Duquesne Law Review

Volume 14
Number 4 *Symposium on Energy and the Environment: Is Coal the Key to the Solution?*

Article 9

1976

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I. INTRODUCTION

On December 30, 1969, President Richard M. Nixon signed into law the Federal Coal Mine Health and Safety Act of 1969.[1] This law and the regulations and interpretations which have accumulated in its wake have become the most complex, comprehensive safety legislation ever to be enacted in the United States.[2]

The Act and the regulations encompass all aspects and phases of underground and surface coal mining. There are literally hundreds of mandatory health and safety standards applicable to underground mines and a similar number applicable to surface mines.[3] Safety standards deal with roof support, ventilation, removal of combustible materials, rock dusting, inspection and maintenance of electrical equipment, blasting and explosives, fire protection, canopies and cabs on certain equipment, sealing of mines, hoisting and transportation of men and equipment, illumination, and virtually

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1. Pub. L. No. 91-173, 83 Stat. 742 (codified at 30 U.S.C. §§ 801-960 (1970), *as amended* (Supp. V, 1975)) [hereinafter referred to as the Act].

2. Under § 101(a) of the Act, 30 U.S.C. § 811(a) (1970), the Secretary of the Interior is responsible for developing, promulgating and revising, as may be appropriate, improved mandatory safety standards for the protection of life and the prevention of injuries in coal mines and for promulgating the mandatory health standards transmitted to him by the Secretary of Health, Education and Welfare. The Secretary of HEW is responsible under § 101(d), 30 U.S.C. § 811(d) (1970), for developing and revising, as may be appropriate, improved mandatory health standards for the protection of life and the prevention of occupational diseases of miners. The mandatory health and safety standards which have been promulgated in accordance with the Act are set forth in 30 C.F.R. pts. 70, 71, 75, 77 (1975).

3. The mandatory safety and health standards applicable to underground coal mines and surface areas of underground coal mines cover approximately 170 pages in the *Code of Federal Regulations*, title 30. For all mandatory health and safety standards, see Mandatory Health Standards—Underground Coal Mines, 30 C.F.R. §§ 70.1-.510 (1975); Mandatory Health Standards—Surface Work Areas of Underground Coal Mines and Surface Coal Mines, *id.* §§ 71.1-.603; Mandatory Safety Standards—Underground Coal Mines, *id.* §§ 75.1-.1808; Mandatory Safety Standards, Surface Coal Mines and Surface Work Areas of Underground Coal Mines, *id.* §§ 77.1-.1916.

every other aspect of mining.[4] Health standards primarily are directed to the control of respirable coal dust and noise, but include much more.[5] The broad-based law requires coal operators to comply with an almost countless number of regulations, which are subject to constant review and changes, with new provisions added from time to time.[6] The Secretary of the Interior is charged with the responsibility for administering and enforcing the Act and the regulations. Enforcement activity is carried out by inspectors of the Mining Enforcement and Safety Administration (MESA),[7] with enforcement powers as set forth in the Act.[8]

This attempt by the federal government to improve mine safety through legislation has caused profound changes in the day-to-day operation of the nation's bituminous coal mines. However, there is ample and conclusive evidence after six years that the Federal Coal Mine Health and Safety Act *has not* been the basis of any substantial improvement in the safety of bituminous coal mines. While it has failed in its intended mission, it has produced some unintended consequences which are of grave concern to the coal industry—compliance with the numerous provisions of the law has resulted in substantial reduction in coal production and in worker productivity.

These counter-productive consequences come at the worst possible time for America. The nation desperately needs to develop its domestic energy resources at an accelerated rate to meet the tremendously increased demand for energy which has been forecast, and to reduce our dependence—and thus our economic and military vulnerability—on foreign nations which now supply more than 40 percent of our energy needs.

Coal is America's most abundant energy resource and its most promising hope for meeting future demand and for reducing dependence on foreign suppliers. Coal development must not be

4. *Id.* §§ 75.1-.1808, 77.1-.1916.

5. *Id.* §§ 70.1-.510, 71.1-.603.

6. 30 U.S.C. §§ 811(a), (d) (1970).

7. The Secretary of the Interior originally was to carry out the enforcement activity through the Bureau of Mines, an agency of the Department of the Interior. HOUSE COMM. ON EDUCATION AND LABOR, LEGISLATIVE HISTORY: FEDERAL COAL MINE HEALTH AND SAFETY ACT, H.R. REP. No. 563, 91st Cong., 1st Sess. 635 (1969) [hereinafter cited as LEGISLATIVE HISTORY]. However, that function was subsequently transferred to MESA. 38 Fed. Reg. 18695-96 (1973).

8. 30 U.S.C. § 814 (1970).

unnecessarily constrained—by the 1969 Coal Mine Health and Safety Act or by any other legislation or regulation that impedes production without providing commensurate benefits.

The apparent dissatisfaction of Congress with the Bureau of Mines' efforts to improve health and safety of coal miners, triggered by the Farmington, West Virginia, mine disaster of November 20, 1968, seems to have been the circumstance which led to the enactment of the 1969 Act. The Senate Committee on Labor and Public Welfare cited the "notably unimpressive record by the Department of the Interior and its Bureau of Mines in respect to improving the health and safety of miners" prior to the Farmington disaster.[9] The committee stated that in the 17 years following enactment of the Federal Coal Mine Safety Act of 1952,[10] miner health and safety had been the "stepchild" of the Bureau.[11] The committee made it clear that the new Act would demand that the health and safety functions of the Bureau be substantially expanded and improved.[12]

II. Impact of the Act on Safety: Physical Condition of Mines vs. Workers' Attitudes

Following enactment of the 1969 law, the Department of the Interior substantially increased its enforcement effort, which was reflected in an increase in the number of inspectors and the number of inspections. In 1969, department enforcement personnel numbered 305, and approximately 7,130 inspections were conducted.[13] In 1975, the department numbered 1,404 enforcement personnel and conducted 74,393 mine inspections.[14]

While it is clear that enforcement activities have been expanded because of the Act, the degree to which the Act has accomplished its basic objective—with the exception of some provisions which have been beneficial—is open to doubt. The bituminous coal industry's safety record has not improved significantly since the Act was passed. For the eleven years prior to passage of the Act (1959

9. Legislative History, *supra* note 7, at 42.

10. Act of July 16, 1952, ch. 877, §§ 1-4, 66 Stat. 692.

11. Legislative History, *supra* note 7, at 42-43.

12. *Id.* at 43.

13. Statistics from Office of Assistant Administrator, Coal Mine Health and Safety, Mining Enforcement and Safety Administration, Arlington, Virginia, April 15, 1976 [hereinafter cited as Statistics, Office of Assistant Administrator].

14. *Id.*

through 1969), the average lost-time accident frequency rate per million man-hours worked in the industry was approximately 42.[15] For the six years following enactment (1970 through 1975), the average lost-time accident frequency rate per million man-hours worked in the industry was approximately 40.[16]

This obvious deficiency in the achievement of the Federal Coal Mine Health and Safety Act's goal to improve miner safety primarily results from the Act's approach to the problem—regulating the physical condition of the mines. Studies by Consolidation Coal Company indicate that *only 15 percent of lost-time accidents in underground mines are caused by the physical condition of the mines, i.e.*, conditions covered by provisions of the Act. The remaining 85 percent of lost-time accidents are caused by human error. The 1969 Act does not address itself sufficiently to these causes.

The basic difference between a safe and an unsafe mine usually is the mental attitude toward safety of the people who work in it. A high level of safety awareness and safety consciousness, based on proper and sufficient safety training, is the best insurance that the physical condition of the mine and its operation will be consistent with optimum safety standards. Mental attitudes regarding safe working practices are not changed by anything so simple as the force of law. Positive attitudes regarding safety can only be instilled through intensive safety training and motivation. This contention seems to be borne out by the experience of the Consolidation Coal Company during the last four years.

Although the company's safety record had been considerably better than the national average for the coal industry (*e.g.*, 14.1 lost-time accident frequency rate per million man-hours[17] versus 39.2 for the industry[18] during the past five years), Consolidation dedicated itself to the task of making its mines as safe as possible. To accomplish this objective, the company in 1972 embarked on an expanded, redirected program to reduce mine accidents through safety training and education of all mine personnel. Corporate and divisional safety department personnel were doubled to nearly 250. They were given

15. National Coal Association, *COAL FACTS 1974-1975*, MANPOWER & SAFETY 89 (1975) [hereinafter cited as *COAL FACTS*].

16. *Id.*; Statistics from National Coal Association, Washington, D.C.

17. Statistics compiled by Corporate Safety Department, Consolidation Coal Company, Pittsburgh, Pennsylvania [hereinafter cited as Consolidation Statistics].

18. *COAL FACTS*, *supra* note 15, at 89; Statistics from National Coal Association, Washington, D.C.

the responsibility for establishing safety programs and procedures, formulating and implementing safe work instructions for various mining tasks, motivating employees toward reduction of accidents, and insuring enforcement of the company's corporate safety policy.

Each employee was given an average of 24 hours of formal classroom safety instruction in such key subjects as first aid, emergency rescue techniques, preventing roof falls, ventilation in underground mines, and provisions of the federal Act. Equally as important, standardized safety procedures for performing each separate mining task were developed and miners performing these tasks were instructed in these procedures. No miner was permitted to begin work until he had completed the safety procedure instruction course for that assignment. Foremen were instructed and expected to promote and teach safety to their crews so that the educational process would continue outside the formal classroom. Booklets, literature and other safety reminders were prepared and distributed to employees and their families by the Safety, Employee Relations, and Public Relations Departments of the company. Fire drills and complete mine evacuation drills were conducted, weekly safety meetings were held, and many other personal contacts were made between safety instructors and mineworkers in an all-out effort to insure that the safety programs reached every worker.

The results were dramatic. The company's lost-time accident frequency rate was reduced from 23.5 per million man-hours in 1972 to 11.3 per million man-hours in 1973. The reduction continued in 1974 when the accident frequency rate was 7.89; the accident frequency rate rose slightly in 1975 to 8.33.[19] Similarly, the fatality frequency rate dropped significantly from .88 per million man-hours worked in 1972 to .16 per million man-hours worked in 1975.[20] The

19. Consolidation Statistics, *supra* note 17.

20. *Id.* Appreciation of the effort involved requires some basic knowledge of the costs incurred. During 1975, Consolidation committed $7.5 million to safety training (approximately $350 per employee), more than double the amount that was spent in 1973. This cost does not include the value of coal that was not produced due to miner participation in training programs.

Safety is an integral and inseparable part of coal mining. It is essential that employees recognize that efficient coal production is accident-free production and that good safety records and good production records go together. We at Consolidation have focused special attention on the line supervisor who has the most day-in and day-out contact with employees and their work attitudes. His attitude toward safety has a great influence on mine workers under his direction. Safety leadership is an absolute requisite, from the man at the very top to the "red hat," or miner-trainee.

sharp reduction in Consolidation's accident frequency and fatality frequency rates, as a result of the intensified safety program, is encouraging. It is the best evidence we have that the decision to place strong emphasis on training and motivation was sound.

III. Impact of the Act on Production and Productivity

The coal industry cannot be opposed to legislation and regulations which serve to improve the health and safety of miners. There is a moral issue involved: human life must be protected, whatever the cost. The value of human life cannot be equated to the production of any amount of coal. However, the coal industry can be—and is—opposed to laws and regulations which fail to improve safety while unnecessarily reducing production and productivity. There is little doubt that the Federal Coal Mine Health and Safety Act is an example of such legislation.

It is difficult to quantify precisely just what impact the Act has had on coal production and productivity since it went into effect on March 30, 1970. However, a recent industry survey indicates that during the first five years of the Act, underground bituminous coal mines, classified as gassy prior to the Act, experienced a 30 percent decline in productivity in tons per-unit shift and a corresponding 36 percent reduction in tons per man-day because of compliance with the Act.[21] For the same period, mines which were not classified as gassy prior to the Act, experienced a 34 percent drop in tons per unit-shift and a corresponding 47 percent decline in tons per man-day.[22] This same survey also reveals that mines employing all conventional coal mining equipment suffered a greater drop in productivity than mines using all continuous mining equipment during the same five-year period. According to this survey, mines equipped with all conventional equipment lost 25 percent in tons per unit-shift and a corresponding 44 percent in tons per man-day, whereas mines using all continuous mining equipment lost 19 percent in tons per unit-shift and 30 percent in tons per man-day.[23]

21. Straton, *1970-1974—A Period of Adverse Changes In Productivity and Costs At Underground Bituminous Coal Mines*, Mining Congress Journal, Oct. 1975, at 34, 35 [hereinafter cited as Straton].

22. *Id.* at 35.

23. *Id.* at 36. Conventional mining is the cycle of coal mining operations which includes cutting the coal, drilling blasting holes, loading the holes with explosives and shooting them, loading the coal and installing roof support. In continuous mining, a continuous mining

Consolidation's experience has followed that of the industry, with studies showing a decrease in productivity of up to 50 percent in tons per man-day at underground mines.

Changes in mining practices required by the Act have had the most significant effect on coal production and productivity. The Act has caused drastic changes in the day-to-day mining operations of practically every coal mine in this country and has forced coal mine operators to adopt and use certain operating practices which were not required prior to the Act. Following are some of the more significant changes in mining practices which have caused a loss of production and productivity, as well as substantially increased costs.

1. *Alteration of mining plans to provide additional entries for separate intake air escapeways.* Prior to the Act, conveyor belt and trolley haulage entries could be and were used as intake air escapeways. The Act prohibits this practice and requires that intake air escapeways be separated from belt and trolley haulage entries for the entire length of such entries.[24] Compliance with this provision requires the driving of additional entries and the construction of additional permanent stoppings, which adversely affect production and productivity.

2. *Examination of working places for methane gas before electrical equipment is energized.* The Act now requires that all areas in the mine where machinery is or will be working be checked for methane at the beginning of each shift before electrically operated equipment is energized.[25] Hence, no work requiring electric equipment can be performed and the start of production is delayed.

3. *Permanent splices.* Prior to the Act, coal mine operators were permitted to make up to five temporary splices in trailing cables of mining equipment before having to make such splices permanent. Now, however, operators are permitted to make only one temporary splice in any trailing cable and such cable can be used for only twenty-four hours.[26] As a consequence, temporary splices, which can be made in shorter time and with less loss of production, are not now normally used.

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machine cuts or rips the coal from its in-place position and loads the coal onto a conveyor or into shuttle cars which transport it. Continuous mining eliminates the drilling, loading and shooting operations.

24. 30 U.S.C. §§ 877(f)(1), (4) (1970). *See also* 30 C.F.R. §§ 75.1704, .1707 (1975).

25. 30 U.S.C. § 863(h)(i) (1970). *See also* 30 C.F.R. §§ 75.307, .307-1 (1975).

26. 30 U.S.C. § 866(d) (1970). *See also* 30 C.F.R. § 75.603 (1975).

4. *Increased and detailed ventilation requirements.* The numerous line curtains and check curtains for ventilation of rooms and entries now mandated by the Act[27] have required additional labor for installation and maintenance of such devices, thereby decreasing productivity. A further loss of production has resulted from the Act's requirements that line brattice or other ventilation devices be maintained within ten feet of the face of the coal seam being worked and that ventilation fans and fan tubing used to remove coal dust and methane gas be installed before a continuous miner[28] is moved into the working face area and while the continuous miner is being withdrawn from the face.[29]

5. *Permissibility examinations of all electric equipment.* Much lost production has resulted from the Act's requirements that all electric equipment be examined frequently for variations from rigidly fixed standards and that equipment found not to be in compliance with those standards be removed from service or shut down for immediate repairs.[30]

The above are only a few examples of changes in the Act's requirements which, either alone or in combination with each other, have necessitated the adoption and use by coal mine operators of mining practices which were not required or in general use prior to the passage of the Act.

Other effects which the Act has had on coal production are less apparent. For example, increased ventilation requirements[31] have reduced the capacity of coal mines to expand coal production without sinking costly air shafts. Any excess air volume which may have been incorporated into the original design for future mine expansion has had to be utilized to meet the increased air requirements under the Act. In some cases, it is not possible, because of a lack of ventilation, to add a new section or two to compensate for the production lost because of the requirements of the Act. Similarly, mine management no longer has the prerogative to decide when to do certain things during the production cycle. For example, prior to the enactment of the Act, mine management could wait until the end of a

27. 30 U.S.C. § 863(c) (1970). *See also* 30 C.F.R. §§ 75.302-.302-2 (1975). Line curtains and check curtains are sheets of fire-resistant material hung from the roof of a coal mine in and across entries to direct the flow of air.

28. Continuous miner is defined in note 23 *supra*.

29. 30 U.S.C. § 863(c) (1970). *See also* 30 C.F.R. § 75.302-4 (1975).

30. 30 U.S.C. § 865(g) (1970). *See also* 30 C.F.R. §§ 75.512-.512-2 (1975).

31. 30 U.S.C. § 863 (1970). *See also* 30 C.F.R. § 75.301 (1975).

shift or some more convenient time to repair a broken headlight on a continuous miner or shuttle car. However, under the permissibility requirements of the Act,[32] the headlight must be repaired immediately, and this causes a loss of production while such repair is being made.

There is no doubt that the potential criminal liability[33] of section foremen, mine foremen and superintendents for violations of the Act committed by workers under their supervision but over which they may have no control has affected the production of coal. Because of their apprehensions about possibly violating the provisions of the Act, many section foremen, for example, have lost their incentive and initiative to maintain productivity along with safe working conditions. However, it is not possible to assess the amount of production lost because of this factor.

Most significantly, the loss of production resulting from operational changes required by the Act has correspondingly increased the development time for a new mine or the expansion of an old one. Development time for a new mine is now estimated at five to seven years whereas it was projected at three to five years prior to passage of the Act.

Substantial coal production has been lost because of the actions taken by federal coal mine inspectors to enforce the Act. Since the Act became effective, more than 22,000 closure orders and 430,000 notices of violation have been issued and over 335,000 inspections have been conducted.[34] Of these enforcement activities, the issuance of closure orders has been the most costly in terms of lost production. Once a closure order or an order of withdrawal is issued, all production activities in the designated area must be terminated immediately and must remain shut down until either an inspector or another authorized person determines that the condition or the practice that caused the issuance of the order has been abated.[35] Whether any particular condition or practice in the coal mine justifies the issuance of such an order is completely within the coal mine

32. 30 U.S.C. § 865(g) (1970). *See also* 30 C.F.R. § 75.512 (1975).

33. *See* 30 U.S.C. §§ 819(b), (c) (1970).

34. Statistics, Office of Assistant Administrator, *supra* note 13. The large number of notices of violation issued by inspectors has itself caused a loss of production. Many notices of violation cite conditions or practices which can be corrected only by stopping production or by taking men away from their production-related activities.

35. 30 U.S.C. §§ 814(a), (b), (c)(1), (c)(2) (1970).

inspector's discretion. Although an operator may obtain administrative review of any closure order issued by a federal coal mine inspector under section 105 of the Act,[36] this review does not provide any real or immediate remedy for the operator. The only relief which an operator can obtain in an application for a review proceeding is to have the closure order vacated because it was improperly or invalidly issued. No relief is available to the coal mine operator for any coal production lost because of the issuance of such order. Hence, whenever an inspector issues a closure order, coal mine operators have little choice but to take whatever action is required to abate the condition. Coal mine operators who have obtained review of closure orders under section 105 have done so to obtain judicial guidance as to those conditions or practices for which a closure order may properly be issued.

Furthermore, the number of inspections of each coal mine has increased drastically since the Act went into effect, and this too has caused a loss of production. Inspectors frequently interrupt coal production activities to inspect equipment and other conditions or to talk to the workers. The mere presence of an inspector undoubtedly impairs the productivity of workers. The high number of inspections has necessitated the hiring by coal companies of additional workers to escort inspectors during their inspections.

IV. The Need for an Improved Mine Safety Law

There is no doubt that the Federal Coal Mine Health and Safety Act of 1969 has failed in its primary objective: to improve mine safety. There is also no doubt that it has resulted in an unnecessary and unjustified reduction in coal production and in worker productivity, and has substantially increased costs. These conclusions do not imply that *more* safety legislation is needed. On the contrary, they indicate that mine safety cannot simply be legislated. Without doubt, some provisions of the Act are beneficial, resulting in improved health and safety conditions in coal mines. These provisions, however, are far outnumbered by others which are of no benefit and which, in fact, are counter-productive at a critical juncture in our nation's efforts to develop and supply increasing amounts of energy.

It is absolutely essential that Congress reconsider this legislation

36. *Id.* § 815.

in view of the industry's experiences during the past six years. It is essential that Congress understand the coal industry's position: that it is not opposed to *reasonable* legislation and regulations which produce *positive* safety results, and that it will work untiringly with government and with the United Mine Workers of America to forge proper legislation.

Proper amendments to the law can only come about through an item-by-item reassessment, excising those provisions which experience has shown do not result in improved health and safety but which instead reduce production and productivity, and retaining those provisions which experience has shown do improve health and safety, regardless of their effect on production and productivity. Amendments to the law must realistically be addressed to the training and motivation of workers, which experience has shown is the best insurance against mining accidents. Strong consideration should be given to making all mineworkers accountable for their actions while engaged in mine work. Beyond the prohibition of smoking in underground mines, miners cannot now be held accountable for their actions which endanger themselves and their fellow miners. The industry firmly believes that an overwhelming percentage of mine accidents is caused by the negligent acts of miners. Accountability of the coal miner for his actions should be contingent upon completion of extensive job and safety training and certification.

In view of the experience of the last six years of enforcement and in light of what the industry believes to be the highly arbitrary actions of inspectors in issuing closure orders, the Federal Coal Mine Health and Safety Act of 1969 must be amended to restrict the authority of inspectors to close a mine when no "imminent danger"[37] can be proven. The Occupational Safety and Health Act of 1970 (OSHA),[38] which regulates the safety of all occupations other than coal mining, requires a court order before a closure notice can be issued.[39] In addition, OSHA inspectors are given discretionary power under which they can issue warnings without actually citing violations.[40] Under the Coal Mine Health and Safety Act, inspectors are required to cite each violation.[41] (It is impossible to operate a

37. *Id.* § 802(j).
38. 29 U.S.C. §§ 651-78 (1970).
39. *Id.* § 662(a).
40. *Id.* § 658(a).
41. 30 U.S.C. §§ 814(b), (c)(2) (1970).

coal mine economically without violations occurring). The result is that mine operators are found in violation and fined, without a showing of fault or negligence, in thousands of situations where the condition may be easily and quickly abated. Federal coal mine inspectors should be granted discretion as to what conditions they cite as violations, and coal operators should not be fined unless they are found to be negligent or at fault for causing a violation.

A greater atmosphere of cooperation between inspectors and mine management must be fostered. Both parties basically are pursuing the same result—improved mine safety. But the manner and method of this pursuit by federal inspectors often is wholly out-of-line with the intent of the Act. Moreover, there is an unnecessary and costly duplication of effort by federal inspectors, who are enforcing the federal Act, and state inspectors, who are responsible for enforcing the state mine safety laws. This constitutes regulatory "overkill" that has seriously impaired production and productivity.

There is much room for improvement in the Federal Coal Mine Health and Safety Act of 1969 and, until proper amendments to the Act are signed into law, the Act will not be the basis for significant improvement in mine safety, nor will the coal industry's prospects for meeting the energy demands of the nation be enhanced.