



**REPORT TO THE HOUSE SUBCOMMITTEE
ON ENERGY AND POWER,
COMMITTEE ON INTERSTATE AND
FOREIGN COMMERCE**

**BY THE COMPTROLLER GENERAL
OF THE UNITED STATES**



**Actions Needed To Improve The Safety
Of Coal Mine Waste Disposal Sites**

The Department of the Interior and the States of Kentucky and West Virginia need to do more to correct hazards of coal waste disposal sites. Interior should

- interpret more broadly its responsibility for regulating abandoned coal waste disposal sites under the Federal Coal Mine Health and Safety Act of 1969,
- take immediate steps to improve its inspection of coal waste disposal sites and enforcement of Federal regulations covering the sites,
- implement Title IV of the Surface Mining Control and Reclamation Act of 1977 in conjunction with the States to identify all hazardous abandoned sites in need of reclamation, and
- effectively communicate the results of its research on coal waste disposal.

GAO believes that the Surface Mining Control and Reclamation Act of 1977, independent of the 1969 Act, gives Interior the authority to periodically inspect abandoned coal waste disposal sites in connection with its reclamation responsibility under the act. Interior does not plan to conduct such periodic inspections because it does not believe it is authorized to do so. If Interior does not conduct safety inspections of abandoned sites, the Congress should clarify Interior's legislative authority to direct Interior to make such inspections.

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COMPTROLLER GENERAL OF THE UNITED STATES

WASHINGTON, D.C. 20548

B-170686

The Honorable John D. Dingell, Chairman
Subcommittee on Energy and Power
Committee on Interstate and
Foreign Commerce
House of Representatives

Dear Mr. Chairman:

This report discusses improvements needed in the Mining Enforcement and Safety Administration's coal mine waste disposal program to make sure that waste sites are safe.

Interior has interpreted the Federal Coal Mine Health and Safety Act of 1969 as limiting its authority to regulate active mine property; it has not regulated abandoned sites. We do not agree with Interior's limited interpretation of the act. The recently enacted Surface Mining Control and Reclamation Act of 1977 deals with the problem of abandoned mines. We believe this act gives Interior the authority to periodically inspect abandoned coal waste disposal sites in connection with its reclamation responsibility under the act. Interior does not plan to conduct such periodic inspections because it does not believe it is authorized to do so. If Interior does not conduct safety inspections of abandoned sites, the Congress should clarify Interior's legislative authority to direct Interior to make such inspections.

This report was prepared in response to a request of July 23, 1976, from the former Chairman, House Subcommittee on Energy Research, Development, and Demonstration (Fossil Fuels); Committee on Science and Technology. The Chairman later requested that the report be directed to you.

Please note that this report contains recommendations to the Secretary of the Interior. As you know, section 236 of the Legislative Reorganization Act of 1970 requires the head of a Federal agency to submit a written statement on actions taken on our recommendations to the House Committee on Government Operations and the Senate Committee on Governmental Affairs not later than 60 days after the date of the report and to the House and Senate Committees on Appropriations with the agency's first request for appropriations made more than 60 days after the date of the report.

B-170686

As arranged with your office, unless you publicly announce its contents earlier, we plan no further distribution of this report until 30 days from the date of the report. At that time, we will send copies to interested parties and make copies available to others upon request.

Sincerely yours,



ACTING Comptroller General
of the United States

COMPTROLLER GENERAL'S REPORT
TO THE HOUSE SUBCOMMITTEE ON
ENERGY AND POWER, COMMITTEE
ON INTERSTATE AND FOREIGN
COMMERCE

ACTIONS NEEDED TO IMPROVE THE
SAFETY OF COAL MINE WASTE
DISPOSAL SITES
Mining Enforcement and Safety
Administration
Bureau of Mines
Department of the Interior

D I G E S T

About 228 million tons of coal waste were created in mining 650 million tons of coal in the United States during 1976. Disposing of such huge quantities of waste material can cause environmental problems depending on how and where the waste is dumped.

Though the conditions of most disposal sites GAO visited have improved, more improvement is needed. Many sites are as much as 40 years old, were abandoned, and should be looked at immediately with an eye for correcting the hazards. (See p. 12.)

Coal mine operators use several methods to dispose of waste. In mountainous areas, a dam can be built, using the waste, across the valley between two mountains. As the height of the dam increases, the hollow behind the dam fills with waste, which may be a mixture of sediment, slurry, or water from the mine. Water may collect behind such dams from surface runoff. Coal waste is also disposed of by dumping it over a mountainside or placing it in large piles.

If not properly constructed and maintained, coal waste dams can be a flood hazard to persons and property in the area. Other waste sites are not normally as dangerous. The Department of the Interior should

- interpret more broadly its statutory responsibility for regulating abandoned sites under the Federal Coal Mine Health and Safety Act of 1969 (see p. 21),
- implement title IV of the Surface Mining Control and Reclamation Act of 1977 in conjunction with the States to identify

all hazardous abandoned sites in need of reclamation (see p. 21),

--take immediate steps to improve its inspection of coal waste disposal sites and enforcement of Federal regulations covering the sites (see pp. 41 and 42), and

--effectively communicate the results of its research on disposing of coal waste (see p. 42).

GAO believes that the Surface Mining Control and Reclamation Act of 1977, independent of the 1969 act, gives Interior the authority to periodically inspect abandoned coal waste disposal sites in connection with its reclamation responsibility under the act. Interior does not plan to conduct such periodic inspections because it does not believe it is authorized to do so. If Interior does not conduct safety inspections of abandoned sites, the Congress should clarify Interior's legislative authority to direct Interior to make such inspections. (See p. 23.)

THE BUFFALO CREEK LESSON

The Buffalo Creek disaster of 1972 emphasized the serious problems of disposing coal mine waste. An improperly constructed and maintained coal waste dam in the southeastern part of West Virginia burst. In bursting, it released a wall of water into Buffalo Creek, completely destroying one town, killing 125 people, and doing untold property damage.

The Corps of Engineers concluded that the disaster could have been prevented if the facilities had been properly designed and constructed and if the structures had been periodically inspected to make sure they were built and operated according to standard engineering practices. (See p. 7.)

Following the Buffalo Creek disaster, the Congress enacted the National Dam Inspection Act of 1972. This act, which applies to all dams above a stipulated size, was

never fully implemented because the Corps of Engineers, on the advice of the Office of Management and Budget, contended that much of the responsibility placed on it by the act was the States'. (See p. 10.)

A Senate Committee directed the Corps of Engineers to identify and inspect hazardous waste disposal structures other than that which burst at Buffalo Creek. The Corps inspected 687 structures in 11 States and reported that 230 were in some way dangerous to people or property nearby. Of the 230, 30 were critically hazardous; all were located in West Virginia and Kentucky. Some hazards have not been corrected. (See pp. 7 and 24.)

Public hearings following the disaster disclosed the need for more restrictive Federal regulations on coal waste disposal. New and more restrictive regulations were later issued by Interior, but they have not been effectively implemented. (See pp. 7 and 24.)

ABANDONED COAL WASTE DISPOSAL SITES

Because Interior has interpreted the Coal Mine Health and Safety Act of 1969 as limiting its authority to regulating active mine property, it has not regulated abandoned sites. GAO does not agree with Interior's interpretation. Interior can and should regulate all coal waste sites, including those which are abandoned, for the protection of all persons and property nearby. (See p. 12.)

State officials of Kentucky and West Virginia said that, while they can regulate certain abandoned coal waste sites, they do not have enough resources to deal effectively with known problems. (See p. 20.)

GAO recognizes that the Surface Mining Control and Reclamation Act authorizes a program to reclaim hazardous abandoned mine sites. GAO believes the act authorizes Interior to conduct periodic safety inspections at abandoned sites to carry out the

reclamation program authorized by title IV. It is also GAO's view that Interior has responsibility to conduct periodic safety inspections of abandoned sites under the 1969 coal act. Therefore, Interior should initiate, in cooperation with the States, a program to make sure that all abandoned sites are routinely monitored so that all hazardous sites are identified and appropriate actions are taken.

ACTIVE COAL WASTE DISPOSAL SITES

Interior issued new coal waste regulations in November 1975. These should help. However, Interior needs to carry out its program better, to make sure that active sites are safe. (See p. 41.)

Required inspections were not made in certain instances; some inspections were not effective, because they were not made by qualified personnel; the penalty system for guaranteeing compliance with Federal regulations was not administered effectively; and results of research on coal waste disposal were not being sent regularly to interested coal mine operators. (See p. 41.)

Interior needs to take immediate and positive steps to improve its inspections of coal waste disposal sites. (See pp. 41 and 42.)

AGENCY COMMENTS AND GAO EVALUATION

Interior agreed with some of the report's findings and has taken action to carry out most of GAO's recommendations. The Department emphasized, however, that although it recognized the need for improvements at many waste disposal sites, the sites withstood the severe April 1977 flooding in West Virginia and Kentucky. It stated that considerable progress has been made in recent years in eliminating hazardous conditions. (See pp. 42 and 43.)

Interior's only major disagreement concerned its authority to regulate the safety of abandoned sites. It believes such sites

do not fall into its jurisdiction under the 1969 act and, accordingly, cannot implement GAO's recommendations. (See pp. 22 and 23.)

GAO recognizes that improvements have been made to many waste disposal sites, but more improvements are needed. GAO believes Interior could further improve the safety of abandoned waste disposal sites by adopting GAO's broader interpretation of the 1969 coal act, and implementing the 1977 surface mining act by conducting periodic safety inspections of abandoned sites to carry out its title IV reclamation responsibilities. If Interior does not carry out its responsibilities in a manner consistent with GAO's recommendations, the Congress should clarify Interior's legislative authority to direct Interior to make such inspections. (See p. 23.)

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ABBREVIATIONS

GAO	General Accounting Office
MESA	Mining Enforcement and Safety Administration

CHAPTER 1

INTRODUCTION

This report was prepared in response to a July 23, 1976, request from the former Chairman, House Subcommittee on Energy Research, Development, and Demonstration (Fossil Fuels); Committee on Science and Technology. The Chairman requested that we review the content and application of the Department of the Interior's regulations covering coal mine waste disposal where such disposal results in the creation of water impoundments. The Chairman later requested that the report be directed to the Chairman, House Subcommittee on Energy and Power, Committee on Interstate and Foreign Commerce. (See apps. I and II.)

DISPOSING OF COAL WASTE

About 228 million tons of coal waste were created in the United States during 1976 in mining 650 million tons of coal. Disposing of such huge quantities of waste material can cause a variety of environmental problems depending on how and where the waste is dumped.

Coal mine operators use several methods to dispose of waste. Using the waste, a dam can be built in mountainous areas across the valley between two mountains. As the height of the dam increases, the hollow behind the dam is also filled with waste which may be a mixture of sediment, slurry, or water from the mine. Water may also collect behind such dams from surface runoff. Coal waste has also been disposed of by dumping it over a mountainside or placing it in large piles.

If not properly constructed and maintained, coal waste sites that impound considerable amounts of water can be a flood hazard to persons and property in the area. Coal waste sites that do not impound water are not normally as dangerous. (See photos, pp. 3 and 4.)

Some of the conditions which cause coal waste sites to be hazardous include self-ignited burning, water seepage, erosion, inadequate diversion facilities, improper foundations, improper compaction, and slopes that are too steep. These conditions result in the following problems:

- Self-ignited burning causes an unstable structure because of voids due to cave-ins as the burning progresses.

- Seepage that is not controlled could erode the structure wherever the seepage occurs.
- Erosion results in major sliding and reduces stability.
- Diversion facilities are needed to control the water level by diverting runoff around the structure or through the structure in proper drainage pipes.
- Foundations that are not properly excavated cause instability because coal waste cannot be properly compacted around tree stumps, large rocks, or other types of vegetation and debris.
- Compaction of coal waste to a proper density decreases the possibility of fires caused by internal combustion, and slopes that are in excess of 27 degrees can cause sliding.

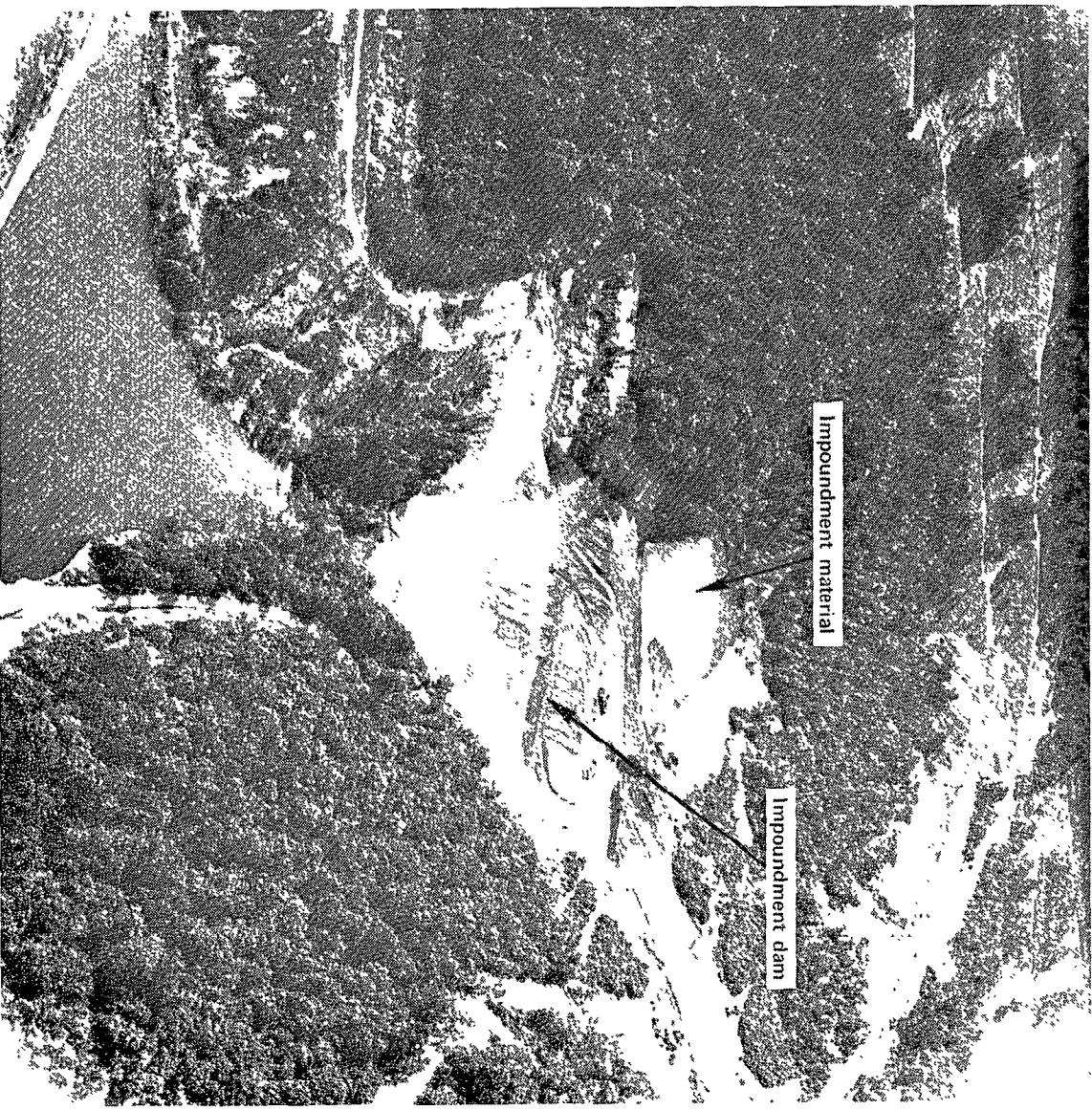
The Department of the Interior's Mining Enforcement and Safety Administration (MESA) has estimated that there are several thousand coal waste sites throughout the United States. The great majority of these are concentrated in the Appalachian Region. Most of these sites are on abandoned mining property.

MESA stated that there are 517 sites on active mining property which impound water in an amount classifying them as impoundments on MESA's records. Of these, 210 have MESA-approved engineering and design plans. MESA could not make an estimate as to the number of impoundments on abandoned mining property. According to MESA's regulations, to be classified as an impoundment, the coal waste site must

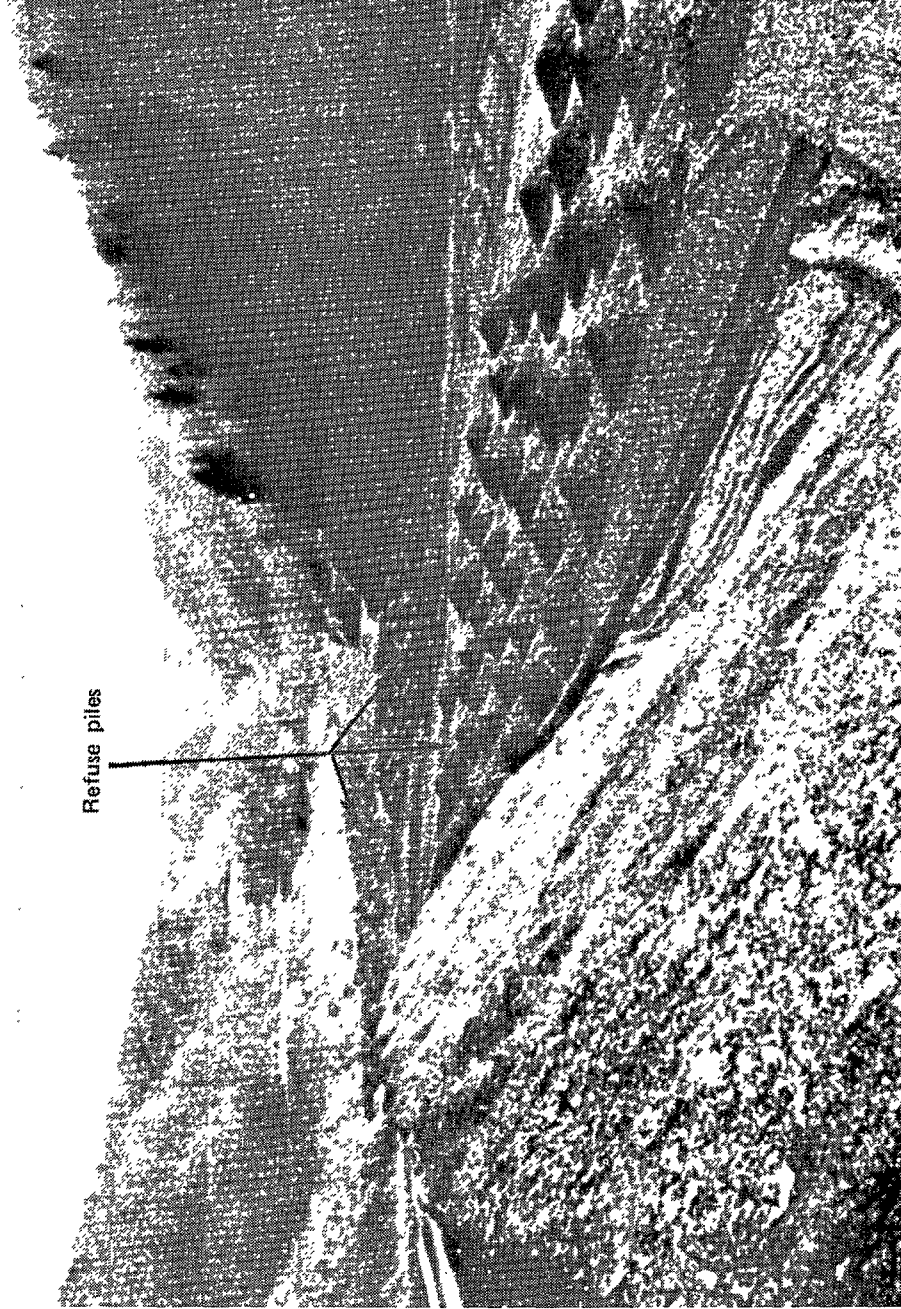
- impound water, sediment, or slurry to a depth of 5 feet or more above the upstream toe of the structure with a storage capacity of 20 acre-feet or more,
- be 20 feet or more in depth, or
- present a hazard to miners.

THE FEDERAL COAL MINE HEALTH AND SAFETY ACT OF 1969 AND IMPLEMENTING REGULATIONS ON COAL WASTE DISPOSAL

The Federal Coal Mine Health and Safety Act of 1969 (30 U.S.C. 801 (1970)) was enacted to promote health and



EXAMPLE OF IMPOUNDMENT
(PHOTOGRAPH COURTESY OF MESA)



Refuse piles

EXAMPLES OF REFUSE PILES

(PHOTOGRAPH COURTESY OF MESA)

safety in connection with coal mining operations. While the act did not specifically address coal waste disposal procedures, it directed the Secretary of the Interior to promulgate regulations covering a wide range of matters affecting health and safety in coal mining.

Interior's initial regulations (revised in 1975) on coal waste disposal were issued by the Bureau of Mines in July 1971. They were very general and provided that

- refuse piles should be located a safe distance from surface installations,
- measures were to be taken to prevent fires in refuse piles and to extinguish fires after they start,
- refuse piles should not be constructed so as to impound water or impede drainage,
- measures should be taken to prevent erosion and accidental sliding and shifting of materials, and
- impoundments should be of substantial construction and inspected at least once each week.

In May 1973 MESA was created as an agency within the Department of the Interior and since that date has been directly responsible for implementing and enforcing the provisions of the 1969 act. MESA assumed these responsibilities from the Bureau of Mines.

MESA has established 10 geographical districts and 14 subdistricts. Each district is headed by a district manager, and technical assistance is provided by Technical Support Centers located in Denver, Colo., and Pittsburgh, Pa. The ten districts have jurisdiction over about 3,600 coal mines. For fiscal years 1976 and 1977, the Congress appropriated \$67 million and \$74 million, respectively, for MESA to administer coal mine health and safety programs.

MESA requires its inspectors, as part of their inspections, to (1) fill out inspection reports on all sites visited, (2) note any problems indicated and discuss them with company officials, and (3) take appropriate action if the problem is not corrected. In addition, the inspectors are to be familiar with design and engineering plans for each site and make sure that those plans are followed.

Penalty assessment and collection

MESA's Office of Assessments assesses civil penalties up to \$10,000 per violation on operators who violate the requirements of the 1969 act. Under its current procedures, MESA levies penalties in accordance with an assessment formula which considers the operator's

- history of previous violations,
- size,
- degree of negligence,
- ability to continue in business,
- gravity, and
- demonstrated good faith in attempting to correct the violation.

The Office of Assessments notifies the operator of the assessment and gives him an opportunity to discuss the findings with a conference officer and/or pay the penalty. If the mine operator does not pay the penalty by a designated time, the case is referred to Interior's Office of the Solicitor which files a petition for enforcement with Interior's Office of Hearings and Appeals which conducts evidentiary hearings. Mine operators can appeal the Office of Hearings and Appeals' decision to the Board of Mine Operations Appeals. If the fine is still not paid, the Solicitor refers the case to the Department of Justice for collection. If a mine operator does not respond to MESA's initial order of assessment, the case is referred directly to the Department of Justice for collection.

Prior reports on penalty administration

We have issued three reports to the Congress during the past 5 years which were critical of various aspects of Interior's penalty assessment and collection policies and procedures for coal mining operations. Two of these reports (B-170686, July 5, 1972, and B-170686, Oct. 31, 1973) were prepared for the Conservation and Natural Resources Subcommittee of the House Committee on Government Operations. The third report (RED-76-56, Dec. 31, 1975) was directed to the entire Congress.

BUFFALO CREEK DISASTER AND ITS AFTERMATH

On February 26, 1972, 18 months after its initial regulations were implemented, a coal waste dam in the southeastern part of West Virginia burst, releasing a wall of impounded water into Buffalo Creek which went rushing downstream. One town was completely destroyed, 125 people were killed, and untold property damage occurred. The disaster emphasized the serious problems involved in disposing of coal mine waste.

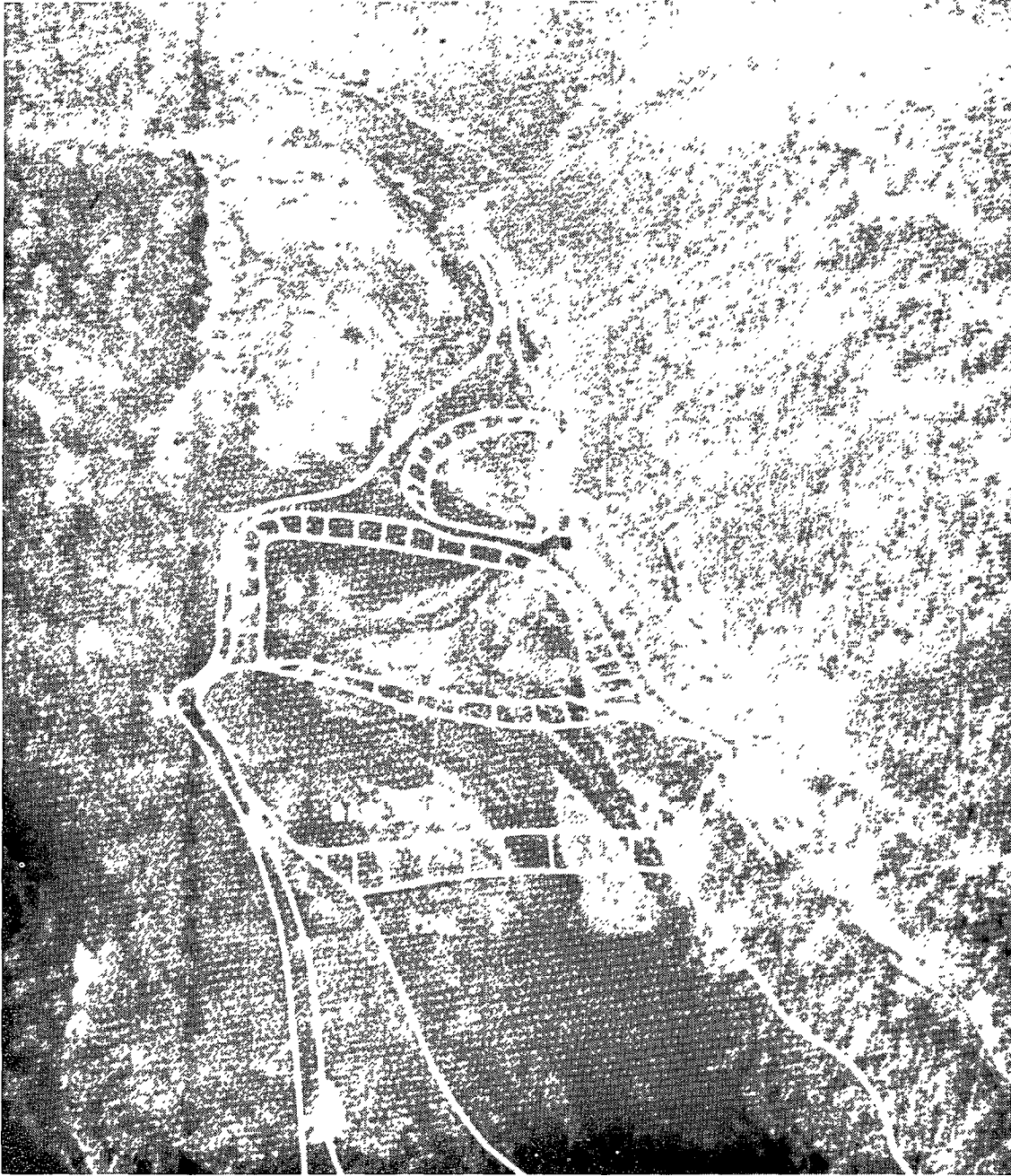
This disaster caused the Congress to question whether other hazardous waste disposal structures existed. The U.S. Army Corps of Engineers was requested by the Senate Committee on Public Works to identify other hazardous structures. The Corps inspected 687 coal waste structures in 11 States and reported that 230 offered some degree of danger to persons or property nearby. Of the 230 hazardous structures, 30 were classified as severely hazardous and were all located in West Virginia and Kentucky.

According to the Corps of Engineers, the structures which failed at Buffalo Creek were not constructed in accordance with standard or sound engineering practices. The complete impoundment consisted of three dams, the last two built without a solid foundation. Apparently, the water pressure undermined the last two dams causing the first dam to give way under the extreme pressure of the onslaught of the water. The Corps concluded that the Buffalo Creek disaster could have been prevented through proper design and construction of the facilities and through periodic inspections to make sure that the structures were built and operated in accordance with standard engineering practices. (See photos, pp. 8 and 9.)

Revised regulations

Public hearings held by the Senate Subcommittee on Labor, Committee on Labor and Public Welfare, in May 1972 to determine the actions necessary to prevent future disasters disclosed a need for more restrictive regulations covering the construction of coal waste structures and for enforcement of regulations.

Proposed regulations were drafted by MESA and a public hearing was held to give interested parties the opportunity to comment on their adequacy. Representatives from Government agencies, coal operators associations, mine worker unions, manufacturers, and consultant firms were present. In addition, comments were requested by Interior from the



**AERIAL VIEW OF MIDDLE FORK VALLEY, LOOKING DOWNSTREAM. THE
PREFAILURE OUTLINES OF THE DAMS AND POOLS HAVE BEEN ADDED.
PHOTOGRAPH TAKEN FEBRUARY 28, 1972.**

(PHOTOGRAPH COURTESY OF WEST VIRGINIA DEPARTMENT OF HIGHWAYS)



EXAMPLE OF DAMAGE CAUSED BY BUFFALO CREEK DISASTER
(PHOTOGRAPH COURTESY OF MESA)

Corps of Engineers, Geological Survey, and the Soil Conservation Service. Appropriate comments were reflected in the revised regulations. Later, on November 1, 1975, new regulations were issued which became effective May 1, 1976, and contained requirements on construction, maintenance, and abandonment of coal waste structures. These regulations were much more restrictive and specific than those originally issued.

National Dam Inspection Act of 1972

The Congress enacted the National Dam Inspection Act of 1972 (P.L. 92-367) following the Buffalo Creek disaster. This act, which has never been fully implemented, called for a broad scope national effort to identify and inspect all dams above a certain size (including mine waste impoundments) and point the way for appropriate safety measures. The Corps of Engineers has contended, on the advice of the Office of Management and Budget, that much of the responsibility placed on it by this act is State responsibility, and that funding has never been requested to fully implement the act. (See our report entitled "Slow Progress in Developing and Implementing a National Dam Safety Program," CED-77-94, June 29, 1977.)

Recently enacted legislation

The Surface Mining Control and Reclamation Act of 1977, P.L. 95-87 (91 Stat. 445) was enacted on August 3, 1977. This act is designed in part, to clearly authorize Federal action to help alleviate the hazards of abandoned sites by providing reclamation funds.

SCOPE OF REVIEW

Our work was done principally within the MESA district area headquarters in Mt. Hope, W. Va., and Pikeville, Ky. We also visited MESA's Technical Support Center in Denver, Colo.; the assessment center in Wilkes-Barre, Pa.; conference offices in Charleston, W. Va., and Bristol, Va.; MESA Headquarters in Arlington, Va.; and the Department of the Interior headquarters in Washington, D.C.

In carrying out our work, we

--reviewed the legislative history of the Federal Coal Mine Health and Safety Act of 1969 and the regulations and procedures issued pursuant to this act;

- inspected 37 active coal waste disposal sites--19 in MESA's Mt. Hope, W. Va., District and 18 in its Pikeville, Ky., District;
- inspected five abandoned coal waste disposal sites--two in MESA's Mt. Hope, W. Va., District and three in its Pikeville, Ky., District;
- interviewed Interior and MESA officials, coal mine operators, and private citizens;
- examined pertinent documents, reports, records, and files at the various offices; and
- reviewed selected assessments relating to coal waste sites in the Mt. Hope and Pikeville Districts.

Because of the technical knowledge necessary to make inspections at coal waste sites, we assembled two multi-agency teams. Each team consisted of a representative from the U.S. Army Corps of Engineers, the U.S. Soil Conservation Service, the concerned State Department of Natural Resources (West Virginia or Kentucky), and at least two of our staff members. Additionally, at least one MESA representative accompanied us to each site and assisted in a technical capacity. The current condition of coal waste sites as discussed in this report is based on the results of the team inspections made from October 7 through 28, 1976, and discussions with MESA personnel. The classifications of the sites in appendixes III and IV were made by the inter-agency team, in accordance with established MESA classification criteria. We also discussed our findings with mining company representatives.

In accordance with the Committee's request, we did not review the implementation and enforcement of health standards or any safety requirements other than those for coal mine impoundments and piles.

CHAPTER 2

ABANDONED COAL WASTE DISPOSAL SITES

An undetermined number of coal waste disposal sites on abandoned mining property are a potential threat to the safety of persons and property in the vicinity. They are deteriorating as a result of not being maintained and, where they form a dam and impound considerable amounts of water, they can represent a particularly serious flood hazard. Some of these sites require immediate attention.

Because the Department of the Interior has interpreted the Federal Coal Mine Health and Safety Act of 1969 as limiting MESA's authority to regulate active mine property, coal waste sites located on abandoned property have not been included in MESA's mine waste regulatory program. MESA officials told us that there were at least 1,000 abandoned coal waste sites in their Mt. Hope and Pikeville Districts ^{1/} where our review was concentrated. They could make no estimate of how many of these sites impounded considerable amounts of water.

We do not agree with Interior's limited interpretation of its responsibilities under the 1969 act. We believe MESA can and should regulate all coal waste sites, including those which are abandoned, for the protection of all persons and property nearby.

CONDITION OF ABANDONED SITES

In order to gain firsthand knowledge of problems associated with abandoned coal waste sites, we selected five large sites to be inspected--three within MESA's Pikeville District and two within its Mt. Hope District. The selection was made with the advice and assistance of MESA officials. Detailed inspection of the sites was made by an interagency evaluation team which consisted of experts from the Corps of Engineers, Soil Conservation Service, MESA, and the two respective States.

The interagency team found that all five sites were potentially hazardous. They noted such problems as excessive erosion, burning, seepage, overly steep slopes, and a lack of diversion ditches to discharge impounded water. A listing

^{1/}MESA's Mt. Hope District covers 21 counties in southeastern West Virginia; the Pikeville District covers 17 counties in eastern Kentucky.

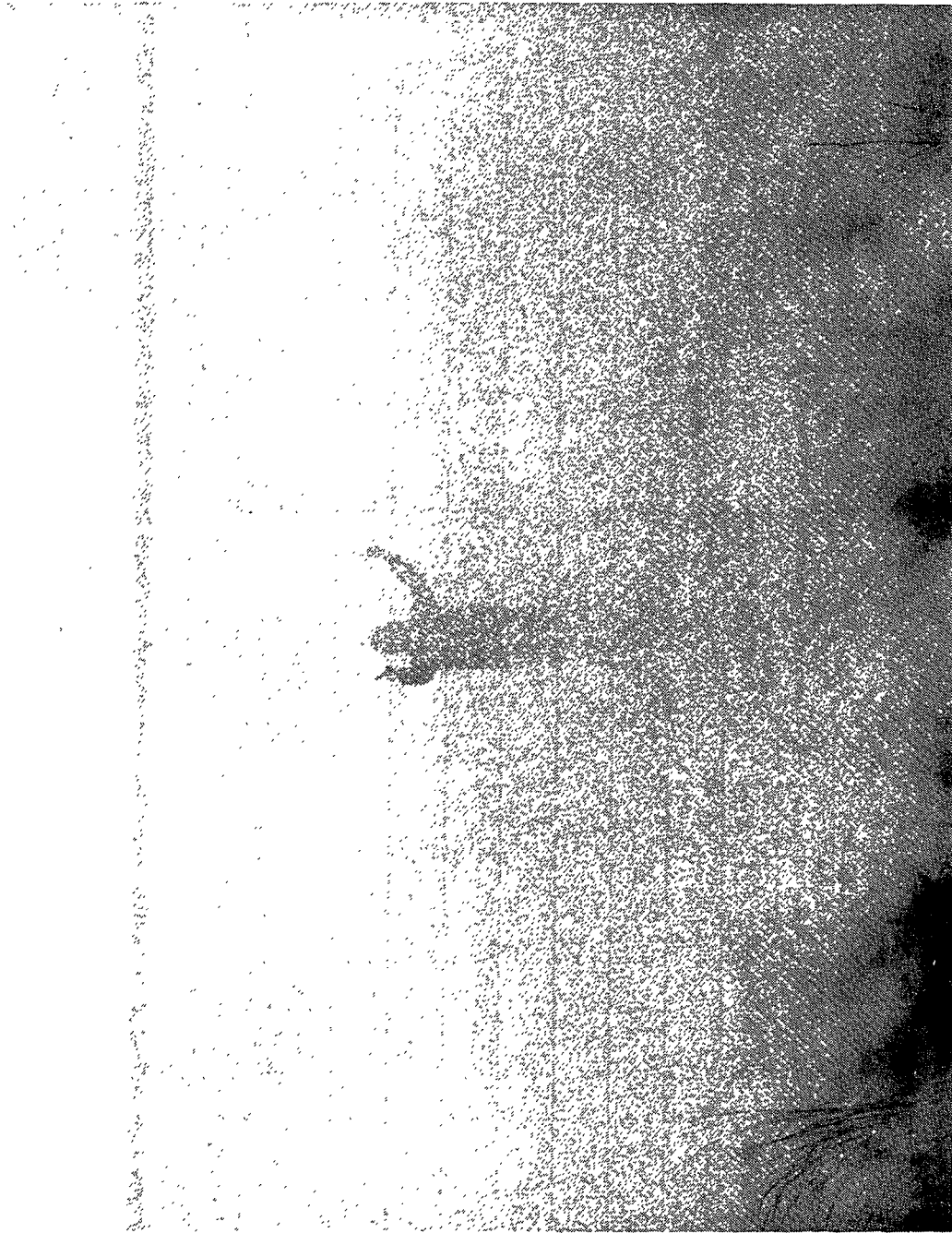
of the five sites we visited, their location, and condition based on MESA's classification criteria is presented in appendix III, pages 47 and 48.

One of the five sites we visited, which was abandoned in 1967, illustrates the problems associated with abandoned sites. This abandoned impoundment was inspected by the Corps of Engineers in 1972 and classified as a potential hazard. There was a drainage area above the structure and a small town 1 mile downstream. The Corps had reported that failure of the impoundment would cause severe damage and probable loss of life downstream. To alleviate the potential danger, the Corps stated in its report that an adequately designed and engineered channel should be excavated through or around the structure to prevent ponding of water.

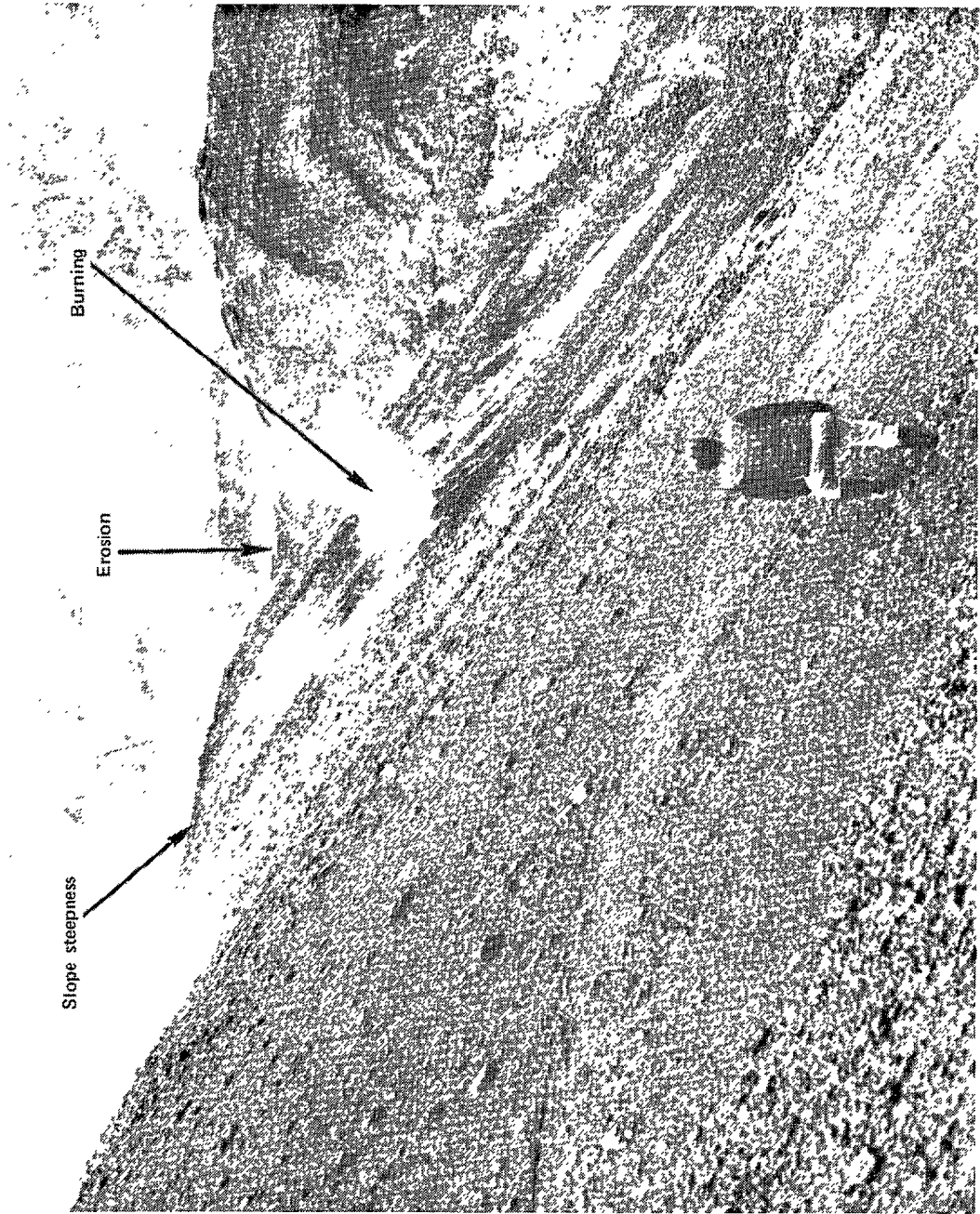
The team's inspection of the structure disclosed that no corrective action had been taken and that the structure had continued to deteriorate. The interagency team thought it was now severely dangerous with a high potential for loss of life. The team also noted extensive and uncontrolled burning, cracks, vertical settlement, embankment failure, oversteep slopes, and major erosion. The pictures on the following pages were taken during the inspection.

A resident, who lived about 1 mile downstream, told us that most of the area's residents lived in a constant state of fear. She said smoke from the burning structure was so thick at times that driving was hazardous and the gaseous odors were extremely nauseating. In October 1976, 147 families who live in the area submitted a petition to the Governor of West Virginia. The purpose of the petition was to inform the Governor of their concern and to request that immediate action be taken to alleviate the threat to life and property.

We discussed the team's observations on this site and the other four abandoned sites visited with appropriate officials of West Virginia and Kentucky. The officials said that in most cases they have been unable to force mine operators and/or property owners to make needed corrections because they (1) live in another State, (2) are no longer in the mining business, and/or (3) do not have the funds necessary to make the corrections. They said that the site we described above is a good example of problems the States have had in getting corrective action on abandoned sites. They said that on November 28, 1975, the State ordered that corrective action be taken on this site. As of March 16, 1977, the ordered action had not been taken. State officials said that the owner is no longer a resident of the State, and that they have been unsuccessful in getting action.



SMOKE FROM BURNING COAL WASTE DISPOSAL SITE



OTHER PROBLEMS NOTED AT COAL WASTE DISPOSAL SITE

AUTHORITY TO REGULATE ABANDONED SITES

Interior interprets the 1969 act as authorizing the promulgation of regulations to protect only coal miners on active coal mine property. As a result, abandoned coal waste sites on property that is not being actively mined are not subject to regulation under the 1969 act, according to the Secretary of the Interior. We believe that while Interior's interpretation is not clearly wrong, a better view is that the act requires regulation for the protection of all persons, on and off mine sites, subject to hazards of the mine similar to which miners are subject.

Interior, pursuant to section 101 of the act, held public hearings and issued findings before finally promulgating regulations covering waste disposal sites. One of the issues which Interior asked interested parties to comment on was whether the regulations should specifically state that they cover only refuse piles and impoundments affecting coal miners on coal mine property.

Testimony given at the hearings differed on this point. Generally, mine operators urged a restrictive interpretation, while miners, their organizations, and concerned citizen groups urged a broader interpretation. The Secretary resolved this issue by stipulating in the regulations later issued that

"The Federal Coal Mine Health and Safety Act of 1969 limits the authority of the Secretary to the promulgation of regulations protecting coal miners on coal mine property, and such limitation is implicit in all the regulations."

The effect of this interpretation is that MESA is without authority to inspect abandoned structures because they are not on active mine property, and miners are not in danger.

We believe that, while the Secretary is not clearly wrong, there is a reasonable basis to interpret the act as authorizing regulation of abandoned structures on abandoned mines to protect all persons, no matter where they are situated, from the hazards posed by a potentially dangerous impoundment. Such an interpretation, disregarding geographic limitation, is desirable since it reflects the congressional findings and declaration of purpose of the act, particularly the declarations that practices in the mines caused grief and suffering to coal miners and their families. There is an urgent need to improve these practices to prevent death and injuries.

Section 101(a), under which the safety standards of the act are promulgated, does not use either the term "person" or "miner" in delineating who is supposed to be protected by the standards authorized therein, but uses the general term life. In interpreting the act to apply only to coal miners on mine property the Secretary in effect has defined "life" when it is used in section 101(a) as "the life of a coal miner." The Congress was careful to define and to use the term miner throughout the act, and we believe it is significant that such term was not used in section 101(a). Life is a broad term, which certainly includes miners as well as other living beings and, unlike the term miner, does not connote a particular geographic presence. Its use indicates to us the possibility of a flexible interpretation of the protection the section is designed to foster, an interpretation unbounded by geographic limitation; just as the term life (as opposed to miner) does not connote geographic limitation.

Therefore, we believe that section 101(a) could reasonably be read as directing the Secretary to promulgate "* * * improved safety standards (in a coal mine) for the protection of life and the prevention of injuries* * *" rather than as it is actually stated:

"* * * improved mandatory safety standards for the protection of life and the prevention of injuries in a coal mine.* * *"

This would be consistent with the use of life in the section and follows the strong judicial and legislative prescriptions that where an act, such as this one, is primarily concerned with protecting human life, it should be liberally interpreted.

A view similar to ours was expressed in a hearing held after the Buffalo Creek disaster. During these hearings Senator Williams, the Senate sponsor of the 1969 Federal Coal Mine Health and Safety Act, expressed the following belief of the Committee on Labor and Public Welfare, which initially considered the act, that its protection was not limited to coal mine property.

"* * * I want to say for the record that we have received the Interior Department's testimony before the House Interior Committee (explaining the 'miners on mine property' interpretation) and found it to be a long, legalistic argument

questioning your own jurisdiction under the Coal Mine Health and Safety Act. I suggest that in view of all that we know out of these hearings, and that we knew before, I do not believe we need to argue jurisdiction here.

"It is our feeling that jurisdiction (to protect the general public) does reside with the Bureau of Mines (the enforcers of the Act). The law was written here by this committee and the jurisdiction we feel was given to the Bureau." (Emphasis added.)

We read such evidence as indicating that discretion exists in this area and that our broader interpretation is allowable.

We have concluded that the act should be read to afford protection to all persons subject to hazard from the mines, no matter where situated. Thus, the absence of miners on mine property does not bar regulation of abandoned structures; they are subject to regulation as long as they pose a hazard to persons in their vicinity. However, we must answer the question whether an abandoned mine affects commerce, as required by the act.

The Congress intended to exercise authority over coal mine health and safety through the act under the "interstate commerce clause" of the constitution to the maximum extent possible. Secretary of the Interior v. Shingara 418 F Supp. 693 (M. D. Pa. 1976).

Coal mine, as defined in section 3(h) of the act includes

"an area of land and all structures* * * placed upon * * * such land by any person, used in, or to be used in, or resulting from, the work of extracting* * * coal* * * from its natural deposits in the earth* * *." (Emphasis added.)

This definition includes structures resulting from the mining of coal. Clearly, abandoned impoundments fall within the act's definition of a coal mine. This refuse is just as much a product of the mine as the coal itself. The impoundment is covered by the act because it results from mining operations in interstate commerce. We believe that generally the effect of an impoundment, even one that is abandoned, would be sufficient to allow application of the act. The disruption to commerce caused by an impoundment

failure leads to the conclusion that even abandoned impoundments affect commerce and thus may be regulated under the act.

The President recently signed into law the Surface Mining Control and Reclamation Act of 1977 P.L. 95-87 (91 Stat. 445) that deals in part with the problem of abandoned mine sites. The act clearly establishes authority for Federal and cooperative State-Federal action to reclaim hazardous abandoned mine sites. The act is not designed to supersede or conflict with authority under the 1969 act. It does recognize the limited implementation by Interior of the 1969 act and we believe authorizes Interior to routinely determine the degree of hazard posed by abandoned waste sites.

The Secretary of the Interior presently has the principal responsibility for administering both acts. The Surface Mining Control and Reclamation Act directs the President where appropriate, to insure coordination between the new law and the 1969 act. Interior has interpreted the 1969 act so as not to include abandoned sites. We were told by a Department official that under the new law it is still not authorized to perform, and will not perform, routine safety inspections at abandoned sites. If Interior does not conduct safety inspections of the abandoned sites under existing legislation, the Congress should clarify Interior's legislative authority to direct Interior to make such inspections.

We believe that a gap exists in the regulatory scheme as implemented by the Department. No Federal agency routinely inspects the safety of abandoned sites. We believe appropriate action to alleviate this situation can be taken administratively. The Congress should consider remedial action if Interior does not do so on its own.

Control of abandoned sites under MESA's 1975 regulations

Under its current regulations covering active coal waste sites, MESA requires operators to prepare a plan and make all needed corrections to hazardous sites before they are abandoned. Abandonment plans which describe in detail the corrections to be made must be submitted by operators and approved by MESA for all impoundments and hazardous refuse piles. At the time of our review, in October 1976, Mt. Hope and Pikeville officials estimated that 29 plans had been

submitted and approved since the issuance of the 1975 regulations. They said that no coal waste sites had been abandoned under the new regulations because none of the operators had completed all of the actions required to make the structures safe and eligible for abandonment. MESA officials said that if the operators did not comply with approved plans, they would be subject to MESA's regular penalty process.

Under MESA's current regulations, abandonment is permitted only after a site has had all corrections made in accordance with the approved abandonment plan. Coal operators who simply stop using sites without submitting abandonment plans and making corrections are still under MESA's jurisdiction. These types of sites are termed "inactive." MESA is currently inspecting these inactive sites and issuing violation notices much the same as for sites being actively used.

Although MESA's current regulations covering abandonments may help make sure that future abandoned sites are safe when they are abandoned, coal waste sites can deteriorate and become unsafe if they are not continuously monitored and maintained. Thus, MESA's regulations covering active sites can serve to discharge coal operators from future responsibility for the safety of their sites once they have satisfied MESA's abandonment requirements.

STATE PROBLEMS IN REGULATING ABANDONED SITES

Officials of both West Virginia and Kentucky told us that their States have laws authorizing funds to correct hazardous structures in emergency situations. They said further, however, that even though many such hazardous structures exist today in both States, they have been unsuccessful in obtaining any State funds, including funds to correct the site previously discussed.

They said that they are not aware of any Federal programs which could be used to fund needed improvements on such hazardous abandoned structures. As discussed above, however, legislation was recently enacted to clearly authorize such a program.

According to MESA officials, at least six States have legislation giving them the authority to regulate coal waste sites within their boundaries--including abandoned sites not under MESA's control. They said that regulation frequently does not take place because of the lack of State funds for monitoring and/or correcting problems. They added that

it is difficult to obtain funds from the mine operator and/or property owner to make the needed corrections.

Officials of West Virginia told us that they have only 11 technical personnel to monitor coal waste sites and that they need an additional 12 to adequately fulfill their responsibilities. They also said that the lack of resources and personnel has hindered the regular, periodic inspection program to such an extent that inspections are concentrated on the worst active sites in the State.

In Kentucky we were told that only six technical personnel were assigned to monitor and inspect coal waste sites (active and abandoned) and that the State had provided funding of only \$120,000 for fiscal year 1977 for this work. One top official told us that about \$1 million would be needed to effectively operate the program.

Officials of both Kentucky and West Virginia told us that because of the lack of both inspectors and funds they have been able to inspect many abandoned sites only once every 2 or 3 years. Of the five sites we visited which were potentially hazardous, only one site had been inspected by the State during the past year.

CONCLUSIONS

The hazards of abandoned coal waste sites to human life and property need the attention of MESA and the States of Kentucky and West Virginia. If present conditions are allowed to deteriorate, the hazards of these sites will become increasingly more serious.

Implementation of our recommendations which follow--in coordination with the implementation of the recently enacted legislation--should help improve the safety conditions of these sites.

RECOMMENDATIONS TO THE SECRETARY OF THE INTERIOR

We recommend that the Secretary of the Interior adopt a broader interpretation of the Federal Coal Mine Health and Safety Act of 1969 and implement existing legislation in cooperation with the States, to provide for the regulation, including safety inspections of abandoned coal waste sites.

We recommend further that the Secretary direct the Administrator of MESA to work with officials of the newly created Office of Surface Mining Reclamation and Enforcement to identify without further delay abandoned coal waste sites,

inspect them, and initiate appropriate action in cooperation with the States to secure the safety of these sites.

AGENCY COMMENTS AND OUR EVALUATION

The Department of the Interior disagreed with our position that section 101(a) of the Federal Coal Mine Health and Safety Act of 1969 (1) authorizes MESA to promulgate regulations "for the protection of life" rather than just the lives of "miners" and (2) authorizes the regulation of abandoned sites. They stated that section 101(a) provides that the Secretary shall promulgate improved mandatory safety standards for the protection of life and the prevention of injuries in a coal mine.

Interior also stated that it does not believe that the Secretary has the authority to regulate abandoned coal waste sites because such sites do not fall within MESA's jurisdiction of section 4 of the act which provides:

"Each coal mine, the products of which enter commerce, or the operations or products which affect commerce, and each operator of such mine, and every miner in such mine shall be subject to the provisions of this Act."

They added that if a mine is abandoned, there are no products of the mine which enter commerce; there are no operations or products of the mine which can affect commerce; there is no longer an operator of a mine; and there are no longer any miners in a coal mine. Our positions on these matters are explained on pages 16 through 19 of this report.

Interior further stated that the Congress recognizes lack of jurisdiction over abandoned sites by stating as an objective of the "Abandoned Mine Reclamation Fund" in the then pending Surface Mining Control and Reclamation Act of 1977 to be "the protection of health or safety to the public." The Congress does expressly recognize "the protection of health or safety to the public" in the legislation dealing primarily with surface (strip) mining controls. However, the need for this degree of particularity, and the relation between the proposal and the act is explained in House Report 95-218, 95th Congress, 1st Session 141 (1977), accompanying House bill 2, the strip mining proposal:

"Under the Coal Mine Health and Safety Act of 1969, as amended, the Secretary of the Interior regulates certain health and safety aspects of both surface mines and surface activities of underground mines.

"The implementation of this act, though, has been directed at the protection of the miner while on the site of the mining operation." (Emphasis added.)

This observation confirms our view that a broader interpretation of existing law is possible (coal waste impoundments are "surface activities of underground mines"), especially regarding the areas where we urge the Secretary to reevaluate his position. The new legislation recognizes the need for coordination among agencies regulating mining operations to make sure of maximum safety at all sites, active and abandoned.

STATE COMMENTS

Kentucky concurred with our recommendations. It emphasized, however, that progress has been made in recent years in the safety condition of impoundments. Although West Virginia did not comment on our recommendations, it stated that the biggest problem with some of the abandoned sites is determining liability and that the time involved could be better spent correcting hazards if a program were adequately funded.

RECOMMENDATION TO THE CONGRESS

The Secretary of the Interior has not taken action to regulate the safety of abandoned waste sites through inspections and, apparently, on the basis of Interior's comments on our recommendations, does not plan to take such action under the 1969 act. We have been advised that the Secretary does not intend to conduct routine safety inspections of abandoned sites under the new law either. We believe the new act authorizes Interior to conduct such routine safety inspections. We recommend that if Interior does not begin such routine inspections of abandoned sites, the Congress should clarify Interior's legislative authority to direct Interior to make such inspections.

CHAPTER 3

ACTIVE COAL WASTE DISPOSAL SITES

Progress has been made in reducing the hazardous conditions of most of the active coal waste sites we visited, but many need more improvements.

Based on our review of Mining Enforcement and Safety Administration's regulations and on our discussions of their content with various Federal, State, and local officials; coal operators; and union officials; we believe the more stringent and definitive regulations on coal waste disposal practices which MESA developed following the Buffalo Creek disaster are generally adequate, except that they do not cover abandoned sites. MESA's administration of these regulations, however, needs to be improved to provide maximum assurance that all hazardous conditions are corrected and active sites are safe. MESA needs to

- make certain that all required waste disposal site inspections are made,
- use better qualified persons to inspect disposal sites to make certain that all deficiencies are noted,
- improve its penalty process so that known violations are expeditiously corrected and the amounts of penalties are enough to deter future noncompliance, and
- cooperate with the Bureau of Mines to make certain that useful research results are provided to operators for their use.

CONDITION OF ACTIVE SITES

Our interagency evaluation team inspected 37 selected active coal waste disposal sites out of 382 in MESA's Mt. Hope and Pikeville Districts and found that 19, or 51 percent, were potentially hazardous in varying degrees. Appendix IV, pages 49 through 60 presents details on the sites we visited and inspection findings on the basis of MESA's classification criteria. In 1972 and 1973, the Corps of Engineers inspected 25 of these same sites following the Buffalo Creek disaster and found that 19, or 76 percent, were potentially hazardous. We revisited the 19 that the Corps found potentially hazardous and found that significant improvement had been made on 12 sites but 7 continued to be potentially hazardous. In

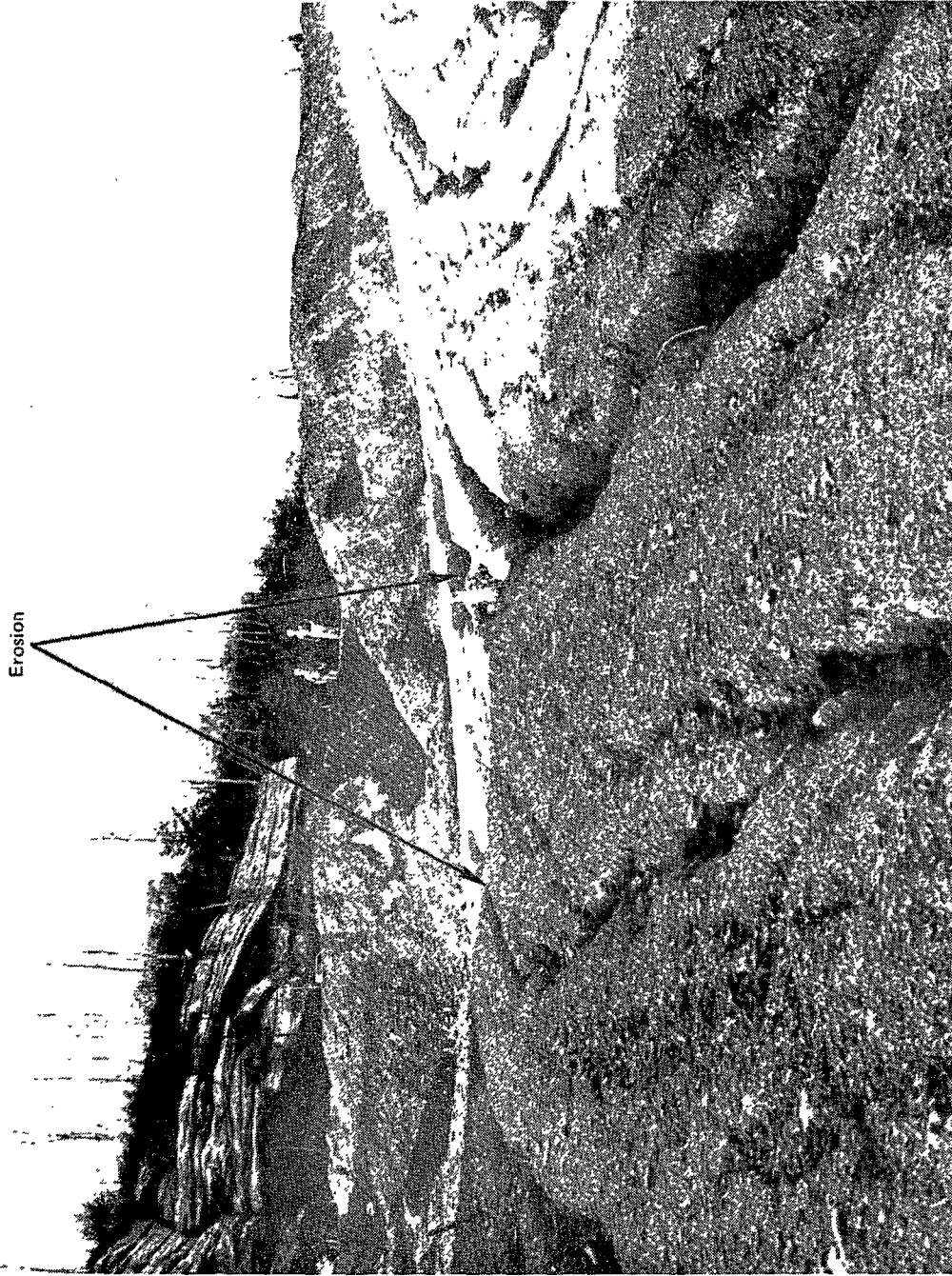
addition, four of the remaining six which the Corps inspected and classified as safe had deteriorated and were potentially hazardous when we made our inspection.

The potentially hazardous conditions we noted at the 19 sites included

- coal waste burning,
- water seepage,
- erosion,
- inadequate diversion facilities,
- improper foundations,
- improper compaction, and
- slopes that were too steep.

One of the most serious problems we observed in our visits to active disposal sites occurred in the Mt. Hope District. This site impounded about 200 acre-feet of slurry. Extensive burning at the site had resulted in internal voids which caused cracks along the makeshift dam structure's crest, and sinkholes about 6 feet deep and 20 feet in diameter. The internal changes along with water seepage and inadequate drainage had caused erosion gulleys of 12 to 15 feet deep and slopes of up to 90 degrees. Trees in the area had been stripped of their vegetation. (See photos, pp. 26 and 27.)

Corrective action at this site, pursuant to MESA's regulations, would require that the burning be extinguished by cutting off the flow of oxygen into the structure. It would then have to be regraded and contoured to an acceptable slope of 27 degrees or less, seepage would have to be stopped, an adequate diversion ditch dug, and voids filled and properly compacted. Under MESA's regulations, a design plan would have to be prepared and approved before corrective action could be undertaken. According to MESA officials, preparation of plans for this particular site and their approval and implementation would require at least 2 years.



EROSION AT AN ACTIVE COAL WASTE DISPOSAL SITE WE VISITED



EROSION, SEEPAGE, AND SLOPE STEEPNESS PROBLEMS IDENTIFIED AT WASTE DISPOSAL SITE WE VISITED

REQUIRED INSPECTIONS WERE NOT
MADE IN CERTAIN INSTANCES

The 1969 act requires that underground mines, including associated disposal sites, be inspected four times a year. We found, however, that in certain instances some mines had not been inspected the required number of times.

MESA Pikeville District officials explained that, although inspections were required, inspector compliance with this requirement was not monitored and apparently required inspections were not made and reports were not prepared. They stated, however, that in January 1976 inspectors were directed to prepare reports on impoundment inspections. Reports should have been prepared for all inspections made since then.

Between January 1 and September 23, 1976, the file showed that 86 inspections had been made. During that period, however, there should have been at least 246 inspections made, on the basis of the number of disposal sites in the district. Between September 24 and November 4, 1976, there were an additional 82 inspections made--this was shortly after we notified MESA of our impending review. MESA officials stated that they were trying to catch up with their backlog of needed inspections.

Even after MESA emphasized to its Pikeville inspectors that inspection reports on disposal sites should be prepared, 17 of the 18 sites we inspected in the Pikeville District had no periodic inspection reports on file between January and September 1976. We found that 8 of these 18 sites were potentially hazardous for various reasons, including inadequate drainage facilities, major erosion problems, burning refuse piles, and excessive slope angles on refuse piles.

Pikeville officials admitted that all required inspections were not being made. They said that inspections were not being made because their mine inspectors did not have the necessary expertise to identify technical problems, and Pikeville's one technical specialist did not have time to make all required inspections. The officials indicated they have had difficulty in employing additional technical specialists for Pikeville.

We discussed this matter with a MESA headquarters official who told us that before our review he was not aware

that required inspections were not being made. The official explained that MESA is a decentralized organization. He said that MESA is attempting to hire another technical specialist for Pikeville and had directed the Pikeville District to make certain that all required inspections were made by either technical specialists or at least regular mine inspectors. The headquarters official said that he was not certain whether any other MESA districts were not making required coal waste site inspections.

In contrast to the Pikeville District, we found, on the basis of our analysis of inspection records for 19 selected sites at MESA's Mt. Hope District for the 4-year period ending September 1976, that more than the required number of inspections of active coal waste sites had been made.

SOME INSPECTIONS NOT EFFECTIVE BECAUSE OF
LACK OF QUALIFIED PERSONNEL

To evaluate the effectiveness of inspections made, we compared the observations made by our interagency team with the latest MESA inspection reports on the 37 active mine sites we visited--19 sites in Mt. Hope and 18 in Pikeville. Almost all of MESA's inspections at these sites were made only about 1 month before ours and, according to our interagency team, conditions at the sites should have been about the same as we observed.

In Mt. Hope our team noted a total of 83 deficiencies at the 19 sites visited. Almost all of these same deficiencies had been noted by the MESA inspectors. In Pikeville, however, our team noted 51 deficiencies at the 18 sites visited compared to only 23 noted by the MESA inspectors. Both MESA officials and our interagency team agreed that adequately trained inspectors should have noted these deficiencies. Some of the deficiencies that were not noted by MESA's Pikeville inspectors included burning, major erosion, slopes greater than 27 degrees, seepage, and cracks in crest and on slopes. For example, at one site, the inspector prepared an inspection report which did not point out any deficiencies. He stated that construction of the waste structure was proceeding in accordance with an approved plan. Our inspection disclosed a number of deficiencies, including burning, slopes in excess of 27 degrees, seepage, major erosion, and cracks. (See photo, p. 30.)

At the Mt. Hope District, MESA inspections had been made by "technical specialists," whereas at the Pikeville



BURNING, SLOPE STEEPNESS, AND EROSION AT AN ACTIVE WASTE DISPOSAL SITE WE VISITED

District the inspections had been made by regular mine inspectors.

We discussed our findings with MESA officials who said that they would like to have technical specialists make all waste structure inspections because they do a better job than their regular mine inspectors. Technical specialists, they said, have extensive training in waste disposal problems. According to them, they are having a difficult time hiring enough specialists because their salary is not competitive with private industry. They said that, unlike inspectors, technical specialists are able to evaluate the severity of the problem, suggest possible corrective actions, and determine whether the corrective action is in accordance with the approved plan. They agreed, however, that adequately trained mine inspectors should have been able to identify most of the deficiencies we noted.

Formal training of inspection personnel

MESA officials told us that their mine inspectors received only about 8 hours of formal training on coal waste structures. Some informal training is given by the various districts. Technical specialists receive the same 8 hours of formal training but, in addition, receive a detailed comprehensive 1-week course from the Denver Mine Waste Branch and other special training sessions periodically, such as a 4-day course on "Techniques of Soil Erosion and Control" and a 1-week course on coal mine waste inspection and design.

According to MESA officials at both Mt. Hope and Pikeville, formal mine inspector training for coal waste structures is very inadequate because not enough detail is provided. The Pikeville official said that this has adversely affected the quality of inspections made by the inspectors. He said that he would like his district to either hire additional technical specialists to make inspections or have his regular inspectors receive additional training.

We attended one of the training courses which was being given to representatives of mine operators. MESA officials said the content of this course was basically the same as the course given to inspectors. We noted that several inspectors attended. We concluded that the course gives a good overview of the type of problems which inspectors should be looking for. However, we believe additional indepth training to teach the inspectors how to recognize problems and their significance is needed. For example, it was stated during the

overview course that burning within the structure should be noted and monitored. It did not, however, discuss the parts of the structure that would be most affected by burning, and did not address the effect of burning upon structure stability.

We discussed MESA's training procedures with the Chief of MESA's Denver Mine Waste Branch who agreed that the training provided to regular mine inspectors was not detailed enough to enable them to adequately identify all deficiencies. He said that the amount of time devoted to each area of mine inspection training is determined by MESA's Office of Coal Mine Health and Safety in Arlington, Va.

A MESA headquarters official said that training on coal waste structures has been limited because of a policy limiting initial inspector training to 12 weeks. Other areas of mine health and safety are considered to be of higher priority, such as roof control and ventilation problems.

PENALTY SYSTEM FOR ENFORCING
COMPLIANCE WITH MESA REGULATIONS
IS NOT ADMINISTERED EFFECTIVELY

Mine operators continue to violate the coal refuse pile and impoundment regulations. The number of coal refuse pile and impoundment violation notices issued had increased from 53 in 1974 to 89 in 1975 for relatively the same number of structures in the Mt. Hope and Pikeville Districts. While we recognize that many factors can affect the number of violations, such as the quality of inspections, we believe the Department's penalty process could be improved to help assure that mine impoundment and refuse piles are safe. We found that

--violations are allowed to remain uncorrected for long periods and

--the relatively small amounts of penalties are a questionable deterrent to noncompliance.

Excessive time allowed to correct violations

Under the 1969 act, if regulations pertaining to the safety of refuse piles and/or impoundments are violated, but an imminent danger has not been created, MESA may issue a notice to the operator or his agency fixing a "reasonable

time" for the abatement of the violation before a penalty is assessed. If corrections are not made within this time, a closure order is to be issued or extensions of time may be granted. Closure orders are to be issued immediately for imminent danger situations.

MESA headquarters officials told us that they had issued no instructions to their inspectors defining a reasonable period or advising them when to grant extensions to operators. A headquarters memorandum states that inspectors must assure themselves that "satisfactory progress is being made." A MESA headquarters official told us that these matters involve highly subjective decisions which must be made by the inspector on the basis of the circumstances at each mine.

We reviewed MESA's files for all coal waste sites within the Mt. Hope and Pikeville District offices and identified all coal mine refuse pile and impoundment violations between July 1, 1971, and September 30, 1976. There were 366 coal refuse pile violations and 116 coal waste impoundment violations in Mt. Hope, and 73 coal refuse pile violations and 71 coal waste impoundment violations in Pikeville. Of these 626 violations, 478 were noted as corrected as of the date of our review.

An average of 11 months, including extensions, had been allowed to correct the violations. The correction time varied from 1 to 53 months. As of October 28, 1976, the 148 remaining uncorrected violations had been outstanding for an average of 17 months and ranged from 1 to 54 months.

Although we recognize that correction times will vary depending upon the circumstances concerning each violation, our review of the 626 violations showed that the period of reasonable correction time was extended for 332. The total number of extensions was 2,865 or an average of over 8 per violation. The number of times each violation was extended ranged from 1 to 61.

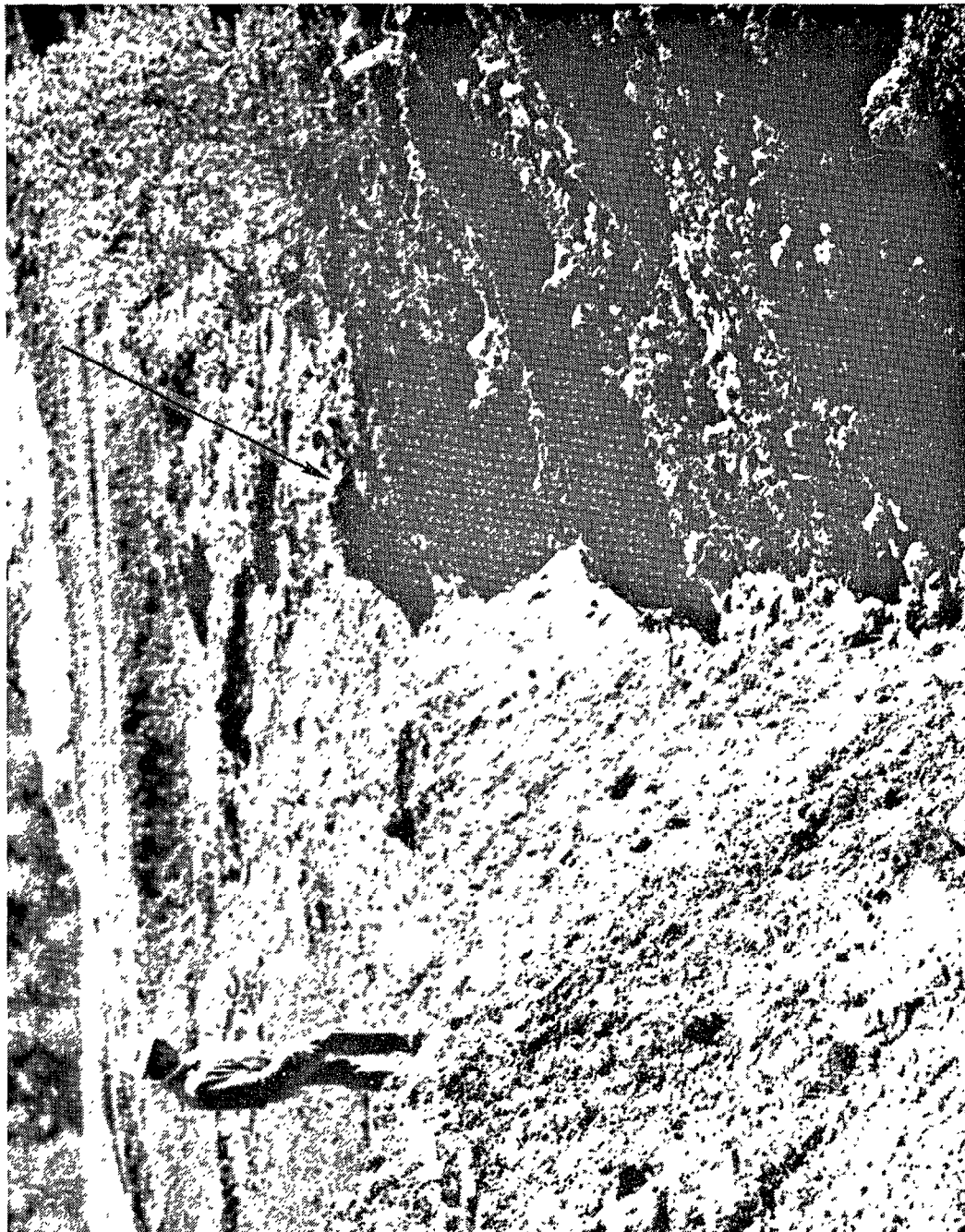
The major reasons given for extending the correction time on the 332 violations were as follows.

<u>Reasons for extensions</u>	<u>Number of extensions</u>
Work in progress	2,096
Company given time to submit plans	177
Consultant given time to submit plans	163
Technical Support given time to evaluate site	88
MESA given time to approve plans	121
Other	<u>220</u>
Total	<u><u>2,865</u></u>

Concerning the major reason given--work in progress--a MESA official told us that extensions can be allowed if some remedial action or effort has been taken to correct the violation, but additional time is needed to complete the corrections to the site. Another MESA official told us that the decision to issue an extension is left entirely to the inspector's discretion.

As shown above, there were 2,096 extensions granted at Pikeville and Mt. Hope because work was in progress. We visited 15 of these sites and found that at 7 of them, little or no work had been done to abate the violation. For example, at one impoundment we visited in the Mt. Hope District, the operator was issued a notice of violation in December 1974 because of excessive slope steepness and erosion. From December 1974 to October 1976, the operator received seven extensions. All of the extensions were granted because work was in progress to correct the violation. However, during our inspection, we found that little had been done to correct the violation. The operator told us that he did not have funds to make the necessary corrections. (See photo, p. 35.)

Further, our review of some recorded reasons for granting extensions at sites which we did not visit showed that 41 extensions were granted with highly questionable justifications. According to the records, 32 extensions were granted because little or no work had been done to correct the



EROSION IDENTIFIED AT AN ACTIVE WASTE DISPOSAL SITE WE VISITED

violation since the last inspection, and 9 were granted for no stated reason. The records showed that a violation notice was issued in July 1972 in one instance because a refuse pile was impeding drainage and combustible material was being deposited. Before the violation was terminated in September 1976, over 4 years later, MESA had granted the operator 15 extensions of which 4 were given because "little or no progress has been made." The remaining 11 extensions were given to allow time to extinguish fires and because work was in progress to correct the violation.

We discussed these matters with a MESA headquarters official who said that he recognized that in the past their district offices in some cases have permitted unwarranted periods of time for compliance. In a June 18, 1974, memorandum, MESA headquarters advised all its district managers that work being done on impoundments and waste piles must be accelerated and directed each manager to assure himself that satisfactory progress was being made.

Based on our review of extensions after the MESA headquarters' memorandum, we found very little change or improvement either in the number of extensions being granted or in the reasons being accepted for granting extensions.

Amounts of penalties are often too low to deter noncompliance

MESA officials told us that, under their assessment procedures in effect before August 1, 1974, initial assessments were too high. They said that their current procedures are meant to make assessments more reasonable because they are closer to the amounts previously collected. We found that the average initial assessment for coal refuse pile and impoundment violations in Mt. Hope and Pikeville under MESA's prior procedures was \$93 and that, under its current procedures, the initial assessment has been reduced to about \$83.

Of the 242 coal refuse and impoundment violations in Mt. Hope and Pikeville which were assessed and collected through September 30, 1976, we found that 150 of the amounts initially assessed were reduced by an average of about 49 percent. Of the 150 reductions, 132 were reduced under MESA's current procedures which, as stated above, were assessed at a lesser amount. The initial assessments were reduced mostly after conferences with the operators. The average amount ultimately paid per violation was \$55. The

following are examples of initial assessments and the amount finally collected.

	<u>Initial assessment</u>	<u>Revised assessment and collected amount</u>
Example 1	\$540	\$115
Example 2	\$225	\$ 61
Example 3	\$462	\$140

Our review of 59 coal waste impoundment and refuse pile violation cases disclosed that, generally, conference specialists reduced penalties because they did not agree with the inspectors' and/or assessors' opinions of the gravity, negligence, or good faith aspects of the assessments.

We discussed the amounts of fines with several coal mine operators who stated that the current fines are too low to deter noncompliance.

In commenting on our 1975 report, MESA said that it believed the amounts of penalties collected were sufficient. A MESA official told us that the agency is currently conducting a study of the assessment program to determine how to collect penalties quicker, but that this study does not deal with penalty amounts. Because of the increasing numbers of violations, we find it very difficult to understand how continued reductions in the amounts of assessments and collections will deter noncompliance.

IMPROVEMENTS NEEDED IN THE DISSEMINATION OF COAL WASTE DISPOSAL RESEARCH RESULTS

We found that some interested coal mine operators were not fully aware of all coal waste research results.

The Secretary of the Interior has delegated to the Bureau of Mines responsibility for conducting coal mine health and safety research programs. One purpose of coal waste research is to develop information which can be used in regulating coal waste disposal sites. Some research results have been used by MESA in promulgating the current coal refuse pile and impoundment regulations.

The Bureau's Organic Act of 1910 requires the Bureau to disseminate its research results to interested parties in the best manner possible.

Through fiscal year 1976, about \$2.2 million had been expended by the Bureau under the 1969 act on the following coal waste research projects:

- Analyzing coal refuse dam failures.
- Evaluating mill tailings mine refuse disposal practices.
- Developing design theory for coal waste embankments.
- Conducting a feasibility study of methods used for rapid determination of embankment stability.

Mine operators not receiving results of coal waste disposal research

The Bureau of Mines had only limited information on file on users of their research results. Bureau officials told us they do not have a mechanism to determine the extent to which research results are used.

We visited 22 mine operators in MESA's Mt. Hope and Pikeville Districts who had coal waste sites to determine whether they had received any information on the results of the Bureau's coal waste disposal research. Following is a summary of their responses.

<u>MESA districts</u>	<u>Operators who received information</u>	<u>Operators who did not receive information</u>	<u>Refused to comment</u>
Mt. Hope	4	8	1
Pikeville	2	6	1

Seventeen of the 20 operators who responded said they were interested in receiving the results of all coal waste research.

The advantage of providing research results to operators is that such results could teach mine operators ways of correcting coal waste site problems which they experience. One Bureau official told us that the most requested coal waste publications to date covered (1) physical property data of coal waste embankment materials, (2) physical property data on fine coal refuse, and (3) dewatering and densification of coal waste by direct current.

According to 7 of the 22 mine operators we visited, they need coal waste research information to help make coal waste sites more stable. We noted that a related project on de-watering sludge is included in the Bureau's fiscal year 1977 program. We believe the Bureau should insure that operators are made aware of the results of this research.

Technology transfer process

The Bureau of Mines primarily depends on its technology transfer program to disseminate research information to the mining industry. The program was created in 1972 after results from research and development projects created by the 1969 act became available. Its goal was to shorten the timelag between the development of technology and its general application and use in the mining industry. Information dissemination techniques include conferences, seminars, publications, demonstrations, and exhibits/displays. Reports of investigation, information circulars, and technical progress reports are distributed by the Bureau's Office of Mineral Information by request.

We noted that the program does not consistently involve MESA inspectors who have the greatest contact with mine operators. MESA officials told us that its field personnel could transmit research results in their day-to-day contacts with the mines.

MESA officials said that their role in the technology transfer process has been somewhat limited because (1) the technology transfer program is the Bureau's responsibility and (2) until recently MESA has not been regularly apprised of the Bureau research results. A Bureau official stated that, although there was no formal agreement concerning who should disseminate results or how they should be disseminated, MESA was free to disseminate results as it pleased.

The Bureau's technology transfer procedures were evaluated and discussed in a recent study by a panel of consultants employed by the Department of the Interior. Pertinent recommendations from the study report were as follows:

"Following demonstration by the Bureau of newly developed technology a determination should be made jointly by the Bureau and MESA as to whether the technology is at the turn-over point and is ready to be applied by industry.

"Responsibility for actual technology transfer-- i.e., dissemination of information about the development to industry and labor, encouragement of rapid and widespread application in the mines, and assistance, if required, in its application--would reside in MESA.

"If needed, the Bureau should assign the research personnel responsible for a new development to MESA to assist in the technology transfer."

A February 1976 Memorandum of Understanding between the Bureau and MESA established the framework for MESA to have a more active role in the technology transfer program. The agreement calls for the Bureau to manage the program and coordinate with MESA in the

"Joint development of strategies for utilization of research results by delineating requirements for field testing and demonstration to validate new technology; disseminating potential use information to the mining community and/or developing rules and regulations for its use."

We found, however, that as of December 1976, little effort had been devoted to the development of a general strategy called for in the technology transfer process. Few strategies had been developed on what mechanism should be developed for an effective program, how the two agencies are going to coordinate, when such coordination will take place, who will be the principal agencies, or what each agency's area of responsibility is.

A MESA official told us that discussions had been held with the Bureau's health and safety research staff, and agreements had been reached on technology transfer pertaining to particular projects. However, the official said that MESA had not developed overall strategies for the transfer program because they have not had staff available.

We discussed this matter with the Bureau official in charge of coal mine health and safety research in March 1977 who said that although he was aware of the Memorandum of Understanding, he did not believe any major changes were required in the procedures for dissemination of research results.

CONCLUSIONS

Progress has been made in reducing the hazardous condition of most of the active coal waste structures we visited, but many are still potentially hazardous to varying degrees and need additional improvements. In 1975 MESA implemented restrictive regulations which, if properly implemented, should help assure that existing deficiencies are corrected and future sites are safe. MESA's administration of these regulations, however, needs to be improved to provide maximum assurance that all hazardous conditions are corrected and active sites are safe.

Required inspections have not been made in certain instances and in other instances have not been made by qualified personnel due to insufficient training. MESA has been tolerant with coal mine operators in permitting potentially hazardous coal waste sites to exist for long periods. Only token money penalties, if any, have been invoked. Under these circumstances, neither the affected miners nor the general public that are threatened by potentially hazardous coal waste sites are being afforded the full protection intended by the 1969 act. Also, coal waste disposal research results were not being disseminated to all interested mine operators.

The serious hazard to human life and property represented by improperly maintained coal waste sites suggests the need for immediate corrective action by the Secretary of the Interior on the mine waste disposal problem.

RECOMMENDATIONS TO THE SECRETARY OF THE INTERIOR

Accordingly, we recommend that the Secretary of the Interior direct the Administrator of MESA to:

- Ascertain as soon as possible the extent to which MESA regulations are not being adequately and effectively implemented in all MESA districts.
- Establish effective management controls over inspection operations at MESA's headquarters so that (1) required inspections will be made, (2) the results of inspections are adequately documented and reported, (3) inspections are made only by qualified inspectors, and (4) MESA headquarters supervisory personnel are

fully apprised of important field inspection findings and are required to evaluate and followup on the disposition of findings.

- Develop an appropriate training program for inspectors to help insure the adequacy of inspections.
- Develop appropriate guidelines and criteria for inspectors to follow in granting time extensions to coal mine operators to correct violations, and for invoking penalties for noncompliance with MESA's regulations.
- Reexamine the penalty structure governing violations with the objective of determining what types and levels of penalties are required to create sufficient incentives for mine operators to comply with coal waste disposal regulations.

We further recommend that the Secretary of the Interior direct the Director of the Bureau of Mines and the Administrator of MESA to refine their procedures for disseminating the results of coal waste disposal research, through the involvement of MESA, to help assure that it is received by all interested mine operators and other interested parties.

AGENCY COMMENTS AND OUR EVALUATION

The Department agreed that some active coal waste sites pose a potential hazard and will require extensive remedial work to increase their safety. The Department stated, however, that it has significantly reduced the hazard potential at most of the sites under its jurisdiction. It stated that the fact that the sites in West Virginia and Kentucky withstood the severe flooding which occurred in April 1977 is testimony to the accomplishments of its program and the stability of the sites.

The Department further stated that while it cannot totally disagree with our conclusion that 19, or 51 percent, of the active sites we visited were potentially hazardous in varying degrees, it believes the term "potentially hazardous" does not accurately reflect the seriousness of the problems at these sites. Finally, the Department questioned whether four active sites have deteriorated since the 1972 Corps inspections. It believes that the rating system we used is not comparable to the one used by the Corps.

As indicated in our report, some progress has been made in reducing the hazards at many of the active sites we visited. We believe, however, that additional improvements are needed. Concerning the Department's view on the term potentially hazardous in describing the interagency evaluation team's rating of 19 of the 37 active sites we inspected, it should be noted that the exact description of the conditions noted by the team, according to MESA's own classification system, is included for each site in appendix IV. Further, our conclusion that four active sites have deteriorated since 1972 when the Corps made its inspection was based on actual observations of the conditions of the sites at the time of the team visits.

The Department generally agreed with our recommendations and has or is planning to take appropriate corrective actions. The Department stated that:

- On June 30, 1977, a new reporting procedure was instituted which should provide MESA headquarters officials information to better monitor its enforcement system.
- On September 12, 1977, MESA plans to institute an intensive 3-day training program for inspectors and engineers who perform regular inspection work and, after this course, it will provide 40 hours of additional training for coal waste specialists.
- On July 15, 1977, MESA issued instructions to its field personnel to fully document time extensions, including statements of work already performed.
- On March 1, 1977, MESA instituted a special assessment program which substantially increased penalties for violations caused by operators unwarrantable failure to comply with the law. Also, on June 8, 1977, MESA submitted a recommendation to the Assistant Secretary, Energy and Minerals, that the regulations be changed to increase penalty amounts for substantially all violations of Federal regulations applicable to coal mining.
- MESA is presently implementing a procedure whereby each of its inspectors will receive copies of coal waste research results to improve the day-to-day exchange of results with operators. Also, it plans to more explicitly define its strategy on technology transfer and coordination procedures.

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July 23, 1976

The Honorable Elmer B. Staats
 Comptroller General of the
 United States
 General Accounting Office
 Washington, D.C.

Dear Mr. Staats:

On February 26, 1972, the Buffalo Creek disaster occurred when a coal waste pile used as an impoundment dam for which it was not designed collapsed and sent cascades of water downstream, killing many people and destroying or damaging much property.

We understand that there are about 1,000 coal waste piles in the United States that are still being used to impound water. Many of these are located in Kentucky and West Virginia. A list of such impoundments was to be submitted to the Mining Enforcement and Safety Administration last May.

New regulations were adopted by Interior after much delay which are intended to perpetuate the use of these waste piles as impoundments under some controls, but even those piles were never built according to sound engineering practices for earthen or other types of impoundments.

We would appreciate your reviewing these regulations, including the background files at Interior, the Corps of Engineers and the Soil Conservation Service, determine to what extent the advice of these experts was accepted in the development of these regulations and evaluate them from the standpoint of adequacy and effectiveness. We are particularly interested in receiving an assessment of Interior's contention that existing and new waste piles, including abandoned waste piles, can be made safe as impoundments, and the adequacy of those regulations in requiring that abandoned waste piles be removed or made safe. We are concerned, not only about the safety of persons working in the mine where the waste piles are located, but also the safety of persons living and working downstream from those piles. In many cases, those people could be the miners and their families.

The Interior Department has consistently contended that the Federal Coal Mine Health and Safety Act of 1969 was intended to protect miners and not persons living or working beyond the mine property. We think

The Honorable Elmer B. Staats
Page Two

July 23, 1976

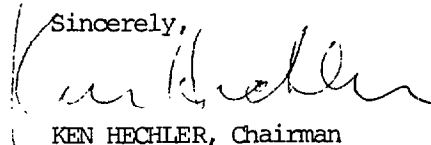
such a narrow interpretation of the 1969 law was not intended, particularly when one realizes that when Congress was aware of an unsafe problem that could affect people other than miners, Congress dealt with it in the 1969 law. An example of this is section 317(b) of the Act, which deals with abandoned mines. Congress was aware, in writing that provision, that these mines often attracted people and that they sometimes were killed or injured in those mines. Congress was not aware of the waste pile problem, but gave Interior authority to deal with such problems. We would appreciate your opinion concerning this interpretation of the 1969 law.

In addition, we would appreciate your doing the following:

- (a) Review and evaluate MESA's efforts to identify all coal waste impoundments and to require the coal operators to do so;
- (b) Review and evaluate the adequacy of funding for inspecting these waste piles and making them safe, and indicate what, if any, R&D is needed to assist in this program;
- (c) Review and evaluate the qualifications and training of those personnel who inspect these waste piles for MESA; and
- (d) Review and evaluate Interior's performance under these regulations and enforcement thereof, including the assessment of civil penalties for violations, and the effectiveness of Interior's actions.

Please keep our Subcommittee advised of the progress of your investigation. We understand that the GAO has started some aspects of this investigation. Thus, we hope that you will complete it and issue a report to our Subcommittee during this session of the 94th Congress. To facilitate this, we request that you not make a draft of the report available to Interior for review and comment, but that you discuss it with them to insure factual accuracy. As is our practice, we will submit the report to Interior for review and comment, and make it available to other interested Committees of Congress.

Sincerely,



KEN HECHLER, Chairman
Subcommittee on Energy Research,
Development and Demonstration
(Fossil Fuels)

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—PLUS ANY VOLUNTEER
HELP WE CAN GET!

Congress of the United States
House of Representatives
Washington, D.C. 20515

December 21, 1976

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Honorable Elmer B. Staats
Comptroller General of the
United States
U. S. General Accounting Office
Washington, D. C.

Dear Mr. Staats: *note*

Mr. Peter McGoff of the GAO recently advised that my request of July 23, 1976, concerning coal waste piles, and August 12, 1976, concerning ERDA advisory committees, will be completed after January 3, 1976.

I have discussed this with Rep. John D. Dingell, Chairman of the Energy and Power Subcommittee. He indicated that he is interested in these two requests and would appreciate your providing the GAO reports thereon to him, as Subcommittee Chairman, as well as to me. Hopefully, this will be early in the 95th Congress.

I want to express my appreciation for the work of your agency in connection with these and other investigations which I have requested. The GAO's efforts have been excellent and assisted me greatly.

Sincerely,

Ken Hechler

ABANDONED COAL WASTE DISPOSAL SITES INSPECTED BY OUR
INTERAGENCY EVALUATION TEAM IN MESA'S MT. HOPE,
W. VA., AND PIKEVILLE, KY., DISTRICTS FROM
OCTOBER 7 THROUGH 28, 1976

<u>Site identification</u>	<u>Problems noted by evaluation team</u>	<u>Facility type</u>	<u>Evaluation team rating based on MESA's rating criteria and MESA's most recent rating</u>
Mt. Hope District:			
1. Mr. Talbott, Owner Glen Rogers-Buck Fork, Glen Rogers, W. Va.	Burning, erosion, lack of spillways, cracking	Impoundment	IB--Potential for loss of life; any further degradation in stability could result in failure (MESA does not recognize as being under its jurisdiction)
2. Peach Creek Peach Creek, Logan County, W. Va.	Burning, cracking, erosion, sinkholes, clogging, seepage, trash racks clogged	Impoundment Refuse pile	IB--Potential for loss of life; any further degrada- tion in stability could result in failure (MESA does not recognize as being under its jurisdiction)
Pikeville District:			
1. Lee Mining Company Site No. 31, Stone, Pike County, Ky.	Erosion, excessive slope steepness, no diversion ditches	Refuse pile	IVB--No potential for injury or loss of property; any further degradation in stability could result in failure (MESA does not recognize as being under its jurisdiction)

<u>Site identification</u>	<u>Problems noted by evaluation team</u>	<u>Facility type</u>	<u>Evaluation team rating based on MESA's rating criteria and MESA's most recent rating</u>
2. Beth-Elkhorn Corporation Site No. 131 Jenkins, Letcher County, Ky.	Seepage, no spillways, no diversion ditches, no trash racks	Impoundment	IVC--No potential for injury or loss of property; possibility of failure if adverse conditions combine with deficiencies to substantially degrade stability (MESA does not recognize as being under its jurisdiction)
3. Forest Coal Company Radio Station WNKY Site No. 155, Potters Fork, Letcher County, Ky.	Excessive slope steepness, erosion, cracking	Refuse pile	IVB--No potential for injury or loss of property; any further degradation of stability could result in failure (MESA does not recognize as being under its jurisdiction)

ACTIVE COAL WASTE DISPOSAL SITES INSPECTED BY OUR
INTERAGENCY EVALUATION TEAM IN MESA'S MT. HOPE,
W. VA., AND PIKEVILLE, KY., DISTRICTS
FROM OCTOBER 7 THROUGH 28, 1976

<u>Site identification</u>	<u>Problems noted by evaluation team</u>	<u>Facility type</u>	<u>Evaluation team rating based on MESA's rating criteria and MESA's most recent rating</u>
Mt. Hope District:			
1. United States Steel Corp., Alpheus Central Coal Preparation Plant			
Site No. 1	Seepage, erosion	Impoundment	IC--Potential for loss of life; possibility of failure if adverse conditions com- bine with deficiencies to substantially degrade stability (On 9/10/76 MESA inspectors gave this site the same rating as shown above.)
2. Site No. 2	Cracking, sloughing	Impoundment	ID--Potential for loss of life; possibility of failure only under the most adverse conditions (On 9/10/76 MESA inspec- tors gave this site the following rating: IC--Potential for loss of life; possibility of failure if adverse conditions combine with deficiencies to substantially degrade stability.)

<u>Site identification</u>	<u>Problems noted by evaluation team</u>	<u>Facility type</u>	<u>Evalu based criter r</u>
3. Site No. 3, Gary, McDowell County	Improper compac- tion, seepage, cracking, erosion	Refuse pile	IIA--High and 1 could (On 9 tors follc
			IIIC--Low p and 1 possi if ac bine subst stabi
4. Eastern Associated Coal Corp., Keystone Preparation Plant, Keystone, McDowell County	Erosion, burning, clogging	Impoundment	IC--Poter possi adver with stant (On 9 gave lowir
			IB--Poter any 1 stabi failt
5. National Coal Mining Co., No. 25 Preparation Plant, Keystone, McDowell County	None	Impoundment	IIID--Low 1 and . sibi unde cond MESA the : abov

<u>Site identification</u>	<u>Problems noted by evaluation team</u>	<u>Facility type</u>	<u>Evaluation team rating based on MESA's rating criteria and MESA's most recent rating</u>
6. Buffalo Mining Co., No. 5 Preparation Plant, Saunders, Logan County	Improper compac- tion, seepage, diversion ditch clogged	Refuse pile	IIIC--Low potential for injury and loss of property; possibility of failure if adverse conditions combine with deficiencies to substantially degrade stability (On 9/14/76 MESA inspectors gave this site the following rating: ID--Potential for loss of life; possibility of failure only under the most adverse conditions.)
7. Island Creek Coal Co. Guyan No. 10 Pre- paration Plant, Emmett, Logan County	Seepage	Impoundment	IIID--Low potential for injury and loss of property; possibility of failure only under the most adverse conditions (On 9/22/76 MESA inspectors gave this site the following rating: IID--High potential for injury and loss of property; possibility of failure only under the most adverse conditions.)
8. Zapata Coal Corp. Monclo Preparation Plant, Sharples, Logan County	Seepage	Impoundment	IE--Potential for loss of life; minimum possibility of failure (On 9/10/76 MESA inspectors gave this site the following rating: ID--Potential for loss of life; possibility of failure only under the most adverse conditions.)

<u>Site identification</u>	<u>Problems noted by evaluation team</u>	<u>Facility type</u>	<u>Evaluation team rating based on MESA's rating criteria and MESA's most recent rating</u>
9. Westmoreland Coal Co. Hampton No. 4 Preparation Plant, Clothier, Boone County	Seepage	Impoundment	IC--Potential for loss of life; possibility of failure if adverse conditions combine with deficiencies to substantially degrade stability (On 9/15/76 MESA inspectors gave this site the following rating: IB--Potential for loss of life; any further degradation in stability could result in failure.)
10. Eastern Associated Coal Corp., Wharton No. 2 Preparation Plant	Erosion, seepage, clogging, lack of drainage control	Impoundment	IB--Potential for loss of life; any further degradation in stability could result in failure (On 9/13/76 MESA inspectors gave this site the same rating as shown above.)
11. Allied Chemical Corp. Semet-Solvay Division Harewood Preparation Plant, Longacre, Fayette County			
Site No. 1	Erosion, seepage, cracking, and sloughing	Refuse pile	IE--Potential for loss of life; minimum possibility of failure (On 9/22/76 MESA inspectors gave this site the following rating: IB--Potential for loss of life; any further degradation in stability could result in failure.)

<u>Site identification</u>	<u>Problems noted by evaluation team</u>	<u>Facility type</u>	<u>Evaluation team rating based on MESA's rating criteria and MESA's most recent rating</u>
12. Site No. 2	Erosion, seepage, cracking, and sloughing	Refuse pile	<p>IC--Potential for loss of life; possibility of failure if adverse conditions combine with deficiencies to substantially degrade stability (On 8/4/76 MESA inspectors gave this site the following rating:</p> <p>IB--Potential for loss of life; any further degradation in stability could result in failure.)</p>
13. Island Creek Coal Co., Gauley Eagle No. 4 Preparation Plant, Werth, Nicholas County	None	Impoundment	<p>ID--Potential for loss of life; possibility of failure only under the most adverse conditions (On 6/23/76 MESA inspectors gave this site the following rating:</p> <p>IIIC--Low potential for injury and loss of property; possibility of failure if adverse conditions combine with deficiencies to substantially degrade stability.)</p>
14. Peerless Eagle Coal Co., No. 1 Preparation Plant, Summersville, Nicholas County	None	Refuse pile	<p>IIID--Low potential for injury and loss of property; possibility of failure only under the most adverse conditions (On 8/24/76 MESA inspectors gave this site the same rating as shown above.)</p>

<u>Site identification</u>	<u>Problems noted by evaluation team</u>	<u>Facility type</u>	<u>Evalu based criter r</u>
15. Sewell Coal Co. Sewell No. 4 Preparation Plant Nettie, Nicholas County	Burning, lack of diversion facilities, erosion, seepage	Impoundment	IB--Poten any f in st in fa MESA site shown
16. Westmoreland Coal Co., Eccles Prepa- ration and Surface Facilities, Eccles, Raleigh County	Lack of proper spillways	Impoundment	ID--Poten possi under condi MESA site shown
17. Ranger Fuel Corp. Bolt Preparation Plant, Bolt, Raleigh County	Improper com- paction	Impoundment	IE--Poten minim failu inspe the f IB--Poten any f stabi failu
18. Consolidated Coal Co., Inc., Southern Appalachia Region Rowland Prepara- tion Plant, Clear Creek, Raleigh County			
Site No. 1	Improper com- paction, debris in spillway	Impoundment	ID--Poten possi under condi inspe the s above

<u>Site identification</u>	<u>Problems noted by evaluation team</u>	<u>Facility type</u>	<u>Evaluation team rating based on MESA's rating criteria and MESA's most recent rating</u>
19. Site No. 2	Seepage, cracking, erosion, debris in spillway	Impoundment	<p>IC--Potential for loss of life; possibility of failure if adverse conditions combine with deficiencies to substantially degrade stability (On 5/10/76 MESA inspectors gave this site the following rating:</p> <p>IB--Potential for loss of life; any further degradation in stability could result in failure.)</p>
Pikeville District:			
1. Loftis Coal Company, Site No. 19, Huddy, Pike County	Excessive slope steepness, erosion, diversion ditch clogged, improper compaction	Refuse pile	<p>IB--Potential for loss of life; possibility of failure only under the most adverse conditions (On 9/27/76 MESA inspectors gave this site the following rating:</p> <p>IC--Potential for loss of life; possibility of failure if adverse conditions combine with deficiencies to substantially degrade stability.)</p>

<u>Site identification</u>	<u>Problems noted by evaluation team</u>	<u>Facility type</u>	<u>Evaluation team rating based on MESA's rating criteria and MESA's most recent rating</u>
2. Eastern Coal Corporation Stone Preparation Plant, Site No. 25	Erosion, cracking, seepage	Impoundment	IC--Potential for loss of life; possibility of failure if adverse conditions combine with deficiencies to substantially degrade stability (MESA periodic inspections form on file but no field hazard classification listed.)
3. Site No. 26 Stone, Pike County	Excessive slope steepness	Refuse pile	IID--High potential for injury and loss of property; possibility of failure only under the most adverse conditions (MESA periodic inspection form on file but no field hazard classification listed.)
4. Island Creek Coal Company Site Nos. 49, 50, 51, and 52 Price, Floyd County	Excessive slope steepness, erosion, drainage facilities	Refuse pile	IID--Low potential for injury and loss of property; possibility of failure only under the most adverse conditions (No MESA periodic inspection forms on file.)
5. Island Creek Coal Company, Price Preparation Plant, Site No. 53 Price, Floyd County	Excessive slope steepness, erosion, seepage, lack of diversion ditch for upper slope	Refuse pile	IC--Potential for loss of life; possibility of failure if adverse conditions combine with deficiencies to substantially degrade stability (No MESA periodic inspection forms on file.)

<u>Site identification</u>	<u>Problems noted by evaluation team</u>	<u>Facility type</u>	<u>Evaluation team rating based on MESA's rating criteria and MESA's most recent rating</u>
6. Republic Steel Corporation Republic Mine, Site Nos. 65 and 65A	Excessive slope steepness, burning, erosion, cracking, no diversion ditches	Refuse pile	IIIC--Low potential for injury and loss of property; possibility of failure if adverse conditions combine with deficiencies to substantially degrade stability (No MESA periodic inspection forms on file.)
7. Site Nos. 66 and 67	Excessive slope steepness	Impoundment	IIID--Low potential for injury and loss of property; possibility of failure only under the most adverse conditions (No MESA periodic inspection forms on file.)
8. Site No. 68 Regina, Pike County	None	Refuse pile	IIID--Low potential for injury and loss of property; possibility of failure only under the most adverse conditions (No MESA periodic inspection forms on file.)
9. Kentland Elkhorn Coal Corporation Feds Creek Preparation Plant, Site No. 75	None	Refuse pile	IIID--Low potential for injury and loss of property; possibility of failure only under the most adverse conditions (MESA periodic inspection forms on file but no field hazard classification listed.)

	<u>Site identification</u>	<u>Problems noted by evaluation team</u>	<u>Facility type</u>	<u>Eval base crite</u>
10.	Lynn Branch Site Nos. 77 and No. 78 Biggs, Pike County	None	Refuse pile	IIID--Low and poss unde conc peri on f
11.	Pikeville Coal Company, Chisholm Mine, Site No. 80	Seepage	Impoundment	IE--Pote mini fail insp the IIIE--Low and mini fail
12.	Site No. 81 Phelps, Pike County	Excessive slope steepness, sloughing, inade- quate diversion ditch	Refuse pile	IIIC--Low and poss adve with star (On gave . low: ID--Pote poss unde conc

<u>Site identification</u>	<u>Problems noted by evaluation team</u>	<u>Facility type</u>	<u>Evaluation team rating based on MESA's rating criteria and MESA's most recent rating</u>
13. Sovereign Coal Company, Preparation Plant, Site No. 83	Erosion, seepage, cracking, lack of spillways	Diked ponds	IIIC--Low potential for injury and loss of property; possibility of failure if adverse conditions combine with deficiencies to substantially degrade stability (On 6/3/76 MESA inspectors gave this site the following rating: ID--Potential for loss of life; possibility of failure only under the most adverse conditions.)
14. Site No. 84 Phelps, Pike County	None	Refuse pile	IIIE--Low potential for injury and loss of property; minimum possibility of failure (No MESA periodic inspection field hazard classification on file.)
15. Beth-Elkhorn Coal Corporation Jenkins Preparation Plant, Site No. 128, Jenkins, Letcher County	Excessive slope steepness, erosion	Refuse pile Slurry pond	IC--Potential for loss of life; possibility of failure if adverse conditions combine with deficiencies to substantially degrade stability (On 9/23/76 MESA inspectors gave this site the following rating: IVD--No potential for injury or loss of property; possibility of failure only under the most adverse conditions.)

<u>Site identification</u>	<u>Problems noted by evaluation team</u>	<u>Facility type</u>	<u>Evaluation team rating based on MESA's rating criteria and MESA's most recent rating</u>
16. New Slurry Ponds Potters Fork, Letcher County	Erosion, sloughing, inadequate spillway, no diversion ditches, no trash racks	Diked ponds	IC--Potential for loss of life; possibility of failure if adverse conditions combine with deficiencies to sub- stantially degrade stability (On 10/4/76 MESA inspectors gave this site the following rating: IIB--High potential for injury and loss of property; any further degradation in stability could result in failure.)
17. Martin County Coal Corporation Preparation Plant	Improper compac- tion, excessive slope steepness, erosion, cracking, seepage, no diver- sion ditches	Refuse pile	IB--Potential for loss of life; any further degradation in stability could result in failure (No MESA periodic inspection forms on file.)
18. Site No. 192 Inez, Martin County	Seepage, no diver- sion ditches, clogged trash rack, erosion	Impoundment	IC--Potential for loss of life; possibility of failure if adverse conditions combine with deficiencies to sub- stantially degrade stability (No MESA periodic inspec- tion forms on file.)



United States Department of the Interior
MINING ENFORCEMENT AND SAFETY ADMINISTRATION
4015 WILSON BOULEVARD
ARLINGTON, VIRGINIA 22203

July 14, 1977

Mr. Henry Eschwege
Director
Community and Economic Division
General Accounting Office
Washington, D.C. 20548

Dear Mr. Eschwege:

We have reviewed your proposed report to the Chairman, House Subcommittee on Energy and Power, Committee on Interstate and Foreign Commerce, entitled, "Action Needed to Improve the Safety of Coal Mine Waste Disposal Sites."

We agree with some areas of the report and have taken action to implement recommendations in those areas to make MESA's coal mine waste disposal program more effective. However, we do not entirely concur with the report or its recommendations. The proposed report contains statements that make it difficult for the reader to properly evaluate the Mining Enforcement and Safety Administration's coal mine waste disposal program. The fact that impounding structures in West Virginia and Kentucky withstood the severe flooding which occurred in April 1977 is mute testimony to the accomplishments of MESA's program in the enforcement of its regulations and to the integrity of impounding structures in the Appalachian region.

The spring flooding devastated many residential communities, in particular, Pikeville, Kentucky, and Williamson and Matewan, West Virginia. Precipitation for the three-day period from April 3 through April 5 ranged from 5.2 inches recorded at Gary, West Virginia, to 6.9 inches in the Levisa Fork Drainage Basin above Pikeville. During the flood, MESA personnel were dispatched from the Mount Hope and Pikeville offices to monitor and evaluate conditions at certain impounding structures. These site visits revealed that all hydraulic installations (spillways, diversion channels, decant systems) safely accommodated and passed the runoff from the heavy precipitation.

MESA's Arlington office had become concerned in February about the problems that could develop during the spring runoff and had directed MESA District offices to conduct evaluations of all Type VII structures (cross-valley impoundments) under their jurisdiction to

determine if any potentially hazardous conditions existed at these sites. At the same time, a letter was sent to all coal mine operators. The letter outlined the structural problems which could develop during the winter months and reminded the operator of his responsibility to determine that all aspect of his impoundments, especially decants, spillways, and diversion ditches, were in proper operating condition. Many companies greatly increased the frequency of their inspections as a result of this letter, and there were no reports of any significant problems resulting from the severe spring floods. As stated earlier, we feel that this fact alone underscores the significant amount of remedial work that has been accomplished at these sites over the last four-year period.

Contrary to the assertions made by the General Accounting Office in the draft report regarding the conditions at active disposal sites, MESA has made considerable progress in eliminating hazardous conditions at coal waste sites, especially those hazardous impounding structures which were identified by the Interior Task Force emergency investigation after Buffalo Creek. At many sites the impounding capacity has been completely eliminated by back filling. The degree of hazard at all sites has been significantly decreased. Without improvements many of the earlier deficient sites would probably have overtopped and failed during this spring's flooding in the Appalachian region. Furthermore, members of the recent GAO audit team, who also served on the Interior Task Force Team following the Buffalo Creek disaster, verbally stated to MESA personnel that they observed substantial progress since their earlier investigations.

It must be pointed out that the regulations governing existing impounding structures became effective May 1, 1976, only three months before GAO initiated its audit, and that the revised regulations governing refuse piles had only been in force ten months prior to the start of the audit. Corrective work to comply with these regulations requires not only detailed engineering, but also involves moving hundreds of thousands, and sometimes millions, of cubic yards of coal waste material. Such modifications, as a function of sheer magnitude, cannot be accomplished in a short span of time. The GAO report fails to consider the magnitude of the remedial efforts required to upgrade a site.

GAO contends that Section 101(a) of the Coal Act authorizes MESA to promulgate regulations "for the protection of life" and that this authorization extends to regulation of abandoned structures on active and abandoned mines that pose potential hazards to nonminers. To reach this conclusion, GAO must ignore the full text of Section 101(a) of the Act which states in pertinent part:

"The Secretary shall . . . promulgate . . . improved mandatory safety standards for the protection of life and the prevention of injuries in a coal mine . . ."
(Emphasis added.)

We do not agree that the words "in a coal mine" may be ignored nor do we agree that the provision may be read, no matter how liberally, so that the words "in a coal mine" qualify only the words "prevention of injuries." The House Conference Report, No. 91-761, on page 63 states:

". . . the managers intend that the Act be construed liberally when improved health or safety to miners will result." (Emphasis added.)

Section 3(g) of the Act defines "miner" as meaning "any individual working in a coal mine." Section 3(h) of the Act defines "coal mine" in terms of geographic limitation as follows:

"(h) 'coal mine' means an area of land, and all structures . . . and other property . . . placed upon, . . . or above the surface of such land" (Emphasis added.)

As to GAO's recommendation that the Secretary regulate "abandoned coal waste sites," MESA believes that such sites do not fall within its jurisdiction under Section 4 of the Act which provides:

"Each coal mine, the products of which enter commerce, or the operations or products which affect commerce, and each operator of such mine, and every miner in such mine shall be subject to the provisions of this Act."

It is submitted that if a mine is abandoned there are no products of the mine which enter commerce; that there are no operations or products of the mine which can affect commerce; that there is no longer an operator of a mine; and that there are no longer any miners in a coal mine.

Finally, Congress recognizes MESA's lack of jurisdiction by stating as an objective of the "Abandoned Mine Reclamation Fund" in the pending Surface Mining Control and Reclamation Act of 1977 to be "the protection of health or safety to the public."

The issuance of an Order of Withdrawal requires the coal mine operator or his agent to remove all miners from the mine, or the affected area of the mine. The Federal Coal Mine Health and Safety Act of 1969 contains no authority for a Withdrawal Order to set forth how the condition or practice leading to the Order must be corrected nor can a time frame be specified as to when the corrections must be made. MESA has no further jurisdictional authority if the operator decides, for whatever reason, to close the mine or section of a mine without correcting the condition or practice. There are no penalties

or procedures that would force the operator to correct the condition or practice at an abandoned mine or section of a mine. Therefore, considering MESA's limited authority once an Order of Withdrawal is issued at an active mine, it goes without saying that an order issued to a former owner of an abandoned mine would not force compliance with the regulations.

MESA agrees with GAO's opinion that the current regulations applicable to coal waste disposal practices and facilities are adequate and, if effectively administered, should ensure that all active coal waste disposal sites are constructed in a safe manner. However, we must question GAO's implication that progress toward reducing hazardous conditions has only been achieved at some active coal waste sites. MESA has significantly reduced the hazard potential at most of the sites under our jurisdiction. The findings of GAO's Interagency Inspection Team of recent on-site evaluations of selected waste disposal sites support this position.

We readily agree that there still exist some active coal waste sites that pose a potential hazard which will require extensive remedial work to increase the factor of safety. MESA has been and is currently monitoring these sites on a periodic basis and will continue to do so to ensure that the operator is making satisfactory progress toward completing the necessary remedial work for each respective site.

MESA cannot totally disagree with GAO's conclusion that 19 (or 51 percent) of the 37 sites inspected by the Interagency Evaluation Team are potentially hazardous in varying degrees. However, MESA is of the opinion that the term "potentially hazardous" does not accurately reflect the seriousness of the problems existing at these sites. As stated earlier, the hazard potential at these 37 sites has been significantly reduced and structural deficiencies similar in magnitude to those which existed at the Buffalo Creek site at the time of the 1972 flood disaster are not present because of the amount of remedial work which has been accomplished during the previous four-year period.

GAO has concluded that four active refuse disposal sites have deteriorated since the initial Corps of Engineers inspection following the Buffalo Creek disaster. MESA is of the opinion that the criteria used in evaluating the hazard classification of the sites by the Corps in their initial inspections is substantially different from that used by the GAO Interagency Evaluation Teams. The state-of-the-art of coal refuse disposal has been greatly refined since 1972 and the applicable construction and design criteria has become more stringent.

In addition, the hazard classification system used in the initial Corps of Engineers sites investigation is not entirely compatible with the MESA system used by GAO. The MESA system is more definitive as pertains to potential for hazard and failure possibility. If the hazard rating system used by GAO had been used by the Corps of Engineers in their initial inspections, many of the sites rated "safe" at that time would have been rated as "potentially hazardous."

[See GAO note, p. 71.]

The field hazard classification used by MESA is as follows:

The rating is based on the inspector's non-technical evaluation of the site conditions. The Field Hazard Classification System is based on (1) the stability of the refuse facility or its failure probability, and (2) the consequences of such a failure. The result of a failure is based on the inspector's field observations and his knowledge of downstream or downslope development. Thus, an inspector can assign his best estimate of the overall hazard potential of a site using combinations of the following two listings:

<u>Consequences of Failure</u>	<u>Failure Probability</u>
I. Potential for loss of life	A. Imminent
II. High potential for injury and loss of property	B. Severe (Major design deficiencies)
III. Low potential for injury and loss of property	C. Possible (Significant design deficiencies)
IV. No potential for injury or loss of property	D. Possible (Minor design deficiencies)
	E. None

<u>Field-assigned Hazard Classification</u>	<u>Description</u>
IA	Potential for loss of life; could fail at any time
IB	Potential for loss of life; any further degradation in stability could result in failure
IC	Potential for loss of life; possibility of failure if adverse conditions combine with deficiencies to substantially degrade stability
ID	Potential for loss of life; possibility of failure only under the most adverse conditions
IE	Potential for loss of life; minimum possibility of failure
IIA	High potential for injury and loss of property; could fail at any time
IIB	High potential for injury and loss of property; any further degradation in stability could result in failure
IIC	High potential for injury and loss of property; possibility of failure if adverse conditions combine with deficiencies to substantially degrade stability
IID	High potential for injury and loss of property; possibility of failure only under the most adverse conditions
IIE	High potential for injury and loss of property; minimum possibility of failure
IIIA	Low potential for injury and loss of property; could fail at any time

<u>Field-assigned Hazard Classification</u>	<u>Description</u>
IIIB	Low potential for injury and loss of property; any further degradation in stability could result in failure
IIIC	Low potential for injury and loss of property; possibility of failure if adverse conditions combine with deficiencies to substantially degrade stability
IIID	Low potential for injury and loss of property; possibility of failure only under the most adverse conditions
IIIE	Low potential for injury and loss of property; minimum possibility of failure
IIVA	No potential for injury or loss of property; could fail at any time
IVB	No potential for injury or loss of property; any further degradation in stability could result in failure
IVC	No potential for injury or loss of property; possibility of failure if adverse conditions combine with deficiencies to substantially degrade stability
IVD	No potential for injury or loss of property; possibility of failure only under the most adverse conditions
IVE	No potential for injury or loss of property; minimum possibility of failure

MESA recommends that GAO recognize the effort in terms of man-hours, equipment and monies which have been expended by coal operators toward significantly reducing the hazard potential at most of the active coal waste sites and that this effort is a direct result of MESA's enforcement of the applicable mandatory regulations.

GAO RECOMMENDATIONS TO THE SECRETARY OF THE INTERIOR

"Accordingly, we recommend that the Secretary of the Interior direct the Administrator of MESA to:

--- take immediate steps to ascertain the full extent to which MESA regulations are not being adequately and effectively implemented in all MESA districts.

--- establish effective management controls over inspection operations at MESA's headquarters to ensure that (1) all required inspections are being made, (2) the results of inspections are adequately documented and reported, (3) inspections are made only by qualified inspectors, and (4) MESA headquarters supervisory personnel are fully apprised of important field inspection findings and are required to evaluate and follow up on the disposition of findings."

Comments

We agree that in District 6 the required number of inspections were not made at some active coal mines. Due to personnel recruiting problems in Eastern Kentucky, there were some surface and underground mines which did not receive three and four inspections of the entire mine, respectively. However, these mines were inspected in their entirety and the regulations are being enforced. We also agree that the records of inspection activity, insofar as the submission of the Periodic Inspection Forms, in District 6 are incomplete and, in some instances, inadequate. The Arlington office is presently analyzing the problem in District 6 with respect to the adequacy of its record-keeping system. [See GAO note, p. 71.] The regulations governing coal waste impoundments and refuse piles are being enforced when inspections are made.

Although specific information relating to coal waste disposal, which is readily available through our Management Information System, has been requested at various times by headquarters management, we have not had a routine reporting procedure; however, on June 30, 1977, such a procedure was instituted which requires District Managers to provide the Arlington office with the following information on coal waste impoundments and refuse piles:

1. Name of company and site name
2. Site identification number and location
3. Site Field Hazard Classification and site configuration

4. If plans have been submitted, dates of submittal and current status of plans
5. If plans have not been submitted, copies of actions taken in accordance with Section 104(b) of the Act and copies of any Orders issued
6. A copy of all outstanding Notices and Orders issued on refuse piles and a copy of each extension, if any.

Through this review process, MESA's headquarters supervisory personnel will be aware of the findings of the inspectorate and will be able to monitor this facet of the enforcement system.

"Accordingly, we recommend that the Secretary of the Interior direct the Administrator of MESA to:

--- develop an appropriate training program for inspectors to insure the adequacy of inspections."

Comments

Coal Mine Health and Safety developed a training program for Duly Authorized Representatives of the Secretary which addressed the newly promulgated regulations for coal mine waste impoundments and refuse piles. This program was presented to the inspectorate during the week of September 22, 1975. On September 12, 1977, Coal Mine Health and Safety will institute an additional three-day training program for Duly Authorized Representatives of the Secretary who perform regular inspection work. We will utilize personnel from the Office of Technical Support and District coal waste specialists to conduct this training which will be held in each District. Upon completion of the training for coal mine inspectors and engineers, we will provide each coal waste specialist with forty hours of training at the National Academy. This training should be completed by December 30, 1977.

"Accordingly, we recommend that the Secretary of the Interior direct the Administrator of MESA to:

--- develop appropriate guidelines and criteria for inspectors to follow in granting time extensions to coal mine operators to correct violations, and for invoking penalties for noncompliance with MESA's regulations."

Comments

GAO contends that MESA has issued too many extensions of time to abate Section 104(b) Notices of Violation. Further, GAO claims that the extensions are not well documented and are not justified. Weaknesses in documentation are easily corrected, and instructions to field personnel to fully document extensions of Section 104(b) Notices, including statements of the work already performed, will be issued by July 29, 1977. The larger problem of MESA policy on the issuance of Section 104(b) Notices and subsequent extensions relative to refuse piles and impounding structures remains a difficult area to resolve within the actual terms of Section 104(b) of the Act. Abatement of many violations may require plan approval and extensive structural work and movement of many thousands of cubic yards of material, thereby necessitating a long period that in a strict sense would be considered "reasonable" under the provisions of Section 104(b).

Faced with the problem of insuring that the work towards ultimate abatement is proceeding on schedule and in order for MESA to retain control of the situation, MESA's practice has been to issue Notices specifying short abatement times and then extending the Notices as the abatement work progressed. This practice was intended to foreclose the real possibility of an operator taking no steps toward abatement until the very end of the "reasonable" long abatement period.

We believe that this procedure in the long run is a better tool to cause compliance than giving a mine operator a long abatement period, returning to the mine and finding that no progress has been made towards compliance. In this case, we would issue an Order of Withdrawal; however, the condition or practice which caused the Section 104(b) Notice to be issued would still exist.

"Accordingly, we recommend that the Secretary of the Interior direct the Administrator of MESA to:

--- reexamine the entire penalty structure governing violations with the objective of determining what types and levels of penalties are required to create sufficient incentive for mine operators to comply with coal waste disposal regulations."

Comments

One type of penalty MESA must, by law, impose is a civil monetary penalty as an incentive for mine operator compliance with the mandatory health and safety standards. On March 1, 1977, MESA instituted

a special assessment program to give special attention to violations which were caused by the operator's unwarrantable failure to comply with the law. These penalties are averaging \$3,000.00 per violation. This is a substantial increase over the penalties previously assessed.

On June 8, 1977, MESA submitted a recommendation to the Assistant Secretary--Energy and Minerals that the regulations governing assessment of civil penalties be changed to increase the amount of penalty for substantially all violations of Federal regulations applicable to coal mining.


"We further recommend that the Secretary of the Interior direct the Director of the Bureau of Mines and the Administrator of MESA to refine their procedures for disseminating the results of coal waste research, through the involvement of MESA, to help assure that it is received by all interested mine operators and other interested parties."

Comments

We agree with this recommendation. There is always room for improvement in technology transfer mechanisms. We are presently implementing a procedure whereby each MESA inspector will directly receive copies of reports of Bureau research. This procedure will improve the day-to-day exchange of research results between the inspectors and mine operators. As part of the annual joint planning between the Bureau of Mines and MESA, we are incorporating a strategy on technology transfer procedures into the Health and Safety Research strategy paper to more explicitly define coordination responsibilities.

We appreciate the opportunity to review and comment on your report.

Sincerely yours,


Assistant Secretary--Policy,
Budget and Administration

GAO note: The deleted comments relate to matters which were discussed in the draft report but omitted from this final report.

ROBERT D BELL
Secretary



JULIAN M CARROLL
Governor

COMMONWEALTH OF KENTUCKY
DEPARTMENT FOR NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION
BUREAU OF NATURAL RESOURCES
JOHN D WITT
COMMISSIONER
FRANKFORT, KENTUCKY 40601

June 8, 1977

Mr. Henry Eschwege, Director
Community and Environmental Division
U. S. General Accounting Office
Washington, D. C. 20548

Dear Mr. Eschwege:

Thank you for the opportunity to comment on the draft proposal entitled "Many Coal Mine Waste Disposal Sites Are Hazardous". Kentucky Water Resources Law authorizes the Department for Natural Resources and Environmental Protection to take such actions as deemed necessary to render water barriers safe, upon designation of a state of emergency by the Governor.

To my knowledge, there are no hazardous dams within the state on which either remedial work has not been accomplished or is in progress, hazardous used in the context of failure being imminent and involving possible loss of life or property. There are dams in such a condition that failure could occur but damage, in essence, would only involve loss of the structure.

As noted in the draft report, the Kentucky Division of Water Resources has six (6) engineers and a budget of approximately \$120,000.00, to monitor and inspect all impounding structures in the state. The number of structures currently in our inventory is approximately 780, this includes coal waste impounding structures.

[See GAO note, p. 73.]

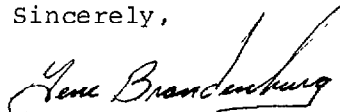
A cooperative effort was initiated by state and federal regulatory agencies to alleviate the sites which were rated as being

hazardous in the "Final Report Inspection and Appraisal of Coal Mine Refuse Banks and Associated Impoundments in the Commonwealth of Kentucky", published in March, 1974. Since this report was published all sites rated extremely hazardous, hazardous, or unsafe, have had remedial work accomplished or are in the process of having remedial measures to render them safe. Since this Department has no jurisdictional authority to regulate waste banks, either abandoned or active on mine property, our comments relate only to impounding structures. In the draft report, Site numbers 25, 53, and 128 were noted as being potentially hazardous. All of these sites have had a substantial amount of remedial action accomplished and would only be rated as potentially hazardous because construction personnel are currently working at the site.

Site number 131 owned by Letcher County, has been inspected by this Agency yearly and the last inspection was accomplished on April 11, 1977. The owners have been notified that necessary remedial actions are to be implemented. I concur with the tentative recommendations as outlined in the draft report.

Again, thank you very much for the opportunity to review this draft report and I look forward to the information forthcoming from your final report.

Sincerely,



Gene Brandenburg, Director
Division of Water Resources

GAO note: The deleted comments refer to matters which are not pertinent to our final report.



STATE OF WEST VIRGINIA
DEPARTMENT OF NATURAL RESOURCES
COAL REFUSE & DAM CONTROL SECTION

David C. Callaghan
Director

June 27, 1977

312 Main Avenue
Nitro, West Virginia 25143.

Mr. Henry Eschwege, Director
General Accounting Office
Community & Economic Development Division
Washington, D. C. 20548

Dear Mr. Eschwege:

In response to your request for written comments on the sections of the GAO report on the MESA coal waste program which were sent to this office, I have formulated the following brief statements.

1. Pages 13-18:

[See GAO note, p. 75.]

the biggest problem with some of the abandoned sites is determining the liability. The case of an active coal company holding the lease with a land corporation on property which includes an abandoned site operated by another company is all too common. The legal problem which ensues is very hard to resolve when three corporations start defining liabilities. The time involved in deciding responsibilities could be better spent correcting the hazard if a program were adequately funded.

[See GAO note, p. 75.]

Page Two
June 27, 1977

[See GAO note.]

Not having possession of the entire report, I cannot comment on its content in toto, however, during the two weeks spent evaluating the program, there were many remarks and suggestions made by the team. The portions of the report I received do not indicate the scope of the audit. Without elaborating, many comments made pertaining to technical aspects, regulations, staff, and other items in the MESA program are not evident in the text. I can only hope that these comments are integral in the report.

As a final comment I would like to make an observation. Regulation of coal waste embankments and/or impoundments requires a broad knowledge of the geotechnical, hydrological, and hydraulic fields of engineering. The formation of an evaluation team composed of individuals with this type of background was a wise decision.

[See GAO note.]

Thank you for the opportunity to comment and assist in the improvement of safety regulations. If I can be of further service, do not hesitate to contact me.

Sincerely,



Michael K. Robinson
Assistant Chief

GAO note: The deleted comments refer to matters which are not pertinent to or not discussed in our final report.

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