

<h1>Regulatory Analysis Form</h1> <p>(Completed by Promulgating Agency)</p> <p>(All Comments submitted on this regulation will appear on IRRC's website)</p>		<p><b>INDEPENDENT REGULATORY REVIEW COMMISSION</b></p>	
<p>(1) Agency Department of Environmental Protection</p>		<p>2017 OCT 11 P 4: 12</p> <p>RECEIVED IRRC</p>	<p>IRRC Number: 3165</p>
<p>(2) Agency Number: Identification Number: 7-527</p>			
<p>(3) Pa. Code Cite: 25 Pa. Code Chapter 208 Underground Coal Mine Safety</p>			
<p>(4) Short Title: Sensitive Ground Fault</p>			
<p>(5) Agency Contacts (List Telephone Number and Email Address):                  Primary Contact: Laura Edinger, 717-783-8727; <a href="mailto:ledinger@pa.gov">ledinger@pa.gov</a>                  Secondary Contact: Jessica Shirley, 717-783-8727; <a href="mailto:jessshirley@pa.gov">jessshirley@pa.gov</a></p>			
<p>(6) Type of Rulemaking (check applicable box):</p> <p><input type="checkbox"/> Proposed Regulation  <input checked="" type="checkbox"/> Final Regulation  <input type="checkbox"/> Final Omitted Regulation</p>		<p><input type="checkbox"/> Emergency Certification Regulation;  <input type="checkbox"/> Certification by the Governor  <input type="checkbox"/> Certification by the Attorney General</p>	
<p>(7) Briefly explain the regulation in clear and nontechnical language. (100 words or less)</p> <p>This final-form rulemaking adds a provision to 25 Pa. Code Chapter 208, and four definitions. The final-form regulation adds § 208.600 (relating to sensitive ground fault) and related definitions to § 208.1, to read as set forth in Annex A.</p> <p>Specifically, this final-form regulation adds a provision requiring operators to equip certain electrical circuits at the mine with sensitive ground fault protection – a protection scheme that will shut off electrical power through the circuit when it detects that a current is flowing along an unintended path – which will reduce risk of injury or death from electrocution.</p>			
<p>(8) State the statutory authority for the regulation. Include <u>specific</u> statutory citation.</p> <p>Section 106.1 of The Bituminous Coal Mine Safety Act (BCMSA) (52 P.S. § 690-106.1) authorizes the Board of Coal Mine Safety (Board) to adopt regulations to implement BCMSA and to protect the health, safety, and welfare of miners and other individuals in and about mines.</p> <p>Further, Section 334(c) of the BCMSA (52 P.S. § 690-334(c)) directed the mining industry to initiate studies into possible means of enhancing safety of underground cables, including through, among other things, “more sensitive ground fault limiting and detection.” The statute further required both laboratory and underground testing of such systems, and that the Board will take action on the industry’s reports and recommendations. To that end, the Pennsylvania Coal Alliance (PCA) (representing the coal mining industry) formed a committee with representatives from several coal mine operators to convene,</p>			

manage the studies, and ultimately produce a report and recommendations to the Board. The committee produced a report in March of 2012, titled "Pennsylvania Coal Association Bituminous Coal Mine Safety Act Section 334 Industry Studies Final Report" (Final Report). This final-form rulemaking is the product of the Final Report, which was followed by extensive deliberations by the Board.

(9) Is the regulation mandated by any federal or state law or court order, or federal regulation? Are there any relevant state or federal court decisions? If yes, cite the specific law, case or regulation as well as, any deadlines for action.

This regulation is not mandated by any federal or state law, court order, or federal regulation.

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

This final-form rulemaking enhances miner safety from electrocution by improving the sensitive ground fault mechanisms on certain electrical circuits powering machinery within the mines. This final-form rulemaking will require operators to ensure that certain new and rebuilt power centers are equipped with these more sensitive ground fault protection devices (including sensing relays, limiting resistors, and interrupting devices) thus enhancing the safety of persons working with or around the electric cables supplying power to certain machinery. Moreover, there is a compelling public interest in ensuring that miners are safe in the workplace. While estimating an exact number of individuals who will benefit from this rulemaking is difficult, miners, their families, mining companies, and others will benefit from electrical safety in underground mines. Because of this final-form rulemaking, the risk of workplace injuries and deaths related to these electric cables will decline.

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

To improve miner safety, per the BCMSA, the final-form rulemaking is more stringent than federal regulations in certain regards.

The federal Mine Safety and Health Administration (MSHA) regulation at 30 CFR 75.901(a) requires a ground fault current limit (trip setting) of 25 Amperes or less, and Section 75.900 of the MSHA Program Policy Manual, Vol. V (Coal Mines), Part 75, Subpart J, recommends that the device be adjusted to operate at not more than 50 percent of the current rating of the grounding resistor.

The final-form rulemaking requires a trip setting of 300 milli-amperes or less nominally, except in the case of circuits powering equipment using variable speed drives, in which case, if nuisance tripping occurs at 300 milli-amperes, the operator may adjust the setting no greater than the lower value of 500 milli-amperes or one half of the neutral ground resistor's current rating. The need for improved miner safety from electrical hazards and that a practical and commercially available means of providing improved safety exists present a compelling Pennsylvania interest that calls for stronger regulation.

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

The final-form rulemaking is an industry-leading regulation that is more stringent than those of other states. Regardless, the industry-lead Final Report concluded that implementation of more sensitive ground fault relays, with the settings that this final-form rulemaking would require, "is practical, commercially available, and provides a significant enhancement to the safety of miners...."

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

No. The final-form regulation does not affect any other regulations of the promulgating agency or other state agencies.

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

This final-form rulemaking was prepared at the direction of the Board and pursuant to Section 334(c) of the BCMSA. Section 334(c) required the industry to study certain means of enhancing cable safety and create a report and recommendations, on which the Board must act. The seven-member Board is chaired by the Secretary of the Department of Environmental Protection and consists of three members who represent mine workers and three members who represent coal mine operators. Three of the members of the Board were nominated by the United Mine Workers of America (UMWA) to represent miners, and three were nominated by the Pennsylvania Coal Alliance (PCA) to represent coal mine operators.

The development and drafting of this final-form rulemaking was aided by input from the Board which received recommendations and advice on the rulemaking from its constituents. The three members of the Board nominated by the UMWA provided input on the regulations on behalf of mine workers. Likewise, the three representatives on the Board nominated by PCA made recommendations on the regulation on behalf of the nine underground bituminous mining companies and affiliates that currently operate in Pennsylvania. As such, both UMWA and PCA participated in the decision of the Board to prepare this regulation. The comment, review, and deliberation process extended for approximately three years after production of the 2012 report.

On March 18, 2017, the proposed rulemaking was published for a thirty-day public comment period. See 47 Pa.B. 1636. The rulemaking received no public comment. On May 17, 2017, IRRC submitted two comments based on criteria in section 5.2 of the Regulatory Review Act (71 P.S. § 745.5b) concerning the Board's justification for the two-tiered implementation schedule (immediate and 60-month) and clarity of the definitions.

The Board has determined that three small businesses, as that term is defined under Section 3 of the Regulatory Review Act, will be affected by this proposed rulemaking. According to the Small Business Size Regulations under 13 CFR Part 121, for NAICS Code 212112 (bituminous coal underground mining), a small business is one that employs fewer than 500 persons. The Board determined that this

rulemaking would apply to the nine underground bituminous mining companies currently operating in Pennsylvania, three of which employ fewer than 500 persons. The Board made this determination by reviewing its own internal data and publicly available data from the companies.

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

Approximately 40 bituminous underground mines operate in Pennsylvania, which are owned by nine underground bituminous mining companies. Three of these nine companies are small businesses. This final-form rulemaking will require these operators to ensure that any new load centers, or rebuilt load centers at new mines, that operate in by the last open crosscut of the mine must include sensitive ground fault protective devices. For such load centers in operation at the time of the effective date of the regulation, operators must ensure that these load centers have sensitive ground fault protective devices within 60 months.

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

Approximately 40 underground bituminous coal mines operate in Pennsylvania, which are owned by nine underground bituminous mining companies. These companies collectively employ approximately 5,300 persons. Three of these nine companies are small businesses. All of these entities will be required to comply with the regulation.

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

This final-form rulemaking will have a financial impact on the operators related to the cost of acquiring and installing the sensitive ground fault devices. The potential benefits of the final-form rulemaking include the continued prevention of bodily harm and loss of life at underground mine sites.

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

Although the benefit of reducing the risk of bodily harm and loss of life or property is difficult to quantify, the Final Report prepared pursuant to the BCMSA concluded that employing the devices required by this final-form rulemaking “is practical, commercially available, and provides a significant enhancement to the safety of miners working in a section power center, the equipment powered from it, and handling the trail cable.” Moreover, the BCMSA explicitly noted the issue of cable safety with the expectation that this issue would be addressed after study and Board deliberation.

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

The Board anticipates that this rulemaking will cost the industry approximately \$500,000.00 over the next five years. As with any reduction of potentially hazardous risks, mine workers and the regulated industry will experience savings as a result of enhancing worker safety.

This final-form rulemaking does not directly require additional accounting or consulting procedures, recordkeeping, or other paperwork. Indirect accounting or paperwork costs may occur, but the Board anticipates that these costs will be minimal because most of the accounting or other paperwork is that which is already being performed on a routine basis when new equipment is purchased, or existing equipment is replaced or rebuilt. The final-form rulemaking does not include any new reporting requirements.

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

This question does not apply because local governments do not engage in underground bituminous coal mining.

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

The costs incurred by the state government because of this final-form rulemaking are expected to be negligible, as the Commonwealth already conducts mine safety inspections. Nothing in this final-form rulemaking will alter current state government practices or costs.

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

This final-form rulemaking requires minimal additional accounting or consulting procedures, recordkeeping, or other paperwork because most of the paperwork required is that which is already being performed on a routine basis when new equipment is purchased or existing equipment is replaced or rebuilt. The final-form rulemaking does not include any new reporting requirements.

(22a) Are forms required for implementation of the regulation?

No forms are required for implementation of this final-form regulation.

(22b) If forms are required for implementation of the regulation, **attach copies of the forms here**. If your agency uses electronic forms, provide links to each form or a detailed description of the information required to be reported. **Failure to attach forms, provide links, or provide a detailed description of the information to be reported will constitute a faulty delivery of the regulation.**

Not Applicable

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

	Current FY Year	FY +1 Year	FY +2 Year	FY +3 Year	FY +4 Year	FY +5 Year
<b>SAVINGS:</b>	\$	\$	\$	\$	\$	\$
Regulated Community	\$0	\$0	\$0	\$0	\$0	\$0
Local Government	N/A	N/A	N/A	N/A	N/A	N/A
State Government	N/A	N/A	N/A	N/A	N/A	N/A
Total Savings	\$0	\$0	\$0	\$0	\$0	\$0
<b>COSTS:</b>	\$	\$	\$	\$	\$	\$
Regulated Community	\$0	\$50,625	\$75,938	\$101,250	\$126,563	\$151,875
Local Government	N/A	N/A	N/A	N/A	N/A	N/A
State Government	N/A	N/A	N/A	N/A	N/A	N/A
Total Costs	\$0	\$50,625	\$75,938	\$101,250	\$126,563	\$151,875
<b>REVENUE LOSSES:</b>	\$	\$	\$	\$	\$	\$
Regulated Community	\$0	\$0	\$0	\$0	\$0	\$0
Local Government	N/A	N/A	N/A	N/A	N/A	N/A
State Government	N/A	N/A	N/A	N/A	N/A	N/A
Total Revenue Losses	\$0	\$0	\$0	\$0	\$0	\$0

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

Program	FY-3 2013-14	FY-2 2014-15	FY-1 2015-16	FY 2016-17
Environmental Protection Operations (#160-10381)	\$75,184,000	\$84,438,000	\$87,172,000	\$89,066,000
Environmental Program Management (#161-10382)	\$25,733,000	\$28,517,000	\$28,277,000	\$30,025,000

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

- (a) An identification and estimate of the number of small businesses subject to the regulation.

Three small businesses operate underground bituminous coal mines in Pennsylvania. The Board does not anticipate that the final-form rulemaking will have an adverse impact on these businesses.

- (b) The projected reporting, recordkeeping and other administrative costs required for compliance with the proposed regulation, including the type of professional skills necessary for preparation of the report or record.

No additional costs will be incurred with respect to reporting, recordkeeping, and other administrative costs required for compliance with the rulemaking.

- (c) A statement of probable effect on impacted small businesses.

This final-form rulemaking is not expected to have a great effect on the three small businesses subject to this regulation. According to the Small Business Size Regulations under 13 CFR Part 121, for NAICS Code 212112 (bituminous coal underground mining) a small business is one that employs fewer than 500 persons. Three of the nine underground bituminous coal mining companies currently operating in Pennsylvania employ fewer than 500 persons. The three small businesses will be somewhat impacted, but these businesses were represented on the committee that undertook the study and created the Final Report that concluded that the devices required by this final-form rulemaking are practical and commercially available. The three small businesses are also represented on the Board that deliberated on this final-form rulemaking.

- (d) A description of any less intrusive or less costly alternative methods of achieving the purpose of the proposed regulation.

Section 334(b)-(c) requires that the industry study various means of achieving greater cable safety. Implementation of sensitive ground fault devices is the first product of these studies.

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

No special provisions were developed to meet the particular needs of affected groups or persons as no groups were identified to be impacted. Three small businesses will be somewhat impacted, but these businesses were represented on the committee that undertook the study and created the Final Report that concluded that the devices required by this final-form rulemaking are practical and commercially available. The three small businesses are also represented on the Board that deliberated on this final-form rulemaking.

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

The Board considered various adjusted settings of the ground fault detection devices and determined that on most systems, a setting of 300 milli-amperes is the lowest value that could be maintained without frequent nuisance tripping. For equipment utilizing variable-speed drives, which are more prone to nuisance tripping, operators may adjust the setting up to the lesser of 500 milli-amperes or one half of the neutral ground resistor's current rating.

In determining the setting that would work best for industry in Pennsylvania, the Board considered both state and federal requirements. The Board reviewed and considered all available information along with industry feedback.

Section 334(b)-(c) requires that the industry study various means of achieving greater cable safety. Implementation of sensitive ground fault devices is the first product of these studies.

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

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

According to the Small Business Size Regulations under 13 CFR Part 121, for NAICS Code 212112 (bituminous coal underground mining) a small business is one that employs fewer than 500 persons. Three of the nine underground bituminous coal mining companies currently operating in Pennsylvania employ fewer than 500 persons. This final-form rulemaking is not expected to have a significant effect on the three small businesses subject to this regulation.

- a) Less stringent compliance requirements for small businesses were not considered because the industry-led study required by Sections 334(c) of the BCMSA into various means of enhancing cable safety (in which the relevant small businesses were represented) resulted in a Final Report that concluded - "more sensitive ground fault relays is practical, commercially available, and provides a significant enhancement to the safety of miners." This final-form rulemaking includes no reporting requirement.
- b) Less stringent schedules or deadlines for compliance were considered and ultimately adopted in the rulemaking in the form of a 60-month phase-in requirement for all operators based on the logistics of maintaining operations while equipment rebuilding/replacing takes place. This final-form rulemaking includes no reporting requirement.
- c) The consolidation or simplification of compliance requirements for small business was not considered because this final-form rulemaking encompasses one rule regarding specific mining equipment. This final-form rulemaking includes no reporting requirement.
- d) The establishment of performing standards for small businesses to replace design or operational standards required in the regulation was not considered because the industry-led study required by Sections 334(c) of the BCMSA into various means of enhancing cable safety (in which the relevant small businesses were represented) resulted in a Final Report that concluded - "more sensitive ground fault relays is practical, commercially available, and provides a significant enhancement to the safety of miners." This rulemaking is a product of that study.
- e) The exemption of small businesses from all or any part of the requirements contained in the regulation was not considered because the industry-led study required by Sections 334(c) of the BCMSA into various means of enhancing cable safety (in which the relevant small businesses were

represented) resulted in a Final Report that concluded - "more sensitive ground fault relays is practical, commercially available, and provides a significant enhancement to the safety of miners."

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

Section 334(c) of the BCMSA (52 P.S. § 690-334(b)-(c)) direct the mining industry to initiate studies into means of enhancing safety of underground cables. The statute further required both laboratory and underground testing of various equipment. To that end, PCA formed a committee with representatives from several operators to convene, manage the studies, and ultimately produce a report. The committee produced a report in March of 2012, titled "Pennsylvania Coal Association Bituminous Coal Mine Safety Act Section 334 Industry Studies Final Report" (attached). The Final Report concluded, among other things, that the lowest setting at which sensitive ground fault devices could be reliably employed without nuisance tripping was 300 milli-amperes.

Moreover, Department staff presented to the Board at its June 2015 meeting information that indicated that the ground fault device setting that would ensure the lowest risk of fatality from electrocution is 125 milli-amperes.

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

- A. The length of the public comment period: 30 days
- B. The date or dates on which any public meetings or hearings will be held: Not Applicable
- C. The expected date of delivery of the final-form regulation: Quarter 4, 2017
- D. The expected effective date of the final-form regulation: Quarter 4, 2017

E. The expected date by which compliance with the final-form regulation will be required: The implementation schedule requires compliance upon publication in the *Pennsylvania Bulletin* for all load centers purchased after the effective date of the regulation at existing mines and all load centers at new mines, new or rebuilt. All other load centers, i.e., load centers at existing mines that must be rebuilt, are subject to the 60-month phase-in, a period which is tailored to the rebuilding and maintenance schedule the regulated community follows for this equipment.

- F. The expected date by which required permits, licenses or other approvals must be obtained: Not Applicable

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

**The Board is committed to ensuring the health and safety of all persons in the underground bituminous coal mine industry. As a result, the Board periodically reviews all regulations within this industry to ensure their continued effectiveness. This periodic review occurs at all Board meetings. The Board meets a minimum of four times each calendar year.**

FACE SHEET  
FOR FILING DOCUMENTS  
WITH THE LEGISLATIVE REFERENCE  
BUREAU

RECEIVED  
IRRC

2017 OCT 11 P 4: 12

(Pursuant to Commonwealth Documents Law)

DO NOT WRITE IN THIS SPACE

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

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

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

By: \_\_\_\_\_  
(Deputy Attorney General)

DEPARTMENT OF ENVIRONMENTAL  
PROTECTION  
BOARD OF COAL MINE SAFETY

BY *Marisa H. Z. Lehr*

(AGENCY)

SEP 22 2017  
DATE OF APPROVAL

DATE OF APPROVAL

DOCUMENT/FISCAL NOTE NO. 7-527

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

DATE OF ADOPTION September 5, 2017

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

Check if applicable  
Copy not approved. Objections attached.

BY *Patrick McDonnell*

TITLE PATRICK MCDONNELL  
CHAIRMAN

EXECUTIVE OFFICER CHAIRMAN OR SECRETARY

NOTICE OF FINAL RULEMAKING

DEPARTMENT OF ENVIRONMENTAL PROTECTION  
BOARD OF COAL MINE SAFETY

Sensitive Ground Fault

25 Pa. Code Chapter 208



**FINAL RULEMAKING  
BOARD OF COAL MINE SAFETY  
[ 25 PA. CODE CH. 208 ]  
Sensitive Ground Fault**

The Board of Coal Mine Safety (Board) by this order amends 25 Pa. Code Chapter 208 (relating to underground coal mine safety) to read as set forth in Annex A. This final-form rulemaking adds a provision to require operators to equip certain circuits with sensitive ground fault protection, and adds related definitions. This protection will enhance miner safety with respect to electric cables.

This final rulemaking was adopted by the Board at its meeting of September 5, 2017.

*A. Effective Date*

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

*B. Contact Persons*

For further information, contact Craig Carson, Director, Bureau of Mine Safety, 131 Broadview Road, New Stanton, PA 15672, (724) 404-3154 or cocarson@pa.gov; or Joseph Iole, Assistant Counsel, Bureau of Regulatory Counsel, Rachel Carson State Office Building, P.O. Box 8464, Harrisburg, PA 17105-8464, (717) 787-9376 or jirole@pa.gov. Persons with a disability may use the Pennsylvania AT&T Relay Service, (800) 654-5984 (TDD users) or (800) 654-5988 (voice users). This final-form rulemaking is available on the Department of Environmental Protection's (Department or DEP) web site at [www.dep.pa.gov](http://www.dep.pa.gov).

*C. Statutory Authority*

Sections 106 and 106.1 of the Bituminous Coal Mine Safety Act (BCMSA) (52 P.S. §§ 690-106 and 690-106.1) authorize the Board to adopt regulations necessary and appropriate to implement the BCMSA and to protect the health, safety and welfare of miners and other individuals in and about mines.

*D. Background and Purpose*

The BCMSA was enacted on July 7, 2008, and was the first significant update of the Commonwealth's underground bituminous coal mine safety laws since 1961. See section 103(a) of the BCMSA (52 P.S. § 690-103(a)). Section 334(c) of the BCMSA (52 P.S. § 690-334(c)) directed the mining industry to initiate studies into possible means of enhancing safety of underground cables, including through, among other things, "more sensitive ground fault limiting and detection." Section 334(c) of the BCMSA further required both laboratory and underground testing of these systems, and that the Board act on the industry's reports and recommendations.

To comply with this requirement, the Pennsylvania Coal Alliance (PCA) formed a committee with representatives from several coal mine operators to convene, manage the studies, and ultimately produce a report in March 2012 entitled "Pennsylvania Coal Association Bituminous Coal Mine Safety Act Section 334 Industry Studies Final Report" (Final Report). The Board, which includes three members representing mine workers, three members representing underground bituminous coal mine operators, and the Secretary of the Department, who serves as the Board's chairperson, conducted extensive deliberations of the Final Report for over three years.

This final-form rulemaking adds a provision to Chapter 208 to enhance miner safety by improving the sensitive ground fault mechanisms on certain electrical circuits powering machinery within the mines to prevent injury and electrocution. This rulemaking requires operators to ensure that certain new and rebuilt power centers are equipped with these more sensitive ground fault protection devices (including sensing relays, limiting resistors and interrupting devices) thus enhancing the safety of persons working with or around the electric cables supplying power to certain machinery.

To improve miner safety consistent with the BCMSA, this final-form rulemaking includes requirements that are more stringent than Federal regulations in certain regards. The Federal Mine Safety and Health Administration (MSHA) regulation in 30 CFR 75.901(a) (relating to protection of low- and medium-voltage three-phase circuits used underground) requires a ground fault current limit (trip setting) of 25 amperes or less, and Section 75.900 of the MSHA Program Policy Manual, Vol. V (Coal Mines), Part 75, Subpart J, recommends that the device be adjusted to operate at not more than 50% of the current rating of the grounding resistor.

The Final Report indicates that a setting of 125 milli-amperes would be too low to functionally operate equipment at the mine, but concludes that 300 milli-amperes would be more protective than the current Federal regulatory requirement of 25 amperes. This final-form rulemaking requires a trip setting of 300 milli-amperes or less nominally, except in the case of circuits powering equipment using variable speed drives. If nuisance tripping of these circuits occurs at 300 milli-amperes, the operator may adjust the setting to no greater than the lower value of 500 milli-amperes or 1/2 of the neutral ground resistor's current rating, with the latter being consistent with the MSHA policy. These settings improve safety while maintaining mining operations.

A compelling public interest exists in ensuring that miners are safe in the workplace. Miners, their families, mining companies and others will benefit from electrical safety in underground mines. As a result of this final-form rulemaking, the risk of workplace injuries and deaths related to these electric cables will decline. This final rulemaking ensures that operations at underground bituminous coal mine sites are safely conducted and maintained.

## *E. Summary of Final-Form Rulemaking and Changes to the Proposed Rulemaking*

### *Changes*

The Board has made no changes to the proposed rulemaking, published at 47 Pa.B. 1636 (March 18, 2017).

#### *§ 208.1. Definitions*

The rulemaking adds the following terms and their definitions to this section: "crosscut," "inby" and "working section," which are used in § 208.600 (relating to sensitive ground fault); and "working face," which is used in the definition of "inby."

#### *§ 208.600. Sensitive ground fault*

This section requires that all three-phase electrically operated equipment operated on a working section inby the last open crosscut receive power from a circuit equipped with specified sensitive ground fault protection. This section also specifies the settings of the sensitive ground fault devices powering various machines; and sets an implementation schedule for utilizing these devices on new, rebuilt and existing power centers.

## *F. Summary of Comments and Responses on the Proposed Rulemaking*

No public comments were submitted on the proposed rulemaking. On May 17, 2017, the Independent Regulatory Review Commission (IRRC) submitted two comments based on criteria in section 5.2 of the Regulatory Review Act (71 P.S. § 745.5b).

IRRC's first concern was whether giving operators 60 months to upgrade existing load centers in § 208.600(2) is in the best interest of miners if such load centers "operating under the existing regulations present a potential hazard." To that end, IRRC requested that the Board explain its rationale for this 60-month phase-in and how it adequately protects the safety of miners.

During the Board's meeting on March 10, 2015, the Board deliberated on the implementation schedule and discussed email correspondence from PCA to the Board. In the email, available on the Board's webpage on DEP's website, PCA explained that due to logistical barriers inherent to the rebuilding and retrofitting process (e.g., cost, timing, and halting of operations while equipment is rebuilt), it supported a 60-month implementation schedule for existing equipment. PCA further noted that its member operators have an average of 21 load centers per operator, and "to remove, rebuild and put these load centers back in service" would require an average of three months per unit. PCA averred that the 60-month schedule was sensitive to the regulated community's "need to maintain enough load centers underground to sustain operations." Although DEP's Bureau of Mine Safety also shared concerns regarding the 60-month time frame, the Board agreed with the 60-month implementation schedule because the current level of protection complies with all existing Federal and Commonwealth statutes and regulations; the new sensitive ground fault requirements will improve upon that protection; and the operator's

ability to remain operational through the process of becoming compliant, especially in light of the scale of the required upgrades, is an important consideration.

IRRC's second related concern is that paragraph (2) requires load centers rebuilt at new mines to comply as of the effective date of the regulation, whereas paragraph (2) is silent regarding load centers rebuilt at existing mines, and recommends expanding the requirement for rebuilt load centers to apply at existing mines as well.

This rulemaking is not silent on the compliance date for operators that will need to rebuild load centers at existing mines. For the reasons provided above, the Board is giving these operators 60 months to comply with the new requirement. The implementation schedule requires compliance upon publication in the *Pennsylvania Bulletin* for all load centers purchased after the effective date of the regulation at existing mines and all load centers at new mines, new or rebuilt. All other load centers, *i.e.*, load centers at existing mines that must be rebuilt, are subject to the 60-month phase-in, a period which is tailored to the rebuilding and maintenance schedule the regulated community follows for this equipment. The Board anticipates that operators will comply with the requirements in this final rulemaking as load centers need to be rebuilt at existing mines over the next five years to avoid the cost and operational impact that would be associated with rebuilding all load centers at existing mines just prior to the deadline for compliance.

IRRC also inquired whether the definition of "working section" added to § 208.1 should use the term "working face" rather than "face." The definition included in § 208.1 is the same as the definition provided in section 104 of BCMSA (52 P.S. § 690-104) and has simply been included in § 208.1 for the convenience of the regulated community.

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

##### *Benefits*

This final-form rulemaking enhances cable safety by requiring, on certain circuits, a sensitive ground fault protective device. Sensitive ground fault protective devices improve cable safety by shutting off electrical power through the circuit when it detects that a current is flowing along an unintended path, thereby reducing the risk of bodily harm from electrocution.

##### *Compliance Costs*

This final-form rulemaking will cost the nine operators engaged in regulated activity within the Commonwealth approximately \$500,000 over five years. This cost reflects the purchase of new power centers equipped with the sensitive ground fault devices and the rebuilding of existing machines to include these devices.

##### *Paperwork Requirements*

This final-form rulemaking does not generate additional paperwork.

## H. *Pollution Prevention*

The Federal Pollution Prevention Act of 1990 (42 U.S.C. §§ 13101—13109) establishes a National policy that promotes pollution prevention as the preferred means for achieving state environmental protection goals. The Department encourages pollution prevention, which is the reduction or elimination of pollution at its source, through the substitution of environmentally friendly materials, more efficient use of raw materials and the incorporation of energy efficiency strategies. Pollution prevention practices can provide greater environmental protection with greater efficiency because they can result in significant cost savings to facilities that permanently achieve or move beyond compliance. This final rulemaking has minimal impact on pollution prevention since it is focused on mine safety.

## I. *Sunset Review*

The Board is not establishing a sunset date for these regulations, since they are needed for the Department to carry out its statutory authority. The Department will continue to closely monitor these regulations for their effectiveness and recommend updates to the Board as necessary.

## J. *Regulatory Review*

Under section 5(a) of the Regulatory Review Act (71 P.S. § 745.5(a)), on March 3, 2017, the Department submitted a copy of the notice of proposed rulemaking, which was subsequently published at 47 Pa.B. 1636 (March 18, 2017), and a copy of a Regulatory Analysis Form to the Independent Regulatory Review Commission (IRRC) and to the Chairpersons of the House and Senate Environmental Resources and Energy Committees for review and comment.

Under section 5(c) of the Regulatory Review Act, IRRC and the Committees are to receive from the agency copies of the comments received during the public comment period, as well as other documents, as requested. The Department received no public comment on the proposed rulemaking, and no requests for additional documents. Under section 5(g) of the Regulatory Review Act, IRRC "may, within thirty days after the close of the public comment period, convey to the agency and committees any comments, recommendations and objections to the proposed regulation." On May 17, 2017, IRRC submitted two comments, which the Department considered as discussed in Section F, above.

Under section 5.1(j.2) of the Regulatory Review Act, on   (blank)  , the final-form rulemaking was deemed approved by the House and Senate Committees. Under section 5.1(e) of the Regulatory Review Act, IRRC met on   (blank)   and approved the final-form rulemaking.

*K. 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) This final-form rulemaking makes no changes to the proposed rulemaking published at 47 Pa.B. 1636 (March 18, 2017).
- (4) These regulations are necessary and appropriate for administration and enforcement of the authorizing acts identified in Section C of this order.

*L. Order of the Board*

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

- (a) The regulations of the Department, 25 Pa. Code Chapter 208, are amended by adding § 208.600, and amending § 208.1, to read as set forth in Annex A.
- (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 of the Board 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 (71 P.S. §§ 745.1—745.14).
- (d) Upon completion of review under the Regulatory Review Act, the Chairperson of the Board shall certify this order and Annex A, as approved to legality and form, 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*.

PATRICK McDONNELL,  
Chairperson

Annex A

TITLE 25. ENVIRONMENTAL PROTECTION

PART I. DEPARTMENT OF ENVIRONMENTAL PROTECTION

Subpart D. ENVIRONMENTAL HEALTH AND SAFETY

ARTICLE IV. OCCUPATIONAL HEALTH AND SAFETY

CHAPTER 208. UNDERGROUND COAL MINE SAFETY

GENERAL PROVISIONS

§ 208.1. Definitions.

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

\* \* \* \* \*

*Certified or registered*—A person certified or registered by the state in which the coal mine is located to perform duties prescribed by 30 CFR Part 77 (relating to mandatory safety standards, surface coal mines and surface work areas of underground coal mines), except that, in a state where a program of certification or registration is not provided or when the program does not meet at least minimum Federal standards established by the Secretary of the United States Department of Labor, the certification or registration shall be by the Secretary of the United States Department of Labor.

*Crosscut*—A passageway driven between the entry and its parallel air course or air courses for ventilation purposes.

*Flash point*—The minimum temperature at which sufficient vapor is released by a liquid or solid to form a flammable vapor-air mixture at atmospheric pressure.

*Inby*—In the direction of the working face.

*MSHA*—The term as defined in section 104 of the act.

\* \* \* \* \*

*Underground bituminous coal mine or mine*—The term as defined in section 104 of the act.

*Working face*—Any place in a mine where coal is extracted during a mining cycle.

**Working section**—The area in a mine from the face extending back 1,000 feet.

## CABLE SAFETY

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

### § 208.600. Sensitive ground fault.

All three-phase electrically operated equipment operated on a working section in by the last open crosscut must receive power from a circuit equipped with a sensitive ground fault protection as specified in this section.

(1) *Sensitive ground fault.*

(i) A sensitive ground fault protective device must be connected so that the associated circuit will be instantaneously interrupted upon the occurrence of a ground fault which may not exceed 300 milli-amperes nominally.

(ii) A sensitive ground fault protective device on these circuits on equipment utilizing variable speed drives must be connected so that the associated circuit will be instantaneously interrupted upon the occurrence of a ground fault which may not exceed 300 milli-amperes nominally. If nuisance tripping occurs on these circuits, the devices shall be permitted to be adjusted to the minimum setting necessary to prevent nuisance tripping. In no case shall a device be adjusted greater than the lower value of 500 milli-amperes or 1/2 of the neutral ground resistor's current rating.

(iii) The secondary main circuit breaker protecting any sensitive ground fault circuit subject to this section must also provide backup sensitive ground fault protection. Relay settings may include a short time delay (250mS) or a higher current setting, or both, to provide coordination. In no case shall a device be adjusted greater than the lower value of 500 milli-amperes or 1/2 of the neutral ground resistor's current rating.

(2) *Implementation schedule.* This section is effective \_\_\_\_\_, *(Editor's Note: The blank refers to the effective date of adoption of this rulemaking.)* for load centers that power equipment that operates in by the last open crosscut and that are purchased after \_\_\_\_\_, *(Editor's Note: The blank refers to the effective date of adoption of this rulemaking.)* and load centers that are rebuilt at new mines after \_\_\_\_\_ *(Editor's Note: The blank refers to the effective date of adoption of this rulemaking.)*. For load centers that power equipment that operates in by the last open crosscut that are located in or at a mine on \_\_\_\_\_, *(Editor's Note: The blank refers to the effective date of adoption of this rulemaking.)* sensitive ground fault protection shall be installed by \_\_\_\_\_ *(Editor's Note: The blank refers to 60 months after the effective date of adoption of this rulemaking.)*.

October 11, 2017

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

Re: Final Rulemaking: Sensitive Ground Fault (#7-527)

Dear Mr. Sumner:

Pursuant to Section 5.1(a) of the Regulatory Review Act, please find enclosed the Sensitive Ground Fault final-form rulemaking for review and comment by the Independent Regulatory Review Commission (IRRC). The Board of Coal Mine Safety (Board) adopted the final-form rulemaking at its September 5, 2017 meeting.

The enclosed final-form rulemaking adds a regulatory provision to Chapter 208 to address the safety of cables powering certain machines at underground bituminous coal mine sites. This addition, § 208.600 (relating to cable safety) and related definitions added to § 208.1, read as set forth in Annex A, and require operators to utilize sensitive ground fault protection devices on certain power centers.

The Bituminous Coal Mine Safety Act directs the mining industry to undertake studies regarding possible means of enhancing safety of underground cables, including through, among other things, “more sensitive ground fault limiting and detection.” The statute requires both laboratory and underground testing of such systems, and requires that the Board take action on the industry’s reports and recommendations. This final-form rulemaking is the product of those statutory requirements. This rulemaking ensures the enhancement of cable safety, reducing the risk of accidents and injuries resulting from electrocution. Such regulations benefit persons in and about mine sites and mine operators. There are nine operators of underground bituminous coal mines in Pennsylvania that will be subject to this proposed rulemaking, and three of those operators are small businesses.

The proposed rulemaking was published on March 18, 2017 at 47 Pa.B. 1636, opening a 30-day public comment period. The proposal received no public comment. On May 17, 2017, the Independent Regulatory Review Commission (IRRC) provided two comments. IRRC requested the Board’s justification for the regulation’s implementation schedule (60 months for retrofitting existing equipment), and clarification of certain definitions. Responses to these comments are included in the preamble of this rulemaking. Neither comment required changes to the regulation.



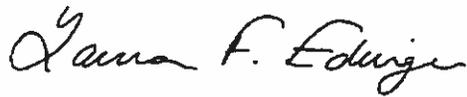
October 11, 2017

The development and drafting of this rulemaking was aided by input from the Board which received recommendations and advice on the rulemaking from its constituents. The Board is chaired by the Secretary of the Department of Environmental Protection and consists of three members representing the interests of mine workers and three members representing the interests of underground bituminous coal mine operators.

The Department will provide assistance as necessary to facilitate IRRC's review of the enclosed final-form rulemaking under Section 5.1(e) of the Regulatory Review Act.

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

Sincerely,

A handwritten signature in cursive script that reads "Laura F. Edinger".

Laura Edinger  
Regulatory Coordinator

Enclosures





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

I.D. NUMBER: 7- 527  
 SUBJECT: Sensitive Ground Fault  
 AGENCY: DEPARTMENT OF ENVIRONMENTAL PROTECTION

**TYPE OF REGULATION**

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

RECEIVED  
 IRRC  
 2017 OCT 11 P 4: 12

**FILING OF REGULATION**

DATE	SIGNATURE	DESIGNATION
<u>10/11/19</u>	<u>Melby K. Werner</u>	Majority Chair, HOUSE COMMITTEE ON ENVIRONMENTAL RESOURCES & ENERGY <u>Representative John Maher</u>
<u>10/11/17</u>	<u>Richard Stuy</u>	Minority Chair, HOUSE COMMITTEE ON ENVIRONMENTAL RESOURCES & ENERGY <u>Representative Mike Carroll</u>
<u>10/11/17</u>	<u>Patti Grogan</u>	Majority Chair, SENATE COMMITTEE ON ENVIRONMENTAL RESOURCES & ENERGY <u>Senator Gene Yaw</u>
<u>10/11/17</u>	<u>Carey Simpson</u>	Minority Chair, SENATE COMMITTEE ON ENVIRONMENTAL RESOURCES & ENERGY <u>Senator John Yudichak</u>
<u>10/11/17</u>	<u>K. Cooper</u>	INDEPENDENT REGULATORY REVIEW COMMISSION <u>David Sumner</u>
_____	_____	ATTORNEY GENERAL (for Final Omitted only)
_____	_____	LEGISLATIVE REFERENCE BUREAU (for Proposed only)

