



Volume 25 | Issue 2

Article 7

8-1-2014

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Recommended Citation

Danielle Quinn, *EHB REVIEW - An Electrifying Change: The EHB Begins Digging Away from Strict Interpretation of the Bituminous Coal Mine Safety Act in *Cumberland Coal v. DEP**, 25 Vill. Env'tl. L.J. 599 (2014).

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2014]

AN ELECTRIFYING CHANGE: THE EHB BEGINS DIGGING
AWAY FROM STRICT INTERPRETATION OF THE
BITUMINOUS COAL MINE SAFETY ACT IN
CUMBERLAND COAL V. DEP

I. INTRODUCTION

Since the late 1700s, coal mining has played an essential role in the industrialization of the United States, with Pennsylvania leading coal production nationally until the mid-1900s.¹ Currently, Pennsylvania ranks fourth among the top coal-producing states in the country.² Coal mined in Pennsylvania has various uses: seventy-seven percent is used for electric power generation, four percent for the manufacture of coke, and less than one percent for retail and commercial sales.³ Mine disasters, however, have been a major problem in the coal industry, as evidenced by the 239 lives lost in the 1907 Darr Mine explosion in Pennsylvania and, more recently, the twenty-nine lives lost in the 2010 Upper Big Branch Mine explosion in West Virginia.⁴

1. *Overview: King Coal: Mining Bituminous*, EXPLOREPAHISTORY.COM, <http://explorepahistory.com/story.php?storyId=1-9-18> (last visited Sept. 16, 2013) (giving overview of Pennsylvania coal mining history).

2. *U.S. Coal Production By State & By Rank*, NAT'L MINING ASS'N, http://www.nma.org/pdf/c_production_state_rank.pdf (last updated Dec. 2013) (giving coal production statistics by state). As of November 2012, the top three producers are Wyoming, West Virginia, and Kentucky. *Id.* See generally *Coal Mining in Pennsylvania*, LEHIGH ENVTL. INITIATIVE, <http://www.ei.lehigh.edu/envirosci/enviroissue/amd/links/history.html> (last visited Sept. 16, 2013) (stating Pennsylvania coal mining statistics).

3. WILLIAM EDMUNDS, DEP'T OF CONSERVATION & NATURAL RES., *COAL IN PENNSYLVANIA 18* (2002), available at http://www.dcnr.state.pa.us/cs/groups/public/documents/document/dcnr_014594.pdf (explaining uses of Pennsylvania coal). "Some of our giant mine-mouth electric power plants (plants built at the openings to mines to avoid hauling coal to city generating plants) consume up to 10,000 tons of coal each day—7 tons every minute." *Id.*; see also *Coal & Steel*, WORLD COAL ASS'N, <http://www.worldcoal.org/coal/uses-of-coal/coal-steel/> (last visited Feb. 10, 2014) (explaining basic coke making process).

4. See Laura Walker, *Pennsylvania Closer to Mine Safety Law Overhaul*, EHS TODAY (Jan. 4, 2008), http://ehstoday.com/safety/confined-spaces/ehs_imp_77498/index.html (noting improvements to Pennsylvania's outdated coal mining legislation); see generally *History of Mine Safety and Health Legislation*, MINE SAFETY & HEALTH ADMIN., <http://www.msha.gov/MSHAINFO/MSHAINFO2.HTM> (last visited Oct. 15, 2013) (documenting federal mine safety statutes); Tracie Mauriello, *Upper Big Branch Disaster Spurred Mine Safety Progress*, PITTSBURGH POST-GAZETTE (Jan. 18, 2014), <http://www.post-gazette.com/local/region/2014/01/19/Upper-Big-Branch-disaster-spurred-mine-safety-progress/stories/201401190164> (discussing legislative and industrial changes resulting from Upper Big Branch Mine ex-

Coal mining has a fatality rate nearly six times the national average for labor industries, making coal mining one of the most dangerous industries in the United States.⁵ Since 1870, Pennsylvania has maintained mining accident and fatality records, which demonstrate that the state has suffered some of the most fatal mining disasters in United States history.⁶ Over fifty thousand miners have died in Pennsylvania mines since the late 1800s.⁷

Significant industry fatalities, like the 109 lives lost in Pennsylvania's Mammoth Mine explosion in 1891, encouraged the United Mine Workers of America to petition the Commonwealth to enact laws protecting miner's safety.⁸ Written and codified in 1883, the Bituminous Coal Mine Safety Act (BCMS Act or Act) was Pennsylvania's first comprehensive mining legislation focusing on mine safety; however, the Act fell short for failing to give mine inspectors authority to enact safety measures, and it did not define what constituted an "accident."⁹ Since the BCMS Act's inception, numerous mining accidents have highlighted the need to update the Act; however, it was not until 2008 that the Act received its first major revision, 125 years after its creation.¹⁰

Although the goal of the original Act's goal was to "protect the health and promote the safety of all persons employed in and about the mine[s]," numerous accidents demonstrated the need for

plosion). To date, Pennsylvania has seen a total of 51,514 mining fatalities. Walker, *supra*.

5. *Injuries, Illnesses, and Fatalities in the Coal Mining Industry*, U.S. DEP'T OF LABOR (Apr. 2010), <http://www.bls.gov/iif/oshwc/osh/os/osar0012.htm> (detailing 2007 coal mining injuries). Private industry fatalities totaled 4.3 cases per 100,000 full-time workers as opposed to 24.8 per 100,000 for full-time coal miners. *Id.*

6. *Historical Data on Mine Disasters in the United States*, U.S. MINE RESCUE ASS'N, <http://www.usmra.com/saxsewell/historical.htm> (last visited Sept. 16, 2013) (noting five worst Anthracite coal mine disasters in United States history all occurred in Pennsylvania). The worst Pennsylvania mining disaster was the Darr Mine explosion in 1907 which resulted in 239 deaths. *Id.*

7. For a further discussion of Pennsylvania coal mining statistics, see *supra* note 2 and accompanying text.

8. *Mammoth Mine Explosion Historical Marker*, EXPLOREPAHISTORY.COM, <http://explorepahistory.com/hmarker.php?markerId=1-A-2CA> (last visited Sept. 14, 2013) (explaining impact of Mammoth Mine explosion). On January 27, 1891, a huge explosion in the mine took the lives of all 109 miners. *Id.* The bodies were so mangled by the force that they were buried anonymously in a mass grave. *Id.*

9. See Press Release, Pa. Dep't of Evtl. Prot., Governor Rendell Modernizes Pennsylvania's Mine Safety Law with Signing of S.B. 949 (July 7, 2008), available at <http://www.portal.state.pa.us/portal/server.pt/community/newsroom/14287?id=1857&typeid=1> (giving overview of Act's history and applicable updates). The Act received a minor update in 1961, but it was not until 2008 that major changes were made. *Id.*

10. *Id.* (noting major changes to Pennsylvania's mining legislation).

changes.¹¹ One of the Act's biggest flaws was that it did not permit the state to fine mines found to be in violation of the Act; however, recent revisions have curtailed this problem.¹² In direct response to the 2002 Quecreek Mine accident, which prompted legislative changes, the Act's major revisions focus on improving miner safety.¹³ The updated Act defines fourteen specific "accidents" and establishes a Safety Board that is responsible for drafting necessary rules and new regulations.¹⁴ Further, the Act gives the Pennsylvania Department of Environmental Protection (DEP) authority to interpret the Act and issue orders to mines when accidents occur, ensuring mine safety issues are addressed correctly and in a timely manner.¹⁵ One of the Act's biggest strengths, and one of its most controversial aspects, is the fifteen-minute reporting requirement, which mandates mines report any accident with a reasonable potential to cause death within fifteen minutes of it happening.¹⁶ Mine operators argue the requirement is unreasonable because parties on the surface cannot be fully aware of what is happening underground within that timeframe.¹⁷

The Pennsylvania Environmental Hearing Board (EHB) recently signaled the importance of the fifteen-minute reporting requirement in *Cumberland Coal Resources, LP v. DEP*¹⁸ by upholding the DEP's finding that the Cumberland Coal Mine was in violation of the Act for failing to notify the DEP of an accident within fifteen minutes of its discovery.¹⁹ The EHB concluded the electrical shock

11. 52 PA. STAT. ANN. § 701-104 (repealed 2008) (stating purpose of statute); see also *Legislative History*, U.S. DEP'T OF LABOR, <http://www.msha.gov/MSHAINFO/FactSheets/MSHAFACT7.HTM> (last visited Oct. 21, 2013) (outlining legislative history of BCMS Act).

12. See Laura Walker, *Pennsylvania's New Mine Safety Board Holds First Meeting*, EHS TODAY (Jan. 8, 2009), http://ehstoday.com/safety/news/pennsylvania_mine_safety_0108 (discussing Quecreek Mine incident and its impact on creating stricter laws). The Quecreek Mine accident involved nine miners that became trapped underground in a flooded mine for three days; they all made it out alive. *Id.*

13. For a further discussion on the purpose of the revisions to the Act, see *supra* note 9-10 and accompanying text.

14. 52 PA. STAT. ANN. § 690-106, 109(a) (West 2013) (stating purpose of Act and creating Safety Board). The Safety Board is comprised of seven members and meets twice a year. *Id.*

15. 52 PA. STAT. ANN. § 690-109(b) (giving DEP discretion to issue orders it deems necessary to protect miners).

16. 52 PA. STAT. ANN. § 690-109(a)(1) (stating mines have fifteen minutes to report accidents).

17. For a further discussion of how Pennsylvania courts have dealt with the 15-minute reporting requirement, see *infra* notes 62-82 and accompanying text.

18. No. 2011-095-B, 2013 WL 4405945 (Pa. Env'tl. Hearing Bd. July 31, 2013).

19. For a further discussion of the Act, see *infra* notes 56-61 and accompanying text. See also *History of the Environmental Hearing Board*, PA. ENVTL. HEARING BD.,

the miner received had “a reasonable potential to cause [his] death” and, therefore, the mine should have reported the accident under the fifteen-minute reporting requirement.²⁰ Due to the limited number of state cases dealing with electrical shocks, the EHB looked to analogous federal cases under the Federal Mine Safety and Health Act (FMSHA) to help establish the outer limits of what constitutes an accident regarding electrical shocks.²¹

This Note examines the EHB’s decision in *Cumberland Coal*.²² Part II of this Note summarizes the facts in *Cumberland Coal* and examines why Cumberland Coal appealed the DEP’s Order to re-train its employees despite having already complied with the order.²³ A discussion of the Act, the FMHSA, and relevant case law follows in Part III.²⁴ Part IV reviews the EHB’s decision and its rationale.²⁵ Part V critically analyzes the EHB’s decision to define narrowly the sliding scale of what is an accident according to the Act.²⁶ Finally, Part VI assesses the impact the *Cumberland Coal* decision will have on reporting future accidents.²⁷

II. FACTS

Since 2005, Cumberland Mine employed Gregory Shriver as a construction mechanic, which required him to work primarily on the electrical parts of conveyer belts in mines.²⁸ On May 27, 2011, while Shriver was working in a mine on the afternoon shift, a conveyer belt component, powered by 575 volts of electricity, exper-

http://ehb.courtapps.com/content/ehb_history.php (last visited Oct. 19, 2013) (detailing history of EHB and its powers).

20. *Cumberland Coal*, 2013 WL 4405945, at *10 (holding Cumberland mine violated fifteen-minute reporting requirement).

21. For a discussion of similar cases dealing with the FMSHA, see *infra* notes 83-105 and accompanying text.

22. *Cumberland Coal*, 2013 WL 4405945, at *1 (reviewing mine reporting requirement after mine incident).

23. For further discussion of the facts of *Cumberland Coal*, see *infra* notes 28-50 and accompanying text.

24. For further discussion of Pennsylvania mining regulations and similar cases, see *infra* notes 51-108 and accompanying text.

25. For a narrative analysis of the EHB’s decision, see *infra* notes 109-135 and accompanying text.

26. For a critical analysis of the EHB’s decision in *Cumberland Coal*, see *infra* notes 136-152 and accompanying text.

27. For a discussion of the impact of *Cumberland Coal*, see *infra* notes 153-191 and accompanying text.

28. *Cumberland Coal Res., LP v. Dep’t of Env’t. Prot.*, No. 2011-095-B, 2013 WL 4405945, at *1 (Pa. Env’t. Hearing Bd. July 31, 2013) (giving Mr. Shriver’s history at mine). Shriver “holds a Miner’s Certificate from the Commonwealth of Pennsylvania and Electrical Cards from MSHA.” *Id.*

perienced mechanical problems.²⁹ Shriver called his boss, Brian McKnight, between 9:30 PM and 10:00 PM to report he had found the cause of the problem.³⁰ McKnight asked Shriver to retrieve the part number from the malfunctioning unit so a new part could be ordered.³¹ Shriver removed his safety helmet in order to read the part number due to the part's position on the belt, "and, in doing so, he came into contact with the electrically charged equipment and was shocked."³² Shriver's contact with the equipment caused the ground fault monitor to trip the breaker and the unit's power to shut off immediately.³³

A. The Shocking Events Underground

Upon hearing Shriver's cries, Louis D'Angelis, a communications technician, immediately went to Shriver's aid.³⁴ Shortly thereafter, two other miners arrived at the scene; they called the Mine Office and reported Shriver had been shocked, but did not disclose any other details.³⁵ Shriver appeared lucid and was able to move, yet he pleaded, "I was electrocuted. Please don't let me die."³⁶ During his deposition, Shriver stated he thought he had lost consciousness, but did not know for how long; further, he testified he had difficulty breathing, could not move at first, and had no feeling in his legs.³⁷

The miners strapped Shriver to a backboard stretcher and put him in a Jeep to take him to the surface.³⁸ As they passed each section of the mine, the miners notified the Main Office of their location; their first call was made by a maintenance clerk around

29. *Id.* (describing problems with conveyer belt). The EHB noted, "The take up unit functions to keep proper tension on the conveyer belt. Over the previous day or two, the unit kept faulting, that is, shutting down." *Id.*

30. *Id.* (noting start of events leading to incident). The problem-causing part was identified as the "chopper drive." *Id.*

31. *Id.* (describing events leading to "accident"). Brian McKnight, Shriver's supervisor, is a Belt Maintenance Supervisor with seven years of experience. *Id.* He was not at the mine the night of Shriver's injury, but communicated with Shriver via telephone. *Id.*

32. *Id.* at *3 (explaining why Shriver removed his helmet).

33. *Cumberland*, 2013 WL 4405945, at *3 (noting power was shut off immediately upon contact with unit).

34. *Id.* (noting Shriver was helped almost immediately). When D'Angelis heard the yell, he "dropped what he was doing and ran towards the call." *Id.*

35. *Id.* (noting vagueness of call to Main Office).

36. *Id.* (describing Shriver's medical condition immediately after electrical shock).

37. *Id.* (noting Shriver's recollection after electrical shock).

38. *Cumberland*, 2013 WL 4405945, at *3-4 (describing Shriver removed from mine).

10:10 PM.³⁹ Two certified emergency medical technicians (EMTs) met the miners at the mine's exit and suggested Shriver be airlifted to the hospital after seeing the severity of the entrance and exit wounds on his head and hand.⁴⁰ The EMTs did not convey information about the wounds to management employees on the surface.⁴¹

B. Decisions Made on the Surface

After receiving incomplete information about the accident, the shift supervisor, Joseph Culp, and one of the maintenance clerks, Dennis Osborne, discussed whether to call a helicopter.⁴² Mr. Culp, an experienced electrician, noted the severity of the situation and called for a helicopter at 10:38 PM; however, the helicopter could not come due to the weather.⁴³ At 10:40 PM, Joseph McElwee, a mine mechanic, called James Schuessler, an inspector for the DEP's Bureau of Mine Safety, and informed Mr. Schuessler that a potentially fatal accident occurred at the mine.⁴⁴ After receiving the call and attempting to contact the supervisor with no success, Schuessler drove to the mine, arriving at 11:55 PM.⁴⁵ While en route to Cumberland, Schuessler received a call from his wife informing him that the supervisor at Cumberland reported the accident at 11:40 PM, approximately two hours after the accident had occurred.⁴⁶

C. The DEP's Decision

On June 1, 2011, the DEP issued a Compliance Order requiring Cumberland to retrain employees regarding the fifteen-minute notification requirement.⁴⁷ Cumberland complied with the Order and retrained the necessary employees.⁴⁸ Since the retraining,

39. *Id.* (noting constant communication between Shriver's medical handlers and Mine Office).

40. *Id.* (describing location of Shriver's wounds).

41. *Id.* (concluding that even though management employees were not notified, Barnish also has authority to report incidents). Barnish is both an EMT and management employee at Cumberland Mine. *Id.*

42. *Id.* (discussing whether Shiver's condition required hospital air transport).

43. *Cumberland*, 2013 WL 4405945, at *4 (noting twenty-eight minutes between first call to surface employees and calling helicopter).

44. *Id.* at *5 (noting McElwee not calling on behalf of mine management).

45. *Id.* (explaining why Schuessler went to mine).

46. *Id.* (noting accident finally reported at 11:40 PM).

47. *Id.* (stating consequences of not reporting).

48. *Cumberland*, 2013 WL 4405945, at *5 (noting Cumberland complied with DEP retraining order).

Schuessler has been receiving more phone calls about potential accidents, which he believes are necessary and in accordance with the fifteen-minute rule.⁴⁹ Despite complying with the Order, Cumberland appealed the Order, arguing (1) that Shriver's injury did not constitute an accident within the meaning of the Act, and (2), even if it was an accident, McElwee's 10:40 PM call to Schuessler constituted notification.⁵⁰

III. BACKGROUND

In 1883, Pennsylvania passed its first coal mining legislation, the BCMS Act, in response to numerous deaths caused by coal mining accidents.⁵¹ It was not until 2008, however, that the legislation received major changes and its safety provisions were strictly enforced.⁵² As a result, the DEP has seen an increase in cases dealing with discrepancies in the interpretation of the newly revised, more stringent legislation.⁵³ Similarly, the federal government has also faced significant litigation and pushback from mining companies after passing the Federal Mine Safety and Health Act in 2006.⁵⁴ In a related effort, mining companies and equipment manufacturers have assisted in the push toward increasing mine safety by implementing safety programs and designing safer machinery to use in the mining.⁵⁵

A. Pennsylvania Legislation

In 2008, the Pennsylvania General Assembly unanimously passed the first major revision to the BCMS Act in response to the 2002 Quecreek Mine accident.⁵⁶ The revised Act not only expanded the legislative intent "to protect the lives, health and safety" of miners, but it also "establish[ed] and promulgate[d] improved

49. *Id.* (stating that after retraining, miners have been reporting necessary accidents at increased rate).

50. *Id.* at *5, *9 (providing results of Compliance Order).

51. For a discussion of Pennsylvania's coal mining history, see *supra* notes 1-10 and accompanying text.

52. For a further discussion of Pennsylvania's current coal mining legislation, see *supra* notes 11-17 and accompanying text.

53. For a discussion of the DEP's handling of the discrepancies, see Harris & Eckholm, *infra* notes 86. For a further discussion of relevant EHB cases, see *infra* notes 64-82 and accompanying text.

54. For a further discussion about the Federal Mine Safety and Health Act, see *supra* notes 83-105 and accompanying text.

55. For a further discussion of mine safety programs and safer mining machinery, see *supra* notes 106-108 and accompanying text.

56. For a further discussion of the 2002 Quecreek Mine Accident, see *supra* note 13 and accompanying text.

mandatory health and safety standards.”⁵⁷ The Act now defines an “accident” by listing fourteen specific “unanticipated event[s],” including “(1) [a] death of an individual at a mine,” and “(2) [a]n injury to an individual at a mine, which has a reasonable potential to cause death.”⁵⁸

A seven-member board within the DEP meets at least twice a year to review the Act and oversee coalmine safety.⁵⁹ Moreover, the Act holds mine owners and operators primarily responsible for compliance, rather than employees and supervisors who lack the power to make decisions regarding the mine’s compliance with DEP order’s.⁶⁰ Most notably, the Act requires mine operators “notify the Department no later than 15 minutes” after the discovery of an accident so the DEP can “[p]romptly decide whether to conduct an investigation of the accident and inform the operator and the representative of the miners of its decision.”⁶¹

The fifteen-minute reporting requirement has caused great controversy for two reasons: First, mine operators, who are located on the above ground, often do not have enough information within fifteen minutes to determine whether an “accident” occurred underground.⁶² Second, even if enough information is available, operators still struggle to determine whether the incident falls within the statutory definition of “accident.”⁶³

The EHB and Pennsylvania courts first examined the fifteen-minute reporting requirement in 2009 when they reviewed DEP compliance orders regarding two Pennsylvania mine accidents (*Emerald/Cumberland*).⁶⁴ In the 2009 Emerald Coal incident, miners at-

57. 52 PA. STAT. ANN. § 690-103(b)(1)-(3) (West 2009) (stating Act’s intent).

58. 52 PA. STAT. ANN. § 690-104 (West 2009) (defining accident as including fourteen specific events).

59. For a further discussion on the Coal Mine Safety Board, see *supra* note 14.

60. 52 PA. STAT. ANN. § 690-104 (West 2009) (placing responsibility for miner safety on certain employees and foremen).

61. 52 PA. STAT. ANN. § 690-109(a)-(b) (stating duties of operator and Department). The first duty of the operator is to “[n]otify the department no later than 15 minutes of discovery of the accident.” *Id.* The Department has the duty to “[t]ake whatever action it deems appropriate, including the issuance of orders, to protect the life, health or safety of an individual, including coordinating and assisting rescue and recovery activities in the mine.” *Id.*

62. For a further discussion of controversies caused by the Act, see *infra* notes 64-82 and accompanying text.

63. For a further discussion of the confusion surrounding the definition of “accident,” see *supra* notes 57-58 and accompanying text. For a further discussion on the EHB’s analysis of the term “accident,” see *infra* notes 113-123 and accompanying text.

64. For a further discussion of the court’s review of the fifteen-minute reporting requirement, see *infra* notes 64-82 and accompanying text.

tempted to connect two different sections of the mine but failed to follow the predetermined plan.⁶⁵ As a result, the doors in the mine remained open, contaminating the ventilation currents with dust and methane gas, which caused the methane detector alarm to sound.⁶⁶ As soon as the miners realized what was happening, they closed the doors and the ventilation current returned to normal.⁶⁷ Emerald did not report the incident to the DEP.⁶⁸ The DEP responded by issuing a Compliance Order stating Emerald had violated the Act.⁶⁹

A similar incident occurred at the Cumberland Mine when the mine lost power during a storm causing the ventilation fans to stop working for sixteen minutes.⁷⁰ According to the Act, whenever the ventilation system does not work for more than fifteen minutes, workers must evacuate the mine.⁷¹ Like the Emerald incident, the Cumberland Mine did not report the incident, and the DEP issued a Compliance Order.⁷²

Upon review of both cases, the EHB determined neither event fell within one of the fourteen specific events identified within the Act as an accident.⁷³ The EHB reasoned that because the legislature specified fourteen events within the Act, the EHB did not have the power to expand the scope of the Act beyond those events listed.⁷⁴ The EHB further reasoned that because the Safety Board has the power and duty to develop and add regulations, it is not up to the EHB to expand the definition of “accident.”⁷⁵

Emerald and Cumberland appealed the cases to the Commonwealth Court of Pennsylvania, where the court decided the cases together.⁷⁶ The court considered whether the fourteen events that

65. Dep’t of Env’tl. Prot. v. Cumberland Coal Res., LP (*Emerald/Cumberland*), 29 A.3d 414, 418-19 (Pa. Commw. Ct. 2011) (giving overview of facts).

66. *Id.* (explaining consequence of doors remaining open).

67. *Id.* (noting closed doors fixed crisis).

68. *Id.* (describing situation when incident was not reported).

69. *Id.* (explaining results of not reporting incident).

70. *Emerald/Cumberland*, 29 A.3d at 418-19 (giving facts of incident).

71. *Id.* (specifying Act requires reporting of such incidents).

72. *Id.* at 420 (explaining why compliance order was issued).

73. *Id.* (holding neither event fell within Act’s scope).

74. *Id.* (reasoning EHB does not have power to expand beyond events specifically listed within Act).

75. *Emerald/Cumberland*, 29 A.3d at 420 (holding Board does not have power to expand definition of accident). The Board also noted the General Assembly did not include two of the original sixteen proposed events that define an accident and those two events are similar to those that occurred in these cases. *Id.*

76. *Id.* at 416 (noting DEP appeal of two EHB decisions).

define an accident are exhaustive.⁷⁷ The court agreed with the EHB and held the list was not exhaustive, but can include “events of the same general kind or class as those expressly set forth” by the Act.⁷⁸ The court determined, however, the DEP did not have the power to expand the list through its enforcement function or adjudication; instead, agencies authorized to administer and enforce might provide permissible expanded interpretation of legislation only through prior notice to mine operators.⁷⁹ The court recognized that the non-exhaustive list, coupled with the fifteen-minute reporting rule, could compel operators “out of an abundance of caution, to notify [the] DEP *anytime* something unanticipated occurs at a mining facility.”⁸⁰ The court ultimately held the “DEP’s compliance orders do not reflect the exercise of an interpretive function, but rather a legislative function.”⁸¹ The DEP appealed both cases to the Supreme Court of Pennsylvania, which granted both appeals.⁸²

B. Federal Legislation

The FMSHA contains similar provisions to the BCMS Act, including a fifteen-minute reporting requirement triggered by the occurrence of an accident.⁸³ The FMSHA states an “accident includes a mine explosion, mine ignition, mine fire, or mine inundation, or injury to, or death of, any person.”⁸⁴ Like the BCMS Act, interpre-

77. *Id.* at 423 (discussing whether fourteen specific accidents listed create unambiguously exhaustive list).

78. *Id.* at 423-24 (finding ambiguous language of Act allows permissible DEP interpretation of “accident”).

79. *Id.* at 424-26 (holding DEP cannot expand list of reportable events through interpretation if it provides sufficient notice, but not through adjudicatory process alone).

80. *Emerald/Cumberland*, 29 A.3d at 425-26 (emphasis in original) (recognizing policy issue with fifteen-minute reporting requirement). The court does not believe the General Assembly intended to authorize DEP to expand definition of an accident without prior notice to mine operators. *Id.*

81. *Id.* at 427 (holding DEP did not interpret Act but rather carried out impermissible legislative function).

82. *See* Dep’t of Envtl. Prot. v. Cumberland Coal Res., LP, 63 A.3d 252, 252 (2013) (granting appeal from Commonwealth Court).

83. *See* 30 C.F.R. § 50.10 (2010) (noting similarities between state and federal legislation). “An operator is required to notify MSHA within 15 minutes ‘once the operator knows or should know that an accident has occurred.’” *Id.*

84. *Compare* 30 U.S.C. § 802(k) (2012) (defining federal definition of accident), with 52 PA. STAT. ANN. § 690-104 (West 2009) (defining accident under Pennsylvania legislation and listing fourteen specific events); *see generally Classification of Mine Accidents*, U.S. DEP’T OF LABOR, <http://www.msha.gov/fatals/AccidentClassifications.asp> (last visited Oct. 3, 2013) (classifying types of accidents).

tation of federal legislation has also proved to be very problematic.⁸⁵

After passing stricter federal mining legislation in 2006, the Federal Mine Safety Commission has seen the number of appeals triple.⁸⁶ For example, Massy Energy Company, owner of the Upper Big Branch mine, appealed at least thirty-seven of the fifty citations it received in 2009.⁸⁷ The Upper Big Branch mine was the site of an explosion that killed twenty-five miners; however, had the mine complied with the citations it received for prior violations, it may have avoided the explosion.⁸⁸ Further, the appeals may also be “allowing miners, in some cases the worst operators, to escape liability for which they are in fact liable and continue to put miners in harm’s way.”⁸⁹

The Federal Mine Safety and Health Review Commission (FMSHRC), the DEP’s federal counterpart for mine safety issues, has used case law to set the outer limits of what constitutes an electrical “accident,” but has yet to face a case that falls between the extreme situations.⁹⁰ In *Newmont USA Ltd. v. Sec’y of Labor*,⁹¹ the FMSHRC held the FMSHA “does not require mine operators to im-

85. See *Executive Summary: Final Rulemaking: Chapter 208 Underground Coal Mine Safety*, DEP’T OF ENVTL. PROT., 1 (Sept. 2013), available at http://files.dep.state.pa.us/Mining/Deep%20Mine%20Safety/DMSPortalFiles/MiningAdvisoryCommittees/BCMS/2013/2013_09/RockDustExecutiveSummary.pdf (giving updates to federal legislation and reasoning behind them). For further discussion of the problems with the FMSHA, see *infra* notes 86-89.

86. Gardiner Harris & Erik Eckholm, *Mines Fight Strict Laws by Filing More Appeals*, N.Y. TIMES (Apr. 6, 2010), http://www.nytimes.com/2010/04/07/us/07company.html?_r=1&ref=us (detailing impact of mine regulations and mine operators response to them). Harris and Eckholm noted, “One in four citations issued against coal mines are now appealed by operators – three times the appeal rate before the [federal] law, according to regulators.” *Id.*

87. *Id.* (stating number of citations Upper Big Branch mine has appealed over previous year). According to Harris and Eckholm’s article, “The company’s Web site says that its safety record is better than the industry’s average when it comes to accidents that result in lost time.” *Id.*

88. See *id.* (explaining that weeks before deadly explosion, Upper Big Branch mine was cited for dangerous coal dust accumulations, which caused explosion); see generally *Why Do We Still Have Mining Disasters?*, N.Y. TIMES (Apr. 7, 2010), http://roomfordebate.blogs.nytimes.com/2010/04/07/why-do-we-still-have-mining-disasters/?_r=0 (discussing causes of mine disasters and giving preventative suggestions).

89. See Harris & Eckholm, *supra* note 86 (quoting California Representative’s thoughts on new federal legislation) (internal quotation marks omitted). Mine operators disagree they are at fault, believing it is the legislation causing an increase in appeals, and thus leading to an increase in accidents. *Id.* Mine operators do not feel more citations are the way to address safety concerns. *Id.*

90. For a further discussion of the outer limits set by the FMSHRC, see *infra* notes 89-105 and accompanying text.

91. 32 FMSHRC 391 (2010).

mediately report every injury that requires off-site emergency care at a hospital or clinic.”⁹² In *Newmont*, a miner suffered a broken leg after a truck in the mine pinned him against the wall and ran over his leg.⁹³ EMTs, who arrived shortly thereafter, “at no time believed that [the miner] had suffered an injury that had a reasonable potential to cause death” and, therefore, did not report the injury.⁹⁴ The Secretary of Labor, however, argued the mine should have reported the injury within fifteen minutes as “a fractured femur has a reasonable potential to cause death because of the risks inherent with ‘hospitalizations and complications in surgery.’”⁹⁵ Because the EMTs determined within a few minutes the miner’s life was not in danger, the FMSHRC held the injury did not require reporting.⁹⁶ The *Newmont* case establishes the baseline of what is and is not considered an “accident,” under the FMSHA.⁹⁷

In another FMSHRC case, *Cougar Coal Co. v. Sec’y of Labor*,⁹⁸ a “miner was found unconscious with no pulse after being shocked by 7200 volts, falling 18 feet, and hitting his head.”⁹⁹ Upon review, the FMSHRC determined the injury “had a reasonable potential to cause death per se.”¹⁰⁰ In *Sec’y of Labor, MSHA v. CEMEX Construction Materials of Florida*,¹⁰¹ however, the FMSHRC rejected the posi-

92. *Id.* at 397 (holding not every injury is reportable under federal legislation).

93. *Id.* at 393 (describing how mine worker broke his leg). The miner, Andrew Little, was walking by a truck in the mine when it started to move and, as a result, the tire ran over his right boot and caught the light cord on his belt, which spun him around. *Id.* As soon as the truck passed, miners heard Little screaming and called dispatch to report Little had been run over. *Id.*

94. *Id.* (citation omitted) (stating severity of injuries). When EMTs arrived, Little was alert and responsive, and his vital signs were normal. *Id.* The EMTs gave Little oxygen, placed his neck in a brace, and strapped him to a back board. *Id.*

95. *Id.* at 394 (citation omitted) (detailing Secretary of Labor’s argument that fractured femurs have potential to cause death). The Secretary also argued that conditions that may accompany a fractured femur, such as fat embolisms and deep vein thrombosis, have the ability to cause death. *Id.*

96. *Newmont*, 32 FMSHRC at 396 (holding reporting was not required because no life was in danger). The Commission also noted if the “regulations were interpreted in the manner suggested by the Secretary, MSHA would receive many more calls from mine operators reporting all kinds of ‘accidents’ that are presently not immediately reportable.” *Id.* at 397. An increase in reports would stretch thin the already limited resources MSHA has. *Id.*

97. *Id.* (holding simple broken bones are not accidents).

98. 25 FMSHRC 513 (2003).

99. *Cumberland Coal Res., LP v. Dep’t of Envtl. Prot.*, NO. 2011-095-B, 2013 WL 4405945, at *7 (citing *Cougar Coal*, 25 FMSHRC at 520 (explaining results of 7200-volt shock)).

100. *Cougar Coal*, 25 FMSHRC at 520 (stating why miner’s injury should have been reported).

101. 34 FMSHRC 1408 (2012).

tion that *every* injury is “*per se* an immediately reportable injury,” finding instead the court must consider the circumstances of each individual case.¹⁰² In *CEMEX*, an aboveground worker suffered a dislocated shoulder because of a 240-volt electrical shock, but the worker remained conscious and did not require emergency transport.¹⁰³ The Commission reasoned the individual circumstances of each case must be considered when deciding if the facts constitute an “accident.”¹⁰⁴ The decisions of *Newmont*, *Cougar Coal*, and *CEMEX* establish the outer limits of what constitutes an accident under federal mine safety laws with regard to electrical shocks.¹⁰⁵

C. Increasing Safety Through Training Programs

In addition to federal and state mining legislation, coal mines and mining equipment manufacturers are working toward creating a safer environment in mines by establishing miner training programs and building safer, more technologically advanced equipment.¹⁰⁶ On August 17, 1976, the National Mine Health and Safety Academy (Academy) opened as a permanent training facility in response to updated mining regulations and multiple mining disasters.¹⁰⁷ The Academy, located in Beckley, West Virginia, trains miners in “a variety of different disciplines in nine different laboratories: roof control, ground control, mine emergency and mine rescue, ventilation, electrical, machinery, industrial hygiene, computer, and underground mine simulation.”¹⁰⁸

102. *Id.* at 1438 (emphasis in original) (contrasting *CEMEX* with prior decision in *Cougar Coal*).

103. *Id.* at 1414-16 (describing circumstances of mine worker’s electric shock).

104. *Id.* at 1411, 1433 (reasoning unique facts of each case must be considered when making determinations of accidents).

105. For a discussion of federal case law regarding mine incidents involving electric shock, see *supra* notes 83-104 and accompanying text.

106. For further discussion of actions by mines and equipment manufacturers, see *infra* notes 154-158 and accompanying text.

107. *National Mine Health and Safety Academy*, U.S. DEP’T OF LABOR, <http://www.msha.gov/PROGRAMS/EPD2.htm> (last visited Oct. 20, 2013) (providing general background information on mining academy). Miners from all over the world come to the academy for training. *Id.* The activities and functions of the National Health and Safety Academy were transferred to the Department of Labor in 1979. *Id.*

108. *Id.* (describing different areas miners are trained in); see also *Mine Simulation Laboratory*, U.S. DEP’T OF LABOR, <http://www.msha.gov/PROGRAMS/EPDM/SL.htm> (last visited Oct. 20, 2013) (showing Mine Simulation Laboratory used for miner training).

IV. NARRATIVE ANALYSIS

In *Cumberland Coal*, the EHB considered two issues on appeal from the DEP's Compliance Order: "(1) whether the injury to Mr. Shriver meets the statutory definition of an accident under Section 104 of the Act, and (2) if it was an accident, whether Cumberland notified the Department no later than fifteen minutes after the discovery, as required by Section 109(a)."¹⁰⁹ The petitioner, Cumberland Coal, argued Shriver's electrical shock did not meet the statutory definition of an "accident" and thus, the company did not violate the Act because it had no obligation to report the incident to the DEP.¹¹⁰ Despite the mine's opposition to the DEP Compliance Order, Cumberland still complied by retraining the necessary employees on how to manage potentially fatal accidents.¹¹¹ As a result, Schuessler, as a DEP inspector, has been receiving all necessary phone calls regarding accidents occurring at the mine.¹¹²

A. What "Accident" Means to Miners

The EHB first addressed the issue of what constitutes an accident under Section 104 of the BCMS Act by looking to the Commonwealth's overall goals in passing the Act.¹¹³ The EHB reiterated the fifteen-minute requirement was "enacted to facilitate timely investigation of accidents with the overall goal of miner safety."¹¹⁴ The EHB further recognized that, when determining

109. *Cumberland Coal Res., LP v. Dep't of Envtl. Prot.*, NO. 2011-095-B, 2013 WL 4405945, at *6 (Pa. Envtl. Hearing Bd. July 31, 2013) (stating issues of case). The EHB also briefly addressed and dismissed Cumberland's argument that Robert Bohach, the Manager of Safety at Cumberland, should have been admitted as an expert witness. *Id.* at *10. In doing so, the Board cited to Cumberland's Memorandum noting it only contained a vague sentence about what testimony Bohach was to address. *Id.* Bohach was not identified as an expert witness; rather, he was only identified as a potential fact witness. *Id.* The EHB also found Cumberland did not comply with the rules of discovery regarding experts and thus, had acted in bad faith. *Id.*

110. *Id.* (arguing injury did not meet statutory definition of accident).

111. *Id.* (noting Cumberland complied with DEP's Order even though Cumberland disputed it). The Compliance Order "required Cumberland to retrain the responsible persons at the Mine about the requirement to notify the Department within fifteen minutes of the discovery of an accident." *Id.*

112. *Id.* (concluding retraining resolved reporting problems at Cumberland).

113. *Id.* at *6-7 (detailing Commonwealth's goals of using every available power to protect miners). The EHB noted, "[T]he Act intends to 'improve and expand research, development and training programs aimed at preventing [accidents]' and to 'enable the Commonwealth to respond as necessary and appropriate to accidents and other emergencies' at underground coal mines." *Id.* (citing 52 PA. STAT. ANN. § 690-103(b)(5), (6) (West 2009)).

114. *Cumberland*, 2013 WL 4405945, at *6 (interpreting Commonwealth's miner safety goals).

whether an “accident,” as defined by the Act, has occurred, it must consider the specific facts of each individual case.¹¹⁵

In its argument, Cumberland cited to numerous federal cases, including *Newmont*, *Cougar Coal*, and *CEMEX*, to illustrate the circumstances fell outside the definition of accident.¹¹⁶ The EHB noted, however, “that the relevant federal regulations are slightly different, and that the Board is not bound by case law of the FMSH Review Commission.”¹¹⁷ The EHB further distinguished each of the cases by noting the present case falls somewhere in the middle of the 7,200-volt shock in *Cougar Coal* and the 240-volt shock in *CEMEX*.¹¹⁸

Due to the severity of the shock Shriver received from the 575-volt piece of equipment, the EHB determined “his injury had the reasonable potential to cause death and therefore was an accident as that term is defined in the Act.”¹¹⁹ This determination was based on Mr. Shriver’s testimony as well as Mr. Culp’s statements regarding the dangers of electric shock.¹²⁰ Before Culp had seen the injuries from the electrical shock, he stated, “getting shocked like that, you don’t know the potential.”¹²¹ The EHB, however, was careful to suggest not all electrical shocks fall within the definition of an “accident” under the Act.¹²² Rather, it found each case must be decided based on its unique facts and circumstances.¹²³

B. Fifteen-Minute Notification

The EHB next considered whether Cumberland notified the DEP within fifteen minutes of discovering the accident, as required by the BCMS Act.¹²⁴ Despite “there [being] a number of issues that make [the] determination more complicated than it would first ap-

115. *Id.* (describing procedure for accident determination).

116. *Id.* at *7-8 (describing Cumberland’s reliance on federal case law).

117. *Id.* (noting federal cases not binding on EHB).

118. *Id.* (distinguishing other EHB cases). For a further discussion of other EHB cases, see *supra* notes 64-82 and accompanying text.

119. *Cumberland*, 2013 WL 4405945, at *8 (noting scars were visible from Shriver’s injury).

120. *Id.* at *7 (recognizing Culp testified that electrical shocks can have devastating effects and extra precautions should be taken).

121. *Id.* (noting Culp’s concern over Shriver’s injuries).

122. *Id.* at *8 (discussing shocks in relation to accidents). The DEP argued that “all electrical shocks have a reasonable the potential to cause death and therefore would constitute an accident under the Act.” *Id.*

123. *Id.* (noting each case has unique facts and those must be used to determine if facts amount to accidents).

124. *Cumberland*, 2013 WL 4405945, at *8 (addressing notification issue by examining timeline of events after injury).

pear,” the EHB “conclude[d] that Cumberland failed to provide timely notification of the accident to the Department.”¹²⁵

The EHB first addressed when the fifteen minute period began.¹²⁶ The EHB deferred to prior decisions and emphasized the need for a quick response, noting the “rule requires ‘prompt notice’ and ‘quick action’ by the operator” in the case of an accident.¹²⁷ As there is often incomplete information available at the time of the accident, operators must use the facts that are available to determine if they need to make a report.¹²⁸ Further, operators should err on the side of caution and use the limited information available to them at the time of the accident to make a report, even if they unsure whether the injury is reportable.¹²⁹ The EHB noted this urgency is important, particularly because the burden of making a call is minor compared to the risk of underreporting.¹³⁰

In reviewing the case’s particular facts, the EHB noted the maintenance clerk, Osborne, notified the Department of the accident at 11:40 PM, meaning that if Cumberland had reported within fifteen minutes, Cumberland could not have discovered the accident any earlier than 11:25 PM.¹³¹ Cumberland, however, must have discovered the accident before this time because at 10:15 PM, Osborne received a call stating Shriver needed help.¹³² Further, the helicopter service “LifeFlight was contacted at 10:38 PM, a full hour before the Department was notified and 47 minutes before 11:25 PM.”¹³³ Cumberland argued that Mr. McElwee’s call to the DEP around 10:40 PM excused their further delay after that

125. *Id.* (reviewing relevant parts of timeline).

126. *Id.* at *9 (disputing when clock starts for fifteen-minute rule); *see also Emerald/Cumberland*, 29 A.3d 414, 425 (Pa. Commw. Ct. 2011) (evaluating fifteen-minute rule); *Emerald Coal Res., LP v. Dep’t of Envtl. Prot.*, No. 2009-023-L, 2010 WL 944146, at *5 (Pa. Envtl. Hearing Bd. Feb. 24, 2010) (addressing similar issue).

127. *Cumberland*, 2013 WL 4405945, at *9 (upholding prior decisions on statute requirements).

128. *Id.* (reasoning operators must use totality of circumstances to make decisions about whether to report). The Board cited to the preamble of the Federal Mine Safety and Health Administration’s similar requirement which states “[t]he judgment is based on what a reasonable person would discern under the circumstances, particularly when the decision to call [the agency] must be made in a matter of minutes after a serious accident.” *Id.*

129. *Id.* (emphasizing caution and safety in deciding to report incident).

130. *Id.* (reiterating Act’s purpose is to promote mine safety).

131. *Id.* (explaining when accident must have been discovered to comply with fifteen-minute requirement).

132. *Cumberland*, 2013 WL 4405945, at *8-9 (reviewing timeline of events). The EHB also noted other significant events occurred showing the mine operator knew of the accident, such as the call to LifeFlight at 10:38 PM and to the DEP at 10:40 PM. *Id.*

133. *Id.* (supporting call was made well after fifteen minute timeframe).

point.¹³⁴ The EHB disagreed, reasoning “[t]he law is unambiguous: in event of an accident, it is the responsibility of *the operator* to notify the Department no later than fifteen minutes after discovery of the accident.”¹³⁵

V. CRITICAL ANALYSIS

The holding in *Cumberland* takes a significant step toward narrowing the otherwise broad definition of what constitutes an “accident” under the Act.¹³⁶ In doing so, the EHB has increased the effectiveness of the Act by providing a clear definition upon which mine owners and operators can rely.¹³⁷ Through this change in the meaning of “accident,” the EHB preserved the goal of protecting miner safety while still allowing mines discretion not to report minor injuries that fall outside the definition.¹³⁸

A. Sorting Through the Smoke and Clarifying “Accident”

In holding *Cumberland Mine* to be in violation of the Act, the EHB reconciled prior case law and narrowed what instances constitute an electric shock within the definition of accident.¹³⁹ This decision establishes a new mark on the sliding scale of the statutory definition of an accident, at least regarding electrical shocks.¹⁴⁰ Unlike previous cases, such as *Emerald* and *Cumberland*, where the EHB disfavored the DEP’s administrative discretion in defining “accident,” the EHB here signals the DEP can enforce compliance under the Act with respect to electrical shocks.¹⁴¹

The EHB found the 575-volt electrical shock in this case fell between the 7200-volt shock in *Cougar Coal* and the 240-volt shock

134. *Id.* at *9 (arguing 10:40 PM call was satisfactory to meet Act’s reporting requirement).

135. *Id.* (citing 52 PA. STAT. ANN. § 690-104) (emphasis in original) (reasoning operator must notify Department as specified in Act).

136. Compare *Cougar Coal Co.*, 25 FMSHRC 513, 520 (2003) (finding 7200-volt electric shock constituted accident), with *CEMEX Constr. Materials of Fl., LLC*, 34 FMSHRC 1408, 1438 (2012) (finding 240-volt shock resulting in dislocated shoulder was not accident).

137. For a further discussion of the results of a clearer definition of accident, see *supra* notes 162-164.

138. For a discussion of mine reporting requirements regarding fatal accidents, see *supra* note 133 and accompanying text.

139. *Cougar Coal*, 25 FMSHRC at 520 (showing broad range of accidents).

140. *Id.* (narrowing *Cougar Coal* holding of accident).

141. See *Emerald/Cumberland*, 29 A.3d 414, 420 (Pa. Commw. Ct. 2011) (limiting accident to fourteen specified events within Act).

in *CEMEX*.¹⁴² Under federal law, the Review Commission did not find the 240-volt shock in *CEMEX* to constitute an accident, but found the 7200-volt shock in *Cougar Coal* to be an accident.¹⁴³ By upholding the Order issued by the DEP and finding a 575-volt shock constitutes an accident under Pennsylvania's statutory definition, the EHB narrowed the divide between the federal definition of electrical shock accidents in *Cougar Coal* and *CEMEX* with respect to Pennsylvania law.¹⁴⁴ Even under this narrower definition, operators may hesitate when deciding whether a less powerful shock is considered an accident, but the holding in *Cumberland* confirms that a shock of 575 volts or greater is more likely than not an accident that should be reported to the DEP.¹⁴⁵

B. Increasing Safety in Pennsylvania Mines

The EHB's ruling in this case returns the focus to preserving miner safety after straying from this goal in the *Emerald/Cumberland* cases.¹⁴⁶ In *Emerald/Cumberland*, the EHB limited the DEP's ability to issue orders enforcing mine safety by refusing to uphold the DEP's orders even though the events were similar to those expressly listed in the Act.¹⁴⁷ The EHB reasoned that by upholding the Order when the events were not specifically listed in the Act, it would be giving the DEP power to expand the Act.¹⁴⁸ The ruling in *Emerald/Cumberland*, however, was contrary to the Act's primary goal of preserving miner health and safety.¹⁴⁹

142. *Cumberland Coal Res., LP v. Dep't of Envtl. Prot.*, No. 2011-095-B, 2013 WL 4405945, at *8 (Pa. Envtl. Hearing Bd. July 31, 2013) (stating facts fall somewhere between previously decided cases).

143. For a further discussion of *Cougar Coal* and *CEMEX*, see *supra* notes 98-105 and accompanying text.

144. For a further discussion on how the EHB reached this conclusion, see *supra* notes 119-123 and accompanying text.

145. See *Cumberland*, 2013 WL 4405945, at *7 (holding 575-volt shock constituted accident, thus implying anything more is also likely to fall in that category).

146. Compare *Emerald/Cumberland*, 29 A.3d at 420 (giving strict interpretation of Act's definition), with *Cumberland*, 2013 WL 4405945, at *7 (clarifying statutory definition, and giving DEP power to interpret Act).

147. See 52 PA. STAT. ANN. § 690-109(b)(1) (West 2010) (providing that DEP shall take any necessary and appropriate action to protect miners); see also *id.* § 690-501(a)(1) (giving DEP power to issue written orders enforcing Act).

148. *Emerald Coal Res., LP v. Dep't of Envtl. Prot.*, No. 2009-023-L, 2010 WL 944146, at *3 (Pa. Envtl. Hearing Bd. Feb. 24, 2010) (finding it impossible to list every unanticipated event that may constitute accident). The Board also determined that some flexibility in the definition of an accident was intended by the legislature. *Id.*

149. 52 PA. STAT. ANN. § 690-103(a)(1) (West 2010) (stating miner health and safety must be number one priority).

Here, the EHB upheld the DEP's Order even though the electrical shock did not meet one of the fourteen express statutory definitions, but rather fell within one category of accident generally.¹⁵⁰ In doing so, the EHB demonstrated that even if an accident does not meet the exact statutory definition, the DEP still has the administrative authority to interpret the Act's statutory language to determine when, in its discretion, an accident has a reasonable potential to cause death.¹⁵¹ The EHB ultimately returned the DEP's authority to "[t]ake whatever action it deems appropriate, including the issuance of orders, to protect the life, health or safety of an individual."¹⁵²

IV. IMPACT

The result of the EHB's decision did not have an immediate impact on the Cumberland Mine because the mine had already complied with the DEP's Order.¹⁵³ Because the EHB decided this case, *Cumberland Coal* will affect future EHB cases as well as mine owner and operator safety policies and decisions.¹⁵⁴ This decision establishes a significant shift toward improving miner safety including increased reporting and stricter adherence to safety protocols in mines.¹⁵⁵

Cumberland Coal demonstrates the low threshold for reporting accidents as compared to the high risk of failing to report an accident with the potential to cause death.¹⁵⁶ The EHB's *Cumberland* decision will help to ensure mine owners make the necessary cor-

150. Compare *Emerald/Cumberland*, 29 A.3d at 420 (holding accidents did not fall within statutory definition), with *Cumberland*, 2013 WL 4405945, at *7 (holding shock did fall within statutory definition even though it was not explicitly stated).

151. See *Cumberland*, 2013 WL 440594, at *7 (giving DEP more breathing room regarding interpretation than was given in previous cases).

152. 52 PA. STAT. ANN. § 690-109(b)(1) (West 2009) (stating department's duties when accidents occur). For a further discussion of the Act's purpose, see *supra* notes 56-61 and accompanying text.

153. See *Cumberland*, 2013 WL 4405945, at *5 (recognizing Cumberland complied with Order before completing appeals process). In complying with the Order, Cumberland retained critical employees who deal with accidents. *Id.*

154. See 35 PA. STAT. ANN. § 7514 (West 2013) (limiting scope of EHB decisions to actions and decisions made by DEP).

155. See *From the Assistant Secretary's Desk: Mining Deaths the First Half of 2013*, U.S. DEP'T OF LABOR, <http://www.msha.gov/FromtheDesk/FromtheDesk07312013.pdf> (last visited Feb. 24, 2014) (listing mining death statistics from Jan. 1, 2013, to June 30, 2013). During the first six months of 2013, eighteen miners died in accidents, including nine coal miners. *Id.* This is one less death than in 2012. *Id.* For a further discussion of the effects of the decision, see *infra* notes 154-189 and accompanying text.

156. See *Cumberland*, 2013 WL 4405945, at *10 (concluding miner safety trumps operator's burden of reporting). The EHB noted, "Given the relatively mi-

rections and reduce safety violations because it encourages mine owners and operators to report incidents they think may rise to the level of an accident.¹⁵⁷ This case, however, could also lead to over-reporting and, in turn, increase the EHB's case load, especially considering the ever-increasing number of appeals.¹⁵⁸

While *Cumberland Coal* narrows the substantial gray area in determining what is an accident as defined by the Act, this case also gives mine operators less discretion regarding when to report suspected accidents because they are required to err on the side of caution and report suspected accidents within fifteen minutes, despite having limited information regarding the seriousness of an incident.¹⁵⁹ This decision will also help improve the safety conditions in mines as it encourages more reports to be made and more mine inspections.¹⁶⁰ By requiring accidents to be reported whenever there is a "possibility of death," mines have incentives to take extra safety measures to avoid investigations and sanctions.¹⁶¹ As the Pennsylvania courts recognize, "[t]o avoid the risk of an enforcement actions by DEP, then, operators would be compelled, out of an abundance of caution, to notify DEP *anytime* something unanticipated occurs at a mining facility."¹⁶² The only foreseeable problem this could lead to is over-reporting, although this has not yet occurred.¹⁶³

The Safety Board has also taken steps to ensure the Act continues to keep miners safe by regularly updating it when necessary,

nor burden on the operator, and the prime goal of miner safety, we find that operators should not delay notification." *Id.*

157. See generally *Coal Mine Safety Fact Sheet*, MINE SAFETY & HEALTH ADMIN., http://www.nma.org/pdf/020206_coal_safety_fact_sheet.pdf (last visited Oct. 14, 2013) (listing statistics on mine safety versus productivity from 1970 to 2009). The chart shows that in the 1970s, the production rate finally surpassed the rate of fatalities. *Id.* It attributes this change to increasing safety regulations and mine inspections. *Id.*

158. *Cumberland*, 2013 WL 4405945, at *5 (noting DEP has been receiving all necessary phone calls); see also Harris & Eckholm, *supra* note 86 (examining increase in appeals since federal legislation has been updated).

159. For a discussion of the results and improved reporting, see *supra* notes 47-50 and accompanying text.

160. For a further discussion on effects on mining operations, see *infra* notes 162-189 and accompanying text.

161. For a further discussion of extra safety measures taken by mines, see *infra* notes 162-189 and accompanying text.

162. *Emerald/Cumberland*, 29 A.3d 414, 425-26 (Pa. Commw. Ct. 2011) (emphasis in original) (stating problems with strict reporting requirements).

163. *Id.* (noting over-reporting could become a problem); see also *Cumberland*, 2013 WL 4405945, at *5 (stating *Cumberland* has been receiving necessary calls).

especially when the corresponding federal legislation is updated.¹⁶⁴ As a result of *Emerald/Cumberland* and *Cumberland Coal*, the Mine Safety and Health Administration (MSHA) has conducted more surprise inspections of mines with a history of violations.¹⁶⁵ Due to the stricter enforcement of coal mining legislation, along with mine operators taking more responsibility, the number of violations has been declining along with the number of fatalities.¹⁶⁶ Stricter enforcement, coupled with improved miner training, is projected to continue to decrease the number of accidents and fatalities in the mines.¹⁶⁷

A. Mine Training and Safety Competitions

Mine owners are beginning to take independent steps toward improving miner safety, which should further help decrease the number of accidents.¹⁶⁸ In March 2012, CONSOL Energy officially opened an Underground Training Academy at Bailey Mine in Greene County, Pennsylvania.¹⁶⁹ Since its opening, “204 miners have completed the program with 350 forecasted to finish by the

164. See generally *Notice of Final Rulemaking*, DEP’T. OF ENVTL. PROT. (Sept. 2013), http://files.dep.state.pa.us/Mining/Deep%20Mine%20Safety/DMSPortalFiles/MiningAdvisoryCommittees/BCMS/2013/2013_09/RockDustFinalOrder.pdf (following federal legislation update to MSHA and passing amendment); see also *Regulatory Analysis Form*, DEP’T ENVTL. PROTECTION (Sept. 2013), http://files.dep.state.pa.us/Mining/Deep%20Mine%20Safety/DMSPortalFiles/MiningAdvisoryCommittees/BCMS/2013/2013_09/RockDustFinalRAF.pdf (giving regulatory analysis of new legislation).

165. See *MSHA Launches Inspection Blitz in Nation’s Coalfields*, NAT’L MINE SAFETY & HEALTH ADMIN. (Apr. 21, 2010), <http://www.msha.gov/Media/PRESS/2010/NR100421.asp#.UtlReBAo5D8> (discussing increased inspections of mines with history of ventilation and methane violations).

166. See generally *Mining Related Fatalities FY 1978 – FY 2011*, U.S. DEP’T OF LABOR, <http://www.msha.gov/stats/charts/FYFatalities19782011.pdf> (last visited Oct. 20, 2013) (showing number of fatalities in both coal mine and metal non-metal mines from 1978 to 2011).

167. See *Injuries, Illnesses and Fatalities*, *supra* note 5 (comparing coal industry injuries and fatalities with other industrial occupations).

168. Press Release, CONSOL Energy, CONSOL Energy unveils the country’s first underground training academy (Aug. 15, 2013, 2:55PM), available at <http://online.wsj.com/article/PR-CO-20130815-912110.html> (explaining training academy). The goal of the facility is to raise the safety bar even higher for other mines in Pennsylvania as well as throughout the country. *Id.*

169. *Id.* (giving location and opening date of training facility). CONSOL Energy president Nicholas J. DeLuliis noted, “This facility is unique to our industry and demonstrates, clearly, our commitment to our top core value of safety Over the last five years, we have seen steady progress through our safety initiatives—and this academy will help continue that trend.” *Id.* (internal quotation marks omitted).

end of the year.”¹⁷⁰ This particular training facility consists of classrooms and a portion of a fully operating underground mine dedicated to hands on training.¹⁷¹ Each training session lasts five days.¹⁷²

In addition to miner training facilities, the MSHA hosts numerous safety competitions throughout the United States each year.¹⁷³ The competitions give miners the opportunity to “test and demonstrate their mine skills in simulated mine emergency drills.”¹⁷⁴ Surprisingly, Alpha Natural Resources, LLC (Alpha), the parent company of Emerald and Cumberland, has won numerous awards in mine operation safety.¹⁷⁵

Additionally, Alpha has implemented the “Running Right Safety Process.”¹⁷⁶ The safety process relies on employees reporting all risky behavior observed in the mines.¹⁷⁷ Daily reports and reviews have allowed mine safety issues to be addressed immediately, decreasing the likelihood of an accident.¹⁷⁸

170. *Id.* (stating statistics about who has been trained thus far). The first people trained in the mine were the company’s “frontline supervisory workforce.” *Id.*

171. *Id.* (describing training facility and program operations). CONSOL Energy “employees are trained to operate a continuous mining machine, a miner bolter machine, a loading machine, a shuttle car and a section scoop.” *Id.* The program is taught by instructors who have many years of experience working in underground mines. *Id.*

172. *Id.* (noting duration of training sessions).

173. See “*The History of Mine Rescue: A Journey Through Time*. . . , NAT’L MINE SAFETY & HEALTH ADMIN., <http://www.msha.gov/TRAINING/LIBRARY/historyofminerescue/historyofminerescue.asp> (last visited Oct. 20, 2013) (giving history of mine rescues and how competitions were developed).

174. See *2013 National Metal NonMetal Mine Rescue Contest Results*, NAT’L MINE SAFETY & HEALTH ADMIN., <http://www.msha.gov/MineRescue/CONTEST/2013MNM/2013MNMcontest/2013MNMcontestResult.asp> (last visited Oct. 20, 2013) (explaining recent competition and listing results). In 2013, “[m]ore than 30 teams participated in the event, which consisted of the field contest, the technician competition, and the first-aid contest.” *Id.*

175. See also *Safety Awards*, ALPHA NATURAL RES., <http://www.alphanr.com/safety/awards/Pages/default.aspx> (last visited Oct. 18, 2013) (noting safety awards won by Alpha-affiliated mines from 2008 to 2012). In 2012, neither Cumberland nor Emerald mines won any awards. *Id.* For a further discussion of MSHA inspections, see *supra* note 163 and accompanying text.

176. See *generally Running Right Safety Process*, ALPHA NATURAL RES., <http://www.alphanr.com/safety/process/Pages/default.aspx> (last visited Oct. 19, 2013) (explaining company’s employee-driven safety process). The process “relies on participation from each and every employee to conduct observations so that we can eradicate at-risk behavior in the workplace.” *Id.*

177. *Id.* (noting safety process relies on participation from every employee). Eighty-eight percent of accidents are caused by at-risk behavior. *Id.*

178. *Id.* (charting how Alpha’s safety and review process functions). In more serious cases, reports will be moved up to another committee to be addressed. *Id.*

B. Paving the Way to Safer Machinery

The mining industry recognizes heavy equipment in mines cause a substantial number of accidents, many leading to tragic deaths.¹⁷⁹ Manufacturers have made changes in equipment production, focusing on miner safety in hopes of reducing the number of accidents and safety violations.¹⁸⁰ Some manufacturers and mines have begun looking into using automated machinery because it is one the best ways to eliminate human error, which is usually the cause of most mining accidents.¹⁸¹ Although automated machinery will increase safety and efficiency, as well as maximize output, it may not be in the best interest of the miners whose livelihoods depend upon the jobs provided by the mines and who must manage large automated machinery safely in cramped underground conditions.¹⁸²

In order to help keep operators in the picture, Caterpillar Global Mining (CAT), one of the leading companies in the heavy equipment industry, has teamed up with Seeing Machines Limited to develop an operator fatigue monitoring system.¹⁸³ The system is currently being used in 1,500 vehicles at more than twenty mines.¹⁸⁴ Because the system is integrated into the equipment, it “is totally transparent to the operator,” yet still delivers real-time detection and alerts.¹⁸⁵

179. See *Coal Daily Fatality Report*, U.S. DEP’T OF LABOR, <http://www.msha.gov/stats/charts/coaldaily.asp> (last visited Oct. 21, 2013) (graphing causes of fatalities from 2010 to 2014). Through October 2013, machinery has been one of the leading causes of death. *Id.*

180. Harold Hough, *Should Heavy Equipment Manufacturers Eliminate Human Error by Eliminating the Operator?*, MINERS NEWS (Aug./Sept. 2013), <http://www.minersnews.com/news/2013/MN159-8.html> (recognizing problems with human operation of machines and proposing solutions). Hough argues, “just one fatal accident can cost a mine more than the cost one large piece of equipment.” *Id.*

181. *Id.* (explaining elimination of human operators will increase miner safety). According to Hough, “[o]perators get tired, haphazard, and bored; leading to many of the accidents on site. Computers and sensors do not get bored or lose concentration, which means that the chances of an accident are lessened.” *Id.* Even if the computers or sensors fail, the software can shut everything down. *Id.*

182. *Id.* (arguing automated machines are much more efficient than humans). Hough notes, “a computer will carry out each maneuver precisely for as long as the mine desires Automated equipment will also eliminate the discontinuities caused by bringing new workers in at the beginning of a shift,” and “[a]utomated trucks can continue their routine.” *Id.*

183. *Id.* (discussing new fatigue monitoring system). The system uses “patented eye and head tracking technology to detect operator fatigue and distraction and to alert the mine controller and the machine operator.” *Id.*

184. *Id.* (stating how many units are being used at over twenty mines).

185. See Hough, *supra* note 180 (noting operators will likely not know they are being monitored for fatigue). Studies have shown fatigue and sleep deprivation cause cognitive and physiological problems, as well as an increased likelihood of

Cases such as *Newmont* show that large, heavy equipment increases the likelihood of accidents because machinery can impede the operator's vision.¹⁸⁶ In order to prevent injuries and accidents, miners have begun to use object detection systems on the machinery.¹⁸⁷ CAT, in response to the need for better operator awareness, designed the "Integrated Object Detection System, which aid[s] the operator's awareness of his surroundings by providing information about objects around the truck."¹⁸⁸ DETECT, another system created by CAT, functions in a similar way as the Integrated Object Detection System, but allows an electronic tag to be placed on each miner.¹⁸⁹ The miners' locations are displayed on a screen in the cabs of CAT equipment so that operators know where miners are in relation to the machinery.¹⁹⁰ These technological advances and high-tech training programs, coupled with increased accident reporting and mine inspections, will help to ensure miners are kept safe while at work.¹⁹¹

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Type 2 diabetes, immune system suppression, and prolonged recovery from injuries. *Id.*

186. For a further discussion of the accident in *Newmont*, see *supra* notes 91-97 and accompanying text.

187. See *Object Detection Improves Safety*, MINERS NEWS (May/June 2013), <http://www.minersnews.com/news/2013/Eastern/MNEE009-1.html> (explaining how object detection system works). The systems include the use of cameras, radar, and locator tags. *Id.*

188. *Id.* (describing how system prevents automated and human operated equipment from running over people working in mines). The system works by using cameras and radar to detect objects which are displayed on a screen in the cab; further, if an object is detected and poses a danger, an alarm warns the operator. *Id.*

189. *Id.* (distinguishing different detection systems).

190. See *id.* (explaining how DETECT works). By knowing the location of the miners, machine operators can improve both productivity and work with increased confidence. *Id.* The locator tags can also "automatically halt operations when unauthorized people enter restricted areas, while allowing service and maintenance personnel to work as required around operating equipment." *Id.*

191. For a further discussion of actions taken by the legislature and the mines, see *supra* notes 157-188 and accompanying text.

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