature in § 89.143a. The Department's standard practice is to notify all concerned parties of the results of its findings in regard to a subsidence damage claim. The notification includes the right of a landowner to appeal the Department's determination.

One commentator thought that § 89.143a should be revised to require an affected structure owner to notify the Department as well as the mine operator upon discovering subsidence damage.

The Board did not adopt this recommendation. While the Board believes it is beneficial for the Department to be notified early in the process, it does not wish to imply that this action is mandatory. A requirement of this nature could be interpreted as requiring a structure owner to notify both the Department and the mine operator to perfect his claim.

One commentator expressed general dissatisfaction with the basic provisions of § 89.143a. The Board acknowledges the commentator's concerns, but finds that § 89.143a is in keeping with the BMSLCA.

Relief from responsibility to repair or compensate for subsidence damage

Numerous comments were submitted in regard to § 89.144a relating to the conditions under which a mine operator may be relieved of repairing or compensating for subsidence damage.

Three commentators, including IRRC, recommended revising § 89.144a to include a list of landowners' rights under sections 5.4—5.6 of the BMSLCA. The commentators believe that this listing is necessary to ensure that a landowner can refer to his rights by reading the regulations rather than the statute.

The Board did not adopt this recommendation for the reasons stated with regard to comments on premining surveys. The Board believes that the best way to apprise landowners of their rights is for the Department to prepare and distribute fact sheets and information circulars relating to specific items of concern.

Two commentators noted that § 89.144a appears to be less effective than the Federal program by relieving a mine operator of the responsibility to repair or compensate for structural damage in the case where the operator is denied access to conduct a premining or postmining survey. The commentators note that the effect of denial in the Federal program is simply loss of the rebuttable presumption.

The Board acknowledges this difference between programs, but finds that the effects of denial of access are clearly specified in the BMSLCA. The Board observes, however, that even the OSM may have difficulty enforcing orders to repair subsidence damage when the rebuttable presumption does not apply and there is no premining survey data available to support the claim.

Three commentators expressed concern about the provision that relieves a mine operator of responsibility when a landowner fails to file a claim within 2 years of the date on which damage occurred. One commentator felt that this provision is contrary to requirements of the Federal program. Another believed that this provision could result in releasing an operator of liability for subsequent damage resulting from future subsidence. The third commentator observed that, based on statutory construction, the 2-year limit only pertains to the right to a Department investigation, not to release of liability to repair damage.

In reviewing this matter, the Board has found that the third commentator is correct in asserting that the 2-year limit only pertains to a structure owner's right to a Department investigation of his subsidence damage claim. It does not relieve an operator of the responsibility to repair or compensate for the subsidence damage. Accordingly, the Board has deleted the 2-year reporting limit from the list of conditions under which an operator may be relieved of the responsibility to repair or compensate

for subsidence damage. This change also addresses the concerns of the other commentators.

One commentator indicated that the provision for voluntary agreements in § 89.144a could render the Commonwealth's program less effective than the Federal program. The commentator also recommended that the Department should be required to review all voluntary agreements and claims settled in accordance with voluntary agreements.

The Board finds that the BMSLCA clearly provides for the use of voluntary agreements in settling structure damage claims. The Board also believes that it is inappropriate for the Department to become involved in the resolution of claims involving voluntary agreements unless specifically asked to do so by the landowner.

One commentator felt that the 10-day period for granting access to conduct a premining survey was too limiting. The commentator also recommended adding a right of cure for situations where access is not granted because a landowner is out of the country or legally incompetent.

The Board finds that the 10-day period for granting access is clearly stated in the BMSLCA. The Board also believes that a right of cure will be unnecessary in most cases because the notice of the intent to conduct a survey must actually be served upon the landowner. If the landowner is out of the country and does not physically receive the notice, the 10-day period does not begin. The 10-day period does not begin until the landowner receives the notice.

One commentator recommended that § 89.144a should be revised to clarify that the relief from responsibility to repair or compensate for subsidence damage is only applicable to mining that occurs after August 21, 1994.

The Board believes it is unnecessary to incorporate this qualification in § 89.144a. The performance standard in § 89.142a(f) clarifies that a mine operator is only responsible to repair or compensate for damage which results from underground mining on or after August 21, 1994.

One commentator noted that the term "operator" should be inserted following the word "thereafter" in § 89.144a(a)(1). The Board has incorporated this revision in the final-form regulation.

Premining water supply surveys

Six comments were received regarding requirements for water supply surveys in proposed § 89.145a(a).

Several commentators questioned the basis for the 1,000-foot (304.80-meter) distance used for determining the timing of surveys. Two commentators indicated that they were aware of situations when water supplies were impacted at greater distances.

The Board has adopted the 1,000-foot criterion based on the Department's recommendation. According to the Department's experience, 1,000 feet is sufficiently conservative to serve as a default parameter for most operating mines. The Department notes that the 1,000-foot distance extends approximately 240 feet (73.15 meters) beyond the rebuttable presumption area for this Commonwealth's deepest mines. The Department acknowledges that mining related effects can extend to distances greater than 1,000 feet, but notes that most cases of this nature are due to peculiar geologic conditions such as fracture zones. The Board also notes that the regulation provides for Department technical staff to adjust this distance based on site-specific conditions.

One commentator questioned if a mine operator was obligated to pay the cost for a premining survey. The Board affirms that this is what the regulation requires.

One commentator also thought that mine operators might limit data collection to supplies which are located within the rebuttable presumption area. The Board notes that the regulation establishes a default distance of 1,000 feet for collecting premining survey data. This will extend beyond the rebuttable presumption area for all Commonwealth mines which are currently in operation.

One commentator questioned what a landowner could do if he disagreed with the results of the premining survey. The Board believes that a landowner would have several options if the landowner disagreed with the survey results. The landowner could arrange to have a certified laboratory conduct an independent survey at the landowner's expense. The landowner could also ask the Department to review the results of the mine operator's survey and conduct additional testing, if necessary.

One commentator recommended revising premining survey requirements to include 1 year of premining data collection. The commentator also thought that operators should be required to submit precipitation data.

While the Board agrees that a full year of sampling would provide a well-founded basis against which to measure impacts, it does not agree that this extensive testing is warranted. In the Department's surface mining program, water supply replacement provisions have been adequately enforced using two background samples and one quantity measurement. It is unnecessary to require operators to provide precipitation data because the Department has access to precipitation data for the entire State.

One commentator questioned the basis for selecting the premining survey parameters given that they represent only a portion of the regulated drinking water parameters.

The Board has adopted the prescribed series of parameters because they are reflective of mining-related impacts. Bacteriological testing has also been added because bacterial contamination is often found in rural areas with wells and septic systems.

One commentator recommended that water supply surveys limit data collection to that which can be readily obtained. The commentator noted that landowners sometimes object to having their wells opened to allow pump tests and water level measurements.

The Board has revised § 89.145a(a) to provide for the collection of information which can be collected without extraordinary efforts or the expenditure of excessive sums of money. The provision is also incorporated in the amendments to the Department's surface mining program published in the *Pennsylvania Bulletin* on May 7, 1998.

Water supply replacement

Numerous comments were received regarding proposed § 89.145a(b)—(f) which relates to the replacement of water supplies that are contaminated, diminished or interrupted by underground mining.

One commentator observed that the Commonwealth's regulations require water supplies to be replaced to quantity and quality needed to satisfy the current and reasonably foreseeable needs of the water user. The

Federal regulations require water supplies to be restored to the quality and quantity of the premining water supply.

The Board acknowledges that there is a difference between State and Federal standards in this regard. The guidelines for replacement, however, are clearly specified in the BMSLCA. In most cases, the Board does not believe that there will be a noticeable difference between a replacement supply meeting the Federal standards and a replacement supply meeting the State standards.

One commentator questioned whether a mine operator would be obligated to replace a water supply located outside the rebuttable presumption area.

The Board notes that § 89.145a(b) clearly provides for the replacement of all water supplies which are contaminated, diminished or interrupted as a consequence of underground mining activities conducted on or after August 21, 1994. This provision applies regardless of whether the affected water supply is inside or outside the rebuttable presumption area.

Several commentators objected to the use of voluntary agreements as a means of resolving water supply problems. The commentators noted that all affected properties must be left with a useable source of water under the Federal program.

The Board acknowledges that there is a difference between State and Federal programs in this regard. However, the use of voluntary agreements is clearly provided for in the BMSLCA. Given the potential need to purchase a property for its fair market value prior to mining, the Board believes that there is sufficient incentive for operators to pursue replacement of water supplies rather than compensate landowners. The Board also notes that the BMSLCA allows the landowner to opt for compensation in lieu of water supply replacement if he chooses.

One commentator noted that the Federal regulations require prompt replacement of water supplies whereas the Commonwealth's regulations seem to allow permanent replacement to be delayed for up to 3 years. The Board acknowledges that according to the BMSLCA, an operator has up to 3 years to resolve a water supply replacement claim. However, this provision allows time for the water supply to recover on its own. The technical literature indicates that many water supplies may recover within 3 years of the impact.

One commentator questioned when a water supply has to be in place to qualify for replacement under § 89.145a(b). The Board interprets § 89.145a to apply to all water supplies that are in place at the time underground mining occurs, if mining occurs after August 21, 1994.

Several commentators expressed concern that an operator did not have to provide temporary water if a water supply was impacted outside the rebuttable presumption area or if a landowner or water user had another available source of water. One commentator asked if carrying water from a spring would constitute an available alternate source of water.

The Board acknowledges that § 89.145a(e) only requires temporary water when the affected water supply is within the rebuttable presumption area and the landowner or water user is without an alternate source of water. The Board notes, however, that the Department

has authority to issue orders requiring temporary water in cases where it determines that mining outside the rebuttable presumption area is responsible for impacting a water supply. The Board views a readily available alternate source of water as one which can be quickly connected to deliver water to the point of use. The Board also notes that a temporary water supply must meet the same quality standard as a permanently installed replacement water supply and must provide a sufficient amount of water to satisfy the water user's current needs.

One commentator recommended that the regulation be revised to incorporate a definition for the term "diminution." The Board does not believe the term "diminution" needs to be defined. The diminution of a water supply is best determined on a case-by-case basis considering the premining performance of the water supply and the water user's needs.

Several commentators objected to allowing even a de minimis cost increase to go uncompensated. The Board notes that the concept of compensating for the increased operation and maintenance costs of replacement water supplies has been established through case law on surface coal mining. The BMSLCA uses the same statutory language as the Federal SMCRA. It is therefore appropriate to incorporate this concept in water supply replacement regulations.

One commentator objected to allowing mine operators to satisfy their water supply replacement liability by connecting an affected water user to a public water supply system. The commentator felt that water supplies should be replaced in kind. The Board does not agree with this recommendation. A connection to a public water supply system is a reasonable means of replacement if the public water system can satisfy the water user's existing and reasonably foreseeable needs and is adequate for the purposes served.

One commentator felt that a mine operator should not be required to compensate for the increased costs of public water service because of the inherent benefit to the landowner or water user. The Board does not agree with this assertion. Case law provides that compensation is necessary for any increased water supply costs which are greater than de minimis.

One commentator felt that the chlorine in a public water supply system would sicken dairy cattle based on his own experience. The Board has been unable to substantiate this assertion. Communication with animal science experts at the Pennsylvania State University indicate that there should be no adverse long-term effects on cattle.

Two commentators, including IRRRC, recommended adding a special criterion to address the water quantity needs of agricultural water users. The commentators believe that many agricultural operations will have to expand in size and increase their water use to remain competitive. The Board has added a criterion to § 89.145a(f)(3) to address this concern.

One commentator noted that the Commonwealth's regulations do not require additional bond to cover water supply replacement like the Federal program. The Board acknowledges this point. The BMSLCA does not authorize requiring a bond to cover water supply replacement. The Board notes, however, that the BMSLCA gives the Department broad authority to issue orders requiring the replacement of affected water supplies and to impose penalties for failure to comply with those orders.

Procedures for resolving water supply damage claims

One commentator questioned how a water user would know if he should be collecting data if he has to substantiate his loss. The Board notes that there are several provisions which will serve to alert the water user if he wishes to collect his own premining survey information. One is the notification letter the water user will receive under § 89.155. Another will be the mine operator's request to gain access to conduct a premining survey prior to the time mining enters into the area where the supply might be impacted. A third is the public notice that the mine operator publishes in a local newspaper at the time of permit application and permit renewal.

Relief of responsibility for water supply replacement

Numerous comments were received regarding proposed § 89.152 which describes the circumstances under which a mine operator may be relieved of the responsibility to replace a water supply.

Several commentators objected to the 3-year limitation on liability and the 2-year reporting limit specified in § 89.152. The commentators noted that the Federal program contains no similar releases of liability.

The Board notes that changes to §§ 89.145a and 89.152 serve to address this concern. By linking water supply impacts to underground mining activities rather than underground mining, liability for replacement extends from the time of underground mining to the period ending 3 years after reclamation has been completed. This should be sufficient to cover virtually all water supply impacts resulting from the underground mine. The limitation regarding reporting impacts within 2 years of their occurrence remains, however, because it is specified in the BMSLCA.

Some commentators also objected to § 89.152 which allows mine operators to settle water supply cases by compensation. These commentators noted that under the Federal program a property must be left with a useable source of water. The Board acknowledges this fact, but notes that compensation is specifically allowed under the BMSLCA. The Board further notes that this provision allows landowners to opt for compensation in lieu of water supply replacement if they so choose.

One commentator indicated that a property's fair market value, on which compensation is based, begins to decline at the time a mine is opened. The Board acknowledges the commentator's concern, but has no basis on which to affirm or dispute this point. The Board further notes that the BMSLCA specifically requires compensation figures to be calculated using the fair market value prior to subsidence.

Rebuttable presumption of causation for impacts to water supplies

Two comments were received regarding proposed § 89.153.

One commentator asserted that the rebuttable presumption provision would make the Commonwealth's program less effective than the Federal program. The other recommended that § 89.153 include that rebutting the presumption does not automatically relieve the mine operator of the responsibility to replace the water supply.

The Board does not agree with the assertion that the rebuttable presumption in § 89.153 will make the Commonwealth's program less effective than the Federal program. The Board notes that the Federal program includes no rebuttable presumption which is applicable to

water supply replacement. As a result, the OSM bears the burden of proof in all water supply replacement cases.

The Board adopted the second commentator's recommendation. Simply rebutting the presumption does not relieve the operator of the liability to replace the water supply.

Mapping requirements

One commentator recommended that the general mine maps should extend at least out to the 35° angle wherein water supplies may be impacted.

The Board did not adopt this recommendation. The Board notes that the Department requires various other maps to be included in mine permit applications. These maps typically cover additional area that is well beyond that covered by the general mine map.

One commentator also questioned what other structures would be included in the term "other structures which are entitled to coal support."

The Board notes that the term primarily includes structures with support rights and structures for which coal support was purchased under former section 15 of the BMSLCA (52 P. S. § 1406.15) (Repealed). The term would also include oil wells and gas wells with approved pillar plans.

One commentator also recommended requiring mine operators to show permanently affixed appurtenant structures. The Board did not adopt this recommendation because many items such as septic systems, fences and subsurface facilities would be difficult to locate and portray at the conventional scale of these maps.

The Board also notes that additional details regarding the nature and locations of utilities have been added to mapping requirements in response to comments on utility protection.

Public notice

One commentator recommended deleting the requirement to notify residents of structures. The commentator noted that it is often difficult to identify the current tenants of rental properties.

The Board did not adopt this recommendation. The Board believes that mine operators will have the opportunity to identify residents during the course of arranging for and conducting premining surveys.

One commentator recommended deleting certified mail requirements for notice to persons other than owners of record. The Board did not adopt this recommendation. The Board believes that the use of certified mail is a reasonable means of documenting that notifications are being made, as required. The Board also notes that § 89.155 has been revised to incorporate IRRC recommendation that utilities be notified by certified mail.

Department data collection and compilation

Several commentators recommended that the regulations include a section describing the manner in which the Department will satisfy its data collection and analysis responsibilities under section 18 of the BMSLCA (52 P. S. § 1406.18).

The Department contends that it is unnecessary for the regulations to specify the type of information it is collecting. It believes that to do so may inhibit its ability to ask for additional information if it decides to do so in the future. For the benefit of those who are concerned about

this matter, the Department wishes to describe the information currently being collected.

For structures—The name of the owner; address; type; year of construction; map name and reference; accessibility to public; type of water supply; premining survey status; postmining survey status; access denied; voluntary agreement in place; owned or rented; nature of damage; Act 54 coverage; the OSM coverage; former section 4 coverage; latitude; longitude; depth of cover; the name of the mine; distance to nearest mining; distance to origin of problem; height of coal extracted in mine; last date of mining; name of coal seam; mining method; multiple seams extracted; associated land damage; mine operator notified by structure owner; the date problem was first noticed; results of communications between mine operator and structure owner; and resolution.

For water supplies—The name of the owner; address; type of water supply; depth of water supply; latitude; longitude; map reference and location; depth of cover distance to nearest mining; angle to nearest mining; distance to origin of problem; angle from origin of problem; the name of the mine; coal seam; rebuttable presumption applicable; multiple seams extracted; release of liability; nature of problem; premining survey status; access denied; date of damage; voluntary agreement in effect; the date problem was first noticed; results of communications between property owner and mine operator; and resolution of claim.

The Department also wishes to advise it has sent written notice to mine operators asking for disclosure on all structure damage claims and all water supply claims which the operators have received since August 22, 1994, the effective date of Act 54. In addition, the Department has hired additional inspection staff to inspect areas which are being undermined by full extraction methods.

Cost benefit analysis

One commentator raises several questions regarding the cost benefit analysis. The commentator believed that the analysis should reflect impacts on people's lives and reductions in property values which occur as a result of underground mining. The commentator also believed that the analysis should compare conditions before and after the adoption of these regulations, rather than comparing conditions before Act 54 and conditions after the adoption of these regulations. The commentator further believed that the benefit to the mining industry should be based on the gross profit realized from the sale of the coal rather than the full sale value of the coal. The commentator also included with his comments information about the effects of waste disposal operations on property values.

After considering the commentator's assertions, the Board revised the cost benefit analysis to reflect the reduction in benefits to the mining industry. The benefit was adjusted from \$20 per metric ton to \$3.80 per metric ton to reflect the gross profit realized from mining the coal.

The Board did not adjust the cost benefit analysis to reflect property value considerations, because it has no basis for doing so. The property value information presented by the commentator does not pertain to coal mining. This information pertains to highly visible surface activities such as waste disposal sites. It is inappropriate to apply these figures to an activity which is much less visible.

The Board also decided to retain the baseline conditions considered in the cost benefit analysis for the proposed

rulemaking. The selected baseline was the condition prior to the passage of Act 54. In this way, the full impact of new provisions can be better assessed.

F. Benefits, Costs and Compliance

Executive Order 1996-1 requires a cost/benefit analysis of the final-form regulations.

Benefits

The final-form regulations will benefit underground mine operators and coal field residents whose rights and responsibilities are currently found scattered among State law, State regulation, Federal law and case law. The consolidation of requirements into a single chapter promotes public understanding of these rights and responsibilities.

The final-form regulations will serve to codify benefits already contained in State and Federal law. These include benefits to many structure owners whose structures are damaged by mine subsidence, benefits to landowners and water users whose water supplies are affected by underground coal mining and benefits to mine operators who mine in the bituminous coal fields.

Many structure owners benefit from the expanded subsidence damage repair and compensation requirements imposed under the Act 54 amendments to the BMSLCA. Recent information on mine subsidence damage claims shows that the typical cost of repairing a damaged structure is \$30,000 to \$40,000. Under the Act 54 amendments, mine operators are responsible to repair or compensate for many of these damages. This results in a benefit to structure owners who would otherwise be forced to absorb these costs or suffer reductions in the value of their properties.

Landowners and water users also benefit from the water supply replacement requirements imposed under the Act 54 amendments to the BMSLCA. Recent estimates show that the costs of replacing a water supply at an underground coal mine site typically run between \$5,000 and \$10,000. In addition, the cost of providing temporary water may cost between \$5,000 to \$7,000. Since mine operators are now responsible for the costs associated with replacing water supplies, this represents a direct cost savings to landowners and water users.

Structure owners, landowners and water users will benefit from the premining survey requirements of the regulations. Premining survey requirements are derived primarily from the Federal regulations which define the Commonwealth's primacy requirements. These surveys document the premining condition of structures and water supplies and are crucial to determining impacts and assessing the adequacy of remedial measures. The typical cost of a premining water survey ranges from \$500 to \$1,500. The typical cost of a premining structure survey ranges from \$300 to \$800 per property. The requirement that an operator perform these surveys is a benefit to landowners.

Mine operators benefit through the repeal of certain protections which were mandated by the BMSLCA and the regulations prior to the Act 54 amendments. The former protections resulted in mine operators having to leave support pillars beneath certain dwellings and cemeteries. In addition to reducing the amount of coal that could be mined in these areas, the support requirements often interfered with longwall mining, which is a highly mechanized technique. It is estimated that the repeal of these protections will free an additional 105,000 metric tons of coal per year per mine. This figure assumes the elimination of 20 support areas which each contain 5,250

metric tons of coal. At a profit of approximately \$3.80 per ton, this equates to a benefit of approximately \$400,000 per year to the average operating mine.

Compliance Costs

The compliance costs associated with the final-form regulations include the costs of performing premining surveys, repairing or compensating for subsidence damage to structure, and replacing water supplies affected by mining. Additional costs may also be incurred in taking precautionary measures to prevent irreparable damage to dwellings and agricultural structures and taking measures to minimize breakage of customer-owned gas and water service lines; however, these costs should be offset by the resultant reductions in repair work.

The cost of performing premining structure surveys is estimated to be \$11,000 per mine per year. This is based on the assumed need to perform 20 surveys per mine per year at an average cost of \$550 per survey.

The cost of performing premining water supply surveys is estimated to be \$21,000 per mine per year. This is based on the assumed need to perform 20 surveys per year at an average cost of \$1,050 per survey.

The cost of repairing structure damage is estimated to be \$210,000 per mine per year. Repair estimates are based on 6 damage incidents per year at an average cost of \$35,000 per incident.

The cost of replacing water supplies is estimated to be \$110,000 per mine per year. This figure assumes the need to provide temporary water to 10 water users at an average cost of \$6,500 per service. It also assumes the need to permanently restore or replace 6 water supplies at an average cost of \$7,500.

The preceding costs total approximately \$352,000 per mine per year. These costs are directly attributable to the Act 54 amendments to the BMSLCA and will be incurred by mine operators irrespective of the proposed regulations. It is notable that the costs incurred by mine operators also represent direct benefits to structure owners, landowners and water users.

Compliance Assistance Plan

The Department will prepare and update program guidances and fact sheets, and hold seminars as necessary to assist mine operators in complying with these final-form regulations. The Department has already conducted similar activities in implementing the Act 54 amendments.

Paperwork Requirements

The primary paperwork associated with the final-form regulations is the correspondence and duplication of materials associated with arranging for premining surveys, reporting survey results and settling damage claims. These costs are insignificant compared to the costs of performing premining surveys and repairing or compensating for damages.

G. Sunset Review

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

H. Regulatory Review

Under section 5(a) of the Regulatory Review Act (71 P.S. § 745.5(a)), on April 21, 1997, the Department submitted a copy of the proposed amendments to IRRC and the Chairpersons of the Senate and House Environ-

mental Resources and Energy Committees. In compliance with section 5(c) of the Regulatory Review Act, the Department also provided IRRC and the Committees with copies of the comments as well as other documentation. In preparing these final-form regulations, the Department has considered the comments received from IRRC and the public. These comments are addressed in the comment and response document and Section E of this Preamble. The Committees did not provide comments on the proposed rulemaking.

Under section 5.1 of the Regulatory Review Act, these final-form regulations were deemed approved by the House Environmental Resources and Energy Committee and by the Senate Environmental Resources and Energy Committee on April 13, 1998. IRRC met on April 23, 1998, and approved the final-form regulations in accordance with section 5.1(e) of the Regulatory Review Act.

I. Findings of the Board

The Board finds that:

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

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

(3) These final-form regulations do not enlarge the proposal published at 27 Pa.B. 2371.

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

J. Order of the Board

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

(a) The regulations of the Department, 25 Pa. Code Chapter 89, are amended by amending §§ 89.5, 89.33—89.36, 89.67 and 89.141; adding §§ 89.142a, 89.143a, 89.144a, 89.145a, 89.146a and 89.152—89.155; and deleting §§ 89.142, 89.143, 89.144 and 89.145 to read as set forth in Annex A, with ellipses referring to the existing text of the regulations.

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

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

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

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

JAMES M. SEIF,
Chairperson

Fiscal Note: Fiscal Note 7-316 remains valid for the final adoption of the subject regulations.

Annex A

TITLE 25. ENVIRONMENTAL PROTECTION

PART I. DEPARTMENT OF ENVIRONMENTAL PROTECTION

Subpart C. PROTECTION OF NATURAL RESOURCES

ARTICLE I. LAND RESOURCES

CHAPTER 89. UNDERGROUND MINING OF COAL AND COAL PREPARATION FACILITIES

Subchapter A. EROSION AND SEDIMENTATION CONTROL

GENERAL PROVISIONS

§ 89.5. Definitions.

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

* * * * *

De minimis cost increase—For purposes of § 89.145a (relating to water supply replacement: performance standards), a cost increase which meets one of the following criteria:

(i) Is less than 15% of the annual operating and maintenance costs of the previous water supply that is restored or replaced.

(ii) Is less than \$60 per year.

* * * * *

Dwelling—A building or other structure that, at the time subsidence occurs, is used either temporarily, occasionally, seasonally or permanently for human habitation.

* * * * *

Fair market value—The amount at which property would exchange hands between a willing buyer and a willing seller, neither being under any compulsion to buy or sell and both having reasonable knowledge of the relevant facts.

* * * * *

Irreparable damage—Damage to a structure resulting from subsidence which is in one of the following categories. The term includes:

(i) Damage for which the total cost of repair, including improvements required by Federal, State and local law to meet current standards, would exceed the cost of replacement.

(ii) Damage of such magnitude that Federal, State or local law would prohibit repair of the structure.

(iii) Damage that weakens the strength of a structure's foundation, load bearing walls or other load bearing structural components in a manner which would make it impossible or impractical to restore the structure to its previous strength.

(iv) For structures recognized as historically or architecturally significant:

(A) Damage which would adversely affect the structure's historical or architectural value.

(B) Damage for which the cost of repair to restore the historical and architectural value of the structure with the same craftsmanship and historically and architecturally equivalent components would exceed the cost of replacement.

(C) Damage which would be impossible to repair to restore the historical and architectural value of the structure with the same craftsmanship and historically and architecturally equivalent components.

Material damage—Damage that results in one of the following:

(i) Functional impairment of surface lands, structures, features or facilities.

(ii) Physical change that has a significant adverse impact on the affected land's capability to support current or reasonably foreseeable uses or causes significant loss in production or income.

(iii) Significant change in the condition, appearance or utility of a structure or facility from its presubsidence condition.

* * * * *

Noncommercial building—A building, other than an occupied residential dwelling, that, at the time the subsidence occurs, is used on a regular or temporary basis as a public building or community or institutional building as those terms are defined in § 86.101 (relating to definitions). The term does not include a building used only for commercial agricultural, industrial, retail or commercial enterprises.

* * * * *

Permanently affixed appurtenant structures—A structure or facility securely attached to the land surface if that structure or facility is adjunct to and used in connection with structures listed in § 89.142a(f)(1)(i) and (iii) (relating to subsidence control: performance standards). Examples of these structures include:

- (i) Garages.
- (ii) Storage sheds and barns.
- (iii) Greenhouses and related structures.
- (iv) Customer-owned utilities and cables.
- (v) Fences and other enclosures.
- (vi) Retaining walls.
- (vii) Paved or improved patios, walks and driveways.
- (viii) Septic treatment facilities.
- (ix) Inground swimming pools.
- (x) Lot drainage and lawn and garden irrigation systems.

* * * * *

Public buildings and facilities—Structures that are owned or leased and principally used by a government agency for public business or meetings and anything built, installed, assembled or used by a government agency to provide a public service. Examples include, but are not limited to, the following:

- (i) Government office buildings.
- (ii) Police stations.
- (iii) Prison complexes.
- (iv) Municipal swimming pools.
- (v) Municipal utilities.
- (vi) Municipal airports.
- (vii) Public park pavilions and maintenance facilities.

* * * * *

Public water supply system—A water delivery system which does one of the following:

- (i) Serves at least 15 service connections used by year-round residents or regularly serves at least 25 year-round residents.
- (ii) Provides water to a public building, church, school, hospital or nursing home.

Rebuttable presumption area—As used in the context of water supply replacement, the area in which an operator is presumed responsible for diminishing, contaminating or interrupting a water supply. The area is defined by projecting a 35° angle from the vertical from the outside of any area where the operator has extracted coal from an underground mine.

* * * * *

Underground mining—The extraction of coal in an underground mine.

* * * * *

Underground mining operations—Underground construction, operation and reclamation of shafts, adits, underground support facilities, in situ processing and underground mining, hauling, storage and blasting.

* * * * *

Water supply—An existing source of water used for domestic, commercial, industrial or recreational purposes or for agricultural uses, including use or consumption of water to maintain the health and productivity of animals used or to be used in agricultural production and the watering of lands on a periodic or permanent basis by a constructed or manufactured system in place on August 21, 1994, to provide irrigation for agricultural production of plants and crops at levels of productivity or yield historically experienced by the plants or crops within a particular geographic area, or which serves a public building or a noncommercial structure customarily used by the public including churches, schools and hospitals.

* * * * *

**Subchapter B. OPERATIONS
INFORMATION REQUIREMENTS**

§ 89.33. Geology.

(a) The operation plan shall include a description of the areal and structural geology in the permit and adjacent area, including the lithology of the strata that influence the occurrence, availability, movement and quality of groundwater that may be affected by the underground mining activities.

(1) For lands within the proposed permit and adjacent areas and over the coal seam to be mined, the description shall include the results of test borings, coal samplings and the stratum immediately beneath the coal seam to be mined, and overlying strata. When an aquifer or existing deep mine below the lowest coal to be mined may be affected, the description shall also include the aquifer or existing deep mine and overlying strata. For mines not underlain by existing deep mines and greater than 200 feet (60.96 meters) below surface drainage, the description need only include the strata down to and including the stratum immediately below the coal seam to be mined. At a minimum, the description shall include:

- (i) The location and quality of groundwater.
- (ii) The depth, lithology and structure of overburden strata.

(iii) Coal seam thickness.

(iv) Chemical analysis for pollution-forming materials of the stratum immediately above and the stratum immediately below the coal seam to be mined.

(v) Chemical analyses for pollution-forming materials of the coal seam including the sulfur content.

(2) Additionally, for portions of a permit area in which the strata down to the coal seam to be mined will be removed, as in the face up area, test borings or core samples shall be collected and analyzed down to and including the stratum immediately below the lowest coal seam to be mined. For the purposes of this section, boreholes, drill holes, slopes and shafts do not constitute removal of overburden. The following data shall be provided:

(i) Logs of drill holes that show the lithologic characteristics, including physical characteristics and thickness of each stratum, and location and quality of groundwater.

(ii) Chemical analyses of each stratum within the overburden and the stratum immediately below the coal seam to be mined to identify those strata that contain pollution-forming or alkalinity-producing materials.

(iii) Chemical analyses for pollution-forming materials of the coal seam, including the total sulfur content.

(b) An applicant may request that the requirements of subsection (a)(2) be waived in part or in its entirety by the Department. The waiver can be granted only if the Department makes a written determination that the information required by subsection (a)(2) is unnecessary because other information having equal value or effect is available to the Department in a satisfactory form.

§ 89.34. Hydrology.

(a) The operation plan shall contain premining or baseline hydrologic information representative of the proposed permit, adjacent and general areas.

(1) Groundwater information shall include:

(i) The results of a groundwater inventory of existing wells, springs and other groundwater resources, providing information on location, ownership, quality, quantity, depth to water and usage for the proposed permit area and adjacent area. Information on water availability, occurrence and alternative water supplies shall be emphasized and water-quality information relating to suitability for existing premining uses shall be provided. At a minimum, water quality descriptions shall include total dissolved solids or specific conductance corrected to 25°C, pH, total iron, total manganese, alkalinity, acidity and sulfates.

(ii) Other information on the baseline hydraulic and hydrogeologic properties of the groundwater system shall be included with the application. Information on indicator parameters, such as pumping test, lithologic and piezometer data or other appropriate information shall be provided in the application.

(iii) A groundwater monitoring plan under § 89.59 (relating to surface water and groundwater monitoring). The plan shall logically relate to the analysis of the baseline information and the prediction of the probable hydrologic consequences of mining and reclamation required by § 89.35 (relating to prediction of the hydrologic consequences). The plan shall identify monitoring locations and sampling frequency. Water availability, including water levels and yields, and approximate overall

recharge protection shall be emphasized. The plan shall provide for monitoring the minimum group of parameters in § 89.59, plus additional parameters that relate to the suitability of the groundwater for current and approved postmining land uses, the protection of the hydrologic balance and locally potential problem causing conditions at or near the mine site.

(2) Surface water information shall include:

(i) A description of streams, valuable impoundments and alternative water supplies. The information shall include the name, location and qualitative and quantitative seasonal flow conditions. Water-quality descriptions, at a minimum, shall include base-line information on total suspended solids, total dissolved solids or specific conductance corrected to 25°C, pH, acidity, alkalinity, sulfates, total iron, total manganese and other locally significant water-quality characteristics. Base-line acidity information shall be provided if acid neutralization is anticipated for the proposed operation. The location of point source discharge and the name and location of the surface stream into which the point source will be discharged shall be provided. The Department may require additional hydrologic information if the predictive evaluation required by § 89.35 indicates that adverse, offsite impacts are likely to occur or, if the data are necessary to properly plan for remedial and reclamation activities.

(ii) A surface water monitoring plan under § 89.59. The plan shall logically relate to the analysis of baseline information and the prediction of the probable hydrologic consequences of mining and reclamation required by § 89.35. The plan shall identify monitoring locations and monitoring frequency. The plan shall emphasize low flows and high flows and their variable quality. The plan shall provide for monitoring the minimum group of parameters in § 89.59, plus additional parameters that relate to the suitability of the surface water for current and approved postmining land uses, the protection of the hydrologic balance and locally potential problem-causing conditions at or near the mine site. Special emphasis shall be given to accurately measuring and documenting the quality and quantity of water discharging from the permit area so that onsite damages can be minimized and offsite damages are prevented to the greatest extent possible.

(b) The Department may require hydrologic tests, including, but not limited to, drilling, infiltration, other aquifer tests and stream flow measurements. The results shall be submitted to the Department.

§ 89.35. Prediction of the hydrologic consequences.

The operation plan shall include a prediction of the probable hydrologic consequences of the proposed underground mining activities upon the quantity and quality of groundwater and surface water within the proposed permit, adjacent and general areas under seasonal flow conditions, and whether underground mining activities may result in contamination, diminution or interruption of any water supplies within the permit or adjacent area. The prediction shall be prepared by a qualified hydrologist or engineer. The probable hydrologic consequences determination shall emphasize the anticipated responses of groundwater and surface water flow, its rate, direction and quality and quantity to the proposed underground mining activities. The prediction shall be based on baseline data collected at the proposed mine site or data statistically representative of the site or a combination of both. The prediction required by this section may be developed using modeling techniques, but the Department may require verification of any models.

§ 89.36. Protection of the hydrologic balance.

(a) The operation plan shall describe, with appropriate maps and cross sections, the measures to be taken to ensure the protection of the hydrologic balance and to prevent adverse hydrologic consequences. The measures shall address:

(1) The quality and quantity of surface and groundwater within the proposed permit and adjacent areas.

(2) The rights of present users to surface and groundwater.

(3) The control of surface and groundwater drainage into, through and out of the permit area.

(4) The treatment, when required, of surface and groundwater drainage from the permit area, and proposed quantitative limits on pollutants in discharges as provided in § 89.52 (relating to water quality standards, effluent limitations and best management practices).

(b) The operation plan shall also describe how the proposed mine development plan will prevent or minimize adverse hydrologic consequences. The plan shall consider:

(1) The location of mine openings to prevent postmining discharges as required by § 89.54 (relating to preventing discharges from underground mines).

(2) Possible alterations in the mine development plan or method of mining in response to adverse impacts on the hydrologic balance as indicated by the groundwater monitoring system.

(c) The operation plan shall include a description of the measures which will be taken to replace water supplies which are contaminated, diminished or interrupted by underground mining activities. An operator is not required to provide a replacement water supply prior to mining as a condition for securing a permit.

PERFORMANCE STANDARDS

§ 89.67. Support facilities.

(a) Support facilities required for, or used incidentally to, the operation of the underground mine, including, but not limited to, mine buildings, coal loading facilities at or near the mine site, coal storage facilities, equipment storage facilities, fan buildings, hoist buildings, preparation plants, sheds, shops and other buildings, shall be designed, constructed or reconstructed, and located to prevent or control erosion and sedimentation, water pollution and damage to public or private property. Support facilities shall be designed, constructed or reconstructed, maintained and used in a manner which, using the best technology currently available prevents:

(1) Damage to fish, wildlife and related environmental values.

(2) Additional contributions of suspended solids to streamflow or runoff outside the disturbed area. Contributions may not be in excess of limitations of State or Federal law.

(b) Surface mining activities associated with an underground mine shall be conducted in a manner which minimizes damage, destruction or disruption of services provided by oil, gas and water wells; oil, gas and coal-slurry pipelines; railroads; electric and telephone lines; and water and sewage lines which pass over, under or through a permit area, unless otherwise approved by the owner of those surface facilities and the Department.

Subchapter F. SUBSIDENCE CONTROL AND WATER SUPPLY REPLACEMENT

§ 89.141. Subsidence control: application requirements.

(a) *Geology.* The application shall include a description of the geology overlying the proposed permit area, from the surface down to the first stratum below the coal seam to be mined. The description shall include geologic conditions which are relevant to the likelihood or extent of subsidence or subsidence related damage. For the same strata, a detailed description and cross-section shall be provided from available test borings and core samples. A copy of the information developed for § 89.33 (relating to geology) may be used as appropriate to meet the requirements of this section.

* * * * *

(d) *Subsidence control plan.* The permit application shall include a subsidence control plan which describes the measures to be taken to control subsidence effects from the proposed underground mining. The plan shall address the area in which structures, facilities or features may be materially damaged by mine subsidence. At a minimum, the plan shall address all areas within a 30° angle of draw of underground mining which will occur during the 5-year term of the permit. The subsidence control plan shall include the following information:

* * * * *

(2) A narrative describing whether subsidence, if it is likely to occur, could cause material damage to or diminish the value or reasonably foreseeable use of any structures or could contaminate, diminish or interrupt water supplies.

(3) For each structure and feature, or class of structures and features, described in § 89.142a(c) (relating to subsidence control: performance standards), a detailed description of the measures to be taken to ensure that subsidence will not cause material damage to, or reduce the reasonably foreseeable uses of the structures or features. The measures shall include one or more of the following:

- (i) Backfilling or backstowing of voids.
 - (ii) Leaving support pillars of coal.
 - (iii) Leaving areas in which no coal extraction will occur.
 - (iv) Taking measures on the surface to prevent material damage or reduction of the reasonably foreseeable use of the structure or feature.
 - (v) Other measures approved by the Department.
- (4) A description of the anticipated effects of planned subsidence, if any.
- (5) A description of the measures to be taken to correct any subsidence-related material damage to the surface land.

(6) A description of the measures to be taken to prevent irreparable damage to the structures enumerated in § 89.142a(f)(1)(iii)—(v), if the structure owner does not consent to the damage.

(7) A description of the monitoring, if any, the operator will perform to determine the occurrence and extent of subsidence so that, when appropriate, other measures can be taken to prevent or reduce or correct damage in accordance with § 89.142a(e) and (f).

(8) A description of the measures to be taken to maximize mine stability and maintain the value and reasonably foreseeable use of the surface land.

(9) A description of the measures which will be taken to maintain the value and foreseeable uses of perennial streams which may be impacted by underground mining. The description shall include a discussion of the effectiveness of the proposed measures as related to prior underground mining under similar conditions.

(10) A description of the measures to be taken to prevent material damage to perennial streams and aquifers which serve as a significant source to a public water supply system.

(11) A description of utilities including type, nature of use, composition and approximate age of pipelines, and a description of the measures to be taken to minimize damage, destruction or disruption in utility service in accordance with § 89.142a(g) (relating to protection of utilities).

(12) A description of applicable measures to be taken to control subsidence under other statutes, including:

- (i) The act of December 22, 1959 (P. L. 1994, No. 729) (52 P. S. §§ 3101—3109).
- (ii) The Oil and Gas Act (58 P. S. §§ 601.101—601.605).
- (iii) Section 419 of the State Highway Law (36 P. S. § 670-419).
- (iv) The act of June 1, 1933 (P. L. 1409, No. 296) (52 P. S. § 1501).

(13) Other information as requested in accordance with the policies and procedures of the Department.

§ 89.142. (Reserved).

§ 89.142a. Subsidence control: performance standards.

(a) *General requirements.* Underground mining shall be planned and conducted in accordance with the following:

(1) The subsidence control plan required by § 89.141(d) (relating to subsidence control: application requirements) and the postmining land use requirements in § 89.88 (relating to postmining land use).

(2) The performance standards in subsections (b)—(j).

(3) Underground mining will not be authorized beneath structures where the depth of overburden is less than 100 feet (30.48 meters), unless the subsidence control plan demonstrates to the Department's satisfaction that the mine workings will be stable and that overlying structures will not suffer irreparable damage.

(4) The mine operator shall adopt measures to maximize mine stability. This subsection does not prohibit planned subsidence in a predictable and controlled manner or the standard method of room and pillar mining.

(b) *Structure surveys.*

(1) The operator shall conduct premining surveys of all structures listed under subsection (f)(1). The operator is relieved of the duty to conduct a premining survey if the operator has complied with the notice procedure in paragraph (2) and the landowner denies the operator access to conduct a premining survey or the structure was constructed less than 15 days before mining will enter the area described in subparagraph (ii).

(i) The premining survey shall document the existing condition of each structure and for structures that are recognized as historically or architecturally significant,

the presence of any architectural characteristics that will require special craftsmanship to replace.

(ii) The premining survey shall be completed prior to the time that a structure falls within a 30° angle of draw of underground mining, or a larger area as required by the Department.

(iii) The results of a premining survey shall be submitted to the landowner within 30 days of completion and to the Department upon Department request.

(iv) The operator may not provide the results of a premining survey to persons other than the structure owner and the Department without the consent of the structure owner.

(v) The operator shall store survey results in a secure location and shall limit access to the results to authorized personnel.

(2) The operator will be relieved of the duty to conduct a premining survey if the operator submits evidence to the Department that:

(i) The operator notified the owner by certified mail or personal service of the landowner's rights as set forth in sections 5.4—5.6 of The Bituminous Mine Subsidence and Land Conservation Act (52 P. S. §§ 1406.5d—1406.5f).

(ii) The operator attempted to conduct a survey.

(iii) The landowner failed to provide the operator with access to the site to conduct a survey within 10 days of receipt of the operator's notice of intent to conduct the survey.

(c) *Restrictions on underground mining.*

(1) Unless the subsidence control plan demonstrates that subsidence will not cause material damage to, or reduce the reasonably foreseeable use of the structures and surface features listed in subparagraph (i)—(v), no underground mining shall be conducted beneath or adjacent to:

(i) Public buildings and facilities.

(ii) Churches, schools and hospitals.

(iii) Impoundments with a storage capacity of 20 acre-feet (2.47 hectare-meters) or more.

(iv) Bodies of water with a volume of 20 acre-feet (2.47 hectare-meters) or more.

(v) Bodies of water or aquifers which serve as significant sources to public water supply systems.

(2) The measures adopted by the operator to comply with paragraph (1) shall consist of one of the following:

(i) Providing a support area beneath the structure or surface feature to be protected where coal extraction is limited to 50%, and the following:

(A) The support area shall consist of pillars of coal of a size and in a pattern which maximizes bearing strength, and which is approved by the Department.

(B) For purposes of this section, the support area shall be rectangular in shape and determined by projecting a 15° angle of draw from the surface to the coal seam beginning 15 feet (4.57 meters) from the sides of the structure. For a structure on a slope of 5% or greater, the support area on the downslope side of the structure shall be extended an additional distance determined by multiplying the thickness of the overburden by the percentage

expressed as a decimal of the surface slope. A pillar lying partially within the support area shall be considered part of the support area and shall be consistent with the other support pillars in size and pattern.

(C) The area lying between two support areas shall be treated as a support area, when the distance between the two support areas is less than the depth of the overburden.

(D) If the Department determines there is a potential for material damage or reducing the reasonably foreseeable use of a structure or feature listed in paragraph (1), the Department may limit the percentage of coal extracted under or adjacent to the structure or feature as necessary to minimize the potential for material damage or reduction in reasonably foreseeable use.

(ii) Backfilling or backstowing of voids.

(iii) Leaving areas in which no coal extraction will occur.

(iv) Taking measures on the surface to prevent material damage or reduction in the reasonably foreseeable use of the structure or feature.

(v) Demonstrating that the structure or feature will not be materially damaged through an engineering report or a report of the effects of mining under similar conditions.

(vi) Initiating a monitoring program within a specified area to detect surface movement resulting from the underground mining. The program shall entail placing monitors sufficiently in advance of the underground mining so that if excessive subsidence occurs the underground mining can be stopped before the protected structures or features are damaged. In calculating the area to be monitored, a 30° angle of draw shall be used.

(3) If the measures implemented by the operator cause material damage or reduce the reasonably foreseeable use of the structures or features listed in paragraph (1), the Department will impose additional measures to further minimize the potential for these effects.

(d) *General measures to prevent or minimize irreparable damage.* If the Department determines and so notifies a mine operator that a proposed mining technique or extraction ratio will result in irreparable damage to a structure enumerated in subsection (f)(1)(iii)—(v), the operator may not use the technique or extraction ratio unless the building owner, prior to mining, consents to the mining or the operator, prior to mining, takes measures approved by the Department to minimize or reduce impacts resulting from subsidence to these structures.

(e) *Repair of damage to surface lands.* To the extent technologically and economically feasible, the operator shall correct material damage to surface lands resulting from subsidence caused by the operator's underground mining operations.

(f) *Repair of damage to structures.*

(1) *Repair or compensation for damage to certain structures.* Whenever underground mining conducted on or after August 21, 1994, causes damage to any of the structures listed in subparagraphs (i)—(v), the operator responsible for extracting the coal shall fully rehabilitate, restore, replace or compensate the owner for material damage to the structures resulting from the subsidence unless the operator demonstrates to the Department's satisfaction that one of the provisions of § 89.144a (relating to subsidence control: relief from responsibility) relieves the operator of responsibility.

(i) Buildings that are accessible to the public including, but not limited to, commercial, industrial and recreational buildings and all permanently affixed appurtenant structures.

(ii) Noncommercial buildings customarily used by the public, including, but not limited to, schools, churches and hospitals.

(iii) Dwellings which are used for human habitation and permanently affixed appurtenant structures or improvements in place on August 21, 1994, or on the date of first publication of the application for a coal mining activity permit or a 5-year renewal thereof for the operations in question and within the boundary of the entire mine as depicted in the application.

(iv) Barns and silos.

(v) Permanently affixed structures of 500 or more square feet (46.45 square meters) in area that are used for raising livestock, poultry or agricultural products, for storage of animal waste or for the processing or retail marketing of agricultural products produced on the farm on which the structures are located.

(2) *Amount of compensation.*

(i) If, rather than repair the damage, the operator compensates the structure owner for damage caused by the operator's underground mining, the operator shall provide compensation equal to the reasonable cost of repairing the structure or, if the structure is determined to be irreparably damaged, the compensation shall be equal to the reasonable cost of its replacement except for an irreparably damaged agricultural structure identified in paragraph (1)(iv) or (v) which at the time of damage was being used for a different purpose than the purpose for which the structure was originally constructed. For such an irreparably damaged agricultural structure, the operator may provide for the reasonable cost to replace the damaged structure with a structure satisfying the functions and purposes served by the damaged structure before the damage occurred if the operator can affirmatively prove that the structure was being used for a different purpose than the purpose for which the structure was originally constructed.

(ii) The operator shall compensate the occupants with an additional payment for reasonable, actual expenses incurred during their temporary relocation, if the occupants of a damaged structure are required to relocate. The operator shall also compensate the occupants for other actual, reasonable incidental costs agreed to by the parties or approved by the Department.

(g) *Protection of utilities.*

(1) Underground mining shall be planned and conducted in a manner which minimizes damage, destruction or disruption in services provided by oil, gas and water wells; oil, gas and coal slurry pipelines; rail lines; electric and telephone lines; and water and sewerage lines which pass under, over, or through the permit area, unless otherwise approved by the owner of the facilities and the Department.

(2) The measures an operator may take to minimize damage, destruction or disruption in services protected by this subsection may include, but are not limited to, one or more of the following:

(i) A program for detecting subsidence damage and minimizing disruption in services.

(ii) A notification to the owner of the facility which specifies when underground mining beneath or adjacent to the utility will occur.

(iii) Providing support in accordance with the utility owner's support rights.

(iv) Providing temporary or alternate service to customers.

(v) Demonstrating to the Department that subsidence will not materially damage the utility.

(3) A mine operator shall take measures to minimize damage to customer-owned gas and water service connections, unless the customer does not consent to the measures.

(4) The Department will suspend or restrict underground mining if it determines that mining beneath or adjacent to a utility will present an imminent hazard to human safety.

(h) *Perennial streams.*

(1) Underground mining shall be planned and conducted in a manner which maintains the value and reasonably foreseeable uses of perennial streams, such as aquatic life; water supply; and recreation, as they existed prior to coal extraction beneath streams.

(2) If the Department finds that the underground mining has adversely affected a perennial stream, the operator shall mitigate the adverse effects to the extent technologically and economically feasible, and, if necessary, file revised plans or other data to demonstrate that future underground mining will meet the requirements of paragraph (1).

(i) *Prevention of hazards to human safety.*

(1) The Department will suspend underground mining beneath urbanized areas; cities; towns; and communities and adjacent to or beneath industrial or commercial buildings; lined solid and hazardous waste disposal areas; major impoundments of 20 acre-feet (2.47 hectare-meters) or more; or perennial streams, if the operations present an imminent danger to the public.

(2) If the Department determines and so notifies the operator that a mining technique or extraction ratio will result in subsidence which creates an imminent hazard to human safety, the operator may not use the technique or extraction ratio unless the operator, prior to mining, takes measures approved by the Department to eliminate the imminent hazard to human safety.

(j) *Prohibition.* Underground mining is prohibited under an area which is not included within a subsidence control plan that has been submitted under § 89.141(d) (relating to subsidence control: application requirements) and approved by the Department.

(k) *Report of claim.* Within 10 days of being advised of a claim of subsidence damage to a structure or surface feature, the operator shall provide the Department with a report of the claim which shall include the following information:

(1) The date of the claim.

(2) The name, address and telephone number of the owner of the structure, surface feature or surface land claimed to be damaged.

(3) The number assigned to the structure or feature under § 89.154(a) (relating to maps).

(l) *Property rights.* This section does not authorize the Department to adjudicate property rights disputes between mine operators and other parties.

§ 89.143. (Reserved).

§ 89.143a. Subsidence control: procedure for resolution of subsidence damage claims.

(a) The owner of a structure enumerated in § 89.142a(f)(1) (relating to subsidence control: performance standards) who believes that underground mining caused mine subsidence resulting in damage to the structure and who wishes to secure repair of the structure or compensation for the damage shall provide the operator responsible for the underground mining with notification of the damage to the structure.

(b) If the operator agrees that mine subsidence damaged the structure, the operator shall fully repair the damage or compensate the owner for the damage in accordance with either § 89.142a(f) or a voluntary agreement between the parties authorized by section 5.6 of The Bituminous Mine Subsidence and Land Conservation Act (52 P. S. § 1406.5f).

(c) If, within 6 months of the date that the building owner sent the operator notification of subsidence damage to the structure, the parties are unable to agree as to the cause of the damage or the reasonable cost of repair or compensation for the structure, the owner of the structure may within 2 years of the date damage to the structure occurred, file a claim in writing with the Department. The Department will send a copy of the claim to the operator.

(d) Upon receipt of the claim, the Department will conduct an investigation in accordance with the following procedure:

(1) Within 30 days of receipt of the claim, the Department will conduct an investigation to determine whether underground mining caused the subsidence damage to the structure.

(2) Within 60 days of completion of the investigation, the Department will determine, and set forth in writing, whether the damage is attributable to subsidence caused by the operator's underground mining and, if so, the reasonable cost of repairing or replacing the damaged structure.

(3) If the Department finds that the operator's underground mining caused the damage to the structure, the Department will either issue a written order directing the operator to compensate the structure owner or issue an order directing the operator to repair the damaged structure within 6 months of the date of issuance of the order. The Department may allow more than 6 months if the Department finds that further damage may occur to the same structure as a result of additional subsidence.

§ 89.144. (Reserved).

§ 89.144a. Subsidence control: relief from responsibility.

(a) The operator will not be required to repair a structure or compensate a structure owner for damage to structures identified in § 89.142a(f)(1) (relating to subsidence control: performance standards) if the operator demonstrates to the Department's satisfaction one or more of the following apply:

(1) The landowner denied the operator access to the property upon which the structure is located to conduct a

premining survey or a postmining survey of the structure and surrounding property, and thereafter the operator served notice upon the landowner by certified mail or personal service. The operator shall demonstrate the following:

(i) The notice identified the rights established by sections 5.4—5.6 of The Bituminous Mine Subsidence and Land Conservation Act (52 P. S. §§ 1406.5d—1406.5f).

(ii) The landowner denied the operator access to the site to conduct the survey within 10 days after the landowner's receipt of the notice.

(2) The operator's underground mining did not cause the damage.

(3) The operator and the landowner entered into a voluntary agreement that satisfies the requirements of section 5.6 of The Bituminous Mine Subsidence and Land Conservation Act.

§ 89.145. (Reserved).

§ 89.145a. Water supply replacement: performance standards.

(a) *Water supply surveys.*

(1) The operator shall conduct a premining survey and may conduct a postmining survey of the quantity and quality of all water supplies within the permit and adjacent areas, except when the landowner denies the operator access to the site to conduct a survey and the operator has complied with the notice procedure in this section. Premining surveys shall be conducted prior to mining within 1,000 feet (304.80 meters) of a water supply unless otherwise authorized or required by the Department based on site specific conditions. Survey information shall include the following information to the extent that it can be collected without extraordinary efforts or the expenditure of excessive sums of money:

(i) The location and type of water supply.

(ii) The existing and reasonably foreseeable uses of the water supply.

(iii) The chemical and physical characteristics of the water, including, at a minimum, total dissolved solids or specific conductance corrected to 25°C, pH, total iron, total manganese, hardness, total coliform, acidity, alkalinity and sulfates. An operator who obtains water samples in a premining or postmining survey shall utilize a certified laboratory to analyze the samples.

(iv) The quantity of the water.

(v) The physical description of the water supply, including the depth and diameter of the well, length of casing and description of the treatment and distribution systems.

(vi) Hydrogeologic data such as the static water level and yield determination.

(2) The operator shall submit copies of the results of the analyses, as well as the results of any quantitative analysis, to the Department and to the landowner within 30 days of their receipt by the operator.

(3) If the operator cannot make a premining or postmining survey because the owner will not allow access to the site, the operator shall submit evidence to the Department of the following:

(i) The operator notified the landowner by certified mail or personal service of the landowner's rights in sections

5.1—5.3 of The Bituminous Mine Subsidence and Land Conservation Act (52 P. S. §§ 1406.5a—1406.5c), and the effect on the landowner of the landowner's denial to the operator of access to the site as described in section 5.2(d) of The Bituminous Mine Subsidence and Land Conservation Act.

(ii) The operator's attempt to conduct a survey.

(iii) The landowner failed to authorize access to the operator to conduct a survey within 10 days of receipt of the operator's notice of intent to conduct a survey.

(b) *Restoration or replacement of water supplies.* When underground mining activities conducted on or after August 21, 1994, affect a public or private water supply by contamination, diminution or interruption, the operator shall restore or replace the affected water supply with a permanent alternate source which adequately serves the premining uses of the water supply or any reasonably foreseeable uses of the water supply. The operator shall be relieved of any responsibility under The Bituminous Mine Subsidence and Land Conservation Act (52 P. S. §§ 1406.1—1406.21) to restore or replace a water supply if the operator demonstrates that one of the provisions of § 89.152 (relating to water supply replacement: relief from responsibility) relieves the operator of further responsibility. This subsection does not apply to water supplies affected by underground mining activities which are covered by Chapter 87 (relating to surface mining of coal).

(c) Within 24 hours of an operator's receipt of a claim of water supply contamination, diminution or interruption, the operator shall notify the Department of the claim.

(d) *Investigation and reporting of water supply damage complaints.* Upon receipt of notification that a water supply has been contaminated, diminished or interrupted and that the operator's underground mining activities may have caused the contamination, diminution or interruption, the operator shall diligently investigate the complaint and notify the Department in a timely manner of the results of the operator's investigation. This subsection does not apply to water supplies affected by underground mining activities which are governed by Chapter 87.

(e) *Temporary water supplies.*

(1) If the affected water supply is within the rebuttable presumption area and the rebuttable presumption applies and the landowner or water user is without a readily available alternate source, the operator shall provide a temporary water supply within 24 hours of being contacted by the landowner or water supply user or the Department, whichever occurs first.

(2) The temporary water supply provided under this subsection shall meet the requirements of paragraph (f)(2) and provide a sufficient amount of water to meet the water supply user's premining needs.

(f) *Adequacy of permanently restored or replaced water supply.* A permanently restored or replaced water supply shall include any well, spring, municipal water supply system or other supply approved by the Department, which meets the criteria for adequacy as follows:

(1) *Reliability, cost, maintenance and control.* A restored or replaced water supply, at a minimum, shall:

(i) Be as reliable as the previous water supply.

(ii) Be as permanent as the previous water supply.

(iii) Not require excessive maintenance.

(iv) Provide the owner and the user with as much control and accessibility as exercised over the previous water supply.

(v) Not result in more than a de minimis cost increase to operate and maintain. If the operating and maintenance costs of the restored or replaced water supply are more than a de minimis cost increase, the operator shall provide for the permanent payment of the increased operating and maintenance costs of the restored or replaced water supply.

(2) *Quality.* A restored or replaced water supply will be deemed adequate when it differs in quality from the premining water supply, if it meets the Pennsylvania Safe Drinking Water Act (35 P. S. §§ 750.1—750.20), or is comparable to the premining water supply when that water supply did not meet these standards.

(3) *Adequate quantity.* A restored or replaced water supply will be deemed adequate in quantity if it meets one of the following:

(i) It delivers the amount of water necessary to satisfy the water user's needs and the demands of any reasonably foreseeable uses.

(ii) It is established through a connection to a public water supply system which is capable of delivering the amount of water necessary to satisfy the water user's needs and the demands of any reasonably foreseeable uses.

(iii) For purposes of this paragraph and with respect to agricultural water supplies, the term reasonably foreseeable uses includes the reasonable expansion of use where the water supply available prior to mining exceeded the farmer's actual use.

(4) *Water source serviceability.* A replacement of a water supply shall include the installation of any piping, pumping equipment and treatment equipment necessary to put the replaced water source into service.

§ 89.146a. Water supply replacement: procedure for resolution of water supply damage claims.

(a) Whenever a landowner or water supply user experiences contamination, diminution or interruption of a water supply which is believed to have occurred as a result of underground mining activities, the landowner or water user shall notify the operator. The operator shall diligently investigate the water loss. This subsection does not apply to water supplies affected by underground mining activities which are governed by Chapter 87 (relating to surface mining of coal).

(b) The Department will order the operator to provide temporary water to the landowner or water supply user within 24 hours of issuance of the order if the following apply:

(1) No alternate temporary water supply is available to the landowner or water user.

(2) The water supply is contaminated, diminished or interrupted.

(3) The water supply is located within the rebuttable presumption area.

(4) The landowner notified the operator of the water supply problem.

(c) If the affected water supply has not been restored or an alternate water supply has not been provided by the operator or if the operator provides and later discontinues an alternate source, the landowner or water supply user may so notify the Department and request that the Department conduct an investigation in accordance with the following procedure:

(1) Within 10 days of notification, the Department will commence an investigation of landowner's or water supply user's claim.

(2) Within 45 days of notification, the Department will make a determination of whether the contamination, diminution or interruption was caused by the operator's underground mining activities and will notify all affected parties of the Department's determination.

(3) If the Department determines that the operator's underground mining activities caused the water supply to be contaminated, diminished or interrupted, the Department will issue any orders that are necessary to assure compliance with The Bituminous Mine Subsidence and Land Conservation Act (52 P. S. §§ 1406.1—1406.21) and this chapter.

§ 89.152. Water supply replacement: relief from responsibility.

(a) The operator will not be required to restore or replace a water supply if the operator can demonstrate one of the following:

(1) The contamination, diminution or interruption existed prior to the underground mining activities as determined by a premining survey, and the operator's underground mining activities did not worsen the preexisting contamination, diminution or interruption.

(2) The contamination, diminution or interruption is due to underground mining activities which occurred more than 3 years prior to the onset of water supply contamination, diminution or interruption.

(3) The contamination, diminution or interruption occurred as the result of some cause other than the underground mining activities.

(4) The claim for contamination, diminution or interruption of the water supply was made more than 2 years after the water supply was adversely affected by the underground mining activities.

(5) That the operator has done one of the following:

(i) Has purchased the property for a sum equal to the property's fair market value immediately prior to the time the water supply was affected or has made a one-time payment equal to the difference between the property's fair market value determined immediately prior to the time the water supply was affected and the fair market value determined at the time payment is made.

(ii) The landowner and operator have entered into a valid voluntary agreement under section 5.3 of The Bituminous Mine Subsidence and Land Conservation Act (52 P. S. § 1406.5c) which does not require restoration or replacement of the water supply or authorizes a lesser amount of compensation to the landowner than provided by section 5.3(a)(5) of The Bituminous Mine Subsidence and Land Conservation Act.

(b) This section does not apply to underground mining activities which are governed by Chapter 87 (relating to surface mining of coal).

§ 89.153. Water supply replacement: rebuttable presumption.

(a) In a determination or proceeding under section 5.2 of The Bituminous Mine Subsidence and Land Conservation Act (52 P. S. § 1406.5b), it is presumed that the operator is responsible for the contamination, diminution or interruption of a water supply that is within the rebuttable presumption area.

(b) The operator may successfully rebut the presumption by affirmatively proving that the landowner denied the operator access to the property on which the water supply is located to conduct a premining survey or a postmining survey of the quality and quantity of the water supply and that the operator complied with the notification procedure in § 89.145a(a)(3) (relating to water supply replacement: performance standards).

(c) Affirmatively proving that an operator was denied access to conduct a premining or postmining survey of a water supply does not relieve the operator of liability for the contamination, diminution or interruption when the landowner, affected water use or the Department proves the operator's underground mining activities caused the contamination, diminution or interruption.

§ 89.154. Maps.

(a) *General mine map.* The application shall include maps prepared under the supervision of and certified by a qualified registered professional engineer or qualified registered professional land surveyor drawn to a scale of 1 inch = 500 feet in a manner satisfactory to the Department, updated as requested by the Department, showing the items identified in this subsection. The map shall cover all areas where structures may be damaged and surface lands may suffer material damage as a result of mine subsidence. At a minimum, the map shall cover the entire area above the mine, and all areas within a 30° angle of draw of the limits of the mine. The requirements of paragraphs (2)—(7) may be satisfied by referencing the maps required by Subchapter B (relating to operations). The map, at a minimum, shall show the following:

(1) The boundaries of areas proposed to be affected over the estimated total life of the underground mining activity, with a description of the size, sequence and the schedule for mining subareas of the mine.

(2) The location of test borings and core samplings, and surface and coal elevations at these locations.

(3) Coal crop lines and the contours of the coal seam to be mined within the permit and adjacent areas.

(4) The location and extent of known workings of active, inactive or abandoned, underground or surface mines, including identification of the coal seams mined and location of mine openings to the surface within, above and below the proposed permit and adjacent areas.

(5) The portrayal of major aquifers on cross-sections.

(6) The area covered by the subsidence control plan submitted under § 89.141(d) (relating to subsidence control: application requirements) with the following information identified:

(i) The boundaries of lands and names of current surface and subsurface owners of record.

(ii) Dwellings, public buildings and facilities, churches, schools, hospitals and impoundments with a storage

capacity of 20 acre-feet (2.47 hectare-meters), identified by numerical reference.

(iii) Structures or classes of structures listed in § 89.142a(f)(1)(i)—(v) (relating to subsidence control: performance standards), identified by numerical reference.

(iv) Urbanized areas, cities, towns, communities and industrial or commercial buildings.

(v) Public parks and historic structures.

(vi) Other structures which are entitled to support, identified by numerical reference.

(vii) Water supplies.

(viii) Major electric transmission lines, including identification by name or numerical reference.

(ix) Public roads and railroads.

(x) Oil, gas and coal slurry pipelines larger than 4 inches (10.16 centimeters) in diameter, including identification by name or numerical reference.

(xi) Water and sewer mains and transmission lines, including identification by name or numerical reference.

(xii) Surface water bodies, including perennial streams, lakes, ponds, dams and impoundments with a volume of 20 acre-feet (2.47 hectare meters) or more, indicating by numerical reference those perennial streams and other bodies of water which are a significant source for a public water supply system.

(xiii) Coal refuse disposal areas, solid and hazardous waste disposal areas, and other air and water pollution control facilities, all identified by numerical reference.

(xiv) Gas, oil and water wells, identified by numerical reference.

(xv) Surface sites and facilities associated with the underground permit application.

(xvi) Aquifers which serve as a significant source for a public water supply system, identified by numerical reference.

(xvii) Political subdivisions.

(xviii) Landslide prone areas.

(xix) Proposed underground workings including a description of the location and extent of the areas in which planned subsidence mining methods will be used and the identification of all areas where the measures described in § 89.141(d)(3), (5) and (7) will be taken to prevent or minimize subsidence and subsidence-related damage; and when applicable, to repair subsidence-related damage.

(7) Areas over the proposed mine where the overburden is 100 feet (30.48 meters) or less.

(b) *Six-month maps.* The operator shall submit mine maps to the Department every 6 months. The maps shall:

(1) Be drawn to a scale of 1 inch = 100 feet or 1 inch = 200 feet.

(2) Be prepared under the supervision of and certified by a qualified registered professional engineer or qualified registered professional land surveyor.

(3) Show the area in which mining is projected to occur in the next 6 months.

(4) Show the area where underground mining occurred over the last 6 months, including pillar locations, and the areas abandoned or completed within the last 6 months.

(5) Provide the following information:

(i) The location and identifying number for structures and surface features required to be identified by number in subsection (a)(6)(i)—(xviii).

(ii) The location and identifying number of structures and surface features required to be identified by number in subsection (a)(6)(i)—(xviii), which have appeared since the permit application.

(iii) The location of surface boundaries and identification of surface owners of record and the owners of record of the coal seam being mined.

(iv) The boundaries of the projected mining area and within that area designated coal areas to be mined and coal areas to be left unmined, including:

(A) A description of the areas to be supported by the pillar plan required by § 89.142a(c)(2).

(B) Coal left in place in compliance with other statutes including those listed in § 89.141(d)(12) (relating to subsidence control; application requirements).

(C) Identification of other areas of planned and controlled subsidence.

(v) Existing mine working adjacent to the area to be mined in the next 6 months, including a designation of any survey stations, elevations of the bottom of the coal seam and areas of geologic faults.

(vi) Other information requested by the Department.

(c) *Map to be filed with recorder of deeds.* After the Department has determined that the 6-month map is in accordance with the subsidence control plan, the operator shall file a copy of the map with the recorder of deeds for each county in which underground mining is projected, and submit to the Department proof of this filing.

(d) *Restriction of activity.* No underground mining may occur until it is shown as projected underground mining on the maps required by subsection (b) and the maps have been on file with the recorder of deeds' office for 10 days.

§ 89.155. Public notice.

(a) The operator shall send a notice by certified mail, return receipt requested, to the owner of record of each property and each utility, and each political subdivision overlying its underground mining operations. A notice shall be sent to the resident and owner of each structure overlying the mining operation. The notice shall be sent at least 6 months, but not more than 5 years, prior to mining beneath that property or structure or within that political subdivision. The operator shall provide the Department with a copy of each notice and return receipt, or, if the certified mail is not accepted, a copy of the returned envelope documenting that the notice was not accepted or not deliverable.

(b) The notice shall identify:

(1) The area in which underground mining will take place.

(2) The approximate time frame, within the permit term, when the underground mining that may cause subsidence and affect specific structures is expected to occur.

(3) The location of the offices where the applications and maps submitted under this chapter are available for inspection and a schedule of dates for the submission of the 6-month maps under § 89.154(b) (relating to maps).

(4) The location of the offices of both the operator and the Department where a surface owner can submit

written complaints alleging subsidence damage or water supply contamination, diminution or interruption.

(c) The operator shall establish and implement a procedure to notify Federal, State or local government agencies responsible for administering public facilities, such as roads, when the underground mining beneath or adjacent to the public facility will occur. The notification shall be given 6 months prior to underground mining beneath the

public facility or shall be timed to enable the agency to take appropriate measures to protect the facility and to prevent conditions which may endanger the health, safety or welfare of the public.

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