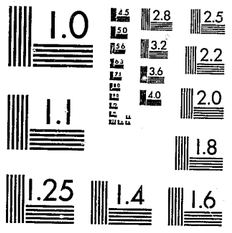

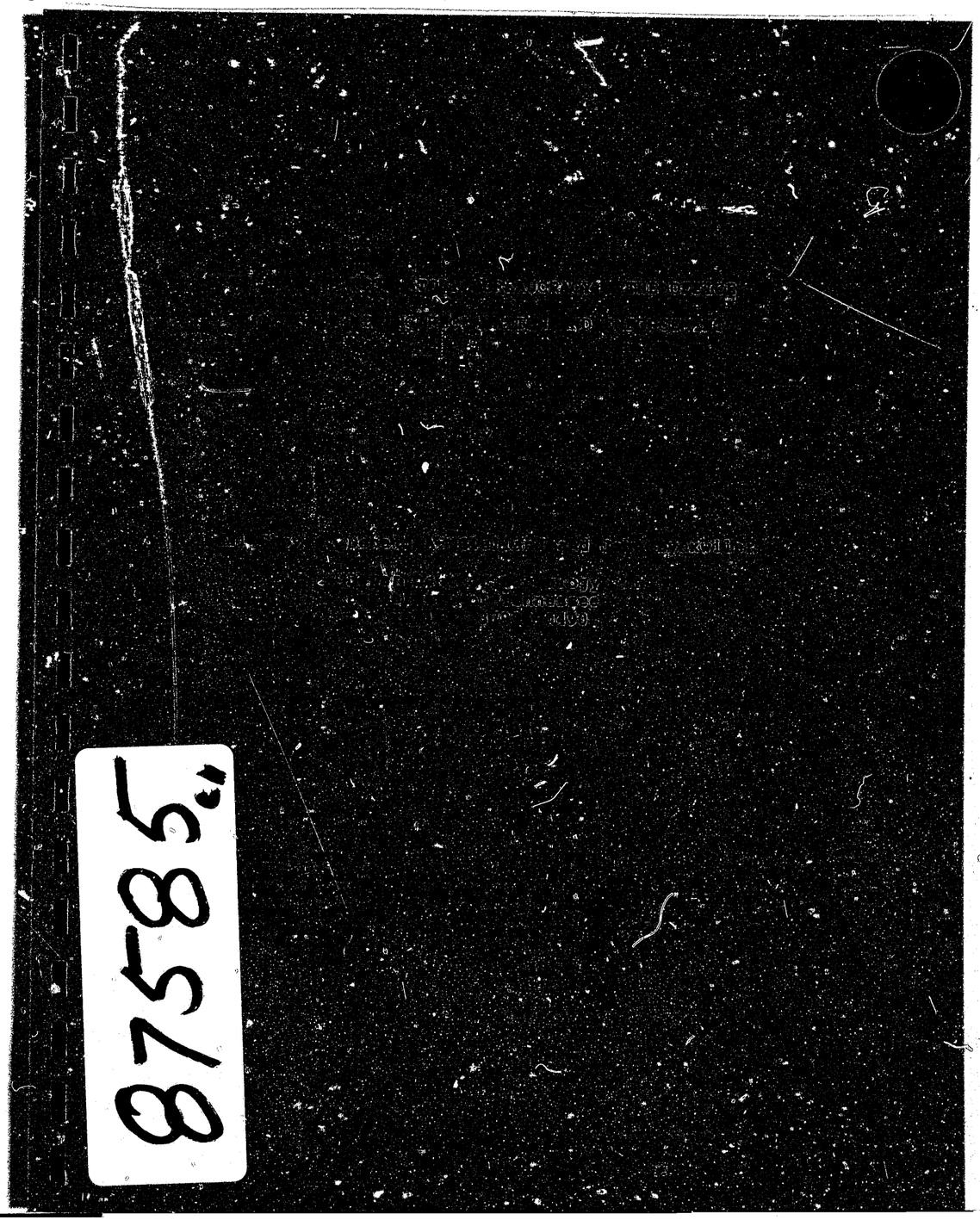

ABSTRACT

A variety of methological strategies were employed to examine the development of the Office of Surface Mining Reclamation and Enforcement (OSM) during its initial five years of operations. Created by the Surface Mining Control and Reclamation Act of 1977 (SMCRA), the OSM was empowered to promulgate federal regulations for surface coal mining in the United States and to assist the states in developing compatible regulatory programs.

We introduce, distinguish, and discuss two ideal-typical polar types of regulatory styles: enforced compliance and negotiated compliance. The regulatory program developed by the OSM during its first two years of operation approximated the former type. The agency's development of the enforced compliance style was a response to the four sets of constraints: (1) the nature of the agency's enabling statute, (2) political forces, (3) ideological premises held by influential members of the agency's initial leadership corps, and (4) shortage of resources, especially time, during the agency's formative months. We document the agency's choice of the enforced compliance style through an analysis of their promulgated regulations. We note, however, that an enforcement style more akin to negotiated compliance was developed in one of the agency's five regional offices. This region is compared with another in order to develop an explanation of how local conditions shape a national regulatory program. We also examine the operation of the OSM's inspection and enforcement program.

We discuss and interpret the agency's gradual softening of its regulatory stance after its first two years of life. Finally, we describe the dramatic changes wrought in the agency after the arrival of President Ronald Reagan's appointees to the Department of the Interior and the Office of Surface Mining.

ACKNOWLEDGMENTS

We received assistance from many individuals while conducting this research. While circumstances do not permit us to thank each person individually, several were so helpful that they deserve special mention.

Bernie Auchter, our project monitor at the National Institute of Justice was an important source of information and assistance throughout the research. Always gracious and amicable, Bernie helped keep us on course during the project's early months, and provided information and assistance whenever he was asked. Although we began the research with some misgivings about the possibly intrusive role of a "project monitor," Bernie performed so capably but unobtrusively that we eventually acquired a degree of tolerance -- even respect -- for such personnel.

Of course, we owe a special debt to the persons we interviewed -- some of them more than once -- during the research. Representatives of environmentalist groups, coal companies, coal industry trade associations, and state regulatory agencies proved to be interested in and helpful to our research efforts. There can be no other way to explain their patience and grace, especially during the early months, as they tolerated questions from us which must have revealed an appalling ignorance of elementary matters. With remarkably few exceptions, they gave us their time and shared their experiences with and insights about surface mining issues and the Office of Surface Mining.

While all our respondents were helpful in some way, several provided extraordinary or crucial assistance. Walter N. Heine, the first director of the Office of Surface Mining, gave his consent and assistance to the research effort. Richard M. ("Dick") Hall, the Office of Surface Mining's initial Assistant Director for Inspection and Enforcement, was instrumental in gaining a hearing for our research request, and in keeping the project alive when it seemed in danger of foundering. Dick's friendliness and intuitive grasp of the potential importance of the research provided a welcome relief from the necessity originally to explain and justify the project. Also, Paul Reeves, the agency's first Deputy Director, cleared away the final remaining obstacles to our efforts, thus assuring cooperation from others in the agency.

The current leadership at the Office of Surface Mining was no less helpful to and supportive of our efforts. James ("Dick") Harris, Director; J. Steven ("Steve") Griles, Deputy Director; and Dean Hunt, Assistant Director for Techncial Standards and Research, deserve special mention.

A number of persons formerly or currently employed by the Department of the Interior or the Office of Surface Mining read and offered comments on a draft of this report. Two individuals devoted substantial time and energy to the task: William

Eichbaum, former Associate Solicitor for Surface Mining, and Edgar Imhoff, former director of the agency's Region III. Included in the two groups are several persons who disagreed sharply with some of our analysis. Their comments and arguments alerted us to several factual errors and also forced us to reexamine some of our earlier assumptions and interpretations. Undoubtedly, some disagreements remain. Nevertheless, we appreciate their critical comments.

We extend our thanks as well to two professional colleagues. Gil Geis and Keith Hawkins read and critiqued an earlier draft of this report. Unquestionably, their efforts made this final report stronger.

Finally, we welcome the opportunity to acknowledge publicly the contributions made by the members of the research team and to express our appreciation publicly for their support and efforts. John Lynxwiler and Steve Groce worked capably and loyally as research assistants, and patiently tolerated more than a little ambiguity at several stages of the project. Betty Glenn, the project secretary, remained helpful and pleasant despite many difficult hours spent transcribing tape-recorded interviews.

We emphasize, however, that none of the individuals we have singled out here are responsible for any shortcomings in the interpretation of data or this report's findings.

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INTRODUCTION

For many Americans, the decade of the 1970s was a time of greatly intensified environmental consciousness. Citizens and environmentalist groups waged titanic battles with various sectors of industry over legislation intended to protect and enhance the environment. Among the several environmental protection statutes enacted was the Surface Mining Control and Reclamation Act of 1977 (SMCRA; Public Law 95-87; U.S.C. 1201 et seq.), which President Jimmy Carter signed on August 3 of that year.

This controversial Act established a federal presence in the regulation of surface coal mining. Its advocates sought to control the environmental degradation that resulted from strip mining. The federal government had been urged to take legislative action because of the manifest failure of many states to adequately regulate the coal industry. The Act created a regulatory agency, the Office of Surface Mining Reclamation and Enforcement (OSM) within the Department of Interior. The agency was empowered to promulgate and enforce interim federal regulations and to ensure the development and implementation of state regulatory programs consistent with the requirements of the Act.

Here we report the results of research on the development and impact of the Office of Surface Mining during the first five years of its operation. The focus of the research was on the entire regulatory process -- on what occurs behind the administrative facade.

Sections one through four of this report describe the study's methodology, the surface coal mining process and its environmental consequences, the drive to enact federal regulatory legislation, and the Act itself. Section five reviews social scientific writings on the regulatory process and discusses two ideal-typical sets of options available to regulatory personnel in the construction and day-to-day operations of such agencies. In sections six through eight we examine how Office of Surface Mining personnel constructed and pursued agency objectives during the Carter administration, the constraints under which they operated, and why particular mission and policy options were selected. We also describe the continuing social construction of the law through the rule-making process, appellate litigation, bureaucratic structure and process, and finally, implementation of the law at the field level. In the final four sections, we examine recent changes in the program, some impacts of the regulatory presence, and implications for regulatory policy in light of our theoretical approach and findings.

A NOTE ON RESEARCH METHODS

As conceived originally, our primary research objective was to develop a detailed understanding and theoretical interpretation

of the forces, both from within and without, that shape a new regulatory agency and program. We planned to make extensive use of participant observation as a data collection technique, and to focus both on agency policy making and its field-level implementation in two distinctively different coal producing regions of the United States.

We approached headquarters executives of the Office of Surface Mining -- rather naively as it turned out -- with our proposal and asked for their cooperation. They expressed an interest in the project's objectives and readily provided assurances that the research could proceed. However, nearly a year elapsed between this initial contact with headquarters (HQ) and the start of data collection. During this interim period, the agency came under intense attack on a variety of fronts, and its regional office personnel faced severe work pressures mandated by the agency's enabling statute. Consequently, when we moved to begin data collection in two of the agency's five regional offices, managers in the designated offices balked. Data collection was stalled for several months while we renegotiated the terms of the research agreement. Eventually we secured regional cooperation, but only on the condition that our plans for participant observation be dropped.

We employed five methodological techniques in the course of the research: (1) archival analysis, (2) personal interviews, (3) a mail questionnaire, (4) analysis of personal documents, and (5) analysis of secondary reports and analyses of the Office of Surface Mining and its operations. Here we give a brief overview of our methods; specific data collection techniques are detailed at appropriate places in the remainder of the report.

We examined trade publications of the coal industry spanning a period of nearly fifteen years, concentrating on the interval between 1968 and passage of the Act in 1977. The most useful publications here were the MINING CONGRESS JOURNAL and COAL AGE, though we also examined some issues of trade publications representing the viewpoints of smaller coal producers (e.g., the NATIONAL INDEPENDENT COAL LEADER). We scrutinized published hearings held by Congressional committees and subcommittees during the period when Congress was considering federal legislation to regulate surface coal mining (1968-77). Also, we examined all subsequent House and Senate committee reports on oversight of the OSM.

We collected and examined numerous OSM internal reports and memoranda on the emerging regulatory program, its reception and impact, and the agency's relations with its various constituencies. We secured and analyzed routine, periodic statistical reports on the agency's inspection and enforcement operations. Additionally, we selected a sample of 83 coal mining firms and examined OSM's inspection and enforcement records for all enforcement actions taken against the companies during an 18 month period in 1978-80. Data from the files were coded and analyzed to determine the major variables that affect enforcement

activities, especially the magnitude of civil fines assessed for violations of the agency's regulations.

Members of the research team attended eight public hearings -- all in southern Appalachia -- held by the OSM to collect public comments on portions of its emerging regulatory programs. We examined the transcripts of numerous other hearings of the same type for regions outside southern Appalachia.

In addition to these archival data, personal interviews were conducted with 154 persons. Many of the respondents were interviewed two or more times so that we conducted approximately 180 interviews. Overwhelmingly, the majority of the interviews were conducted in Washington, D.C. and the two OSM regions targeted in our proposal. Although most of the interviews were face-to-face, approximately 10 were conducted by telephone. The majority of the interviews were tape recorded and later transcribed for analysis. However, physical circumstances and the preferences of respondents did not always permit us to record the interviews. In such situations we relied on field notes made either during the interview or immediately following its conclusion.

OSM respondents ranged from field-level personnel to the highest ranking executives at the headquarters level. We also interviewed personnel in the Department of the Interior, including the Solicitor's Office, whose attorneys represent the Office of Surface Mining. Exclusive of the agency itself, the personal interviews included Congressional staff members and former staff members, former White House personnel, representatives of environmentalist and other citizens' groups, representatives of coal industry trade and lobbying organizations, employees and officers of numerous mining companies, and personnel in a number of state-level surface mining regulatory agencies. Table 1 summarizes the numbers and types of individuals who were interviewed.

As Table 1 indicates, we interviewed 43 OSM inspectors and former inspectors regarding the regulatory process at the field-level. However, because the inspection and enforcement program was a special research focus, we constructed a mail questionnaire that was used to collect comparable data for OSM's entire inspector corps. The questionnaire, which is discussed in greater detail in Section 7, was mailed in July 1981 to all remaining OSM inspectors (N = 158). Replies were received from 126 inspectors (79.8 percent).

A number of OSM personnel or former personnel shared with us personal materials they compiled or collected during their tenure in the agency. Also, several individuals virtually opened their files to us, enabling us to examine a variety of materials such as internal memoranda and policy option papers that would not have been available otherwise.

Finally, we examined available published research on the

TABLE 1

SUMMARY DESCRIPTION OF INTERVIEW RESPONDENTS

Type of Respondent/Group	Number
OSM Personnel	
Headquarters Personnel:	
Executives	9
Others (e.g., branch chiefs)	3
Regional Level:	
Managers	11
Others (e.g., field supervisors, inspectors)	43
Interior Department	
Executives	2
Solicitors	6
Coal Industry	
Mining Companies	38
Trade Associations/Lobbying Organizations	9
Mining Consultants & Related Industry (e.g., heavy equipment salespersons)	6
Environmentalist Organizations	
National	4
Regional	6
State Personnel	
Managers	6
Others (e.g., field supervisors, inspectors)	8
Others (e.g., Congressional staff, White House aides)	3
TOTAL	154

surface coal mining process and the Office of Surface Mining (e.g., National Research Council, 1980; 1981; Menzel et al., 1980; Weiner, 1980). Several coal companies and industry trade associations gave us copies of their own studies on the impact of the OSM's regulatory program. Likewise, environmentalist groups helped us greatly by providing copies of some of their studies of surface mining regulation (e.g., Save Our Cumberland Mountains, n.d.; Environmental Policy Center, 1982).

SECTION 1: COAL AND SURFACE MINING IN AMERICA

The United States is underlain with enormous coal deposits; in 1979 the country's demonstrated coal reserve base was 474.6 billion tons. Given the present economics and technology of mining, about one-half of the demonstrated coal reserve base is estimated to be recoverable (U.S. Department of Energy, 1982: 137). This coal is approximately 25 percent of the estimated international recoverable reserves. Little wonder then that since the Arab oil embargo of the early 1970s the United States often has been referred to as the "Saudi Arabia of coal." In the past decade, many politicians and coal industry spokesmen alike have called for a greater use of coal as an energy source.

TRENDS IN AMERICAN COAL PRODUCTION

American coal has been mined commercially for more than a century. For many decades, however, excepting the impact of limited technological developments, the mining process remained virtually unchanged. Coal was mined almost exclusively by underground or deep mining methods; from combinations of shafts and tunnels, miners blasted and gouged the coal from its naturally occurring strata or seams. After loading onto conveyances of various kinds, the coal was hauled to the surface for processing and shipping.

In 1920, approximately 98 percent of the coal produced in America came from deep mines. And even though this percentage decreased gradually over the next few decades, in 1950 deep mining still accounted for 76 percent of American production (President's Commission on Coal, 1980). In recent years, however, two significant developments have altered drastically the traditional patterns of American coal mining: the growth of surface mining and the increasing importance of western coal production.

In the late 1950s and early 1960s, surface coal production rapidly began claiming a larger share of U.S. coal production. As a result, by 1970, deep mining methods accounted for only 55 percent of total U.S. coal production and, by 1980, this proportion had dropped to 41 percent (U.S. Dept. of Energy, 1982: 125).

The major reasons for the growth of surface mining are economic. To begin with, net production costs for surface mined coal are lower than for deep-mined coal. For example, the average surface miner produces approximately three times more coal per day than the average deep miner. Also, surface mining has a higher recovery rate; surface mining can recover up to 90 percent of the coal in a seam while deep mining recovers less than 60 percent (U.S. Dept. of Energy, 1980: 7). Further, the growth of surface mining has been spurred by dramatic increases in the size and handling capacity of heavy equipment. This has been especially

important in the midwestern and western coal fields where terrain and thick coal seams permit the use of such machinery.

Although coal is found beneath 31 of the 50 states, coal deposits cluster in three regions of the United States: Appalachia, the midwest, and the west. Historically, the lion's share of coal production occurred east of the Mississippi River. For example, 92 percent of the coal produced in 1970 came from mines located in the east, and the bulk of this was from Appalachia. However, by 1980 only 62 percent of American coal production came from eastern mines (U.S. Dept. of Energy, 1982: 125).

In Appalachia, thousands of firms, many of them quite small, engage in surface mining. On steep mountain slopes and in narrow valleys, they mine relatively thin seams of high energy, high sulfur coal. In the midwest, the gently rolling terrain, much more hospitable to mine operators, permits the use of larger machinery than is possible in Appalachia. Also, coal seams generally are thicker than in Appalachia. Coal in the midwest and in Appalachia is primarily bituminous, which has a high heat content.

By contrast, western coal is primarily subbituminous. Compared to bituminous coal, it is not as "hot" when burned. However, more than compensating for its lower heat content is the fact that western coal seams are extremely thick, and they are covered by relatively thin overburden. Together these geological features make it highly profitable to strip mine in the west. In addition, western coal has a lower sulfur content than eastern coal. The demand for low-sulfur coal grew quickly following passage of the Clean Air Act in 1970. Western surface mines tend to be extremely large, and in marked contrast with Appalachia, there are only a few hundred mines west of the Mississippi River. In 1979, 43 percent of total Appalachian coal production was mined by surface methods, while the comparable percentage for western production was 89 percent (U.S. Dept. of Energy, 1981: 7).

In sum, the locus of American coal production has been shifting from underground to the surface, and from Appalachia to the west. Both of these trends are expected to continue into the foreseeable future.

THE SURFACE COAL MINING PROCESS

The technical process of surface coal mining can be comprehended easily. A somewhat idyllic description is provided by the National Coal Association:

> [T]he coal is produced . . . from seams lying fairly close to the earth's surface. The earth and rock above the coal seam -- the overburden -- are removed and placed to one side; the exposed coal is broken up, loaded into trucks and hauled away. Bulldozers then

grade the overburden to the desired shape, the surface is replanted with seeds or young trees, and the land is restored to productive use (COAL FACTS: 11).

There are two principal methods employed in coal surface mining: contour mining and area mining. In the contour mining process, bulldozers are used to cut a notch in the side of a mountain, exposing the coal seam. The vertical side of the notch is the highwall and the horizontal side is the bench. As mining proceeds, the bench is extended along the contour of the mountain. Figure 1 depicts the contour mining process.

Mountaintop removal is a special case of the contour method. In mountaintop mining, because the coal seam lies close to the top of the mountain, it is possible to slice off the peak to reach the coal. When mining is completed, the top of the mountain, in contrast to the surrounding peaks, is flat. Figure 2 illustrates the process of mountaintop removal in surface mining.

Many times, auger mining is carried out in conjunction with contour mining. Large drill bits (augers) bore horizontally into the portion of the coal seam which is visible in the highwall after the contour mining process has been completed. The rotation of the auger simultaneously extends it deeper into the coal seam and deposits the loosened coal on the bench. This process is shown in Figure 3.

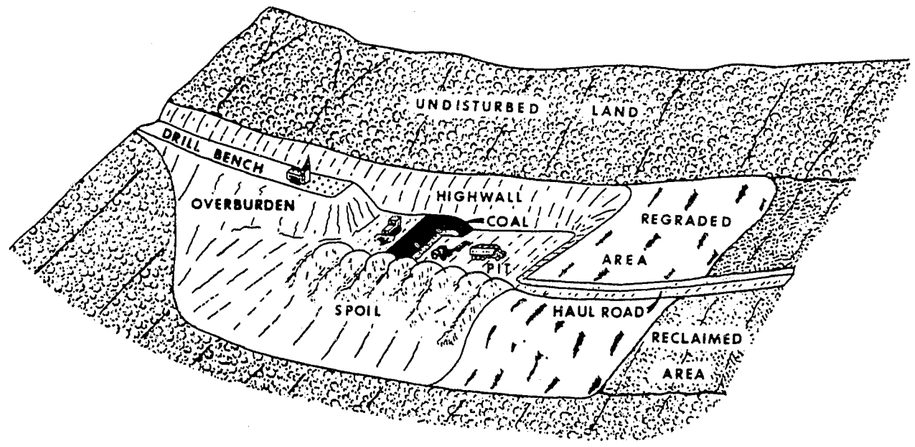
Whereas contour mining and its variants are dominant in the mountainous Appalachian terrain, area mining is dominant in the flat and gently rolling terrain of the midwest and west. Replacing the bulldozer as the primary type of machinery are the power-shovel and the dragline. Using this equipment, an initial trench is dug in the ground (the box cut) to expose the coal seam. The spoil -- removed overburden -- is placed beside the trench, and the coal is removed. As can be seen in Figure 4, the next cut is made parallel to the box cut, and the spoil is placed in the box cut trench. This process of parallel cuts is continued until mining is completed, with the spoil from each cut being placed in the earlier adjacent trench. In large mines, dozens of trenches may be cut before the process is completed.

THE DESTRUCTIVE EFFECTS OF EARLY SURFACE COAL MINING

Until passage of the Surface Mining Control and Reclamation Act of 1977, the regulation of surface coal mining was left to the states. In many cases this meant that it was largely unregulated. Though the earliest state law was enacted in the late 1930s (West Virginia), for decades state laws, regulations and regulatory agencies were woefully inadequate to the regulatory task. Statutes and regulations were weak, enforcement was lax and, in some states, corrupt. By the early 1970s, however, most states began to strengthen their regulatory laws (cf. Imhoff, Friz and LaFevers, 1976), partly a response to the threat of federal intervention. In most states, particularly in Appalachia, these

FIGURE 1

SURFACE MINING - CONTOUR METHOD

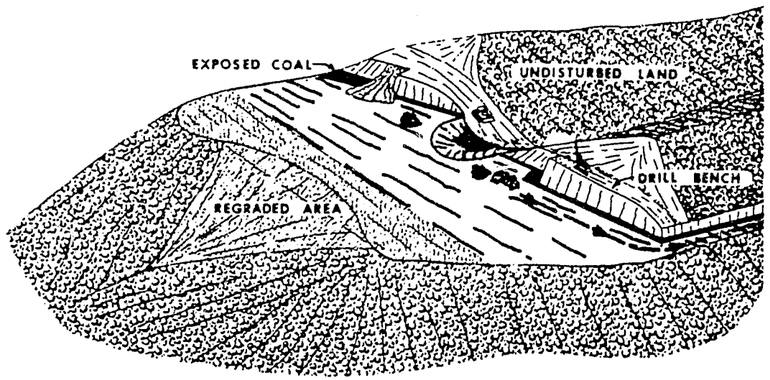


1. Topsoil is removed and stockpiled for later reclamation purposes.
2. A bench is dozed into the side of the slope.
3. Blasting cracks the dense overburden.
4. Overburden is hauled by scrapers or trucks and is backfilled continuously.
5. Coal is removed by loaders and/or shovels and carried out of the mining area along the haul road (which has been cut into the slope).
6. While blasting for the next stage of overburden removal, reclamation of the first cut is beginning: the pit is filled with overburden, regraded, layered with topsoil, then seeded.

Source: The President's Commission on Coal (1980: 159).

FIGURE 2

SURFACE MINING - MOUNTAINTOP REMOVAL METHOD



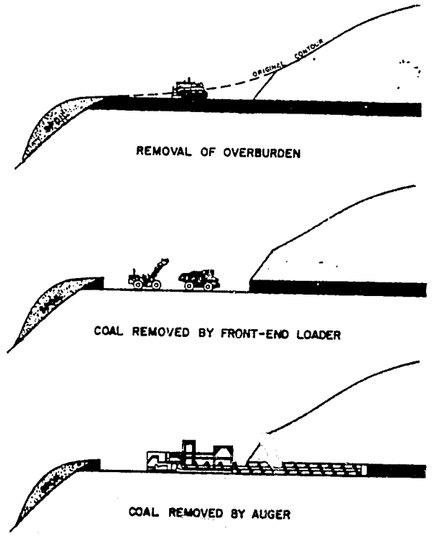
- A particular type of contour mining, in which mining proceeds all the way across the top of the mountain.

1. A drill bench is cut from the side of a mountain, both for use as a haul road, and for extending drilling.
2. Topsoil is removed and stockpiled.
3. The overburden is drilled for placement of explosives.
4. Blasting loosens the overburden.
5. Loaders or shovels load the overburden into trucks and it is backfilled in a previously-mined portion of the pit or placed in a head-of-hollow fill.
6. The exposed coal may be blasted or loaded from the seam, depending on its hardness. Trucks haul the coal out of the pit area.
7. The backfilled pit is graded, spread with topsoil, and revegetated, while the next "cut" is begun. A flat to gently-rolling area results.

Source: The President's Commission on Coal (1980: 161).

FIGURE 3

SURFACE MINING - AUGER METHOD



- Augering is a supplementary mining method, used to reach coal which cannot be economically strip mined because of deep overburden.

1. After the coal seam has been mined out to the desired depth (to the highwall face, as determined by the stripping ratio), an auger (like a large drill) is employed to bore horizontally into the seam, perpendicular to the bench.
2. As the auger bores, it carries back out to the pit area the loosened coal.
3. This coal is then trucked out of the mine area to be stored; reclamation of the pit begins.

Source: The President's Commission on Coal (1980: 163)

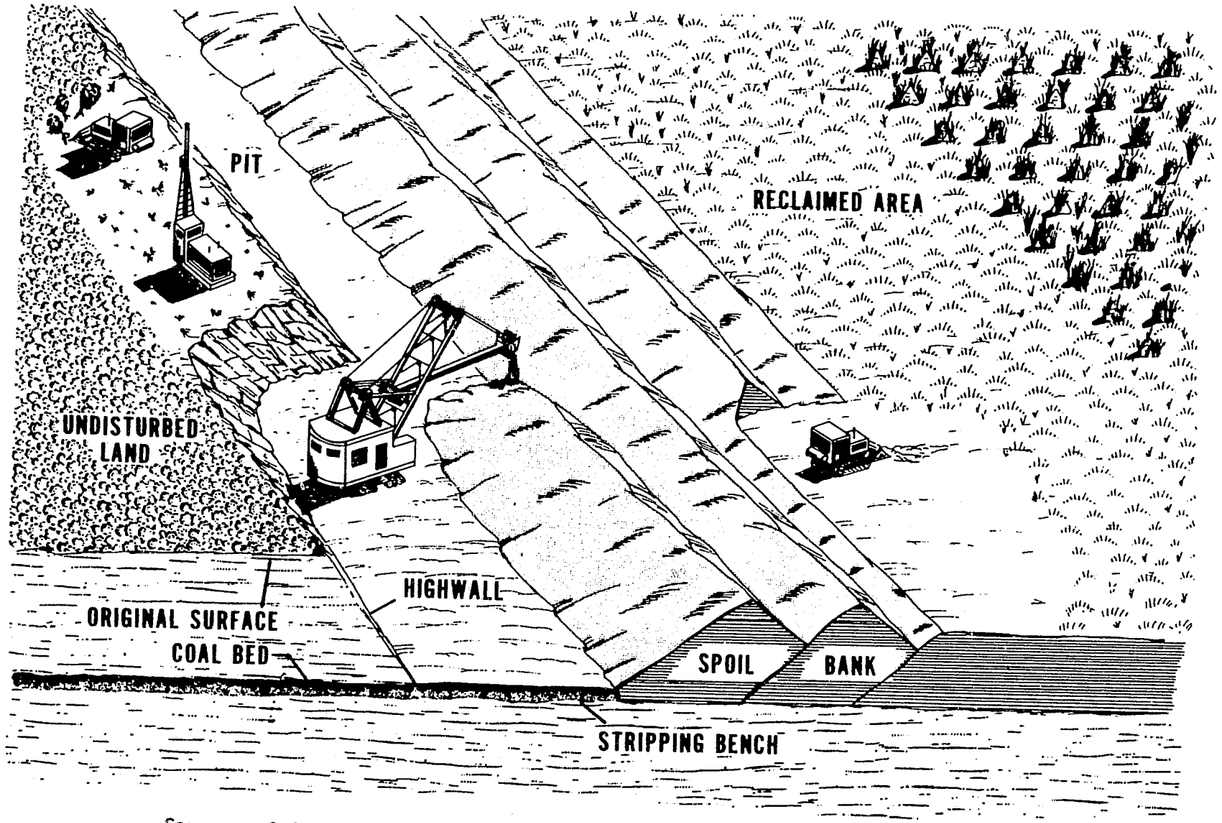


FIGURE 4

SURFACE MINING - AREA METHOD

Source: Grim and Hill (1974: 30).

laws were not enforced vigorously.

In Appalachia, the period prior to the late 1970s is often referred to as one of shoot'n shove mining. This richly evocative label calls attention to the routine socially and environmentally harmful mining practices of those times. Coal was mined using the easiest and cheapest methods, with little regard to the social and environmental impacts. For example, explosives were used, often recklessly, to loosen and break up the coal deposits. In the process, nearby residents and their dwellings were subjected to rock and other debris (flyrock) hurled from the explosions. In Appalachia, spoil materials usually were pushed over the side of the mountain -- a practice known as pushing spoil over the downslope. In the midwest, spoil from the box cut and from subsequent trenches was left in ridges and piles. The final trench -- the last cut -- usually was left unfilled.

The absence of effective state regulation not only permitted these harmful mining practices but also enabled many mining companies to avoid any pretext of reclamation. Such mine operators, after extracting the coal, simply abandoned the mine site. By the mid-1960s, nearly one million acres had been left in this unreclaimed condition (U.S. Dept. of the Interior, 1967). Consequently, the highly unstable and acidic spoil materials were left to erode under the onslaught of rains. In Appalachia, especially, the resulting sedimentation choked streams; the acidic runoff killed aquatic life and ruined wells and other water supplies. In other cases, mudslides damaged or destroyed property and dwellings. After the passage of several years, many spoil banks achieved a degree of stability, but even then they often would not support vegetation.

All this damage and environmental destruction was evident, of course, to anyone who cared to look. By the 1960s, a surge of published work by popular writers (e.g., Caudill, 1962) and government agencies (e.g., U.S. Dept. of the Interior, 1967) documented and called attention to it. Portions of the American landscape resembled the surface of the moon, having been rendered useless because of inadequate reclamation or abandonment. In the midwest and in Appalachia, indigenous citizen groups and landowners were becoming more vocal in their call for tough regulation of the surface mining industry. The marriage of this indigenous protest movement with the environmentalist movement gave new impetus to the demand for effective regulatory legislation.

SECTION 2: THE ANTI-STRIP MINING MOVEMENT AND THE ENACTMENT OF FEDERAL REGULATORY LEGISLATION

THE RISE OF THE ANTI-STRIP MINING MOVEMENT

Vigorous opposition to strip mining arose in the latter half of the 1960s in Appalachia (Fisher and Foster, 1979) and in the early 1970s in the West (Parfit, 1980). Appalachian citizens' groups, discouraged by the ineffectiveness of state laws and lax enforcement (Schneider, 1971; Munn, 1975), overwhelmingly favored the abolition of strip mining. It was generally believed that reclamation was impossible in most mountainous areas. The grassroots anti-stripping movement did what it could with its limited resources: it engaged in sit-ins on strip mine sites, took its case to the courts, and tried to change state laws. On occasion, mining equipment was destroyed. However, its resources were few. Its membership base was not broad, budgets were slim, its local constituent groups were only loosely coordinated, and political, legal and technical expertise was limited.

Constraints on the success of the movement were great. Most Appalachian coal is in the hands of absentee owners (Appalachian Land Ownership Task Force, 1981), a potential source of grassroots solidarity. But usually, the coal is mined by local operators who are protected by local politicians with mining interests. Even wildcatting (mining without a permit) was virtually impossible to prosecute successfully because of the collusion of mine operators and the "courthouse crowd." In addition, in most of the Appalachian states, the deepest ravages of surface mining were carried out in isolated areas whose residents had little political clout in the state legislatures. Faced with these difficulties, the movement quickly sought federal relief.

In the west, massive surface mining arose very rapidly in the 1970s. Most of the mining is done by the largest coal companies on land leased from the federal government. State governments moved quickly to regulate mining and to get their share of the new wealth. State regulations in the west were quite strict in comparison with those in the east. But opposition groups soon emerged around the issue of property rights, the loss of agricultural and grazing lands, and the question of whether or not reclamation is possible in arid regions. In both the midwest and far west, local rights groups and farmers provided strong support for a federal law.

The major success of the grassroots organizations was in publicizing the nature and extent of surface mining as an environmental issue. The issue appealed to the media, already attuned to environmental problems. Thus, strip mining, a particularly spectacular example of ecological abuse, became a national issue in the hands of the larger environmental movement.

What was the nature of this movement? Who were these

environmentalists? What resources did they bring to the battle? Historically, environmentalism in the United States has its roots in the conservationist movement of the late nineteenth century. When the environmental movement emerged as a political force in the late 1960s, both the older conservationist groups (e.g., National Audubon Society, the Sierra Club), as well as newer, more activist associations (e.g., the Friends of the Earth, the National Resources Defense Council) formed its organizational base. By the mid-1970s, such organizations had between four and five million members (Mitchell, 1979; Humphrey and Buttel, 1982). As in the case of the early movement (Reiger, 1975), research has consistently indicated that the membership base of these organizations is solidly upper-middle class (Harry et al., 1969; Devell, 1970; Faich and Gale, 1971; Harry, 1974). There is some evidence that it is the professional wing of the upper-middle class, not the managerial wing, that is dominant (Devell, 1970; Cotgrove and Duff, 1981). It is likely that critics are correct in designating the movement's social base as the "public and not-for-profit sectors" (Kristol, 1972; Weaver, 1978).

The national environmentalist organizations -- there also are thousands of smaller, local groups -- are "funded social movement organizations" (McCarthy and Zald, 1973). That is, they are groups whose policies are constructed and carried out by a small band of professional leaders supported by a "dues constituency." The latter also may be thought of as a "conscience constituency," in the sense that the pay-off for contributions is quite indirect. The passage of numerous environmental laws (e.g., the National Environmental Policy Act, the Clean Air Act, the Federal Water Pollution Act, and the Coastal Zone Management Act) testifies to the effectiveness of this lobbying by funded social movement organizations. It is also the environmental organizations which bear the brunt of sponsoring litigation meant to insure that laws will be enforced in the "public interest" (Handler, 1978).

It is not without some justification that environmentalist groups claim to stand for the public interest. During the late 1960s, concern for environmental reform rose from nowhere to second place among public issues (Erskine, 1972). Although there has been a decline (Dunlap and Dillman, 1976), there remains a high level of support for environmental concerns (Mitchell, 1980). In the early 1970s, this high level was marked by virtual consensus across class and regional lines (Dunlap and Van Liere, 1977). Somewhat higher support for environmental activism is found among the college educated (Tognacci et al., 1972; Van Liere and Dunlap, 1980), among those employed in the service sector, and among those who support welfare liberalism and reject laissez faire liberalism (Honnold, 1980; Buttle and Flinn, n.d.).

When the national environmental organizations joined the fray for surface mining reform, they possessed many of the resources needed for a long battle. They brought a record of legislative and lobbying success, a moderate financial base, a public mobilized for further reform action, and considerable legal and technical skills. The nine national environmental organizations

whose representatives testified before Congress in 1971-72 on surface mining legislation represented approximately one-half million people. By 1973-74, their activities were coordinated with those of a number of local groups (26 organizations overall, representing ranchers, farmers, Native Americans, sportspersons, and churches, as well as environmentalists) in a Coalition Against Strip Mining. As the activities and goals of these organizations coalesced, in Washington, D.C. the Environmental Policy Center was founded and became the major lobbying organization for the increasingly united supporters of Congressional action.

The struggle for reform was led by a handful of young coordinators and lobbyists with strong backing from the varied array of citizens' groups and funds from environmentalist organizations and foundations. The desire of the grassroots groups for the abolition of surface mining was necessarily compromised almost from the beginning of the battle, a strategic choice that led to a certain amount of internal conflict. During the long march toward federal regulation, the leaders honed their political, legal, and technical skills, enabling them to help shape a tightly drawn law that could be used to limit the discretionary power of the proposed federal regulatory agency.

THE BATTLE TO ENACT FEDERAL SURFACE COAL MINING LEGISLATION

The coal industry and those dependent upon it, manufacturers of heavy equipment and the electric utilities, was arrayed against this coalition of environmentalists. In their nine-year effort to block federal legislation, the industry put forth essentially the same set of objections, though it occasionally shifted or modified tactics to take account of developments on the legislative front.

In Congressional testimony during 1968, the coal industry opposed any federal effort to regulate surface coal mining. Industry representatives acknowledged that although the coal industry had made mistakes in the past, it was now reclaiming land in an exemplary manner, under state supervision. They raised the specter of economic retrogression, increased dependence on foreign fuel, and a damaged military defense posture should a federal law be enacted.

Although state government officials opposed federal legislation, a number of witnesses suggested that the states were reluctant to develop strong regulatory programs for fear of harming local mining interests. It was said that the coal industry used economic blackmail to ensure that state regulation remained weak. On occasion, coal operators threatened relocation to less restrictive states so as to pressure state legislators to maintain weak reclamation laws. Alternatively, they complained to state officials that tough local regulations imposed an unfair burden on local coal producers, one which operators in other states did not face. Supporters of federal legislation argued that by equalizing regulatory costs across the U.S., their

proposals would eliminate any competitive advantage that a state with weak laws might have. The committee, however, did not report a bill in the 90th Congress.

In 1971 Congress held further hearings on the strip mining issue. By that time, any hope that the states could and would regulate surface mining had all but disappeared. In the 92d Congress (1971-72) and 93d Congress (1973), approximately 20 bills to regulate strip mining were introduced. Replacing the cautiously optimistic view of reclamation from 1968 was the firm conviction of environmentalists and their Congressional supporters that strip mining would have to be banned entirely or, failing that, the job of regulating it turned over to the federal government.

Environmentalist, conservationist, and affected-landowner groups were not completely united during the 1971-73 hearings; their proposals took both "hard" and "soft" positions. The "hard" position called for an end to all strip mining, commencing from six to eighteen months after enactment of legislation. The "soft" position advocated a ban on strip mining only in areas or locations where the possibility of adequate reclamation could not be conclusively demonstrated.

The coal industry, especially its largest producers, reversed the stand taken in 1968 when it opposed all federal legislation. Now, it nominally supported the establishment of minimum federal guidelines for the regulation of surface mining. The states would be given the opportunity to develop regulations consistent with the guidelines and, after a time, the federal government would be empowered to enforce federal regulations in states which failed to fashion an acceptable regulatory program. The basic goal of large coal producers in nominally supporting federal legislation was to ensure that the law would be sufficiently flexible to accommodate site-specific mining variations. Thus, they emphasized that federal regulations would have to be broad and flexible rather than specific and rigid. The industry, it must be noted, called for flexibility only in those areas that would increase <u>its</u> options in planning and conducting mining activities. It opposed flexibility in legislative provisions that would decrease its own operating options or increase unpredictability (e.g., provision for public comment on mining permit applications and citizen suits against coal operators).

The coal industry was successful in the 1971-73 session in defeating the call for a ban on strip mining. It was important to allay western lawmakers' anxieties, since an overwhelming majority of committee members in both the House and the Senate were from western states. In general, the industry appeared to convince western lawmakers that their region was sufficiently different from Appalachia that they need not worry about environmental degradation there. Although the House did pass a bill, the 92d Congress did not enact surface mining legislation.

Between 1971 and 1977, the industry supported the concept of

federal controls but worked to defeat any specific bill. In 1974, the bill which passed the 93d Congress was modified to deal with the industry's contentions that regulation would cause mines to shutdown and, therefore, would lead to increasing unemployment. But in other ways, the proposed law strengthened federal regulatory powers. For example, the bill contained provisions permitting the designation of lands or areas as unsuitable for mining. The industry had opposed any flat prohibition on mining in designated areas or terrain conditions. The environmentalist coalition had produced increasingly stringent bills. Congress passed surface mining legislation in 1974 and 1975. President Ford vetoed both of these bills. He gave four principal reasons for his veto of the second bill: (1) the fear that it would increase unemployment, (2) the fear that electric bills of American consumers would increase, (3) the fear that American dependence on foreign oil would increase, and (4) the fear that U.S. coal production would decline (U.S. Congress, House, 1975).

By 1977, the political context had been altered radically. First, the new President, Jimmy Carter, stated that he would sign a strip mining bill. Second, in 1976 the Secretary of the Interior issued regulations for surface coal mining on federal lands. Since the majority of these areas are located in the west, western mine operators now were operating under some kind of federal controls -- albeit weak ones. Third, the climate of uncertainty surrounding federal coal mining regulation was making it difficult for the industry to attract external capital and, thus, to plan mining ventures.

Though the entire coal industry opposed the 1977 bill, a clear split in interest between eastern and western coal producers became evident. Western witnesses before Congressional committees made statements of opposition in an almost obligatory fashion, but then offered detailed amendments. Eastern witnesses were more vociferous, even defiant, in their statements of opposition. Western witnesses were concerned about prohibitions against mining on alluvial valley floors, provisions for acquiring surface owner consent to mine, procedures for designating lands unsuitable for mining, and restrictions on the duration of mining permits and the permit renewal process. Eastern operators were more concerned about the provision that mined land be returned to its approximate original contour, strictures on mountaintop mining, and regulatory complexity. Generally, eastern operators were fearful that the bill would (1) make it effectively impossible to mine much eastern coal and (2) make it too costly for small operators to comply.

Eastern and western industry representatives were united, however, in their calls to amend three sections in the Act: provisions for public hearings, for citizen suits, and the requirements for determining the hydrological consequences of surface mining. These provisions were retained in the Act, a victory for the environmentalists. Bill H.R.2 was passed by Congress in July 1977, and the President signed it on August 3.

SECTION 3: AN OVERVIEW OF THE ACT

The Surface Mining Control and Reclamation Act of 1977 has been reviewed and discussed elsewhere (e.g., Dale, 1978; Harvey, 1978). Here we present a brief overview of the more important provisions in the Act. Taken together, however, the nine titles in the eighty-eight page Act provide for a national regulatory program "to prevent or mitigate adverse environmental effects of present and future coal mining operations."

Title I sets out Congressional findings and the purposes of the Act. Briefly, Congress asserted its belief that (1) technology is available to reclaim some of the economic and environmental impacts of surface coal mining, and (2) regulatory efforts should be focused at the state level. Nevertheless, one purpose of the Act is to establish minimum national standards for regulating surface coal mining reclamation and the surface impacts of underground mining. Other purposes are to (1) encourage the states to regulate mining in accord with such standards, and (2) effect a program for the reclamation of previously mined lands.

Title II established the Office of Surface Mining Reclamation and Enforcement within the Department of the Interior and empowered it to promulgate and enforce surface coal mining regulations. The Act provides for a two-step implementation of the new regulatory program. Initially, 90 days after enactment of the SMCRA, the OSM would publish interim regulations for all surface coal mining. Enforcement of the interim program regulations was to commence 6 months after the passage of the Act. During the interim program, coal operators were subject to a dual system of state and federal regulation. However, by August 3, 1978, after the interim program was operating, a permanent program would be developed and the states would be given the opportunity to devise their own regulatory programs to meet the standards of the Act and the federal permanent program. States would develop their own regulatory programs and submit them to the OSM for approval. States with approved programs would become the primary enforcement authority (i.e., they were to have "primacy"). In these states, the OSM would function only in an oversight capacity. The permanent program would be enforced by the OSM only in states that failed to submit or to receive approval of their primacy applications.

The Act provides the OSM with incentives and prods to motivate the states to develop and enforce stronger regulatory programs. One of the most attractive incentives appears in Title IV. It establishes an Abandoned Mine Land Reclamation Fund (AML fund) to be administered by the Secretary of Interior. The AML fund is to be used for the reclamation of lands mined prior to the date of enactment. The principal source of revenue for the fund is, for bituminous and sub-bituminous coal, a reclamation fee of 35 cents per ton of coal produced by surface mining and 15 cents per ton of coal produced by deep mining or 10 percent of the value

of the coal at the mine, whichever is less. The reclamation fee for lower quality, lignite coal is 2 percent of the value of the coal at the mine or 10 cents per ton, whichever is less. Once a state acquires primacy (i.e., an approved program), one-half of the AML fees collected from its mines are to be returned to it for reclamation projects on abandoned mined lands.

Other incentives for the states are contained in Titles III, VII, VIII and IX. Included are provisions for federal funds to create state mining and mineral resources and research institutes, university coal research laboratories, and graduate fellowships for studies in energy resources. Also, federal grants are authorized to aid the states in developing and operating their regulatory programs.

To many, the procedures set forth in Title V are the "guts" of the Act. Title V contains 115 performance standards for surface mining and reclamation that both the interim and permanent programs are to incorporate and build upon. Just as important, section 501 specifies a rigid timetable for the promulgation of interim and permanent regulations and submission of state primacy applications. The requirements for establishing state programs are also contained in Title V.

The Act contains provisions for citizen participation in and review of the development and implementation of the federal and state programs. For instance, public hearings are required at several stages in the development both of federal and state programs. And once developed, in order to incorporate any changes in the respective regulations, the OSM was to hold public hearings allowing a thirty-day comment period from interested parties and state governments. Also, public hearings were mandated in states requesting primacy, with the Secretary of the Interior making his decisions after these hearings had been examined. If the primacy package was not approved, states were permitted sixty days to submit a revised program.

Section 515 establishes detailed mining and reclamation performance standards. Examples -- required in the interim, permanent or approved state programs -- require mine operators to: (1) submit detailed information on the proposed mine site and a reclamation plan before a permit to mine is issued, (2) secure a performance bond of sufficient size to pay for reclamation should the mine operator fail to do so, (3) remove and store topsoil separately so it can be used in reclamation, (4) conduct blasting only under specified conditions, (5) monitor and take steps to ensure that mining does not effect the hydrological balance of the mined area, (6) handle and store spoil materials only in specified ways, with no placement of spoil on the downslope, (7) reclaim portions of the mined area as quickly as possible after mining is completed, (8) eliminate all highwalls in the reclamation process, (9) regrade the mined area to its approximate original contour, and (10) establish a self-revegetating cover on the mined area. Other sections of the Act contain provisions designed to restrict coal mining in certain ecologically fragile or economically

significant areas, such as prime farmlands and alluvial valley floors -- naturally irrigated or subirrigated areas capable of supporting agricultural activities -- in the west.

Further, Title V outlines the inspection and enforcement policies and the penalty provisions of the Act. The Act provides for a system of mandatory enforcement and close cooperation between federal and state regulatory personnel. During the interim program, OSM inspectors were required to inspect each permitted mine site twice annually without giving prior notice to the operator. Section 521 explicitly requires inspectors to write a notice of violation for every regulatory infraction they observe on a mine site. In addition, it requires them to issue a cessation order (an order to cease all mining) under conditions of imminent danger to public health or safety, or when an operator fails to abate a violation.

Section 518 establishes the monetary values of penalties assessed for violations and the process by which they are assessed, adjusted and collected. A maximum of $5,000 may be assessed for each violation. Violations not corrected within the time period set by the inspector may be assessed an additional $750 a day. Maximum civil and criminal penalties of $10,000 or one year imprisonment (or both) could be imposed if a person knowingly and willfully failed to comply with the Act.

For at least a decade, the coal industry resisted all efforts to establish a new regulatory apparatus. Clearly, it wanted to defeat federal surface mining legislation. Not until Jimmy Carter's victory in the 1976 Presidential election did it begin detailed bargaining over many specific provisions in the impending Act. By that late date the fundamental structure of the Act and many of its detailed requirements were accepted by a Congressional majority. Nonetheless, the industry successfully lobbied for requirements more to its liking. As a result, many of the requirements of the Act contain variance procedures, for example, in the requirement that mined land be returned to its approximate original contour. Other sections of the Act clearly are beneficial to the coal industry (e.g., federal funds for coal research, and for training graduate mining engineers and other technical personnel). The Act also contains a mechanism, the Small Operators Assistance Program (SOAP), to help small operators meet the costs of preparing mine permit applications. In areas that impose financial burdens on the industry, such as the AML fund, the cost is fixed and, therefore, calculable, a primary concern of large coal producers. In many ways, the coal industry successfully reshaped the Act for its own benefit.

Nevertheless, passage of the SMCRA was a victory for its environmentalist and citizen supporters. Generally, the Act's requirements are comprehensive, stringent, and rigid. At the same time, and paradoxically, this stringency and rigidty are deceptive; Congress, by including procedures for variances from requirements in the Act, left to the Office of Surface Mining the task of resolving issues related to the breadth and application of

the variance procedures. In effect, Congress passed the buck. More importantly, the relationship between the OSM and state regulatory authorities was left ambiguous. OSM's task is to ensure that the states develop adequate regulatory programs, but responsibility for program development and implementation (primacy) was left to the states. Thus, the Act contains the seeds for serious tension and conflict.

SECTION 4: THE POLITICS OF REGULATION: INTERPRETATIONS

Current discussions of regulation make a distinction between the regulation of prices and the regulation of quality (Arrow, 1981), between "old-style economic regulation" and "new-style social regulation" (Lilly and Miller, 1977), or simply between economic and social regulation (Klass and Weiss, 1978). This distinction is important, not only because the two types of agencies pursue different goals, but also because they tend to vary in the authority of their legal bases, the strength of their social bases, and the orientations of their regulatory staffs.

The intent behind the creation of old-style agencies was to protect the "public interest" from market imbalances. The agencies were to be staffed by independent experts, free from partisan and special interests, who would provide rational policy, full-time oversight, and operational continuity and flexibility. Analyses of the origins, workings, and consequences of these economic regulatory agencies are found in a substantial body of empirical and theoretical writings by historians, political scientists, economists, and muckrakers (for a review of this literature, see McCraw, 1975).

The mandate given the new-style agencies, such as the Office of Surface Mining, is to control the social costs of production. In contrast to the the earlier economic regulatory agencies, the new agencies are based on relatively stringent enabling legislation with little explicit responsibility to protect industry from economic distress. Only recently, however, have social scientists begun to provide empirical and theoretical analyses of these new regulatory agencies (e.g., Mendeloff, 1979; Wilson, 1980; Keiser, 1980; Quirk, 1980; Kelman, 1981; Menzel, 1981).

THEORETICAL APPROACHES

Theories of regulation are generally based on analyses of old-style agencies. Although there is a large array of theories of the politics of regulation (cf. Mitnick, 1980), they represent variants of four answers to the basic question of who benefits from regulation: (1) the public at large (i.e., the public interest), (2) the groups that agitated for regulatory change (e.g., moral crusaders), (3) the regulated industry, and (4) the regulatory apparatus (i.e., the bureaucracy itself).

Public Interest Theory

Nearly all regulatory law is justified as social control that serves the interest of the general public. In addition, the idea of serving the public interest is a common legitimating mechanism for regulatory agencies and their personnel. With few exceptions, however (e.g., Sharfman, 1931), empirical research has been used

as witness against this theory. The difficulty, of course, is in specifying precisely what is meant by "public interest."

Nevertheless, the idea that regulation reflects the public interest is not without utility. It focuses our attention on the need for legitimation as a constraint in the production and application of regulatory law, and as a basis for opposition to special interests. Further, it suggests that regulatory agencies themselves, when perceived as acting in the public interest, act as legitimizers of the regulated and of the economic system as a whole. In the process, regulation is transformed into a signal that "everything is under control."

Unfortunately, public interest theory explains too much. It tends to neglect the question of whether some strata in "the" public benefit more than others, and it downplays the importance of investigating precisely how things happen (i.e., the social and political forces which produce legislative change and regulatory programs).

Countervailing Interest Group Theory

Careful empirical investigation of regulation generally elicits one form or another of interest group theory. If the focus of research is on the origins of a regulatory agency, the most common explanation pictures the instigating group(s) (or quasi-groups) as the major beneficiaries, although generally the final regulatory package is a compromise containing some benefits for the regulated industry as well.

The most studied case is the attempt to regulate the railroads through formation of the Interstate Commerce Commission, the first independent regulatory commission in the United States. Midwestern farmers (Buck, 1913), midwestern small capitalists (Miller, 1971; Martin, 1971), and eastern small capitalists (Benson, 1955; Nash, 1957), are given various degrees of primacy in these accounts of the origins of railroad regulation. The valuable common component of these interpretations is the identification of real historical actors struggling to protect economic interests, demanding governmental protection from subordination to monopoly capital. The overall picture is one of class struggle involving middle classes and opposing fractions of capital.

The ideological justification for railroad regulation contained three components that became the basis of further demands for regulatory reform: hostility toward monopoly power, distrust of politicians, and respect for experts. These are the basis of Progressivism, the broad social movement that often is viewed as the major source of reform and expanding governmental regulation of the economy during the first two decades of the century (McConnell, 1967). Progressivism had its roots in the various fractions of the middle class. Hostility toward monopoly emanated especially from small entrepreneurs and farmers. Trust

in expertise was a reflection of the world view of the new middle class of educated employees, an emerging knowledge elite. The cleavage within the middle class has increased over time and is reflected in the "new" regulation (e.g., EPA, OSHA, OSM), which we view as new middle class projects.

Interest group theories draw our attention to forces beyond the regulatory arena that constrain the formulation and implementation of regulations. In practice, however, such approaches tend to ignore the politics of the full regulatory process. Further, the role of the state in the origin of regulations is not given sufficient attention. Finally, it may be doubted that knowledge of input (group pressure) provides a good explanation of output (the consequences of regulation).

Capture Theory

When regulatory agencies have been studied over time or in terms of objective economic benefits of regulation, the evidence tends to support a second type of interest group theory, capture theory. The idea that regulatory agencies become the agents of the industries which they were established to regulate is perhaps the most widely accepted proposition in the field of regulatory analysis (McConnell, 1967; Zeigler and Peak, 1972; Salamon and Wormsley, 1976; Owen and Braeutigam, 1978). Because the term "capture" may refer to direct control, cooptation, the establishment of a community of interests, or neutralization, there are two somewhat different versions of capture theory.

Incremental capture theory holds that capture is a relatively natural consequence of the aging process (Bernstein, 1955; Downs, 1967). The major basis for capture is the loss of the broad-based public support that was instigated by reform groups at the point of origin, and the subsequent loss of support by elected politicians. The agency, then, in quiet desperation, turns to its own clientele for support. Alternatively, once the reformers have turned their attention and limited resources to other areas, the regulated industry is able to mobilize its resources more effectively to control the agency. Factors that push agencies toward capture include insufficient monetary and material resources, shortage of personnel, inadequate quality of personnel, industry control of essential information and expertise, the establishment of cooperative relationships for the solution of problems, and the greater rewards for competent personnel in the regulated industry (cf. Mitnick, 1980).

The utility of theories of incremental capture is that they direct attention to change within agencies, to the constraints under which they operate, and to continuing group struggle beyond the sphere of public politics. These theories lead us to investigate the background and mobility patterns of agency personnel and to focus on changing outcomes. Deficiencies of these theories, in practice, include the lack of attention to the actual implementation of regulations and to legal-bureaucratic

constraints on capture.

Another form of capture theory shares these deficiencies but not all of its advantages: direct capture theory. The most noted proponent of this theory is the radical historian Gabriel Kolko, whose research shows the direct influence of big business in shaping regulatory legislation and staffing regulatory agencies, particularly the Federal Reserve Board, the Board of Food and Drug Inspection, the Federal Trade Commission (1963) and the Interstate Commerce Commission (1965). In all of these cases, business was seeking the rationalization of the economy, that is, stability, predictability and security through protection from competition (see also Weinstein, 1968). The thesis may be readily applied to a number of other agencies (e.g., the CAB, the SEC). In fact, a similar general theory has been produced by a conservative economist (Stigler, 1971).

Direct capture theory is a form of instrumentalism, the theory that the state is the instrument of power elites or the ruling class. The advantages of this approach are its emphases on agency formation and the backgrounds of agency officials. Among the major complaints against instrumentalism (or direct capture theory) is that it overplays the importance (and necessity) of class consciousness, direct participation, and conscious planning by elites or the capitalist class. Obversely, it underplays the role of class struggle, countervailing interest groups, and the relative autonomy of the state.

Relative Autonomy Theory

Among neo-Marxist scholars, increasing recognition of the deficiencies of instrumentalism as a tool for understanding advanced capitalism has led to a proliferation of theories of the state (some of the key works are Poulantzas, 1969; Offe, 1974; Habermas, 1975; O'Connor, 1973; 1981; Block, 1977; 1981). Despite considerable internal dispute, there is agreement on the key concept: the relative autonomy of the state. The basic thrust of this idea is that the state is a steering mechanism, operating relatively independently from capitalist manipulation but within the constraints of the capitalist system. Its major function is the rationalization of the system; that is, it is the state's task to work out emergent problems in a rapidly changing system that is subject to contradictions, crises, and disjunctions. Among the crises that must be continuously resolved are "the accumulation crisis" and the "legitimation crisis" (O'Conner, 1973). Put differently, the state must prevent economic stagnation and quell dissent. In attempting to steer the economy, the state acts as "collective capitalist" and one part of it's steering function is regulation, such as controlling the supply of money, some prices and rates of profit, business competition, product quality, and economic externalities. The state acts as collective capitalist insofar as it optimizes the stability of the system, as a capitalistic system. The state need not act directly in the interests of the capitalist class in the short run. As collective

capitalist, its policies necessarily damage some individual capitalists and sectors even as it aids others.

Such theorizing provides a general explanation for the relative independence of regulatory agencies but often neglects the empirical question of how, specifically, the capitalist system operates through the concrete actions of state managers. These state agents include bureaucratic regulators who often construct and enforce regulation of economic activity that is detrimental to many businessmen but beneficial to the capitalist system as a whole (Block, 1977). For example, the new regulatory agencies enforce the internalization of costs formerly borne externally, an impossibility under unregulated competition. Such regulation rationalizes the system by sparing the commons from degradation (cf. Hardin, 1968) and, in addition, legitimates the political economy by the show of state autonomy from business.

The study of regulation, then, must recognize the regulatory agencies as more than "black boxes" that are "through-puts" for interest group pressures ("inputs"). Regulators operate with some autonomy within the constraints of the system. The empirical question is to determine just how they operate and the nature of the constraints to which they respond.

DIRECTIONS FOR RESEARCH

We have used components of each of the four theories in our investigation and analysis of federal surface mining regulation. Public interest draws our attention to the regulatory agency's need for legitimation. Countervailing interest group theory points to the role of group struggle in agency formation and operation. Capture theory alerts us to factors that limit regulatory effectiveness. And relative autonomy theory leads us to focus on the goals, strategies and activities of the regulatory agents themselves (cf., Serber, 1975).

The regulation of surface mining, like all regulation, is the social control of activities judged detrimental to the interests of others. Regulation is an outcome and reflection of social conflict. It is the politically constructed "resolution" of social struggle. Like other forms of politics, the study of regulations involves issues of who gets what, why, when, how and with what consequences (Lasswell, 1935; Clark, 1967). But politics is not static, nor are political disputes ever fully resolved. Regulation is not the final solution to the X (e.g., environmental) problem, but a political process.

The answers to the question "who gets what" are deeply embedded in the answer to the question "how" -- a process. Regulatory law is an attempt to formally specify constraints on how social benefits and damages will be distributed. But the implementation of such law subjects it to deconstruction and reconstruction at every point -- the making of formal rules and less formal policy guidelines, judicial response to litigation,

the formation of an administrative structure, the establishment of enforcement procedures, and implementation in the field. Previous studies of regulation have tended to focus on the questions "who gets what" by examining the content of the law itself and the consequences of regulation (beneficiaries and losers). In determining how this occurs, scholars have centered their attention on interest groups, formal bureaucratic mechanisms and high level administrators. An emphasis on the politics of the implementation process -- on what goes on behind the administrative facade -- is a notable gap in theoretical approaches to regulation. Only recently have scholars begun to study the implementation process in regulatory agencies (e.g., Kagan, 1978; Katzman, 1980; Hawkins, 1980; Thomas, 1980; Kelman, 1981).

In this study of the initial implementation of the federal surface mining law, the analytical questions that we address are "what are the choices available at the various points in the regulatory process," and "what are the determinants of and limitations on effectiveness and capture?" These questions are part and parcel of the larger questions of "how" and "why" the process operates as it does.

Our analysis of the Office of Surface Mining centers on the identification and explanation of the agency's basic style of operation. By "style" we mean the underlying pattern that is found in seemingly discrete decisions and actions, and in forms of social structure. Such a style is determined by a multitude of factors. It may be established by the intent of Congress or top administrators; it may be developed through organizational drift in response to external conditions and internal dilemmas.

Since regulatory agencies are subject to contradictory pressures, it is quite possible that no clear, dominant style will emerge. When the dominant style of an agency has been established by intent, the style may be thought of as a component of a basic strategy, a fundamental plan for action. When a style is under construction and after it has been instituted, whether by planned choice or by a series of accidents, it is constantly shaped and reshaped by constraints (i.e., limiting conditions), some of which may reinforce the style, others of which may undermine or modify it.

Two concepts are central to our mode of analysis: choices and constraints. Our case study of the Office of Surface Mining began with the assumption that the implementation of any regulatory program is open to choice of options at a variety of points -- that regulatory personnel enjoy considerable, but not unlimited latitude in the construction of programs. Our task then was to discover why certain options were selected and not others. All choices have the appearance of voluntary, undetermined action, or at least, can be viewed as largely determined by previous choices. At some level of analysis, choice must be accepted as partial explanation of action, i.e., the search for determinants of choice must cease.

For the sociologist, identification of the conditions limiting choice provides the most interesting contribution to the explanation of actions and activity patterns (e.g., agency styles). We refer to these limiting conditions as constraints. Constraints are social forces which channel, but do not rigidly determine, decisions and actions. Among the constraints on choice are the values and ideological biases which limit a person's willingness to "see" and entertain seriously a host of alternative choices. When individuals are ensconced in a bureaucratic setting, their decision options are constrained by social and political forces which narrow the consideration of options. We discuss some of these constraints later.

TYPOLOGICAL ANALYSIS OF THE REGULATORY PROCESS

In thinking about how a regulatory agency works, what is needed is an approach that analyzes the full regulatory process, from agenda setting to field implementation. One way to approach this task is to examine the stages of decision-making and the constraints affecting such decisions, including the previous selection of options, at every stage. Our theoretical approach is typological. Each of the steps in the regulatory process entails a decision process or is the result of such a process. That is, an option taken at any point acts as a constraint on choices made at later points. For purposes of simplicity, we present polar choices at each stage of the regulatory process. The steps in that process and the polar options are presented in Table 2. Of course, such choices represent ideal types. At no point is it likely that a concrete regulatory process will fall into the most extreme category. It is reasonable to assume that the options selected vary from law to law and from agency to agency. Further, the comparison of any concrete regulatory process with the ideal-typical model provides a starting point for the theoretical understanding of specific regulatory actions. Movement toward the development of such a model appears in several recent discussions of regulatory agencies (Bernstein, 1955; Bardach, 1977; Kagan, 1978; Mitnick, 1980; Keiser, 1980; Hawkins, 1980; Thomas, 1980; Kelman, 1980).

Although numerous choices must be made at each stage of the regulatory process, many are reflections of quite distinctive, dominant styles: enforced compliance and negotiated compliance. In its ideal-typical form, the enforced compliance style of regulation encompasses an overriding drive toward the rationalization of all aspects of the regulatory process. Its components include: reliance on formal, precise and specific rules; the literal interpretation of rules; reliance on the advice of legal technicians (attorneys); the quest for uniformity; centralized and hierarchical organizational structure; and the distrust of and an adversarial orientation toward the regulated. The negotiated compliance style of regulation reflects a dominant orientation toward obtaining compliance with the spirit of the law through the use of bargaining and discretion. Its components

TABLE 2

TYPOLOGY OF REGULATORY STYLES AND STAGES IN THE REGULATORY PROCESS

Stages of the Regulatory Process	Regulatory Styles	
	Enforced Compliance	Negotiated Compliance
Statute Formation	Rigid Comprehensive Precise	Flexible Narrow General
Bureaucratic Process	Mechanistic Tightly Coupled.	Organic Loosely Coupled
Rule-Making	Adversarial Formal Attorney Control	Negotiational Informal Administrative- Technical Control
Regulations	Literal Detailed Design Standards	Discretionary General Performance Standards
Rule Application	Rule-Based Strigent Penal	Results-Based Accommodative Conciliatory

include: the use of general, flexible guidelines; the discretionary interpretation of rules; negotiation between scientific technicians ("experts"); allowance for situational factors in rule application; a loosely structured organization; and an accommodative stance toward the regulated.

An advantage of this typology is that it can be tied to the fundamental question of capture versus autonomy. In general, it may be expected that selection of enforced compliance options are conducive to agency autonomy while selection of negotiated compliance options are conducive to capture. The enforced compliance model uses the relatively autonomous legal system to promote a relatively autonomous administrative apparatus within the capitalist state for the control of the production activities of a segment of capital. Such a model fits the interests of reformers and is particularly compatible with the ideology of the new middle class, an ideology of reform through legal expertise. This model promotes the power of agency officials at the expense of specific units of capital. It is to be expected that the regulated industry generally desires a negotiated compliance approach. This approach increases the influence of the clientele in establishing the operational meaning of the law. It enhances the possibility for incremental capture of the regulatory agency.

Stages of the Regulatory Process: The Choice of Options

We focus now on selected aspects of the two polar strategies at the various stages of the regulatory process, as delineated in Table 2. Here and in the following section, we discuss hypothetical constraints on strategic choices.

The enabling legislation that provides the basis for any regulatory program is formulated in an arena of political conflict. When the resolution of such conflict is weighted on the side of the industry to be regulated, the law is likely to be vague or ambiguous concerning goals and/or appropriate means of attaining them (Bernstein, 1955). A mandate for negotiated compliance is implied, and the regulatory agency is likely to become the instrument of the "regulated." In contrast, when a political conflict is resolved in favor of an anti-industry coalition, the law is likely to be rigid and precise, implying a mandate of enforced compliance (Keiser, 1980). The regulatory agency is created as an instrument of a reformist coalition, relatively autonomous from industry control. In either case, the temporary resolution of conflict in the form of law is intended as an external constraint on future agency actions. Although it would be a mistake to assume that the regulatory process is determined solely by the structure of enabling statutes, there can be little doubt that the law is a powerful constraint on the options selected at later stages of the regulatory process.

Rule-making proceedings are the initial phase in the operationalization of law. In the older economic regulatory agencies, rule-making often was ad hoc, informal and based on

direct negotiation with the regulated clients. From their origins the new social regulatory agencies' rule-making proceedings were subject to the Administrative Procedures Act, which requires technical and legal justification of rules, as well as rejected alternatives, and to the Advisory Committee Act, which requires open public meetings. Thus, agencies now must follow a number of formal procedures in rule-making. Under these conditions, rule-making often takes on an adversarial quality. Still, agencies are not without discretion in structuring the rule-making process. The option of selecting a relatively adversarial versus a relatively negotiational rule-making strategy remains. It is likely that selection of a more adversarial set of procedures increases the probability that the agency will establish and guard its relative autonomy.

The product of rule-making, regulations, are a social and political product. An agency may construct legalistic rules, precise and rigid in their demands on the regulated or it may construct rules allowing a more discretionary approach to compliance. Legalistic rules are usually quite detailed and emphasize design standards as contrasted with discretionary rules that are general and stress performance standards. Legalistic rules are intended to control industry by specifying not only what must be done, but exactly how it is to be done.

Once promulgated, regulations must be implemented through an organizational structure and management strategy. As we have emphasized, the selection of a dominant management styles is not rigidly determined. Again, those who construct a regulatory bureaucracy retain a degree of latitude and discretion to structure both their "internal" and "external" relations. As these labels suggest, the former refers to agency itself while the latter refers to relationships between more or less self-sustaining bureaucratic units.

Social scientists have sketched two ideal-typical forms of bureaucratic organization. Although the labels for these types vary, their substance shows remarkable similarity. Burns and Stalker (1961) designate their version of the two types as mechanistic and organic styles. Mechanistic management tends to be highly centralized and hierarchical. Individual tasks tend to be defined rigidly and narrowly, and channels of communication are hierarchical and formalized. By contrast, organic management is collegial and authority is diffused. There is much less emphasis on hierarchy and formalized, vertical lines of communication. Individual tasks are defined generally rather than specifically. And, personnel are encouraged to exercise creativity and initiative in task performance. We assumed that mechanistic management would be more characteristic of organizations that adopt an enforced compliance style, while organic management would be more likely in regulatory agencies which adopt a style of negotiated compliance.

In its relations with subunits and other agencies, we employed the distinction between "loosely coupled" and "tightly

coupled" systems (Hagan et al., 1979). The American criminal justice system has been characterized as a loosely coupled system which is only weakly rationalized, with discretion dispersed throughout a variety of agencies in an unsystematic manner (Hagan et al., 1979). Regulatory agencies may be loosely or tightly coupled in two senses: internally (e.g., ties between headquarters and the field) and externally (e.g., ties between the primary regulatory agency and other agencies, such as state bodies). The structuration of a regulatory system is not wholly constrained but is subject to a certain amount of administrative choice. In general, it seems reasonable to assume that loosely coupled systems are compatible with negotiated compliance and tightly coupled systems with enforced compliance.

However constrained by previous steps in the regulatory process, field agents still are faced with decisional strategies in actual rule application. A stringent strategy is based on criteria of uniformity, adherence to the letter of the law, and distrust of the regulated. Contrarily, accommodative implementation policies are based on criteria of the need to take variable conditions into account and a degree of trust that the regulated will adhere to the spirit of the law. A stringent policy is generally advanced by "tying enforcement agents to the book" (i.e., the regulations) rather than allowing a relatively independent application of expertise. It seems likely that such a strategy will be associated with a coercive rather than an educational role model for field agents. A stringent implementation policy is intended to keep the field agents, as well as the regulated, in line.

Part of rule-application is the imposition of a scale of sanctions. The sanctioning process may be approached from a punitive or a reformist standpoint. The former approach holds that violations will be limited and deterred most effectively if judgment is swift, certain, and uniform. The latter approach holds that consideration of situational variables is the most effective basis for gaining compliance. The development of a rather severe set of penalties would be congruent with an ideal-typical style of enforced compliance and more symbolic kinds of punishments (or possibly, rewards) with a negotiated compliance style.

Constraints

In discussing our typology of polar options available at various steps in the regulatory process, we have indicated the manner in which internal constraints (previous decisions) limit the options available at every point. Real choice is limited further by an array of external constraints. We will focus on three types of constraints: political forces, resources, and the state of the economy.

If politics is defined in its broadest sense as all attempts to influence or control state policy, then it is likely that

political forces will act as external constraints on state agencies at every step of the regulatory process. In the case of the old economic regulatory agencies, oppositional groups tended to withdraw to the sidelines after the passage of an already weak Act. In the case of the new social regulatory agencies, this withdrawal has not yet occurred (Sabatier, 1975). The shaping of the regulatory process within these new agencies is subject to the external constraint of continuing political pressures. These political forces include reformist organizations, the regulated industries (usually somewhat divided along "monopoly" capital and "competitive" capital lines), the states, Congress, and the courts. It may be expected that reformists will continue to press for enforced compliance policies, while the states, generally, and industry, always, press for negotiated compliance strategies (competitive capital more so than monopoly capital). Congress and the courts may swing either way, although the courts typically support any agency action that follows legal procedures.

Available resources are important constraints on agency policies. It is likely that insufficient budgets, inadequate personnel, in terms of either quantity or quality, and lack of adequate information tend to force agencies toward adopting negotiated compliance strategies.

Finally, regulatory agencies are constrained by the state of the economy. In general, economic regulation seems to be the result of class conflict in "hard times." Such regulation reformulates the economic system and legitimates both that system and the role of the state as the protector of the public interest. Support for economic regulatory agencies apparently is subject to gradual erosion (de-legitimation) in periods of prosperity and, thus, to demands for deregulation in succeeding periods of stagnation or decline. The regulation of products and the production process seems a result of the class politics of relatively prosperous times. Initially, such regulation also legitimates a reformed economic system and the role of the state. As social regulation contributes to the fiscal crisis of the state, it may lose its legitimating function. Since this new regulation appears to limit economic growth, economic stagnation pushes social regulators toward policies of increased negotiated compliance.

In the remainder of this report we employ our interpretive typological schema to describe and analyze the creation, implementation and impact of the federal government's attempt to regulate the surface coal mining industry. In the two concluding sections we return to our theoretical typology in a more explicit manner, including a discussion of policy implications in light of this approach.

SECTION 5: THE SOCIAL CONSTRUCTION OF THE AGENCY AND ITS REGULATIONS

After Jimmy Carter's inauguration, the new Secretary of the Interior, Cecil Andrus, created an interagency Task Force to prepare for implementation of the forthcoming surface mining statute. Eventually, some 90 persons from approximately 20 agencies comprised the OSMRE Task Force. The larger Task Force was broken down into 17 "task groups," each of which worked on developing a piece of the new Office of Surface Mining and its regulatory programs.

THE LEGACY OF ACRIMONIOUS CONFLICT

Passage of the SMCRA was the most visible result of the struggle over federal legislation. Just as important, though far less apparent at the time, was the development during the struggle of hostile perspectives toward one another by the legislative adversaries.

Generally, the hotly contested, protracted Congressional battles of the 1970s forged narrow, antagonistic beliefs among the various parties to the conflict. On the one hand, supporters of strip mining regulation were described in the MINING CONGRESS JOURNAL as "impassioned crusaders," "environmental zealots," "small groups of elitists" and as a "vociferous and obstinate few." Their efforts on behalf of legislation were ridiculed as "arousing public passions" and "simplistic appeals." Their proposals were derided as "reckless folly" and "frenzied fretting" (Shover, 1980). On the other hand, members of environmentalist and citizens' groups whom we interviewed often times likened segments of the coal industry to robber barons and depicted them as throwbacks to an age of industrial callousness. Environmentalists viewed state regulators, with a few exceptions, as incompetent or as corrupt lackeys who had "crawled into bed" with the coal industry.

After enactment of the SMCRA, the retention of these hostile stereotypes influenced efforts to shape the OSM's regulatory programs. Mutual distrust and acrimony permeated the responses of environmentalists and the coal industry to each other's proposals. The new Office of Surface Mining received its Congressional mandate and began its work amidst this rancorous political conflict. An attorney who represents environmentalist and citizens' groups told us:

> Strip mining, in my mind, has been one of the most controversial areas in the entire realm of federal regulations. Far more than, really, its importance to the nation as a whole . . . Now, why has it been so controversial? . . . It was terribly contested in Congress . . . [I]t was bitterly contested . . . Therefore, I think anyone who thought that it was going

> to be implemented without a great deal of problems was just whistling into the wind. There were bound to be problems, if the agency stuck to the mandate, 'cause simply put, a number of the major coal states and coal operators never accepted the Surface Mining Act, when it was on the Hill or when it was passed.

Against the backdrop of bitter, politically polarized debate over surface mining regulation, the Task Force strove to work dispassionately. Unfortunately, in such a context, any apparent sensitivity and deference toward either side of the dispute exposed the agency to charges of favoritism from the other.

CONSTRAINING FACTORS

Operating in this context, the Task Force was affected by four broad constraints that influenced its selection of a mission and policies: (1) its members' shared perceptions of a mandate for a stringent surface mining program, (2) its members' shared beliefs, (3) the differential organization and effectiveness of external groups, and (4) statutory requirements and limited resources.

Perceived Congressional and Presidential Mandate

Based on their knowledge of the legislative history of the Act, Task Force members shared a number of assumptions about Congressional and Presidential support. Despite opposition from the coal industry, by 1977 Congress had passed surface mining legislation three times. Also, the new President was known to be supportive of environmental legislation generally, and the SMCRA in particular. After his inaugeration, Carter appointed several persons believed sympathetic to environmentalism to positions in the Department of the Interior. Aware of these factors, members of the Task Force believed they had received a clear, strong mandate from Congress and the Carter administration to create a program that, if it was biased at all, would be biased in favor of environmental protection rather than developmentalism. In sum, the belief that they were to produce a stringent program was taken for granted by many Task Force members. As one of the solicitors to whom we talked put it, such beliefs "were in the air on the sixth floor of the Interior Building" as the interim program took shape.

Ideological Premises

Most persons were selected for the Task Force solely because of their technical expertise. However, some of its most energetic, committed members had sought positions because they welcomed the opportunity to shape a program to deal with strip mining abuses. A solicitor told us that the OSM

> attracted a large portion of people who were extremely enthusiastic about the goals of [the] statute . . . [T]here were a lot of people around, from the inspector rank on up, who were long-time opponents of . . . bad strip mining practices.

Such persons worked long hard hours developing the agency, primarily because they enthusiastically believed in its goals. They brought to their work a sense of mission and commitment. An important Task Force member told us "we were reformers." Asked if he meant everyone on the Task Force, he replied: "Everyone who counted". (The respondent exaggerated; our data suggest that several members of the Task Force who 'counted' initially cared more about completing their charge than with the substance of their product.)

Some members of the Task Force, among them the reform-minded, were distrustful of the coal industry's motives. They had watched over a period of nearly ten years as representatives of the industry made assertions before Congress which Task Force members believed to be totally untrue or extremely misleading. Also, they were aware of the history of lax state regulation, and they attributed this in part to the machinations of the industry. They fully expected the coal industry to challenge and fight the new agency and its regulatory program at every opportunity and in every forum. Consequently, believing the coal industry incapable of a good faith effort to comply with federal regulation, their assumptions led them to espouse enforced compliance strategies that might provide immunity to capture by industry.

Because they expected the coal industry to fight the emerging regulatory program, top officials on the Task Force became concerned with designing a program that could withstand legal challenge. The desire for defensibility generally thrust the agency's attorneys into a prominent role in drafting regulations and shaping the program. Among the major program consequences were the reinforcement of an adversarial mode of relationships and an emphasis on detail and precision in the regulations. However, the developing enforced compliance style of operations left the agency vulnerable to charges, both by industry and the states, that it was inflexible, arrogant, and unwilling to listen to parties with alternative views and ideas about the regulatory program.

Some influential members of the Task Force viewed with skepticism the states' willingness to implement strong regulatory programs. Their failure to regulate mining effectively had led to the SMCRA. It was assumed that the states would drag their feet and, at worst, would actively resist the OSM's efforts to prod them into a more effective regulatory posture. A solicitor noted: "I think there was a healthy skepticism about the willingness of the states to change direction." At first, the new federal regulators did not take seriously the objections to the program raised by the states. The same respondent told us:

> I suppose that the resistance of the state institutions was somewhat discounted [by OSM], on the rationale that "well, the whole purpose of the Act was to change these people, and they're not gonna' like it anyway. Discount it.

Eventually, the states retaliated with persistent, virulent attacks on the OSM and its regulatory products.

Differential Effectiveness of External Groups

During the legislative struggle, the coal industry's opposition to all efforts to enact legislation simultaneously was adamant and cavalier. The industry simply dug in its heels. It developed few new organizational arrangements to defeat legislation, relying instead on sympathetic members of Congress and Republican Presidents to stall the regulatory movement. When the Act passed, the coal industry determined to fight harder and more effectively for its own brand of regulation. The National Coal Association (NCA) and the American Mining Congress (AMC), which represent larger mining companies, formed a Joint Committee to represent their interests; smaller mining companies established the Washington-based Mining and Reclamation Council of America (MARC).

Unlike the coal industry, during the legislative struggle citizens' groups and environmentalists developed a disciplined, responsive national coalition that was able to work effectively for their proposals. When the Task Force began its work, the organizational effectiveness of these groups was brought to bear. An important member of the Task Force told us:

> The environmentalists were more constant in being in, in asking for meetings, looking at what's going on. And that [was] true all the way, all the way through. My experience with OSM is that you had -- and it varied with individuals -- but, an individual from an environmental organization, once you met him he was likely to be in fairly regular.

Just as importantly, this coalition was one of the few "natural" sources of support for the new Office of Surface Mining. Put differently, few if any other constituencies clearly desired a federal regulatory presence. The fact that several members of the Task Force shared the environmentalists' reformist orientation served only to cement the natural affinity between them. This bond, together with the organizational effectiveness of the environmentalist movement, generated an aura of mutual deference and respect. Thus, some of the ideological premises of the enivronmentalist movement received a sympathetic reception within the Task Force and, later, the agency. The sympathetic hearing afforded environmentalists infuriated the coal industry, which used it to charge that the agency was biased and "loaded" with "environmental zealots."

Statutory Requirements and Limited Resources

As noted, the SMCRA required the new agency to develop, within 90 days after enactment of the law, an interim regulatory program for all surface coal mining operations. Then, within one year of enactment, the OSM was to publish its permanent program regulations. The need to meet the deadlines mandated by Congress was a major constraint on the agency's operations during its first three years of operation. Congress compounded the agency's difficulties by failing to provide the agency with operating funds until seven months after the Act was signed into law. The combination of mandatory deadlines and the absence of a budget created severe problems for the Task Force.

In this context, what should have been a studied, methodical process was truncated severely. The Task Force could not subject its proposals to the critical internal debate which invariably leads to the detection and correction of mistakes and potential problems. Because time did not permit them to devote equal emphasis to procedures and objectives in constructing the regulations, they emphasized the latter (i.e., getting the job done). An important member of the Task Force told us:

> It would have been useful to have [records of options considered]. It'd be useful for things like you guys are doing, to go back and see what was considered. Some parts of the program went through more debate than others, you know. There were some pretty hard debates about the enforcement program, and I think three or four options that were documented fairly heavily. It wasn't so much an effort to try to sit down and try to write out your options as it was, "well, let's develop this one and see where it leads, develop this one and see where it leads, develop this one" type of thing. It was less formal. Had to be.

Understandably, the Task Force -- and, later, the agency -- responded to its time constraints by utilizing a highly centralized, disciplined process for accomplishing its work. The imposition of severe hierarchical dynamics, on top of a work process that permitted only limited debate and questioning, served to undermine further the possibility of obtaining feedback from the technical staff. Effectively, the process of writing regulations was influenced disproportionately by a small number of Task Force members: (1) informal leaders who could "get things done," and (2) formally designated leaders who could use their bureaucratic power effectively to accomplish Task Force objectives.

OSM personnel who were interviewed suggested that the agency generally was given adequate resources for its tasks. Unfortunately, Congress prevented it from acquiring and utilizing the planned resources. Eventually, when budgetary appropriations

were forthcoming, the agency was forced to use them quickly for fear that the Office of Management and Budget would reclaim them (i.e., "Use them or lose them.") Consequently, when the agency hired technical personnel it had to do so quickly. In the process, personnel were not screened thoroughly. As a result, the technical staff was somewhat less competent than would have been true if time had permitted a more studied recruitment process. Thus, Congressional delay harmed the agency initially -- when it did not receive its resources -- and later as well -- when its personnel sometimes proved incapable of performing assigned tasks expeditiously. This accident of resource allocation was a factor in establishing an enforced compliance style of regulation within the agency.

In this context of critical external scrutiny, resource delays, and agency construction under the crisis conditions of rigorous deadlines, the Department of Interior solicitors who were assigned to the Office of Surface Mining enjoyed several advantages. Unlike the OSM, the solicitors, because they are funded separately, already had an operating budget and a full complement of personnel. The solicitor's office did not operate with temporary personnel loaned from other agencies. It did not operate under resource constraints such as those which confronted the OSM. Partly for this reason, the solicitors played an active, major part in creating the OSM's regulatory programs.

PROGRAMMATIC CONSEQUENCES

Between September 7, 1977 and March 13, 1979, the OSM published four sets of surface coal mining regulations. These were: on September 7, 1977, a set of proposed interim regulations (42 FEDERAL REGISTER 44920-44957); on December 13, 1977, a set of final interim regulations (42 FEDERAL REGISTER 62639-62716); on September 18, 1978, a set of proposed permanent regulations (43 FEDERAL REGISTER 41661-41940); and on March 13, 1979, a set of final permanent regulations (44 FEDERAL REGISTER 14901-15463). To examine the agency's construction of regulations, we selected four "key issues" of primary concern to the principal interest groups: (1) regulations requiring citizen participation in inspection and enforcement, a major concern of environmentalists, (2) regulations requiring the construction of, and specifying the design criteria for, sedimentation ponds, a costly requirement for eastern coal producers, (3) regulations in the permanent program specifying the range of permissible variations in state programs -- known as the "state window" -- an obvious concern of the states, and (4) regulations governing coal mining on alluvial valley floors, a basic problem for western coal producers.

Changes in the regulations governing these issues provide insights concerning the relative effectiveness of contending parties in the rule-making process. Treating the OSM's four sets of regulations as representing a linear developmental process, we examined the OSM's administrative record of public comments and materials submitted by various interest groups bearing on each of

these issues. For each of the four issues, we examined changes in the regulations from the first through the fourth set. We noted changes in the regulations and linked them to the objectives sought and comments submitted by the various groups.

With some important exceptions, the Office of Surface Mining's regulations in all four areas showed a number of consistent patterns from set one through set four. (Actually, the state window regulations did not appear in the draft interim or final interim regulations.) The regulations: (1) became longer and more detailed, (2) required more information about mining plans and demonstrated performance from coal operators, (3) required increasing amounts of information from states that desired regulatory standards different from the federal program, and (4) became increasingly rigid (i.e., less subject to discretionary interpretations). In sum, the Office of Surface Mining developed regulations consistent with an enforced compliance interpretation of its mission. As one member of the Task Force related:

> [The OSM's program] was built on the fervor of the time, of the winners. And the winners were the environmental movement people, who had persisted . . . And, by god, they had slain the giant. And the wicked giant was lying there . . . "And the sinners are gonna be brought to justice." And they started, "these are gonna' be rigid regulations, by god. We're not gonna' leave anything out, because you can't trust them. We're gonna' write these in great detail" . . . I would say it was a moment of zeal, and almost triumph.

Another member of the Task Force said: "We wrote those regs as if there had to be 14 bolts holding down every piece."

SECTION 6: INSPECTION AND ENFORCEMENT: THE PROGRAM AND REGIONAL VARIATION

The inclusion of comprehensive, stringent inspection and enforcement (I&E) requirements in the Act was a major goal of citizens' groups and environmentalists. Their Washington representatives played a major role in drafting the I&E sections of the SMCRA. Largely for this reason, the Act includes provisions for periodic mandatory inspections of mine sites, mandatory issuance of notices of violation (NOVs) for all observed regulatory infractions, and non-discretionary issuance of cessation orders (COs -- orders to cease all mining) under specified conditions. Once the Act was passed, the same groups and their representatives were determined to press for similar, tough I&E regulations both in the interim and the permanent programs.

THE I&E PROGRAM

Within the OSMRE Task Force, a separate task group was created to write the inspection and enforcement regulations and establish the program.

A powerful belief that guided construction of the I&E program was an emphasis on the overriding importance of obeisance to law itself. The task group wanted to design an I&E program to take the "rule of law" into the coal fields. They operated with reasonably explicit beliefs about the deterrence process. Like many social scientists (e.g., Braithwaite and Geis, 1982), they believed that the deterrence process could work effectively with corporate actors. However, they were under no illusions about the task. Key task group members, like environmentalists, believed that a strong I&E effort would be required if environmentally and socially harmful industry practices were to be reversed successfully, especially in Appalachia. Much depended upon creation of an enforcement program which would be seen as credible by the coal industry. Unfortunately, they doubted the industry's willingness to comply with the new federal regulations and believed many operators would evade the law at every opportunity.

As they constructed the program, the I&E task group reviewed what they saw as some of the principal shortcomings of other regulatory enforcement schemes. A key member of the group told us:

> I [had come] to believe that what was missing [under state regulation] . . . was just that [coal operators] were not told that "you're supposed to do it, and this is a serious rule. And if you're not, we'll just be on your case." . . . I mean, I really thought that if we had honest, motivated inspectors, we gave them the power and supervised them, and kept our lawyers arguing when

> they came back, that we would, in fact, you know, people would finally say: "Oh, you mean you're really not supposed to put spoil on the downslope? Ah, come on. I knew the law said that, but you mean you're really not supposed to do it?" "Yeah," you know. And that was the missing ingredient . . . One ought to do what the law says. It's as simple as that. And that, eventually that relatively simple truth would get translated into a reality, of compliance.

Consequently, he and his colleagues examined the operation of other programs in order to avoid problems which seemed to undermine their credibility. For example, they were guided by the I&E program of the Mine Safety and Health Administration (MSHA). The OSM's I&E program, unlike MSHA's, requires cited coal operators to pay civil penalties before they can appeal. The penalty funds are held in escrow until final disposition of the issue, after which they are returned to the operator if the agency's action is overturned.

Staffing Up and Beginning Operations

Even though Congress delayed its budget, the OSM was charged with initiating the interim regulatory program by May 3, 1978. Headquarters executives took an active part in hiring and training the initial inspector corps. They identified potential inspectors through contacts with state regulatory personnel, with other federal agencies, and with a network of attorneys and environmentalists active in local and regional efforts to curb strip mining abuses. The experience of one of the initial OSM inspectors who, like others in the "first wave," later became a field supervisor was typical. A former state inspector, he recalled that one evening he received a telephone call from an attorney in a nearby town, was told that one of the OSM's HQ executives was there, and was asked to "come over." At the meeting, the possibility of his joining the agency was discussed. Also, he provided a list of names of persons -- inspectors and former inspectors -- he regarded as "good people, who were trying to do the right thing."

> So . . . that was the beginning of my part in the program. And not too long after that, of course, I filled in my application and sent it out to Washington. And wasn't too long until I was hired and then started my trips down to [the regional office], back and forth, trying to get this whole program together. Of course, the first thing that we did was, the whole group of people that we had picked as the first people in the program, they were scheduled to have two weeks training down in Madisonville, Kentucky . . . I've got a photograph out there of the original 50 or 55 people there about, that started this whole program throughout the United States.

Although two subsequent "waves" of inspector-hirees included many regulatory novices, the initial group were experienced in regulation. They were highly committed and enthusiastic about their new duties. In their earlier regulatory employment many had experienced varying degrees of frustration. They saw their OSM employment as an opportunity to establish a program that would be taken seriously by the coal industry -- something they believed had not been true of the state programs in which they had labored. They shared the strong environmental protection orientation that produced the Act and animated those who created the I&E program. Not surprisingly, there was a strong sense of camaraderie among this nucleus of the inspector corps.

When the OSM's inspectors began enforcing the interim program, they tried at first to conduct inspections jointly with their state-level counterparts. It was hoped that this would create harmonious working relations, provide an example of rigorous enforcement to the states, and possibly soften operators' resistance. However, this policy of joint inspections soon was abandoned in most areas, in part because of the limited number of OSM inspectors and the need, consequently, to work swiftly.

The I&E Presence in the Field

At its peak size, the Office of Surface Mining employed approximately 220 inspectors. The majority were located in Appalachia. At the same time, the agency was charged with inspecting approximately 15,000 mines. The OSM never had sufficient I&E personnel and resources to meet its statutory mandate to conduct an annual, fixed number of inspections of each mine site. The problems were especially acute in Appalachia, which has thousands of inspectable units. Table 3 presents a statistical summary of OSM's inspection and enforcement activities during the period June 1978 through June 1982.

Table 3 shows that the Office of Surface Mining I&E program never achieved the field-level presence envisioned in the Act. Despite this fact, it proved to be extremely visible, and therefore a major symbolic irritant to coal operators and, to some extent, the states. Throughout the country, but especially in Appalachia, it became a focal point of state and industry opposition to the Office of Surface Mining.

The I&E Program's Reception

In varying degrees, all the states resented the OSM's regulatory presence. They believed that the agency's I&E program represented an invidious comparison with their own inspection and enforcement performance. The Appalachian states viewed the entire OSM program as a threat to the economic viability of "their" coal industry. The western states resented the federal presence for other reasons; first, because of the more general "Sagebrush Rebellion," a grassroots movement among westerners which casts the

TABLE 3

OSM INSPECTION AND ENFORCEMENT ACTIVITY PER INSPECTOR -- JUN 1978 TO JUN 1982

Time Period	Inspectors[a]	Notice of Violation		Cessation Order	
		# of NOVs	NOVs per Inspector	# of COs	COs per Inspector
Jun 78 - Dec 78	98	776	7.92	134	1.37
Jan 79 - Jun 79	181	1,469	8.12	274	1.51
Jul 79 - Dec 79	206	2,993	14.53	541	2.63
Jan 80 - Jun 80	209	3,797	18.17	812	3.89
Jul 80 - Dec 80	198	3,165	15.98	821	4.35
Jan 81 - Jun 81	171	1,330	7.78	396	2.32
Jul 81 - Dec 81	157	1,038	6.61	222	1.41
Jan 82 - Jun 82	134	693	5.17	192	1.43

[a] Number of active OSM inspectors certified to conduct mine inspections during the median date indicated.

Source: The Office of Surface Mining.

agency in the role of one more federal bureaucracy interfering with state interests and autonomy; and second, because they wanted to get on with the process of mining their enormous coal reserves. They viewed the OSM's control over the permit process in much the same way that the Appalachian states viewed the I&E program: as an impediment or threat to their industry.

The Appalachian coal industry includes numerous small, economically marginal firms for whom any incremental production costs threaten their continued existence. There also was a certain regionally-based resistance to governmental "interference" in matters regarded as "personal". Finally, the Appalachian industry was accustomed to a lax and, in some cases, even a corrupt regulatory apparatus. OSM's inspectors, because of their visibility and because of the civil penalties triggered by their actions, became a lightning rod for the industry's anger. In some local areas of Appalachia, there were threats of violence. In 1980, a regional OSM employee informed HQ:

> At a recent informal public hearing at an illegal minesite . . . [the operator] told [us] that the next time we flew over [the] area that our helicopter would be shot down. He told us that the miners in this area are uniting, and there was going to be the same kind if violence that occurred when the U[nited] M[ine] W[orkers] tried to move into the area. This violence would be directed toward OSM inspectors, because the miners are not about to let OSM stop them from feeding their families. A recent helicopter flight, conducted by [state personnel] was hit by small caliber ground fire in this area (OSM, 1980c).

OSM inspectors received many threats and, on rare occasions, they were attacked physically. For example, in May 1980 an OSM inspector was assaulted and his nose was broken by a mine operator in Tennessee.

Western coal producers were at the other extreme of operator resistance to the I&E program. (On this issue, as on so many others, midwestern producers occupied a middle position.) There were four reasons for this. First, incremental production costs caused by the SMCRA and the OSM's regulations were much lower in the west so that the regulatory program represented less of an economic threat. Second, because of the earlier issuance of the "211 regs," enforced by the U.S. Geological Survey, western coal producers were accustomed to a federal regulatory presence. Third, the large, organizationally complex western mines have specialized reclamation personnel who tend to accept the principle, if not the details, of regulation. Finally, the I&E program in the west was operated with a greater degree of discretion and leniency than was the case in other regions, especially in Appalachia.

However, it is clear from the data presented in Table 3 that the Office of Surface Mining's I&E personnel were not the heavy-

handed omnipresent force depicted by many states and by coal operators. It appears instead that the agency's adversaries, resentful of the fact that it was the first reasonably active regulatory presence in most areas of the coal fields, seized upon a few incidents of extreme or unreasonable performance by I&E personnel to attack the agency as overzealous.

REGIONAL VARIATION IN INSPECTION AND ENFORCEMENT

The OSMRE Task Force followed precedent in creating a structure for the new organization. Until the Reagan administration reorganized the agency in 1982, the OSM maintained five regional offices (in Charleston, West Virginia; Knoxville, Tennessee; Indianapolis; Kansas City; and Denver). Offices were located in these cities because of proximity to the major coal producing regions of the United States.

In view of the substantial differences in eastern and western surface mining, we examined the construction and operation of the I&E program in two of the five regions: Region East and Region West. The former is located in the heart of the Appalachian coal field, and the latter is in the far west. While there are thousands of inspectable units in Region East, Region West has fewer than two-hundred such units. And while Region East employed approximately 75 inspectors at the height of the interim program, the latter never had more than 9 inspectors. However, because of its unique responsibility for reviewing permit applications for mines on federal lands, Region West employed a large number of technical specialists.

Through the use of official agency statistics on I&E activities, interviews with regional personnel, and a mail questionnaire sent to all the OSM's inspectors in the summer of 1981, we determined that a substantial difference existed in the I&E programs in Regions East and West. Support for this assertion is found in Table 4.

I&E personnel in Region West had a very low rate for issuance of NOVs and COs. Interviews revealed that a more discretionary, negotiated approach to inspection and enforcement was developed in the Region. Region East's I&E personnel had high rates for issuance of NOVs and COs. Interviews with Region East I&E personnel suggested that they adopted an approach to their duties that more nearly approximated one of enforced compliance. They treated the law and regulations as standards against which operators' performance and efforts should be judged.

We reasoned that distinctive regional differences in styles of enforcement would be reflected in regional variation in the responses of individual inspectors. Consequently, in the mail questionnaire we included two scales designed to reveal whether such differences exist. From an analysis of the enforced compliance style of enforcement we constructed a legalistic scale; from an analysis of the negotiated compliance style we constructed

TABLE 4

SUMMARY MEASURES OF OSM INSPECTION AND ENFORCEMENT ACTIVITY, JULY 1, 1979 TO JUNE 30, 1980

Region	Number of NOVs per:			Number of COs per:		
	Inspector	Ten Inspections	Million Short Tons of Coal[a]	Inspector	Ten Inspections	Million Short Tons of Coal[a]
East	54.23	2.62	17.22	15.02	0.73	4.77
West	12.14	2.34	0.44	0.71	0.14	0.03
Total (U.S.)	32.31	2.01	8.45	6.54	0.40	1.66

[a] U.S. Department of Energy, 1981; 1981a.

TABLE 5

REGIONAL VARIATION ON DIMENSIONS OF REGULATORY ENFORCEMENT STYLES

	Region East			Region West			U.S. Total		
Dimension	X Score	S.D. S.D.	N N	X Score	S.D.	N	X Score	S.D.	N
Legalism[a]	4.95	3.05	44	2.33	1.63	6	4.59	2.57	126
Conciliatory[b]	9.18	1.82	44	9.33	2.07	6	8.51	2.35	126

[a] A three-item scale (Cronbach's alpha = .67). Items are: "Generally the requirement that OSM inspectors write an NOV on every violation they observe is not an effective regulatory strategy" [0 Strongly Agree; 1 Agree; 2 Undecided; 3 Disagree; 4 Strongly Disagree]; "The best way for inspectors to do their job is to go strictly 'by the book'" [4 Strongly Agree; 3 Agree; 2 Undecided; 1 Disagree; 0 Strongly Disagree]; and "I have tried to enforce the interim regulations strictly and uniformly, much as a police officer would do" [4 Strongly Agree; 3 Agree; 2 Undecided; 1 Disagree; 0 Strongly Disagree]. Responses to the three items were summed.

[b] A three-item scale (Cronbach's alpha = .77). Items are: "Compliance with the regulations is easiest to obtain if the inspector advises and works to educate the operator"; "In my work I have tried primarily to educate and consult with coal operators"; and "The best way for inspectors to do their job is to consult with and try to educate mine operators." Response alternatives to all three items were: [4 Strongly Agree; 3 Agree; 2 Undecided; 1 Disagree; and 0 Strongly Disagree]. Responses to the three items were summed.

a conciliatory scale. We have produced the results of the questionnaire measures in Table 5. (Readers should note that due to the low number of respondents in Region West the statistics must be interpreted with caution.)

Consistent with expectations, Region East personnel scored substantially higher on the legalistic scale than did their counterparts in Region West (mean scores of 4.95 and 2.33 respectively.) Contrary to our expectations, however, there was no appreciable difference between the two Regions in inspectors' scores on the conciliatory scale (9.18 in Region East and 9.33 in Region West). Put differently, Region East inspectors scored high both on a scale designed to measure a legalistic, enforced compliance approach to regulation and on a scale designed to measure an educational, conciliatory approach. So, their tough, "by the book" approach to I&E apparently did not prevent them simultaneously from engaging in a variety of efforts to inform coal operators about the requirements of the federal program. These findings suggest that the two ideal-typical enforcement styles may covary in a more complex fashion than earlier theoretical discussions (Thomas, 1980; Kagan, 1980) seem to allow.

Nevertheless, our interpretation of the regional differences in dominant approaches to I&E emphasizes the importance of: (1) differences in the regulatory histories of the two regions and the beliefs and experiences of regulatory personnel assigned to them, (2) the degree of political conflict over surface mining issues in the respective areas, (3) differences in the size and nature of the companies that mine in the two regions, and (4) regional differences in responsibilities for review of mine permit applications.

Surface mining in Region East has a long, turbulent history, and is marked by lax state regulation. OSM personnel came to their duties there with a desire to alter this historical pattern and to set an example for the states. Many of the OSM's inspectors saw the federal program as their first opportunity to regulate the surface mining industry effectively. Both citizens' groups and the coal industry subjected the regional operation to careful scrutiny. The former did so because they saw it as an opportunity to eliminate or to curtail harmful strip mining practices; the latter because their existence was at stake with many industry figures believing the OSM was working hand in glove with the large coal producers to drive small operators out of business. Thus, I&E personnel in Region East found themselves in a highly conflictive environment. They relied on the law itself, and on rigorous enforcement as a defense against charges of favoritism either toward environmentalists or the coal industry.

The regulatory environment in Region West was more placid. There was less citizen scrutiny of the I&E program, and very few citizen complaints were made to the agency about harmful mining operations. The large western coal producers were believed to be more accommodating than their eastern counterparts to regulation. A Region West manager told us:

> Most of the mines in the west have a resident environmental specialist, either at the mine or at least someone who is assigned those duties. A lot of the larger mines -- most of them, in fact -- have people who are trained in regulatory compliance function. And those are the people you deal with. The people back in the east -- at least when I was back there -- the people that you deal with are the pit foreman or the mine superintendent . . . [H]is main job is production . . . you're dealing more with production-oriented people in the east. And in the west, most of the people you deal with are not production oriented, but environmentally oriented.

Region West OSM personnel did not believe rigorous enforcement was required to bring their operators into at least minimal compliance with the Act and the regulations. Also, mine personnel in Region West seemed to be more than a match in terms of technical and legal expertise for OSM inspectors, who tended to be somewhat deferential and to issue relatively few NOVs and COs. Finally, Region West managers utilized the permit process to extract promises of sound mining and reclamation practices from coal operators. Region East managers, because they lacked this resource, necessarily placed more emphasis on stringent I&E procedures.

CIVIL PENALTIES PROCESS

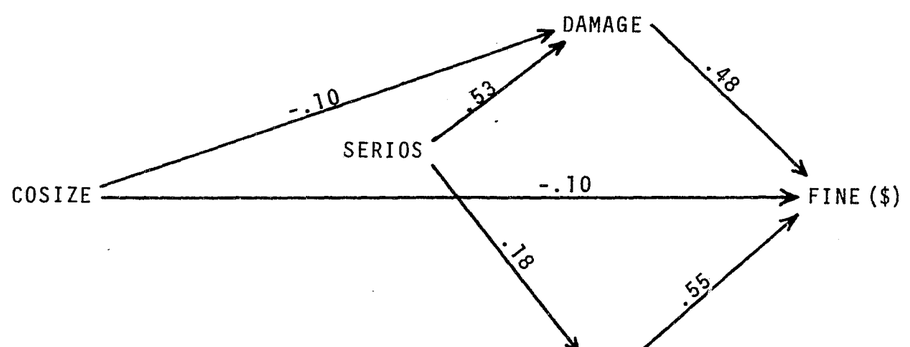
We examined the OSM's imposition of civil fines for a sample of 735 notices of violation that were purposively selected to assure approximately equal numbers of small, medium and large-sized coal producers. The data revealed that the average fine was approximately $1,000. Using path analytic procedures, we examined the impact of several variables on the magnitude of the fine assessed by the Office of Surface Mining.

Drawing from the research literature on the sanctioning of ordinary offenders, our analysis employed two categories of variables which, conceivably, effect the size of the civil penalty: legal and extra-legal. The former are those "factors emphasized in official-normative descriptions of the criminal justice system" such as the seriousness of a defendant's offense, the nature of his previous criminal record, and the degree of "viciousness" manifested in the offense itself (Hagan, 1974: 358). The latter variables are those presumed to be legally irrelevant to the imposition of penalty, such as the defendant's race, sex and age. The principal objective of our analysis was an assessment of the relative contributions that each of these two types of variables makes to an explanation of the dependent variable (size of fine).

We employed three legal variables in the analysis. For each violation we determined: assessed damage, assessed negligence of

FIGURE 5

FINAL PATH MODEL



Where:

FINE ($) = Amount of initial Fine.
DAMAGE = Damage Points Assessed by OSM.
FAULT = Negligence Points Assessed by OSM.
SERIOS = Seriousness of the Violation.
COSIZE = Size of the Offending Corporation.

the corporate offender, and seriousness. The first two variables were operationalized as the total number of penalty points assessed in each category by the OSM's assessors. We constructed our own measure of the third variable. In doing so we drew upon the available literature on the harmful impacts of surface mining and interviews we conducted with OSM personnel and representatives of environmentalist groups. The resulting knowledge enabled us to rank order sanctionable mining practices according to their immediate or potential harm to private property, public health and safety, or the environment. Three points were assigned to the most serious violations (e.g., placement of spoil on the downslope, altering the chemical balance or siltation level of surface water sources), two points to moderately serious violations (e.g., improper revegetation practices) and one point to the least serious violations (e.g., failure to post adequate signs or markers on the mine site).

Our data permitted the use of only one extra-legal independent variable: size of the mining corporation. This was operationalized as the total number of tons of coal output during the year 1979 (National Coal Association, 1980). This variable was grouped into three categories: small, medium, and large.

After eliminating statistically non-significant paths, the final results of the path analysis are presented in Figure 5. As can be seen, we found that the size of the fine was determined largely by legally relevant variables (the degree of negligence evidenced in the violative behavior and the degree of actual or potential harm caused by the violation). However, there was a slight tendency for larger companies to receive smaller fines, even when other variables were controlled. Once the fines were imposed, the larger companies were more likely than smaller ones to pay them.

Data provided to us by the OSM and by the U.S. Department of Justice indicate that a rather low percentage of assessed fines have been collected. Less than 20 percent of the agency's total assessed fines had been collected as of mid-1982 by the agency, a private firm hired to collect delinquent fine payments, and the U.S. Department of Justice.

As do the data presented in Table 3, data on fine collection suggest that the inspection and enforcement program operated less stringently than the the I&E task group had planned. Belatedly, the OSM's executives realized that they had underestimated the resources needed to operate as planned originally. There were many more mine sites than they had realized, and the complex problems of fine collection were unanticipated. Clearly, full implementation of an enforced compliance strategy required more resources than the OSM made available for the I&E task. By the time I&E executives realized their errors, a request for additional resources appeared moot because soon the states would have regulatory primacy.

SECTION 7: THE AGENCY UNDER SIEGE

The Office of Surface Mining was under severe statutory pressure to promulgate its permanent program regulations no later than August 3, 1978. Even as it began the process of issuing the regulations, however, the agency faced an erosion of its political support necessary to continue to develop and implement a stringent regulatory program. The agency's permanent program cannot be understood adequately without some attention to this context.

ERODING SUPPORT AND MOUNTING ATTACK

The OSMRE Task Force had tried to work cooperatively with the states, and this effort met with some sucess. However, the states were especially concerned about the nature of the impending permanent program regulations because the OSM would use them as the yardstick to evaluate the states' applications for regulatory primacy. The states were concerned about the openness of the state window, strictures placed on federal grants and AML funds, and deadlines imposed by the Act. The states became increasingly hostile toward the federal agency during the promulgation of the permanent program regulations. They charged the OSM with arrogance and inflexibility and resented the federal I&E presence.

As might be expected, there was an east-west split in regard to the issues that irritated state politicians and regulatory personnel. The western states presented many problems common to all three coal fields as well as some unique to their region. Among the latter was the fact that the OSM had to (1) develop special programs for Indian lands, (2) establish cooperative agreements for the states to conduct inspections on federal lands, and (3) review permit applications for federal lands. Despite this clear split of interests between eastern and western states, they presented a united front of opposition to the OSM.

The coal industry's representatives also subjected the OSM to severe criticism once it began enforcing the interim program. Industry's attacks echoed those made by the states. First, it was charged the agency had exceeded and misinterpreted Congressional intent when it created the interim program. Second, there was the complaint that the interim program did not permit sufficient flexibility for meeting regulatory objectives and performance standards. Industry argued for more reliance on performance as opposed to design standards and claimed that regulations should be site-specific.

Industry's objections were not limited to these two points; small producers raised complaints of their own. They charged that compliance costs were excessive and unrealistically high and represented a threat to their continued existence. And second, they alleged that the interim program made it impossible for them to mine in many areas of Appalachia (e.g., on steep slopes).

This, they charged, denied them the right to use their land as they saw fit and therefore represented an unconstitutional taking of property.

Citizens' groups and environmentalists also maintained a critical, watchful eye on the agency's operations and its developing programs. They were vigilant to ensure there was no slippage in its resolve to mount a tough program. Generally, however, they were supportive of the agency publicly and, in fact, adopted a protective stance as the coal industry and the states intensified their attacks.

POLITICAL STRUGGLE OVER THE PERMANENT PROGRAM

The permanent program regulations were published on March 13, 1979. The coal industry continued to charge that the regulations were too inflexible, exceeded Congressional intent, were not cost-effective, were influenced excessively by the agency's "zealotry," and were potentially damaging to the nation's coal production. (Coal production fell in 1978, which gave superficial credibility to industry's claim. However, most observers agree that the decrease was due to a strike by the United Mine Workers, and had little to do with the arrival of the Office of Surface Mining.)

By early 1978, industry had mounted in litigation a major attack on the interim program. Besides the courts, industry voiced its complaints in other forums, including the the media, and the halls of Congress. These efforts began shortly after promulgation of the interim regulations, and did not abate significantly until the arrival of Ronald Reagan's appointees at the Department of the Interior and the Office of Surface Mining.

Industry also registered a new complaint. It scored the OSM for its insistence that the coal industry and the states meet deadlines established in the Act even though the agency had missed its own deadlines.

Significantly, the industry's complaints at this stage began to parallel those raised by the states. Both groups believed that the OSM regarded them as adversaries who could not be trusted without federal oversight. And both groups charged that the agency was bent on expanding its own payroll and responsibilities to ensure survival. They came to believe that only through a radical transformation of OSM could they be certain of no further federal interference. Both groups openly began to advocate such actions.

Opposition by the states intensified during the time the OSM was promulgating its permanent program regulations. Among the incidents responsible for this was an opinion issued by the associate solicitor for surface mining. The opinion on ex parte contacts during rule making (i.e., the process of writing the regulations) held that the agency could not meet privately with the states in regard to rule making and could have no contacts

with the states on the subject after the close of the public comment period. The opinion, issued at the behest of public interest lawyers, sharply reduced contacts with the states, angered them, and reinforced their view that the federal agency regarded them as very unequal partners, if not as adversaries.

Many of the states' efforts were coordinated by the National Governors' Association while others were pursued by officials of the individual states, including their chief executives. The states took three lines of attack. First, West Virginia's Governor Jay Rockefeller persuaded a Senator to amend a bill (S.1403) to require state regulatory programs to comply with the Act but not with the OSM's regulations. The bill passed in the Senate, but was stalled in the House. A similar ploy was attempted in the following Congressional session, with a similar outcome. A second tactic utilized by the states (primarily those in the west) involved personal appeals to Interior secretary Cecil Andrus -- formerly governor of Idaho -- to curb the alleged excesses of the Office of Surface Mining.

Finally, the states attacked the OSM during Congressional oversight hearings, charging that the agency insisted that their programs be "clones" or "mirror images" of the federal program. Wyoming's Governor Edward Herschler assumed a highly visible leadership role in these efforts. In personal appeals to the Secretary of the Interior and in his public comments he flailed the Office of Surface Mining, charging it with arrogance and inflexibility. For example, in 1979 Congressional oversight testimony Governor Herschler said:

> Like a small boy or a large dog or a newspaper reporter, the Office of Surface Mining is constantly up to mischief, and I would like to share with you some of the particulars in my complaint . . . Federal attorneys insisted that we promulgate regulations to control mountaintop removal. Our Land Quality Division replied that there is no such mining activity in Wyoming and hence such regulation is unnecessary. The Federal attorneys responded by saying that "only the future can prove the veracity" of Land Quality's assertion, and that Wyoming must promulgate regulations for mountaintop removal (U.S. Congress, House, 1979: 8-9).

ORGANIZATIONAL AND REGULATORY IMPACTS

Regulatory and Initial Organizational Consequences

The OSM drafted and promulgated its permanent program amidst these strident, multi-frontal attacks while facing a severe statutory deadline. Once again, the latter constraint placed a premium on speed in drafting the permanent regulations. Consequently, the agency's headquarters' (HQ) executives responded by continuing its mechanistic form of organization and

management.

The hostile environment confronting the agency reinforced the agency's selection of a mechanistic type of organization. An overdrawn analogy clarifies the point: the agency found itself in a situation of combat and siege; it responded by accenting the characteristics of its organizational arrangements that seemed most suitable for such circumstances. With its emphasis on centralized policy making, delegation of precise tasks and strong hierarchical leadership, this type of organization was ideally suited to the agency's immediate mandate. Once again, however, this meant that a relatively small group of HQ personnel were largely responsible for determining the nature of the permanent regulations.

The Office of Surface Mining expected to face major court challenges to its permanent program regulations. This anticipation, together with the siege conditions, solidified the importance of the solicitor's office in the rule-making process. Both in professional training and the typical demands of their occupational role, attorneys specialize in managing conflict. As one of the solicitors told us:

> Q.: What was the effect, for individuals and for groups of people working together, of being under continuous attack?
>
> A.: Well, as far as the lawyers, the people in the Solicitor's Office were concerned, many of us had come from litigation backgrounds, and were very used to that kind of situation. So, it really just fueled our fires all the more, I think.

The solicitors and OSM HQ executives developed a virtual obsession with ensuring that all aspects of the rule making process were legally "correct." The solicitors believed the agency's technical staff did not appreciate the importance of thoroughness and attention to detail in developing rationales for the regulations.

> [F]or every one OSM hour you had about five lawyer hours on top of that. Patching, correcting, writing . . . The lawyers really took an incredibly poor work product and made it what . . . held up in court . . . [Those] folks worked extraordinarily hard.

Inevitably, perhaps, the solicitors' prominent role in drafting regulations led to conflict with the agency's technical staff.

> [The lawyers] were probably the most hated of the whole group. The agency hated them because the lawyers would say, "no, this is inadequate, insufficient. You haven't interpreted the law right," whatever. Made them . . . do it [over]. But a huge animosity developed between

> lawyers and the agency. And then, you know, [agency personnel would say] "whose policy call is it, anyway? . . . And, "who's developing this program?" So, all that friction. And the lawyers felt the agency people were dumb and, you know, dimwitted and all the rest of it.

As these events transpired, the agency's HQ became increasingly isolated from its various constituencies and its regional personnel. In a calmer political environment, regional personnel probably would have played a more important part in drafting agency policy and regulations. Because of their daily interaction with mining companies, in many ways they commanded a different perception of the operational problems faced by both the agency and the coal industry. However, circumstances relegated them to a subsidiary role. Faced with attacks from many sides, HQ executives expected regional personnel to be"good and loyal soldiers" and to carry our HQ directives faithfully. HQ executiveswere fearful of the potential consequences if regional personnel were permitted too much latitude in their work performance. (In fact, the Region West director was subjected to almost continuous criticism and scrutiny by HQ, largely for this very reason.)

On occasions when regional managers tried to take a more active part in shaping policy, they met with little success. For example, regional managers played a very limited role in drafting the permanent program regulations. As the target date for publication of the regulations approached, regional managers grew increasingly apprehensive, based on the drafts they had seen, about their field-level reception. Largely on their own initiative, the five regional directors requested a meeting with HQ executives to discuss the substance and potential impact of the forthcoming regulations. As a regional manager told us:

> The regulations . . . were <u>exceedingly</u> burdensome, in terms of just the detail and the -- it was just overdone. There's no question about that . . . We felt, meaning <u>all</u> the regional directors, that these things were just too comprehensive, and too all-encompassing, too detailed. And we're gonna' get killed -- "we," the agency, "we," the program.

The regional directors arrived in Washington and were given a short time to examine the package of regulations. Dismayed with what even a cursory review revealed, they elected a spokesman to meet with HQ executives the following day to express their concerns. Despite the meeting, "nothing happened, nothing changed."

According to some of the regional personnel we interviewed, OSM's HQ operations at approximately this time seemed characteristic of a kind of "bunker mentality." Clearly, the necessity of producing regulations in a short time period, while under strong political attack, had shaped the agency's operational performance.

After the close of the public comment period, and staff review of the submissions, a small group, comprised of the agency's top executives and two attorneys (a solicitor and a representative of the Department of Interior) made the final decisions on each regulation.

Later Consequences

As the OSM moved into the 1980s, there was a gradual "softening" of the stringent policies it had initially pursued. Several factors contributed to this shift. First, HQ personnel no longer faced the demands of promulgating regulations; for the first time in two years, they could sit back and take a look at what they had created and how it was working. As part of this process, they paid increasing attention to feedback from regional managers about the program's field-level impacts. Second, court decisions, though overwhelmingly supportive of the agency's efforts, forced a reexamination and redrafting of some regulations. Permitted for the first time to draft regulations at a more leisurely pace, the agency was able to see the need to make some accommodations to industry and state concerns. And finally, criticisms from Congress found their mark. As one of our respondents, an HQ executive, said: "I think S.1403 scared us quite a bit. We hadn't realized the depth of feeling that was out there."

The associate solicitor for surface mining seemed to be a lightning rod for state attacks in 1978-79. In mid-1979, he was dismissed, an action generally perceived as an attempt to mollify the states. After this, the agency modified its earlier policy on ex parte contacts with the states.

As it began to review state programs, OSM evidenced a slight, but perceptible, shift toward acceptance of state proposals which were not copies of the federal regulations. An HQ executive said:

> [A]s we got into '80, and decisions on the state programs . . . we saw more flexibility. Not a lot, I don't think, but it was certainly starting to come out. Then, as we talked to specific states about the detailed regulations which they had, ones which didn't follow the federal regulations very closely, we got to appreciate more and more the problems which they had, and took different approaches. And approved them. Montana was the first state, in the Spring of '80, to come in and really make a hard pitch to do things their way on a relatively small number of items . . . In some cases they had a real difference of approach and they wanted to maintain them. And, after a hard negotiating session between [OSM HQ executives and Montana officials], we ended up accepting most of what they wanted to do. Then, as a few other states got into the same position, we came to be able to do that more and more.

By late 1980 the agency was becoming more accommodating toward the states.

In other ways as well, the agency moved to accommodate state and industry concerns. This was evident, for example, in the response to one of the first permit applications for a large western mine. Although regional personnel recommended conditional approval, HQ modified the permit conditions to give the mining company permit conditions closer to its original request.

After the inauguration of President Reagan the agency became exceedingly accommodative, even as the states were dichotomized. Some, and this included most of the western states, pressed ahead and worked with OSM personnel to complete the primacy process. Others, chiefly those in Appalachia and some in the midwest, began to stall their movement toward primacy. In the agency's view, this was motivated by the hope that they would be able to get a "better deal" from the incoming administration.

SECTION 8: NEW DIRECTIONS AT THE OFFICE OF SURFACE MINING

Ronald Reagan's victory in the 1980 Presidential election was the precursor of dramatic change in the policies and practices of the Office of Surface Mining. Reagan had pledged to launch a program of regulatory reform to remove regulations and regulatory apparatuses which seem to be burdensome, cost-ineffective, and counterproductive for Americans and for American business. In addition, he had promised to enhance the power and responsibility of state governments in the area of regulation.

During the transition period the new administration's ideological stance toward the OSM was given substance in a report by the Heritage Foundation (Heatherly, 1981: 344-47). The report criticized the OSM for its "zealotry" in promulgating regulations said to be "far in excess" of the requirements of the Act, and charged it with having completely excluded "developmental interests". The report recommended that the new President and Secretary of the Interior "make an example of OSM and its regulatory excesses and . . . place high priority on an early transition to a State lead concept." It called for a review of the agency's "onerous reclamation regulations." Additionally, the new administration was urged to reduce the OSM's enforcement staff, to cut the agency's budget, and to replace current OSM senior staff and regional directors with professionals "more attuned to a rational program" of reclamation. Finally, the Heritage Foundation recommended that the new leadership in Interior, in pursuit of these objectives, should permit the states to "play a major role". In essence, the new administration followed these recommendations.

After the election, some OSM personnel, as if anticipating the forthcoming change of direction, began to modify many actions which conceivably could antagonize the incoming leadership. A measurable sign of this pulling back appears in statistics on inspection and enforcement. Shortly after Ronald Reagan's inauguration, the new Secretary of Interior, James Watt, held a mass meeting with Interior employees to alert them to the new emphases. Those who felt they could not work for such a program were invited to search for other employment. As is customary, OSM's political appointees -- among them the agency director -- resigned. Later, individuals from Virginia and Indiana, two of the states which had resisted the agency's efforts most vigorously, were named to the top positions in the OSM.

REORGANIZATION AND REGULATORY REFORM

During the first months of the new administration, relations between new appointees and older employees often were strained. Communication with the regional offices was kept to minimum. In mid-1981, the OSM was reorganized; the reorganization replaced the regional offices with fourteen state offices, six field offices, and two technical service centers. Headquarters also was

reorganized. A sharp reduction in the number of OSM personnel was begun, with major cuts occurring in the inspection and enforcement program. The reorganization plan was a major step in the direction of instituting a negotiated compliance style. The decentralization of the regional offices increased the power of headquarters and the states.

The second part of the new secretary's agenda for the OSM involved regulatory reform. Several regulations that had been issued but not implemented by the previous administration were withdrawn. But the movement to provide "regulatory relief" did not begin in earnest until mid-1981. Agency resources were focused initially on working with the states to develop acceptable state programs, and amending state programs already approved by the previous OSM administration.

One of the first steps in this process was the revision of the state window regulation in the permanent program. In so doing, the new Interior and OSM leadership intended to give the states greater latitude to tailor their regulatory programs to local problems and conditions. The revised state window regulation replaced the requirement that state regulations be "no less stringent than" the federal regulations with the requirement that they be "no less effective than" the latter. The revision was an important symbolic signal to the states about the new administration.

Beginning in 1981 and continuing to the present, the OSM has been engaged in an extensive revision of numerous portions of the permanent program. In appellate litigation, environmentalist and public-interest groups have challenged the regulatory relief effort on a number of issues. Although the new adminstration seems determined to give the states "what they want," few revised regulations have been promulgated as yet.

With the exception of one area of the program -- collection of civil fines and AML fees -- the new OSM leadership generally has adopted a conciliatory approach to inspection and enforcement. The handling and distribution of cessation orders, for example, has been centralized. In addition, the field solicitors have been told that future cases of litigation will require approval from the Washington solicitor's office. These are examples of attempts to increase regulatory leniency through centralization of decision-making.

RESPONSES

True to its promise, the new agency leadership has worked closely with the states in the process of regulatory reform and the push for primacy. The revision of regulations has reflected many state concerns and opinions. In turn, the states, for the most part, have responded with strong public praise for the OSM. Still, the new OSM executives have learned that some states are unyielding in their demand for regulatory flexibility, in part

because they realize that the Reagan administration, because of its ideology, will be reluctant to enforce compliance through stringent federal oversight. Two examples are the use of legal loopholes to expand the "two-acre exemption" in Virginia and the doubtful application of a "grandfather clause" in permit reviews in Illinois.

Virginia: Haul Roads and the Two-Acre Exemption

Section 528.(2) of the SMCRA exempts those who mine two acres or less from the regulatory requirements of the Act and the interim program. By inclusion of this provision, Congress meant to prevent the extensive regulatory requirements from falling on individuals or firms whose coal mining was "incidental" to their normal economic pursuits. Even before the change in OSM leadership, however, Virginia coal operators had devised a ploy to use the two-acre exemption to circumvent the federal program. Two distinct, though interrelated, practices have been employed.

Typically, a large mining company with extensive coal leases contracts with a number of smaller companies to mine two-acre tracts of the larger firm's coal. In some cases the larger company even leases mining equipment to their smaller partners. The subcontractors are required to sell their mined coal exclusively to the larger firm, and to use its tipple(s) (facilities for processing and loading coal). Many mines using this loophole also employed a second: they deeded their haul roads to the counties as "public roads." Use of these strategies

> was exacerbated by passage of two pieces of legislation, in 1979, by the Virginia General Assembly. The first was a bill which removed mines of two acres from regulation by the state; until then, the state had regulated all surface mines in Virginia, regardless of size. The second was a bill which allowed coal companies to "deed" their haul roads to county governments, thereby removing those roads from regulation by state or federal agencies, and their owners from all responsibility for proper construction or maintenance, and, at the same time, reducing the total acreage of many mine sites to under two acres (U.S. Congress, House, 1981: 241).

Working with coal operators, the state of Virginia seems willing to defeat the OSM's regulatory intent. Statistics provided to an environmentalist group by the state of Virginia indicated that as of June 1981 there were 1,083 two-acre mine sites in the state. Of these, 926 were unpermitted -- therefore, not required to meet any reclamation standards -- and 157 were permitted voluntarily. There had been no reclamation on 783 of the sites (U.S. Congress, House, 1981: 255).

Illinois: Grandfathering Prime Farmlands

The major environmental threats posed by strip mining are different for the three American coal fields. In Appalachia, it is control of erosion and sedimentation. In the west, it is protection of alluvial valley floors and the difficulty of revegetation. In the midwest, it is protection of prime farmlands.

Section 510.(d) of the Act requires that permits to mine on prime farmland after August 3, 1977 may be approved only if the regulatory authority finds, in writing, that the permit applicant has

> the technological capability to restore such mined area, within reasonable time, to equivalent or higher levels of yield as non-mined prime farmland in the surrounding area.

But the Act also contains a provision for "grandfathering" prime farmlands. A mine operator need not meet the special prime farmlands requirements if he can demonstrate that his permit application is a revision or a renewal of a permit approved prior to August 3, 1977. However, the operator must demonstrate that the area to be mined is contiguous to areas mined earlier as part of the original permit. Unless a permit is grandfathered by the regulatory authority, operators must restore the mined land to 100 percent of its agricultural productivity.

Critics charged that the Illinois Reclamation Division of the Illinois Department of Mines and Minerals unjustifiably grandfathered several permit renewals for mines in central Illinois (U.S. Congress, House, 1981: 56-66). In one of the cases cited, the new area to be mined was located in another county, several miles away from the previously mined area. By receiving a grandfather exemption from the federal interim program, the mining company was required only to meet state standards for productivity of reclaimed mined prime farmland, a standard less stringent than the federal requirement. Critics charged that actions such as this, together with the fact that Illinois joined in a court challenge to the Act, demonstrate that it is unwilling to develop and enforce stringent strip mining regulations.

EMERGING DEVELOPMENTS

Although the coal industry was quite pleased with the new directions taken by the OSM, a fissure has begun to appear between large and small producers. Small coal producers have pushed for severe reductions in regulatory requirements and for easier access to public monies provided by the agency's assistance program. In contrast, some large coal producers have become concerned that that Interior executives were moving so rapidly to develop a style of extreme negotiated compliance. Desiring a high degree of regulatory predictability, they fear that such action will create

a backlash and, with a change in Presidential administrations, lead to another wholesale alteration in the regulatory program.

The OSM has encountered many obstacles in its efforts to rewrite the regulations. Many of these stem from a contradiction between the new administration's primary goals: reorganization and regulatory reform. The agency moved quickly to reorganize and to reduce the numbers of personnel. In doing so, morale eroded precipitously. The agency suffered a severe loss of technical personnel and high employee morale at the very time when both are desperately needed to complete the regulatory reform effort. In mid-1982 it was more than one year behind the schedule projected when the Reagan administration took office.

As might be expected, relations between the agency and the environmentalist community have grown increasingly adversarial. Environmentalists generally fear that the new administration is trying to gut the program and to emasculate the agency. The most optimistic among them believe that the Act itself is so stringent that these efforts ultimately cannot succeed; the more pessimistic despair at the consequences of returning responsibility for regulation to the states. Environmentalist groups have challenged many of the OSM's actions in court, including the rewrite of regulations. These suits have delayed even further the agency's plans to complete its project of regulatory reform.

As envisioned by the framers of the SMCRA, the heart of the federal role in the permanent program is oversight of state performance. In the Reagan administration's oversight plan, the agency is working closely with the states. Consistent with the new strategy, oversight is to take the form of negotiated compliance.

Environmentalists believe that the reduction of the I&E personnel and technical staff will render the agency incapable of performing oversight and assisting the states with permit reviews. They charge that the planned workforce of 69 inspectors will not be adequate to perform oversight. Further, they complain that the "reorganization of OSM has been a calculated and callous attempt to demoralize and cripple the agency." In sum, they charge that the agency has become "more concerned about the health of the coal industry than the protection of the people most affected by mining" (U.S. Congress, House, 1982).

SECTION 9: SOME IMPACTS OF THE OSM REGULATORY PROGRAM

The Surface Mining Control and Reclamation Act of 1977 is a complex statute, as are the regulations which implement it. Both the interim and permanent regulatory programs imposed stringent, complex regulatory requirements on those parties who strip mine coal in the United States. Prior to 1977, a few states already had developed comprehensive regulatory programs of their own and were enforcing them rigorously. Other states had developed sound "paper programs" but failed to adequately implement them. Still other states simply made little pretense of their lack of concern for the environmental and social costs of surface coal mining. Thus, the federal regulatory program had a deep and wide-ranging impact on surface mining in America. For the first time in most states, coal operators were required to meet stringent mining performance standards and to carry out rigorous contemporaneous reclamation. Operators' performance was monitored by inspection and enforcement personnel mandated to issue citations for all violations of regulations they observed. In these respects, as well as others, the federal regulatory programs surpassed any previously in existence.

Unfortunately, the complexity and comprehensiveness of the OSM program makes it extremely difficult to isolate and examine the impacts of any <u>one</u> portion of it. As an example, consider the inspection and enforcement program. Because the federal I&E program probably was more rigorous than any state program, we would expect it to have a demonstrable effect on mining practices and, ultimately, on the environment. But the demonstration of effects is not a simple matter. Unfortunately, between time 1 (before the appearance of the OSM) and time 2 (after three years of federal enforcement) a number of variables in the regulatory matrix of surface mining were modified along with changes in inspection and enforcement. The simultaneous occurrence of multiple "treatments" in one or a number of time series confounds efforts to isolate the "pure" impacts of changes in I&E procedures. Further confounding the analytic problem are changes in the coal market, occurring independently of OSM and its operations, which also effect the numbers of mining companies as well as their mining and reclamation practices.

Even though it is difficult to isolate specific <u>causes</u> of demonstrable programmatic impacts, global <u>impacts</u> assuredly can be examined. We present a variety of data, some of it consisting only of opinions and field-level observations. It is presented, first, to document some of the incremental costs of the OSM program and, second, to determine some of the impacts of the federal regulatory presence -- at least during the first 3-4 years of its operation.

THE STATES

The SMCRA was based on the recognition of the need for federal

efforts toward improving the states' ability and resolve to regulate their surface mining industries. A number of mechanisms were incorporated in the Act to accomplish this objective. For example, as of mid-1982, the Office of Surface Mining had dispensed more than $69 million in grants to the states to assist them in improving their capabilities to assume and to exercise regulatory primacy (OSM, telephone conversation, June 7, 1982).

Quite simply, no one knows at present whether the states' regulatory performance will improve now that they all have achieved primacy. There has been, and doubtless there will continue to be, considerable differences in the performance of individual states. Although the former Solicitor for the Department of the Interior ruled that interim program performance can not be used in evaluating states' applications for primacy, environmentalist groups have suggested that interim program performance is the best indicator of future state performance. And, at least two studies of state performance have caused them concern. The first study (Johnson et al., 1980) examined inspection and enforcement by western states, and compared the states' performance with that of the Office of Surface Mining. Regrettably, the study did not examine the states' performance in the areas of permitting and bonding. The project was undertaken with two guiding assumptions. The first was that "the most reliable basis for judgment of what [the states'] future performances are likely to be is how they have performed in the past" (Johnson et al., 1980: 2). Second, the investigators assumed that non-discretionary, full enforcement of mining regulations both is possible and desirable. This second assumption thus becomes the standard against which actual enforcement performance is compared.

To summarize briefly, the researchers selected 48 mines, located in five states in the OSM's region V. Official records were examined to analyze the performance of the OSM as well as the five state regulatory agencies. [The records generally noted: (1) when inspectors had observed violations, (2) whether citations were issued for the violations, (3) whether violations were issued in the field (i.e., on site) or later, (4) whether cessation orders were issued for particularly serious violations, and (5) whether and when follow-up inspections were made to determine if cited operators had abated the violations.] For both the OSM and the five states, Table 6 summarizes some of the study's findings in these areas. As can be seen, there was substantial variation in the states' performances. The researchers concluded that:

> [T]he state regulatory agencies of [the five states] have failed to fully enforce the Surface Mining Control and Reclamation Act. Far from overzealous enforcement, the agencies are underregulating. In many instances they have not prevented the recurrence of the past abuses which the Act was designed to prevent . . .
>
> Our analysis . . . shows that neither the federal agency nor the five state agencies have made the

TABLE 6

REGULATORY PERFORMANCE OF FIVE WESTERN STATES DURING THE INTERIM PROGRAM

State	Number of Mines	Complete Inspections (1979-80)		Violations and Notices of Violation			
		Required	Performed	Violations Observed	# of NOVs Issued	% of Violations Issued an NOV	# of NOVs Issued on Site
Colorado	18	72	34	167	102	61.7%	88
New Mexico	4	14	14	36	19	52.8	15
North Dakota	6	24	50	49	9	20.4	8
Utah	10	37	23	150	62	44.7	49
Wyoming	10	34	19	61	27	44.3	27

Compiled from: Johnson et al. (1980).

required number of inspections nor taken effective enforcement action to correct many of the violations observed by inspectors at the mines (Johnson et al., 1980: 4).

The second study was conducted by the group SOCM (Save Our Cumberland Mountains, n.d.). The researchers did examine the state's (Tennessee) permitting and bonding practices, as well as inspection and enforcement. The group earlier had examined Tennessee's regulatory performance for the period 1972-77 (SOCM, 1978). Both studies utilized agency records, interviews with agency and law enforcement personnel, and court records as the principal data sources. The initial study demonstrated convincingly that the state's regulatory performance during 1972-77 was extremely lax. This was the case on virtually every measure of agency performance: permitting, inspection and enforcement, prosecution of wildcat operators -- a serious problem in Tennessee -- and bond forfeitures. The study did note that in 1977 the state launched a flurry of highly-publicized enforcement actions against a group of violators. The researchers believed this was stimulated by the impending arrival of the Office of Surface Mining, and they were skeptical it would continue.

The later SOCM study, based on data collected during 1980, contains ample support for the earlier skepticism. Despite revisions of Tennessee's surface mining laws during the interim period (1977-80), enforcement continued to be weak and inconsistent.

In mid-1982, Tennessee received regulatory primacy. Environmentalist and citizens' groups remain skeptical that its capacity and willingness to regulate effectively has increased appreciably since the 1980 SOCM study was completed. Admittedly, not all states have regulatory records as deficient as Tennessee's. And it remains to be seen whether the states will be willing in the future to do what they failed to do prior to 1977. Excepting state officials and the new leadership at the OSM, opinions varied among those we interviewed. A handful of respondents sounded a Cassandra-like theme, but more typical were responses such as this:

> Q.: Do you foresee any circumstances under which the regulation of surface mining will revert to conditions even close to what they were prior to 1977?
>
> A.: I want to say no to that. I don't think the states will be that irresponsible. I know that . . . fear is expressed by a lot of people in the environmental community, and maybe it won't revert because of their willingness to express that fear and keep everybody's level of awareness up . . . I don't know that the sky is falling in. I know that Public Law 95-87 still exists, and the citizens' rights exist as a matter of law, not as a matter of gratuity on the part of James Watt or [the new OSM leadership].

Partly responsible for this cautious optimism are efforts in some states which seem to signal a strengthened regulatory resolve. Kentucky's intensified efforts to control wildcat mining is one example.

In July 1978, Kentucky established a special unit to deal with wildcat mining. With limited fiscal, personnel and legal resources, however, the unit accomplished little. Basically, they were in the position of trying to bluff wildcat operators into compliance with the law. More recently, the state has moved to increase the unit,s resources. These renewed efforts were a response in part to a state study which estimated that in 1980 the state lost approximately $2,181,163 in coal severance taxes from an estimated 682 wildcat operations (Kentucky Bureau of Surface Mining Reclamation and Enforcement, n.d.). First, the state legislature passed new legislation giving the unit some of the enforcement tools that most observers believe are required if wildcatting is to be curbed: (1) wildcat mining was changed from a misdemeanor to a felony, (2) jurisdiction for handling such cases was taken out of the hands of the District courts -- believed too susceptible to influence -- and lodged with the Circuit courts, and (3) state personnel were given the power to confiscate heavy equipment used in wildcat mining and to sell it at public auction (Senate Bill No. 165, 1982). There was a new sense of enthusiasm among the unit's personnel as they recently launched a more intensive effort to control wildcat mine operations in Kentucky.

COAL PRODUCERS

The OSM's inspection and enforcement program was constructed and operated in hopes that it would achieve some deterrent effect on coal producers. Periodic inspections, mandatory notices of violation, and a responsive penalty assessment process were designed to impress upon coal operators the point that the federal regulators "meant business." The deterrence process, however, is more complex than the direct effect simply of a legal threat. Deterrence may be achieved indirectly as well (e.g., Zimring and Hawkins, 1973). For example, the creation of a new legal threat in time may lead members of the target group to reevaluate the morality of the threatened behavior quite apart from their fear of the legal penalty. Nearly all our interview data with OSM personnel suggest that the agency's program and operations achieved at least a modest deterrent effect. They achieved some channeling effects as well, which ultimately may prove to be just as important.

Reclamation Compliance Costs

The National Research Council (1981b) has reviewed existing studies and estimated some of the incremental costs of compliance with the SMCRA and the OSM's interim regulatory program. At the outset, the NRC investigators insisted on three points. First,

they questioned the legitimacy of the premises embedded in studies of reclamation costs:

> Surface mining on a significant scale takes place in both the United Kingdom and in West Germany, for instance, with little or no attempt to measure "reclamation costs" as such. In each of these nations . . . restoration is considered an integral part of the mining process. In the United States, however, reclamation has only recently been considered important, and hence the tendency is to consider it as an add-on expense (National Research Council, 1981b: 178).

Second, they suggested a conservative interpretation of reclamation cost data provided by coal producers:

> [I]f the surface mining industry's reports of reclamation expenses err, current incentives make it likely that they will err on the high side, because the industry is engaged in extensive lobbying and litigation based on the argument that the 1977 federal law and the proposed regulations impose unreasonably high costs. In addition, most long-term contracts for the purchase of coal include provisions for the pass-through of reclamation and other expenses imposed by governmental regulations. Again, this provides little incentive for low estimation of reclamation expenses, although new contracts will add such incentives (1981b: 182-83).

Finally, the NRC took note of the complaint by some that occasionally the reclamation costs for land exceed its market value. Suggesting that "this is beside the point," it charged that "[c]urrent and future individuals should not be made to bear unreasonable costs in terms of destroyed landscape for the sake of current consumers of coal" (1981b: 180). One of our respondents, a regional manager, made much the same point:

> [T]o the extent that the administration can make a cost-benefit analysis, certainly nobody faults that. The problem is, just a purely economic cost-benefit analysis is difficult in all situations. You know, an economist is a person who can assign a value to pimping his mother, because he assumes everything has a value . . . And there's some kinds of decisions, you know, that just don't readily translate . . . into dollars and cents . . . To the extent that it's the last . . . unmined mountain in Appalachia, what's the value of that, you know? Maybe it's worth everything.

After reviewing existing studies, the Council summarized the incremental reclamation costs produced by Public Law 95-87 for a "typical" mine in each of the three U.S. coal fields. The results are presented in Table 7. As Table 7 indicates, and the Council notes, "[r]eclamation costs per ton fall substantially moving from east to west" (1981b: 199). In fact,

TABLE 7

SUMMARY OF "TYPICAL" RECLAMATION COST ESTIMATES (1978 DOLLARS)

	$/Ton		$/Acre	
	Range	Midpoint	Range	Midpoint
1. Pre-P.L. 95-87				
a. Appalachia	3.23-7.16	5.19	2,676-$14,915	9,460
b. Midwest (rowcrop)	1.40-2.73	2.07	7,000- 10,000	8,500
c. West	0.08-0.39	0.24	1,899- 8,186	5,043
2. Incremental cost with P.L. 95-87				
a. Appalachia	---	5.24	---	---
b. Midwest (rowcrop)	---	1.80	---	---
c. West	---	0.57	---	---
3. Estimated total reclamation costs with P.L. 95-87 (1+2)				
a. Appalachia	---	10.33	---	---
b. Midwest (rowcrop)	---	3.87	---	---
c. West	---	0.81	---	---

Source: National Research Council (1981: 200)

mining costs in the west are only slightly affected by the requirements of 95-87 and the OSM regulatory program. In Appalachia, however, the picture is different. Spoil handling costs account for the lion's share of total reclamation expenditures, and spoil handling is affected by terrain and stripping ratio. Largely for these reasons, reclamation costs fall heaviest on Appalachian producers.

Large and Mid-Size Coal Producers

For two reasons, large and mid-size coal producers have not been affected by more stringent surface mining regulations nearly as much as their smaller counterparts. First, many of the former operate in the midwest and west, where the incremental costs of stringent reclamation requirements are less than in Appalachia. Second, the economies of scale make it easier for them to adapt to changed regulations and to develop, internally, new operating structures and procedures. For example, larger coal producers have in-house professional engineering staffs, enabling them to prepare many of the studies and plans that must be submitted as part of permit applications. Further, they have been able to develop, internally, additional technical services, such as water-testing laboratories, required for the same purposes. Their in-house availability of technical expertise also enables them, on a more or less continuous basis, to develop and adopt modified , cost-effective mining technologies. In short, larger companies have the capacity to adapt to changing regulations while remaining economically competitive.

Mid-size coal producers can achieve the same results only by merger or by contracting with external consulting firms to provide the requisite technical services. Congress anticipated enactment of the SMCRA and implementation of the OSM's regulatory program would create a substantially heightened demand for technical personnel. such as mining engineers, hydrologists, and trained blasters (U.S. Congress, House, 1977). Partly for this reason, the Act contains mechanisms for educational training of technical personnel. In the short run, however, technical personnel and services are scarce, especially in Appalachia. Clearly, establishment of the stringent, comprehensive federal interim regulatory program has spurred significant adaptive measures by mid-size coal firms -- which mine in the midwest and in Appalachia.

> I think, probably the biggest thing 95-87 required, that was really traumatic for the eastern industry, more so than the west . . . was force on them pre-planning, on a fairly massive and intensive scale. And there were a lot of problems in that. There weren't enough engineers; there weren't enough planners, or geologists, or hydrologists, or technical types to go around, to let you do all the planning that was required to meet, you know, these requirements.

Small Coal Producers

In the era of shoot'n shove surface mining, when regulation was weak or non-existent, many individuals and small mining companies moved in and out of surface mining depending upon market conditions. Such persons normally might work in the building trades or construction industry until rising prices in the spot coal market presented an opportunity to exploit. They provided a quick startup capability in the coal industry. At the same time, operating at the economic and legal margins, they and the ad hoc "companies" they created probably were responsible for some of the most severe environmental damage caused by surface mining.

In the revised regulatory climate produced by federal intervention, many small coal producers probably have been "squeezed" out of the market. Lacking an in-house technical staff, and the economies of scale, many of them face only two options.

The first, of course, is simply to go out of the mining business. Assuming that small surface mine operators increasingly are falling by the way, a higher degree of market concentration by mid- and large coal producers should result. Although we are not aware of any systematic empirical investigations of this question, less systematic data indicate such a trend (U.S. Congress, House, 1981: 336-66). They suggest that more stringent -- and, therefore, costly -- regulatory requirements have accelerated the concentration of coal production in the hands of the larger producers.

The second option available to the small producer is to engage in marginally or totally illegal operations, such as wildcatting. There are some data to suggest that, historically, a similar dynamic occurred in the Pennsylvania anthracite fields during the Great Depression (Shore et al., 1941). Once again, however, we really do not know if coal producers who formerly operated within the law have shifted to unpermitted mining. A former regional manager related what seems to be the prevailing view of the difficulty of determining the extent of and changes in wildcat mining:

> I suspect that wildcatting, probably, is a function of the economic state of the industry as much as anything else. And to the extent that the regulations have pushed coal producers to become larger producers . . . then you certainly, probably have larger numbers of persons who either are not able to reach those levels of scale or are unwilling to . . . And there may be a pool, a larger pool of potential wildcatters, who are unable to operate legitimately within the law, but have enough knowledge to run a 'dozer and . . . strip off a little contour mining in the middle of the night, or over the weekend.

The same respondent suggested further that the problem of wildcatting is

> focused or highlighted in Appalachia, because in many cases it's a one industry area. And to that extent, it may be more readily apparent that . . . [if] you can't economically afford to compete, other options may not be as readily available to you . . . [It's] somewhat akin to the kind of Prohibition problems . . . [J]ust because it's against the law to wildcat is not going to stop everybody from trying to strip the coal and sell it. As long as there's a ready market.

But, leaving aside the special problem of wildcatting, there is little doubt that in some areas of Appalachia mine operators, perhaps with the collusion of local politicians and regulatory personnel, have engaged in a variety of imaginative strategies to evade the letter of the law (e.g., Virginia's policy on haul roads and the two-acre exemption). The prevalence and incidence of these practices vary considerably from state to state. Because no one knows as yet whether the states will strenghten their regulatory resolve, no one knows whether such practices eventually will expand or decline.

Regardless of state responses to the federal presence, our interviews with OSM personnel suggest that coal producers gradually developed a modified awareness of their responsibilities. Typical of this belief are the comments offered by a regional manager:

> I think the general mind set of the industry, since 95-87, -- even though it's been a traumatic learning experience for them -- it's been much more acceptance of the requirements [and] the necessity . . . for regulating surface mining . . . I think there's a general acceptance on the part of the industry now that . . . when you deal with spoil, it's got to be compacted. It's got to be stabilized, that you got to make sure that it doesn't slide off the side of the hill . . . I don't think anybody would justify shoveling spoil over the downslope now.

Additional support for industry's increasing sense of responsibility is found in mining companys' growing tolerance of the regulatory presence. As noted earlier, small operators were especially antagonistic toward the OSM's inspectors. However, even this animosity eventually showed signs of erosion. This shift was acknowledged by a regional manager:

> [W]e went from situations in which inspectors were assaulted, to where people now go inspect mines . . . routinely. And while they may not be loved, they still are accepted and, that's a big jump -- from having people with their noses broken and threatening to push them off the site with a bulldozer and, you know,

physical abuse.

CITIZENS AND CITIZENS' GROUPS

Prior to the SMCRA, the residents of America's coal fields generally felt powerless to confront and control the practices of mining corporations. We made no systematic effort to determine whether their feelings of powerlessness changed after the establishment of a federal regulatory presence. From the few interviews we conducted with citizens' groups, however, it is clear that the federal Office of Surface Mining gave them their first significant hearing and opportunity to contribute to the control of surface mining operations. In the context of concern for and interest in some of the largely technical impacts of regulation, this impact should not be taken lightly. Recognition of this fact is especially important today, when citizens' and environmentalist groups fear a significant erosion of their recently-won rights by the new OSM leadership.

THE ENVIRONMENT

We know of no systematic comparative investigation of the environmental consequences of earlier programs and the more stringent federal regulatory program. In Appalachia, opinion suggests that the OSM had begun to make a significant difference. Whether this picture will change now that the new leadership has signalled a different course and given virtually all responsibility to the states is anybody's guess. The same appears to be true of the midwest.

The west may be another matter. Surface coal mining continues to expand, even though the reclamation potential of much of western surface mined land remains in question (e.g., National Research Council, 1974). The western states generally seem willing to push ahead, mine their enormous coal reserves, and to accept industry's assurances that the land can be reclaimed. Research, however, questions their reclamation performance thus far and their ability, therefore, to deliver on their promises (Wiener, 1980).

Asked about the federal program's impact on the environment, OSM employees understandably believed it has been positive. Especially among OSM field inspectors, these beliefs were widespread and represented an important source of job satisfaction. For example:

> Q.: [W]hat part of your job do you see as the most positive?
>
> A.: Cleaning up [the environment] . . . When I first started in here -- of course, I worked all over -- but I remember _____ River. [I was] down there one day when it was raining, and the damn water was chocolate-

milk brown. It was a mess. And in the last two years I've seen a hell of an improvement . . . Cleaning it up, I mean, that's probably one of the most positive things I've done.

Similar beliefs, though more restrained, were expressed by the agency's regional managers. Typical were these remarks:

> Q.: Did OSM's I&E program have a demonstrable impact on the ground, in the field?
>
> A.: . . . Yes, it did . . . I would say it did have. Now, not big. Not big. But it was there. They stopped, for example, noticeably, they started controlling water better, acid water, better . . . You saw more contemporaneous reclamation, up against the pit more. I saw earlier, better revegetation . . . They started making some better landscape. Yeah, I saw some better reclamation. Now, some of the mines continued to be holdouts.

SECTION 10: THE OSM'S INITIAL REGULATORY STYLE: CONSTRAINTS AND CHOICES

To this point, we have presented a detailed description and analysis of the OSM's development of its initial regulatory programs. Now we summarize these materials in terms of the typological model set forth in Table 2 (page 30). In addition, we examine some determinants of and constraints on the development of the OSM's enforced compliance style.

REGULATORY STYLES AND STRATEGIC OPTIONS

For economists, the major options in regulatory control are regulation by economic incentive versus regulation by administrative direction (Mitnick, 1980: chap. 6). Although the incentive option, a favorite scheme of academic economists, has been proposed for surface mining (National Research Council, 1981), it never has been considered seriously as a feasible political alternative in this area. Thus, the options which must be addressed in the regulation of surface mining are variants of the directive approach.

We have argued that two polar styles of enforcement may be developed by regulatory administrators: enforced compliance and negotiated compliance styles. Both are intended to induce the regulated clientele toward compliance with a given set of statutes and administrative rules. Although thinking of the two styles as polar opposites is useful for analysis and comparison, in real life it would be surprising to find an agency in which all phases of the regulatory process were in accord with one polar style.

An enforced compliance style promotes compliance through a fully rationalized system of justice, i.e., a system in which both the goals of the system and the means of attainment are clearly specified and tightly bound to each other. Such a style, then, is almost always the consequence of a strategic plan. A negotiational style promotes compliance through a flexible, situationally attuned administrative process, i.e., a system in which the mechanisms for attaining compliance are only loosely constrained (whether or not the goals and means have been specified clearly). Such a style may reflect a strategic plan or may emerge incrementally.

Old-style regulatory agencies generally followed a negotiated compliance model. For that reason, they often were criticized for being too flexible and too accommodative, features which presumably facilitated capture (Bernstein, 1955; Friendly, 1962). It is striking that the Office of Surface Mining, from its inception until the takeover by appointees of the Reagan administration, adopted an enforced compliance style at almost every step in the regulatory process.

Relatively formal rule-making procedures are required by

statute. But the OSM's rule-making process had an adversarial tone that extended beyond these strictures. Comments from the coal industry were viewed with strong skepticism and contacts with industry were avoided. The production of the regulations was dominated by an emphasis on comprehensive, detailed, and legally defensible rules.

Consequently, the regulations reflected a legalistic rather than a discretionary orientation toward the enabling statute and the activities to be controlled. The intent was to eliminate ambiguity concerning what was necessary for compliance (cf. National Research Council, 1981a: 37-43) Each of the cases alluded to in section 5 illustrates the incorporation of enforced compliance assumptions into the regulations. The most extreme form of regulating enforced compliance is through design criteria and standards (specified means for reaching the regulatory goals), as exemplified in the sedimentation pond regulations. Although the regulations did include some discretionary elements, nearly always these were specified by the Act or by subsequent judicial decisions.

It is reasonable to assume that the OSM's enforced compliance style would have been implemented most effectively through a centralized organizational system, tightly coupled to state agencies. Although implementation nominally was decentralized through five regional offices, strict rule application was the accepted norm. Only in Region West was there significant deviation from this pattern. The federal agency was only loosely and ambiguously coupled to the state agencies. On the surface, state agencies were treated as though they were tightly coupled to the Office of Surface Mining. They were to be dependent on the federal agency for approval of their regulatory programs, i.e., the OSM took a strong enforced compliance stance regarding state primacy. Nevertheless, the desire to limit negotiated compliance led to a de-coupling of the federal and state agencies, particularly through the ex parte ruling which limited communication at certain points. The ambiguous structural relationship between the OSM and the states opened the door to demands for negotiated compliance policies.

The OSM's implementation of the interim program was stringent by intent. Exercise of interpretive discretion by field-level inspectors was limited. Inspectors were told to "go by the book," and accommodative negotiation with operators was discouraged. In the application of sanctions, the agency's performance fell short of HQ executives' original expectations. An enforced compliance style was evident in the agency's assessment of fines, which used a point system calculated in the central office. This mode of assessment was an attempt to eliminate discretion and negotiation in sanctioning. Although the law was punitive in orientation, in practice, the fines were modest in size and collection was ineffective. Many times, fines were re-negotiated in conference hearings. The widespread reduction or elimination of fines as a reward for the abatement of violations reflected an accommodative orientation.

DETERMINANTS OF THE OSM'S REGULATORY STYLE

What accounts for the pervasiveness of the enforced compliance style in the early days at the Office of Surface Mining? We believe the agency was propelled not only by internal choice but also by external constraints. Moreover, each selection of an enforced compliance option generated a new set of constraints, both on the coal industry, and on the agency itself. Here we re-examine the underlying sources of the OSM's dominant style and strategies, its guiding ideology (cf. Kagan, 1978; Thomas, 1980), and four types of constraints (limiting or sustaining conditions): (1) the legislated mandate, (2) political forces, (3) the state of the economy, and (4) the adequacy of organizational resources.

The Guiding Ideology

As the abrupt change in direction wrought by the new administration makes clear, agency policy may be determined primarily from the top down, by managerial intent. Policy choices often reflect underlying values and, at times, the ideologies of particular groups or classes. Such ideologies were powerful determinants of the enforced compliance style that shaped the regulatory process during the OSM's initial period, as well as the negotiated compliance style that currently is operative. Simply put, the fundamental ideologies are environmentalism and developmentalism. The latter, a variant of nineteenth century liberalism, is a set of ideas reflecting the interests of various business classes. The former is a variant of reformism, a set of ideas reflecting the interests of the new upper middle class.

A central component of reformism is the idea that social problems can be resolved and the public interest best served through the critical application of knowledge by autonomous experts. Reformism is characterized by a pervasive distrust of business. Similarly, there is a basic suspicion of any state or federal agency which seems to have been, or is likely to be, captured by industry. One of the few mechanisms available for institutionalizing these misgivings is the rule of law.

The whole thrust of the OSM's regulatory program may be interpreted as an attempt to maintain the separation of industry and state. It was assumed that a truly autonomous regulatory process could be maintained only through the development and application of the rule of law at every point. We do not mean to say that this ideology was ever fully thought out or enunciated within the agency. But in a diffuse sense, the belief that the coal industry should be strictly controlled by autonomous experts through the rule of law and mechanisms of enforced compliance was a domain assumption found throughout the agency, from headquarters' staff to field-level inspectors.

It was this guiding commitment that led to the selection of enforced compliance strategies in constructing the regulatory program. The basic options were specified by a former official of the Department of the Interior:

> There are two ways of going. You can implement a regulatory program slowly, by committee, clawing, fighting, pushing all the way. Or, you can do the whole thing and spend your time in a more controlled retreat, defending what you've done, as opposed to continually trying to create.

The agency chose the latter strategy. Fully believing that the two enforcement styles are variants of one process, its executives determined that the best way to guard against an early drift toward negotiational strategies was to begin operations at the other extreme. In the words of a solicitor: "Wherever there was a chance to implement more as opposed to less, they did it."

A strong environmentalist commitment on the part of some OSM officials was an important factor in shaping the direction of the agency, but its importance should not be overstated. On the one hand, several positions in the agency were filled on the basis of recommendations from environmentalist groups. Although these were not the top positions, their incumbents had a disproportionate impact in the selection of basic strategies. They helped set a tone for internal discussion; and the Act's mandated deadlines facilitated movement in the directions where they were willing to lead. Later, an explicit effort was made to recruit former state inspectors who had reputations for stringent enforcement. On the other hand, the vast majority of key OSM executives and managers had no previous ties with the environmentalist movement and, by any stretch of the imagination, could not be called "zealots." They were career administrators and technical experts who were "just doing their job." In this case, their job was the rigid regulation of the coal industry.

Statutory Constraints

For any regulatory agency, a major determinant of the consequent regulatory strategies is to be found in the language of the enabling legislation. Capture theories generally suggest that weak forms of regulation flow from discretionary and accommodative policies, a result of intended vagueness and ambiguities in the legislative mandate (Kolko, 1965; Weinstein, 1968). In direct response to such theories, the establishment of the new regulatory agencies was increasingly based on tighter, more specific legislation (Marcus, 1980). The legislative mandate for the creation of a regulatory program by the Office of Surface Mining was especially detailed and precise, even in comparison with the legislated mission of other new regulatory agencies (e.g., EPA, OSHA). The Surface Mining Control and Reclamation Act includes 115 environmental performance standards. In addition, the Act placed exceedingly stringent deadlines on the agency and the

states.

The specificity of the legislative mandate placed strong constraints on the subsequent development of the regulatory program, enabling, if not forcing, the OSM to select legalistic enforced compliance strategies. The deadlines imposed by the law were further important constraints in shaping such strategies.

When asked to discuss the agency's mission or mandate, OSM officials typically replied that it was simply to implement the law (e.g., "Our priorities were pretty well established by the Act;" "You just have to read section I of the Act and it's a pretty clear statement of the mission of the agency.") The discussion of options revolved around narrow issues, not around the basic direction of the agency.

In its details, the Act contains numerous ambiguities, but the listing of 13 purposes in section 1 clearly indicate that it was intended as a rigorous environmental protection law. For example, section 102.(c) states that it is the purpose of the Act to "assure that surface mining operations are not conducted where reclamation as required by this Act is not feasible." In the case of many previously established regulatory agencies, the enabling legislation was unclear in specifying "firm choices between regulatory effectiveness and economic continuity" (Kagan, 1978: 66). The statement of purposes in the SMCRA makes a ritualistic bow toward assuring "that the coal supply essential to the Nation's energy requirement . . . is provided" and that a balance be struck "between protection of the environment and agricultural productivity and the Nation's need for coal" [section 102.(f)]. Significantly, however, the preceeding statement of findings in the Act mentions only that the underground coal mining industry is "essential to the national interest" [section 101.(b)]. Nowhere is it stated that a purpose of the Act is to ensure a balance of environmental protection and surface mining development. Thus, the legal mandate for strong deterrence of environmental degradation is quite clear. This mandate is supported by extensive legislative history.

Nevertheless, there are at least two broad mandates of the Act which clearly failed to constrain the direction taken by the initial leadership at the OSM. First, there is the statement that it is the purpose of the Act to "assist the States in developing and implementing a program to achieve the purposes of this Act" [section 102.(g)]. This statement emphasizes the OSM's role as helper. But the relationship between the agency and the states is left quite ambiguous by the Act, which also stipulates that its purpose is to "establish a nationwide program" [section 102.(a)]. This statement implies that the OSM is to be an authoritative director of state programs. The agency's application of its enforced compliance style toward the states, based on an interpretation of strong federal priority, caused major problems in the development of the program. Second, the opening section on environmental protection standards indicates that regulations "shall be concise and written in plain, understandable language"

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[section 501.(a)]. Clearly, the bulky packages of complicated regulations produced by the agency failed to meet this requirement.

Political Constraints

The political environment in which the Office of Surface Mining operated generated major constraints on the development of discretionary, negotiated compliance policies. Kagan's review of previous research on regulatory agencies concludes that:

> [A] regulatory program which experiences high public visibility, which is subject to objective measures of performance, which is confronted with a more balanced pressure group structure, and which has multiple sources of intelligence and advice, is more likely to maintain a relatively stringent stance (1978: 68).

All of these determining conditions apply to the OSM. The agency was forced to develop its regulatory program on the periphery of a highly charged political arena. It maintained a relatively high degree of visibility because of the relative balance of continuing oversight from concerned interest groups. The agency was never enmeshed in the traditional "iron triangle" (agency, regulated industry, and Congressional committee) of capture (Weaver, 1978). Rather, it was forced to deal with a shifting balance of interests: environmentalists, large coal, small coal, the states, Congress and the courts.

Having lost the battle for abolition of strip mining, environmentalists and citizens' groups pressured the agency toward the most stringent implementation possible. They had considerable influence in shaping OSM policies because they knew the law and could contribute strong legal defenses for their suggested revisions of the regulations.

The coal industry, having lost the battle for complete freedom from federal regulation, pressed for flexible rules and lenient enforcement. The industry produced extensive technical comments on the proposed regulations. Relatively few revisions were based on the coal industry's technical comments. Only when the industry's position was advanced on very firm legal ground was its advice heeded. Despite its efforts, the coal industry had little success in setting limitations on the directions taken by the OSM during the Carter administration. Small coal operators, who were more seriously affected by the new regulations than large coal companies, fought the agency tooth and nail. Such vociferous hostility only rigidified the agency's position. Having lost the struggle for general, discretionary rules, the industry carried its fight to the courts and to the states.

Public Law 95-87 was a product of the failure of state regulatory control. Thus, the intent of the law, whatever its formal obeisance to states' rights, was to enforce compliance with

its purposes. The states fought for relative autonomy from federal control, for greater flexibility and accommodation in formulating regulations and for negotiation between technical experts in obtaining primacy. The opposition of the states to the federal agency, which varied widely, was based on a desire to adapt the regulations to differing geologic and climatic conditions; to maintain their autonomy and self-respect; and to protect their local industry.

Congress, which had remained largely on the sidelines during the first two years of the OSM's life, was enlisted on the side of the states. When a bill that would have sharply curtailed the agency's power over the conditions of state primacy (S.1403) passed the Senate by a substantial majority in 1979, it was clear that the agency's mandate to enforce a uniform, national law had been seriously eroded. In failing to negotiate fully with the states and by ignoring Congress, the OSM had overplayed its hand. Its leaders felt constrained to take a more conciliatory stance in negotiating primacy and cooperative agreements with the states.

Finally, the courts act as an important force in the politics of regulation. The major battles over the implementation of regulations occurred with the threat of litigation in mind. In response to this threat, the Office of Surface Mining oriented its actions toward legal defensibility. Thus, a program that was based on a stringent law and an adversarial reformist ideology took a further legalistic turn. More than one hundred tests of OSM regulations were brought in court, including a set of constitutional issues decided by the U.S. Supreme Court (Hodel v. Virginia Surface Mining and Reclamation Assn. 69 L. Ed. 2d). Because the actions of the Office of Surface Mining were successfully defended in the vast majority of these cases, the courts were a major ally in the agency's quest for autonomy. Anticipatory response to judicial decisions was a key factor in establishing the enforced compliance style throughout the agency.

The State of the Economy as Constraint

Most of the new social regulatory agencies were established during the early 1970s in the midst of a relatively prosperous economic climate. Two earlier versions of the SMCRA were thwarted by Presidential veto. Nevertheless, the strong enforced compliance mandate of the Act reflected Congressional optimism about the state of the economy. State managers, both elected and appointed, are necessarily constrained by "business confidence" (Block, 1977). As the economy and business confidence declined during the late 1970s, the OSM felt increased pressure to relax its policies and to expand its negotiations with the states. Thus, even before the change in Presidential administrations, the agency was moving toward negotiated compliance policies on all fronts.

Resource Constraints

An obvious constraint on agency effectiveness, and a basis for capture, is an inadequate budget. Lack of start-up funds undoubtedly increased the influence of Department of Interior solicitors in shaping the direction taken by the agency. In this instance, the resource squeeze enhanced the power of those most fearful of capture. Later, insufficient resources for inspections did not seem to affect basic policy in any significant way.

Another resource constraint which is conducive to capture is lack of skilled experts in the area to be regulated (Mitnick, 1980). In formulating and implementing their programs, many agencies have been dependent on industry expertise. Office of Surface Mining employees were prevented, by the SMCRA, from having any financial interest in coal mining. Nor did the agency did attempt to recruit personnel with backgrounds in the coal industry. The absence of such people was an intended constraint on negotiated compliance strategies. From the standpoint of the coal industry, the resulting lack of expertise was a major source of "bad" regulation (i.e., technically incompetent and unnecessarily restrictive). However, the OSM was able to draw from other federal agencies a wide range of technical experts on mining and the environment. In contrast to many captured agencies (Mitnick, 1980), OSM did not rely on the regulated industry for basic information. Generally, agency officials were satisfied with the technical quality of their personnel on the Task Force, in headquarters and in the regions. A major determinant of deference and negotiation was missing in this case. Parenthetically, since capture theory stresses the importance of career mobility from agency to the regulated industry, it is worth noting that we discovered few instances of such mobility in our study.

The most common internal criticisms of the hierarchy at OSM and in the Department of the Interior were: a lack of strong leadership in the top positions, a pervasive absence of political and communicative skills, and a poor coordination of implementation from the Washington office. These factors helped shape the directions taken by the agency. The lack of strong top leadership provided a policy vacuum that was filled by administrative and legal activists. The top leaders then failed to seek the political support needed for the emerging controversial program. In the eyes of some OSM executives, rising opposition to the stringent program could have been stifled by better communications with Congressional supporters, the White House, and state governors. In the view of others, such political groundwork would have set limits on the development of a stringent program by revealing its lack of support.

Finally, the availability of time may shape regulatory policy. Earlier we pointed out that numerous legislated deadlines were placed on OSM and state operations. The significance of these deadlines in constraining policy options cannot be exaggerated. Tight "agency-forcing" (Ackerman and Hassler, 1981) limited the possibility of amicable negotiations with the industry

and the states. The time factor, probably increased the power of the legal staff in rule-making and contributed to the enforced compliance style that permeated the surface mining regulations. In addition, the time constraints on the promulgation of the regulations contributed to the isolation of HQ staff from the regions and the states. And time limitations were a definite factor in the choice of a stringent, as opposed to an accommodative implementation policy. In the words of an OSM HQ executive:

> [The] states at that time were soon to be submitting their state programs, so it looked like the interim program would, a year or so later, be out of existence . . . So we said it was rather absurd to start an educational type of enforcement policy for the short remaining interim program period . . . We just felt there wasn't enough time to give a lot of first bites out of the apple to many operators.

SECTION 11: LESSONS AND POLICY IMPLICATIONS

Regulatory policies may be examined in terms of manifest and latent functions, and also dysfunctions, for the larger goals of the agency. In the case of the OSM, these goals were the deterrence of environmentally damaging surface mining activities, assurance of compliance with the requirements of the SMCRA, and the estab-lishment of regulatory autonomy. Here we summarize here some of the benefits of the enforced compliance policies of the Office of Surface Mining, examine their costs, and discuss some policy implications. We present propositional statements drawn from our analysis. These statements represent lessons that we have derived from our case study of the Office of Surface Mining. They should be viewed as hypotheses subject to further testing in comparative studies of the regulatory process, particularly in new-style agencies. On occasion, we draw on findings from studies of the Environmental Protection Agency (EPA) and the Occupational Safety and Health Administration (OSHA) as substantiating or modifying evidence. As compared with most old-style agencies, both of these agencies are characterized by enforced compliance styles. The EPA has favored a negotiated compliance style (cf. Marcus, 1980: 285-86) more often than the OSHA or the OSM.

BENEFITS OF ENFORCED COMPLIANCE POLICIES

1. An enforced compliance strategy is a relatively efficient basis for getting a program started. By the early establishment of specific goals, an agency is able to avoid delay stemming from extended internal negotiation concerning its mission. An enforced compliance strategy limits the extent and duration of external negotiation and narrowly specifies the issues open to negotiation. For the Office of Surface Mining, the set of deadlines mandated by the enabling statute, together with lack of resources, was bound to produce massive confusion. The building of a new agency and the writing of new regulations necessarily entail a considerable amount of internal negotiation over an endless array of details. Given the time constraints, the agency was forced to limit the discussion of options. In the eyes of its top administrators, the agency had no basic alternatives; it did what it had to do to get the show on the road. By limiting negotiation, the OSM was able to avoid the lengthy delays that had characterized rule-making and implementation by the Environmental Protection Agency (Marcus, 1980).

2. An enforced compliance strategy maximizes immediate compliance. Negotiation in the agency's formulation of detailed rules and precise standards was strictly limited. At the level of field enforcement, inspectors were instructed to enforce the regulations to the letter. Fines were meant to be stringent and immediate. The sudden introduction of enforced compliance is a form of shock treatment. It lets the regulated party know that an agency is serious, tough, honest, and efficient. There can be little doubt that the OSM's enforced compliance strategy was

effective in immediately limiting environmental damage. Field-level inspectors whom we interviewed were nearly unanimous in their belief in the efficacy of their actions. Perhaps more impressive testimony came from our interviews with coal operators, who in providing a litany of complaints against the OSM never expressed the belief that the new federal enforcement actually increased environmental damage.

3. An enforced compliance strategy provides a strong defense against litigation. By promulgating and implementing a stringent set of rules, the Office of Surface Mining avoided litigation set in motion by environmentalists. In the case of the environmentalist complaint against failure to carry out the required number of mandated inspections, the agency settled out of court by pledging to fulfill the law. Massive litigation against the EPA and the OSHA (Marcus, 1980; Kelman, 1980) gave the OSM every reason to believe that they also would face such tests. The OSM's solicitors were aware that a detailed record of correct procedures provides an excellent legal basis for regulatory policies. In the large number of cases brought by the coal industry, the agency generally was successful in defending its policies. Careful legal construction of the rules and enforcement policies generally paid off in later court battles.

4. The institution of a stringent set of rules and enforcement policies provides an agency with a strong base from which to pull back. An enforced compliance strategy keeps the opposition extremely busy contesting and adjusting to regulations; it allows for limited accommodation at a later date. Having established its ground, the OSM pulled back, in regard to regulations (e.g., sedimentation ponds and the state window), negotiations on state primacy, and field-level discretion. It remains to be seen, but it is likely, that the base of stringent rules will have a long-term constraining effect on an administration pledged to negotiated compliance strategies.

5. An enforced compliance strategy provides an agency with an external base of support. All regulatory agencies are faced with conflicting demands. By not attempting to make everyone happy, the agency at least enlists solid support from one party. For the Office of Surface Mining, the enforced compliance model solidified the support of environmentalist organizations. The EPA, which chose a more moderate course, received less vigorous environmentalist support (Marcus, 1980).

6. An enforced compliance strategy provides an agency with a strong sense of mission. In contrast, a negotiated compliance strategy may leave the agency's mission in doubt. In the case of the OSM, such a strategy would have appeared contradictory to the perceived legislative mandate. For the participants, the construction of a new agency is not just another day at the office; it demands a non-bureaucratic workday. The development of a sense of special purpose provided early OSM employees with the motivational ground for meeting heavy demands. The originators of the regulatory program felt that they were involved in a

significant and exciting task; they still look back to that period with nostalgia. Strong enforced compliance strategies were important sources for establishing a sense of mission in other new-style agencies as well (Kelman, 1980; Marcus, 1980).

7. An enforced compliance strategy may be a source of internal cohesion within a new agency. The internalization of a sense of mission is a source of organizational solidarity. A sense of unity is extremely important as a counter to the many controversies and debates produced by program-building. By restricting negotiations with those to be regulated, the Office of Surface Mining engendered a spirit of unification against known adversaries. This sense of cohesion developed both at HQ and in the regions, but to a more limited extent between the two. In dedication and enthusiasm, the top leadership of the second OSM administration was equal to the earlier one. But it is unlikely that the new accommodative program could have produced similar organizational elan even if the new leaders had been given complete control of staffing.

8. A strategy of enforced compliance allows a new agency to avoid a strict hierarchical pattern of control. Theories of mechanistic organization would lead one to expect that a rigidly legalistic program would be carried out by means of centralized authoritarian control (Burns and Stalker, 1961). But, for the OSM, at least initially, common values and a mandate for legalistic application of stringent rules allowed for bureaucratic decentralization. The rules themselves specified what needed to be done. With one exception -- Region West -- the regions felt themselves bound by the rules. Thus, the Office of Surface Mining was able to operate effectively through relatively autonomous regional offices. In the long run, it is not surprising to find that such autonomy could promote negotiated compliance strategies.

COSTS OF ENFORCED COMPLIANCE POLICIES

1. An enforced compliance strategy neglects the practical politics of implementation. Although the enforced compliance policy is itself a political strategy, it is a strategy that assumes strong political and power bases and eschews coalitions. An agency which sharply limits the negotiation of compliance must operate on the basis of a strong mandate. The Office of Surface Mining assumed that it had such a mandate. Therefore, it felt that it could fairly easily withstand the political pressures of the coal industry. It would simply force the industry to comply with the Act of Congress. Although agency officials deny that they ever intended to take an adversarial position toward the states, they do acknowledge taking the states for granted. When a number of the states revolted against the agency's highhandedness, the OSM suddenly found that it had nearly lost its Congressional base of support.

There were at least two reasons for the agency's lack of

political savvy. First, there was the constraint of time. The agency was under such heavy pressure to promulgate and implement the regulations that it was oblivious to the need for fine-tuned negotiations with the states and for maintaining open lines of communication with Congress. Second, whatever the beliefs of agency officials, the logic of their enforced compliance strategy placed them in an adversarial position in relation to the states. The agency, afterall, was demanding a minimally negotiated form of compliance from the states as well as from the coal industry. At the time of the states' revolt, it became clear that, although Congress might be willing to accept an enforced compliance policy for the coal industry, it desired a negotiated compliance policy for the states. The latter policy moved the agency toward a more accommodative stance with regards to the coal industry.

2. An enforced compliance strategy maximizes opposition to an agency. The long struggle to enact the SMCRA had sharply polarized the issue. The tough stance taken by the agency led the coal industry to believe that many of the battles which they had won in the making of the law were now being lost in the making of the regulations and in the strict conditions for primacy. The industry was being challenged to fight back, and it did. More importantly, the states followed suit.

3. An enforced compliance strategy escalates the level of hostility. At all stages and levels of the regulatory process, the OSM presented a single message: "Be reasonable, do it our way." The OSM managed to threaten the autonomy of state governors by usurping states' "rights" (e.g., by demanding the states revise statutes other than their mining laws), to question the professional integrity of state regulatory officials (e.g., by ignoring their claims of special knowledge of local conditions), to irritate the major coal industry officials (e.g., by keeping them at a distance from agency decision-making), and to enrage local coal operators (e.g., by enforcing against minor violations, by demanding payment of fines before a hearing, by maintaining many fines even though a violation had been abated in the appropriate time, and by ignoring site-specific mining and reclamation practices). The OSM's policies drove a few state governors and a multitude of coal operators into a frenzy of vituperation. There is a marked similarity between the OSM and the OSHA in their enforcement policies and the immediately damaging, hostile responses that these policies evoked (cf. Kelman, 1980).

4. An enforced compliance strategy unites the opposition to a regulatory agency. A primary component of a strict legalistic policy is equal treatment of those to be controlled. Lack of a discretionary policy means that no group receives special treatment because of distinctive problems or because of lack of problems. The Office of Surface Mining had a distinct tendency to produce and implement regulations on the basis of a "worst case" mentality. That is, the agency often wrote rules in order to prevent the worst known cases of environmental degradation from recurring. The rule then was applied to all operators.

Individual coal operators have little in common. Some face major difficulties in compliance, others few. Some are more willing to comply than others. This same orientation was evident in the agency's relations with the states. The states vary in environmental problems and in internal pressures to accommodate the coal industry. Through its egalitarian, universalistic policies the agencies brought together its opponents, big and small coal, east and west, states with good programs and those with poor ones. Those who felt abused because they were forced to revise environmentally sound mining practices were driven into the same camp with those who felt abused by the imposition of any controls whatsoever. Certainly, in pursuing a policy of enforced compliance, the agency ignored the ancient wisdom of "divide and conquer."

5. An enforced compliance policy maximizes litigation. If conflict between two parties is not managed by negotiation, there are few options available for its resolution other than the courts. The OSM assumed, probably correctly, that the coal industry would test the program in court at every turn, no matter what it did. Through a spiral of mutual anticipation of the worst, this prophecy was self-fulfilled.

6. An enforced compliance strategy tends to maximize the cost of compliance. By enforcing compliance with design criteria and standards, regardless either of circumstances or whether the mine operator could meet performance standards by alternative means, the agency necessarily increased the cost of production for the operator by a greater amount than would be required through a negotiated compliance strategy. There is no sure way of determining exactly this incremental cost, which provides the coal industry with a handy tool for beating on the regulatory agency. In any event, increased operator costs may decrease the social costs of production. The arguments favoring enforced compliance through design standards are: (1) that environmental damage will necessarily be more limited than if failure-prone techniques for meeting performance standards are used, and (2) that inspections for design standards limit the costs of enforcement. There is an interesting irony here. The new social regulation is largely an attempt to control the social costs (i.e., the externalities) of production. Design standards are mechanisms by which the regulatory agency externalizes its costs back upon the externalizers. Put another way, design standards represent a strategy for the double internalization of social costs -- the social costs of production and the social costs of control.

7. In the long run, an enforced compliance style generates internal conflict in an agency. Legalistic rules and stringent enforcement generally are favored by lawyers and central administrators. Implementation is carried out in the field by technical experts. Such experts generally wish to use discretion and negotiated compliance in their work. They turn in this direction out of professional pride in their specialized knowledge and abilities, out of recognition of viable alternatives in obtaining compliance, and often out of a sense of identification

with the regulated. Generally, the OSM's regional directors went by the book but fought with HQ for more realistic, technically feasible revisions of the regulations. The majority of inspectors in all regions desired greater discretion in their enforcement activities. A central paradox of the enforced compliance model is that it is a system based on legal and technical expertise which tends to breakdown because it ignores its own technical experts.

POLICY IMPLICATIONS

An easy conclusion which might be drawn from the preceding discussion is that an extreme enforcement strategy is likely to generate costs which threaten to erode its benefits. Now we examine variations on that theme in the form of tentative policy statements derived from our analysis. We state these as correctives for an agency operating on the assumption that it has a mandate for strict enforcement policies. Our comments take the form of a conservative critique of the OSM's program, conservative in the sense that we fundamentally accept the position that the program, as initially constructed, was basically a sound and effective means of implementing the Act.

Most of the deficiencies which we discuss were brought to our attention by some of our respondents who were agency executives and managers during the Carter administration. A more complete discussion of major deficiencies in the OSM's policy implementation would include: failures of communication with the states, Congress, the regions, and with industry; insufficient flexibility in many of the regulations (generally, in over-reliance on design standards -- particularly in areas such as sedimentation ponds, permit analysis, seeding, bonding, and the point system for assessment of fines); lack of attention to the difficulties of the small operator; over-centralized and rigid assessment procedures; inability to collect fines; and insufficient discretion in the hands of the regions and the individual inspectors. We discuss some of these difficulties here.

1. In the short run, mandated early deadlines are important in establishing agency autonomy and in ensuring that an agency's mandate for action will not be side-tracked. The legislation of mandatory time-tables for regulatory agencies was initiated in a number of environmental protection laws in the early 1970s and was intended to prevent the capture of the EPA by regulated industries (Marcus, 1980). It was generally recognized that the ineffectiveness of earlier environmental laws could be traced in part to the lack of precise deadlines. The SMCRA went beyond previous environmental protection statutes in specifying deadlines for detailed rules as well as for meeting specific goals. The further specification of time-tables no doubt was based on knowledge of delays in rule-making in both the EPA and the OSHA (cf. Kelman, 1980). Although the deadlines imposed on the EPA caused many problems, two separate studies conclude that they were partially effective (National Research Council, 1977; Marcus,

1980). Ackerman and Hassler (1981) refer to Congressional attempts to direct the actions of the new social regulatory agencies as "agenda-forcing" statutes. Clearly, time-forcing statutory deadlines are an aspect of agenda-forcing. What were the consequences of statutory time-forcing for the Office of Surface Mining?

Practically all the decisions which led the OSM to adopt a relatively extreme enforced compliance style of regulation were related to, if not forced by, the time constraints facing the agency. Although deadlines were not met and probably could not have been met, they were taken very seriously by the agency. As a consequence, the regulatory program was constructed in a pressure cooker. Whatever its deficiencies, it was a miracle of instant organization and production. In the long run, however, we believe that the statutory inclusion of mandatory deadlines is detrimental to the construction of an effective program.

Time constraints on the production of the regulations prevented the full consideration of all technical options. Flexible technical alternatives were often rejected for legal reasons; there was no time for reformulation of these suggestions. In general, the pressing deadlines placed decisive power in the hands of the attorneys, who wrote the final draft. Interested parties had little time to respond adequately to the proposed regulations -- a particularly difficult constraint for small industry. Then, in the review of these comments, the agency had insufficient time to review any but those which were fully justified, technically and legally. Less stringent deadlines would have allowed for more detailed, face-to-face negotiation on particular details. More flexible regulations, less litigation, and less polarization of attitudes might have resulted. Because the agency was forced to give priority to "getting the job done" on time, it isolated itself and gave insufficient attention to the problem of communication with the states, with Congress, and with the coal industry. The time constraints led agency officials to neglect the political context of their activities.

2. The construction of an effective regulatory program must be based on a recognition of political forces. To rephrase Clausowitz' aphorism on war: "the regulatory process is the continuation of political struggle by other means." Regulators would like to place themselves above and beyond politics, to believe that their task is simply the application of administrative, legal and technical expertise. Both the EPA and the OSHA tried to isolate themselves from White House pressure in order to maintain their autonomy and relatively stringent regulatory postures (Marcus, 1980; Kelman, 1980). In at least one instance, the OSM also fought against interference from the executive branch. In general, however, the weakeness of the OSM political liaisons was due to neglect rather than intention. Although the Office of Surface Mining was a creature of Congress and subject to its oversight, it paid little attention to keeping the lines of communication open. Even before the OSM was established, both the OSHA and the EPA had been subjected to

Congressional attack because of their stringent enforcement policies. The OSM's failure to keep Congress informed resulted in greater opposition to a rigorous program than might have been the case otherwise. This opposition eased the way for the agency's radical change in direction under the Reagan administration.

Although some of the states would have fought the OSM under any circumstances, the support of others could have been obtained through direct contact with irate governors and an earlier extension of the primacy deadline. By securing the support of a few key states, the agency could have prevented the unification of the opposition. When states with strong programs opposed the agency's policies, it justified the opposition of states with weak programs, which in turn justified the opposition of the coal industry. By neglecting any political base other than the environmentalist community, the Office of Surface Mining permitted its opposition to snowball. A major source of the agency's problems was its failure to realize that it was involved in a game of coalitional politics.

3. Selective strategic accommodative negotiation must be a component of even the strongest enforced compliance regulatory program. Negotiation is a built-in aspect of any regulatory process. Like matter, it cannot be destroyed. In the case of the OSM, negotiation was required, for example, in the rule-making process and in the review of state programs. But in nearly every instance, these negotiations had a formal, legalistic, adversarial character. Although not required by statute, both the OSHA and the EPA often include face-to-face discussions with both state and industry at an early point in the rule-making process (National Research Council, 1977). Many state surface mining regulatory agencies also use this procedure. A number of OSM officials, especially those in the field, would have preferred such direct negotiations. It is likely that such meetings would have aided the production of more workable regulations, at the cost, however, of some delay. It must be recognized that the enabling statute placed some serious limitations on negotiation. For example, the requirement for "best available technology" in preventing siltation limited the possibility of using more appropriate technologies to meet the statutory goals.

The agency's most striking failure to engage in accommodative negotiations was in its relations with the states. In general, the states were treated the same way as industry in the rule-making process. Negotiations were basically limited to public hearings and the formal submission of complaints and alternatives, to which the agency formally replied through the FEDERAL REGISTER. Dialogue was not an important part of the process. A symbolic component of the relationship was the ex parte solicitor's opinion which cut off any communications with the states after the end of the public comment period. In the words of a solicitor, this opinion "was legally correct, but a political disaster." Initially the states were treated in the same adversarial manner in the primacy process. The agency's lack of accommodation was motivated by a desire to ensure tough state programs. If more

states had obtained approved programs and had been satisfied with them before the change in Presidential administrations, it is likely that they would have opposed a massive rewriting of the regulations. In the long run, the tough stance toward the states may have weakened their programs. The lesson to be learned here is that in trying to win every battle, you may lose the war.

4. Flexible regulations are not necessarily bad regulations. Major complaints against the OSM's regulations included the failure to allow for variations in local conditions and the over-reliance on design standards. By the end of their tenure, most OSM executives from the Carter administration were coming to see the validity of some of these criticisms. As previously noted, the lack of flexibility in the regulations reflected a "worst case" orientation toward the law. As a Task Force member and HQ executive told us:

> We tended to write regulations, I think, sort of for the worst case. I mean, if you'll pardon, there was kind of a stated joke in the agency -- not a joke, I mean, but it tells the story: "Well, if we write the regulation this way, can we make Virginia do it?" Virginia being, probably, the worst state in the country for regulating.

To paraphrase a comment quoted earlier, "rigid regulations were environmentally sound, but politically they were a disaster."

In the long run, it seems inescapable that political support for rigid regulations could not have been maintained, even had there been no turnover in administrations. All parties agreed that compliance with the law on the basis of flexible regulations was possible. The real question was the probability of compliance, a question of trust. It is possible that the protest against inflexible rules may result in weaker rules than would have ensued if the rules had been more flexible in the first place. As indicated in the National Research Council report on surface mining (1981b), design standards can be modified to meet local conditions in ways which are environmentally and legally sound.

Finally, it is interesting to note that Kelman (1981) found that the regulations for protecting occupational safety and health are more flexible in social democratic Sweden than in the United States. This greater flexibility is possible because of the context of a greater spirit of trust between industry and state regulators than is found in the United States. Paradoxically, the inflexibility of the OSM's rules reflected the U.S. coal industry's great potential power to subvert the regulatory process.

5. Discretion is a necessary and unavoidable component of an effective implementation program. The OSM made a bow to discretionary enforcement policies in its organizational structure, which permits some regional autonomy. Nevertheless, the regions were guided by and were expected to implement the

strategy of strict enforced compliance emanating from HQ. But no guidelines were ever established for resolving the contradictory demands of regional variations and national uniformity. Only the Region West was able to develop a distinctive approach to enforcement. The ability there to regulate through the process of permit review rather than by stringent I&E procedures -- appropriate in Region West because of the presence of federal coal and the long lead time needed to plan large mines -- gradually was accepted as a viable regulatory alternative. A similar regulatory policy would be to license coal operators and regulate by means of revocation or denial of such licenses. Unfortunately, this strategy, employed in Pennslyvania, was not provided in the SMCRA.

The regional directors chafed against the strictures of strict enforced compliance policies, and they sought more discretion and clearer guidelines for their use. Had the Washington office paid more attention to the regional directors, the regulations would have been more flexible and the implementation procedures more discretionary. It is likely that the implementation program would have aroused less hostility and been more effective if the assessment and collection of fines had been conducted at the regional level, if discretionary elimination of fines simply through abatement of the violation had been allowed, and if inspectors had been given more discretion in writing citations. Office of Surface Mining inspectors, like their counterparts in a number of other agencies (Hawkins, 1980; Kagan, 1980) believed that they could have gained compliance from operators more effectively if they had been allowed more discretion.

CONCLUSIONS

On the basis of its statutory mandate, value-laden choices, and external constraints, the early Office of Surface Mining quickly developed a regulatory style which was oriented toward gaining compliance through stringent enforcement rather than accommodative negotiation. Generally, this reform-forcing style was effective. The agency rapidly produced tough, detailed rules for limiting environmental damage from surface mining. It enforced these rules uniformly and vigorously. It demanded rigorous state programs. There can be little doubt that the environment was improved by these actions. Many coal operators were forced to improve their mining practices and many states were pushed to strengthen their surface mining laws, regulations, and enforcement practices. The immediate beneficiaries of the OSM's actions were the residents of the coal fields. Generally, grassroot citizen groups were pleased with the OSM's policies and performance.

The costs of the regulatory program for the coal industry were sizable, especially for small Appalachian operators. However, the economic costs of regulated coal production, in large measure, are passed on to the consumer. Thus, these costs are widely diffused. Probably the most costly burden of regulation

for the coal operators was the loss of autonomy in doing business -- in planning, mining, and reclamation practices. Similarly, state regulators paid the price of diminished independence. Clearly, the negotiated compliance style of Ronald Reagan's OSM executives will cut both economic and autonomy costs for coal producers and state regulators. Few would believe that the land will benefit. The question is whether the degree of environmental damage will be slight or extensive. But whatever the objective environmental costs, the immediate cost to the agency has been polarized opposition from citizens' groups and the environmentalist community.

The focus of our discussion of the costs of enforced compliance policies has been on the internal costs borne by the OSM itself. The burden of our argument is that an extreme enforced compliance style feeds back upon itself to its own detriment.

Since the regulatory process is not conducted in a vacuum, some allowance for flexibility and negotiation is a tactical necessity for the implementation of a long-range enforced compliance strategy. The Office of Surface Mining's basic strategy was an over-reaction to the theory of incremental agency capture. In turn, it helped stimulate a counter-reaction.

Nevertheless, our emphasis on the internal costs of a strong regulatory style should not be overdrawn. Since the reaction against the OSM's early program was over-determined by external forces, no amount of ducking and weaving could have forestalled the radical reversal in the direction taken by the agency. Put differently, the actions of the initial OSM executives had little to do with the change of directions. Rather, it was ideologically based and directed from the top by a new administration. The new leadership now faces constraints to the establishment of its extreme negotiated compliance style. Among these constraints are the existence of a set of detailed regulations, now strongly incorporated in many state programs, the results of previous litigation, and employees ideologically predisposed to an enforced compliance style of regulation.

In THE POLITICS OF REGULATION, James Q. Wilson (1980) argues that regulatory agencies can be categorized in terms of the external distribution of costs and benefits. When the proposed costs are narrowly concentrated and the expected benefits are widely distributed, regulation can only emerge from "entrepreneurial politics." Like other new social regulatory agencies, the Office of Surface Mining originated when skilled entrepreneurs were able to mobilize resources and generate widespread public support for surface mining legislation. The direct costs were to be borne by a particular industry; the direct benefits would accrue to a very small interest group -- coal field residents. But the indirect benefits, satisfaction deriving from the prevention of environmental degradation would be widespread. Wilson does not discuss the relationship between cost-benefit distributions and the potential for agency capture, but it is

reasonable to assume that agencies based on concentrated costs and dispersed benefits are capture-prone. The coal industry has a strong incentive to exercise political influence, especially at the state level. Entrepreneurs may fade and public interest may wane. The future of surface mining regulation hangs on the ability of environmentalist entrepreneurs to marshall resources for litigation and renewed political struggle. The prospect certainly is not dim. If the old-style regulatory agencies were subject to a life cyle tending toward quiescent senescence (Bernstein, 1955), it is likely that the new-style agencies such as the Office of Surface Mining will be rejuvenated periodically in periods of politically charged reform. Given large industry's need for stability and predictability, the ability to maintain a state of regulatory uncertainty may be the best weapon available to reformers.

BIBLIOGRAPHY

Ackerman, B.A., and W.T. Hassler

1981 CLEAN COAL/DIRTY AIR. New Haven, Conn.: Yale University Press.

Althusser, Louis

1977 FOR MARX. London: New Left Books.

Appalachian Land Ownership Task Force

1981 LAND OWNERSHIP PATTERNS AND THEIR IMPACTS ON APPALACHIAN COMMUNITIES: A SURVEY OF 80 COUNTIES, 7 Vols. Report to the Appalachian Regional Commission.

Arrow, Kenneth J.

1981 "Regulation." FEDERATION OF AMERICAN SCIENTISTS PUBLIC INTEREST REPORT 34(June): 11-12.

Bardach, Eugene

1977 THE IMPLEMENTATION GAME. Cambridge, Mass.: MIT Press.

Bardach, Eugene and Lucian Pugliaresi

1977 "The Environmental-Impact Statement vs. the real world." THE PUBLIC INTEREST 49(Fall): 22-38.

Benson, Lee

1955 MERCHANTS, FARMERS AND RAILROADS: RAIL REGULATION AND NEW YORK POLITICS, 1850-1887. Cambridge, Mass.: Harvard University Press.

Bernstein, Marver H.

1955 REGULATING BUSINESS BY INDEPENDENT COMMISSION. Princeton, N.J.: Princeton University Press.

Black, Donald J.

1970 "Production of crime rates." AMERICAN SOCIOLOGICAL REVIEW 35(August): 733-48.

Block, Fred

1977 "The ruling class does not rule." SOCIALIST REVOLUTION 33(May): 6-28.

1981 "Beyond relative autonomy: State managers as historical subjects." NEW POLITICAL SCIENCE 2(Fall): 33-49.

Braithwaite, John and Gilbert Geis

1982 "On theory and action for corporate crime control." CRIME AND DELINQUENCY 28(April): 292-314.

Brauson, Bramley A.

1974 "Stripping the Appalachians." NATURAL HISTORY 83 (November): 52-62.

Buck, Solon Justus

1913 THE GRANGER MOVEMENT. Cambridge, Mass.: Harvard University Press.

Buttel, Frederick W. and William L. Flinn

n.d. "Politics and the environment: The relationship among political attitudes, employment sector, and environmental concern."

Carter, R.P., et al.

1974 SURFACE MINED LAND IN THE MIDWEST. Argonne, Ill.: Argonne National Laboratory.

Caudill, Harry M.

1963 NIGHT COMES TO THE CUMBERLANDS. Boston: Little, Brown.

1971 MY LAND IS DYING. New York: Dutton.

1976 THE WATCHES OF THE NIGHT. Boston: Little, Brown.

Center for Law and Social Policy (and) Environmental Policy Institute

1978 THE STRIP MINE HANDBOOK. Washington, D.C.: Brophy Associates, Inc.

Chambliss, William J. and Robert B. Seidman

1971 LAW, ORDER, AND POWER. Reading, Mass.: Addison-Wesley.

Clark, Terry

1967 "The concept of power." SOCIAL SCIENCE QUARTERLY 48 (December): 271-86.

Clinard, Marshall B. and Peter C. Yeager

1980 CORPORATE CRIME. New York: The Free Press.

COAL FACTS

1976 Washington, D.C.: National Coal Association.

Conklin, John E.

1977 "ILLEGAL BUT NOT CRIMINAL." Englewood Cliffs, N.J.: Prentice-Hall.

Cotgrove, Stephen and Andrew Duff

1981 "Environmentalism, values, and social change." BRITISH JOURNAL OF SOCIOLOGY 32(March): 92-110.

Dale, Lawrence B.

1978 "The Surface Mining Control and Reclamation Act of 1977." ST. MARY'S LAW JOURNAL 9: 863-92.

Devall, William B.

1970 "Conservation: An upper-middle class social movement: A replication." JOURNAL OF LEISURE RESEARCH 2: 123-26.

DiTamaso, Nancy

1978 "The expropriation of the means of administration: Class struggle over the U.S. Department of Labor." KAPITALISTATE 7: 81-105.

Diver, Colin S.

1979 "The assessment and mitigation of civil money penalties by federal administrative agencies." COLUMBIA LAW REVIEW 79(December): 1435-1502.

1980 "A theory of regulatory enforcement." PUBLIC POLICY 28 (Summer): 257-99.

Downs, Anthony

1967 INSIDE BUREAUCRACY. Boston: Little, Brown.

Dunlap, Riley E. and Don A. Dillman

1976 "Decline in support for environmental protection: Evidence from a 1970-1974 panel study." RURAL SOCIOLOGY 41(Fall): 382-90.

Dunlap, Riley E. and Kent D. Van Liere

1977 "Declining public support for environmental protection: 'Ecological backlash' or 'natural decline.'" Paper presented at the annual meetings of the Rural Sociological Society, Madison.

ENERGY DAILY

1978 "Surface mining law takes on a regional flavor." Tuesday, August 1.

Environmental Policy Center

1982 THE FEDERAL STRIP MINE LAW FIVE YEARS LATER. Background Assessment. Washington, D.C.: Environmental Policy Center, Xerox.

Erikson, Kai T.

1976 EVERYTHING IN ITS PATH. New York: Simon and Schuster.

Erskine, Hazel

1972 "The polls: Pollution and its costs." PUBLIC OPINION QUARTERLY 36(Spring): 120-35.

Faich, Ronald and Richard Gale

1971 "The environmental movement: From recreation to politics." PACIFIC SOCIOLOGICAL REVIEW 14: 270-87.

Fisher, Steve and Jim Foster

1979 "Models for furthering revolutionary praxis in Appalachia." APPALACHIAN JOURNAL 6(Spring): 171-96.

Franklin, Ben A.

1979 "A blueprint against doing violence to the land." NEW YORK TIMES, March 11.

Frieden, Bernard J.

1979 THE ENVIRONMENTAL PROTECTION HUSTLE. Cambridge, Mass.: MIT Press.

Friendly, Henry J.

1962 THE FEDERAL ADMINISTRATIVE AGENCIES: THE NEED FOR A BETTER DEFINITION OF STANDARDS. Cambridge, Mass.: Harvard University Press.

Galloway, L.T. and D. McAteer

1980 "Surface mining regulation in the Federal Republic of Germany, Great Britain, Australia, and the United States: A comparative study." HARVARD ENVIRONMENTAL LAW REVIEW 4: 261-309.

Gardiner, John A.

1969 TRAFFIC AND THE POLICE. Cambridge, Mass.: Harvard University Press.

Geis, Gilbert

1977 "The heavy electrical equipment antitrust cases of 1961." Pp. 117-32 in Gilbert Geis and Robert F. Meier (eds.), WHITE-COLLAR CRIME (revised edition). New York: The Free Press.

Goff, Colin H. and Charles E. Reasons

1978 CORPORATE CRIME IN CANADA. Englewood Cliffs, N.J.: Prentice-Hall.

Gouldner, Alvin

1979 THE FUTURE OF INTELLECTUALS AND THE RISE OF THE NEW CLASS. New York: Seabury.

Grabowski, Henry G.

1977 DRUG REGULATION AND INNOVATION: EMPIRICAL EVIDENCE AND POLICY OPTIONS. Washington, D.C.: American Enterprise Institute.

Grim, E.C. and R.D. Hill

1974 ENVIRONMENTAL PROTECTION IN SURFACE MINING OF COAL. Cincinnati: U.S. Environmental Protection Agency.

Habermas, Jurgen

1975 LEGITIMATION CRISIS. Boston: Beacon.

Hagan, John

1974 "Extra-legal attributes and criminal sentencing: An assessment of a sociological viewpoint." LAW AND SOCIETY REVIEW 8(Spring): 357-84.

Hagan, J., J.D. Hewitt and D.F. Alwin

1979 "Ceremonial justice: Crime and punishment in a loosely coupled system." SOCIAL FORCES 58(December): 506-27.

Hagan, J., I. Nagel and C. Albonetti

1980 "The differential sentencing of white-collar offenders in ten Federal district courts." AMERICAN SOCIOLOGICAL REVIEW 45(October): 802-20.

Handler, Joel F.

1978 SOCIAL MOVEMENTS AND THE LEGAL SYSTEM. New York: Academic Press.

Harry, Joseph P.

1974 "Causes of contemporary environmentalism." HUMBOLDT JOURNAL OF SOCIAL RELATIONS 2: 1-7.

Harry, Joseph P., Richard P. Gale and John C. Hendee

1969 "Conservation: An upper-middle class social movement." JOURNAL OF LEISURE RESEARCH 3: 129-31.

Harvey, D. Michael

1978 "Paradise regained? Surface Mining Control and Reclamation Act of 1977." HOUSTON LAW REVIEW 15: 1147-74.

Hawkins, Keith

1980 "The use of discretion by regulatory officials: A case study of environmental pollution in the United Kingdom." Draft paper presented to Baldy Center for Law and Social Policy, Conference on Law, Discretion and Bureaucratic Behavior (June).

Hayes, Samuel P.

1959 CONSERVATION AND THE GOSPEL OF EFFICIENCY. Cambridge, Mass.: Harvard University Press.

Heilbroner, R.L., et al. (eds.)

1973 IN THE NAME OF PROFIT. New York: Warner Paperback Library.

Heatherly, Charles L. (ed.)

1981 MANDATE FOR LEADERSHIP. Washington, D.C.: The Heritage Foundation.

Honnold, Julia

1980 "Changes in predictors of public concern in the 1970's." Paper presented at the annual meetings of the Society for the Study of Social Problems, New York.

Hopkins, Andrew

1977 "Is there class bias in sentencing?" AMERICAN SOCIOLOGICAL REVIEW 42(February): 176-77.

Humphrey, Craig R. and Frederick R. Buttel

1982 ENVIRONMENT, ENERGY AND SOCIETY. Belmont, Cal.: Wadsworth.

Imhoff, E.A., T.O. Friz and J.R. LaFevers

1976 A GUIDE TO STATE PROGRAMS FOR THE RECLAMATION OF SURFACE MINED LANDS. Washington, D.C.: U.S. Geological Survey (Circular #731).

Interstate Mining Compact Commission

n.d. Untitled. Lexington, Ky.: Interstate Mining Compact Commission.

1981 ANNUAL REPORT - 1981. Lexington, Ky.: Interstate Mining Compact Commission.

Johnson, C. R., D.S. May and G. W. Pring

1980 STRIPPING THE LAW ON COAL. Denver: Public Lands Institute.

Kagan, Robert A.

1978 REGULATORY JUSTICE. New York: Russell Sage Foundation.

1980 "The positive uses of discretion: The good inspector." Paper presented to the Law and Society Association, Madison, Wisconsin, (June).

Kagan, Robert A. and John T. Scholz

forth-coming "The 'criminology of the corporation' and regulatory enforcement strategies." In Keith Hawkins and John M. Thomas (eds.), ENFORCING REGULATION: POLICY AND PRACTICE.

Kahn, Alfred

1971 THE ECONOMICS OF REGULATION: PRINCIPLES AND INSTITUTIONS, 2 vols. New York: John Wiley & Sons.

Keiser, K. Robert

1980 "The new regulation of Health and Safety." POLITICAL SCIENCE QUARTERLY 95(Fall): 479-91.

Kelman, Steven

1974 "Regulation by the numbers -- A report on the Consumer Product Safety Commission." THE PUBLIC INTEREST 36 (Summer): 83-102.

1980 "Occupational Safety and Health Administration." Pp. 236-66 in James Q. Wilson (ed.), THE POLITICS OF REGULATION. New York: Basic Books.

1981 REGULATING AMERICA, REGULATING SWEDEN. Cambridge, Mass.: MIT Press.

Klaas, Michael W. and Leonard W. Weiss

1978 FRAMEWORK FOR REGULATION. Washington, D.C.: The Brookings Institution.

Kleck, Gary

1981 "Racial discrimination in criminal sentencing." AMERICAN SOCIOLOGICAL REVIEW 46(December): 783-805.

Kolko, Gabriel

1963 THE TRIUMPH OF CONSERVATISM: A REINTERPRETATION OF AMERICAN HISTORY, 1900-1916. New York: The Free Press.

1965 RAILROADS AND REGULATION: 1877-1916. New York: W.W Norton.

Kristol, Irving

1972 "About equality." COMMENTARY (November).

Lasswell, Harold D.

1935 POLITICS: WHO GETS WHAT, WHEN, HOW. New York: McGraw-Hill.

Lilly, William, III and James C. Miller III

1977 "The new 'social regulation'." THE PUBLIC INTEREST 47 (Spring): 49-61.

Lizotte, Alan J.

1978 "Extra-legal factors in Chicago's criminal justice courts." SOCIAL PROBLEMS 25(June): 564-80.

Lowi, Theodore

1969 THE END OF LIBERALISM. New York: W.W. Norton.

Lynxwiler, John P. and Stephen B. Groce

1981 "Violative behavior and the negotiation of public identities in the work setting: An analysis of Appalachian mine operators." Paper presented at the annual meeting of the Southern Sociological Society, Lousiville, Ky. (April 9).

McCarthy, John D. and Mayer N. Zald

1973 THE TRENDS OF SOCIAL MOVEMENTS IN AMERICA: PROFESSIONALIZATION AND RESOURCE MOBILZATION. Morristown: General Learning Press.

McConnell, Grant

1966 PRIVATE POWER AND AMERICAN DEMOCRACY. New York: Knopf.

McCraw, Thomas K.

1975 "Regulation in America: A review article." BUSINESS HISTORY REVIEW 49(Summer): 159-83.

Manning, Peter K.

1977 POLICE WORK. Cambridge, Mass.: MIT Press.

1980 THE NARCS' GAME. Cambridge, Mass.: MIT Press.

Mansfield, Edward

1980 "Federal Maritime Commission." Pp. 42-74 in James Q. Wilson (ed.), THE POLITICS OF REGULATION. New York: Basic Books.

Marcus, Alfred

1980 "Environmental Protection Agency." Pp. 267-303 in James Q. Wilson (ed.), THE POLITICS OF REGULATION. New York: Basic Books.

Margolis, Howard

1977 "The politics of auto emissions." THE PUBLIC INTEREST 49(Fall): 3-21.

Martin, Albro

1971 ENTERPRISE DENIED: ORIGINS OF THE DECLINE OF AMERICAN RAILROADS, 1897-1917. New York: Columbia University Press.

Marx, Karl

1852 THE EIGHTEENTH BRUMAIRE OF LOUIS BONAPARTE.

May, Judith V. and Aaron B. Wildausky (eds.)

1978 THE POLICY CYCLE. Beverly Hills, Cal.: Sage Publications.

Meier, Robert F. and Weldon T. Johnson

1977 "Deterrence as social control: The legal and extra-legal production of conformity." AMERICAN SOCIOLOGICAL REVIEW 42(April): 292-304.

Mendeloff, John

1979 REGULATING SAFETY: AN ECONOMIC AND POLITICAL ANALYSIS OF OCCUPATIONAL SAFETY AND HEALTH POLICY. Cambridge, Mass.: MIT Press.

Menzel, Donald C.

1981 "Implementation of the Federal Surface Mining Control and Reclamation Act of 1977." PUBLIC ADMINISTRATION REVIEW 41(Summer).

Miller, George H.

1971 RAILROADS AND THE GRANGER LAWS. Madison: University of Wisconsin.

Mitchell, Robert Cameron

1979 "National environmental lobbies and the apparent illogic of collective action." Pp. 87-121 in Clifford S. Russell (ed.), COLLECTIVE DECISION MAKING. Baltimore: The John Hopkins University Press.

1980 PUBLIC OPINION ON ENVIRONMENTAL ISSUES. Washington, D.C.: U.S. Government Printing Office.

Mitnick, Barry M.

1980 THE POLITICAL ECONOMY OF REGULATION. New York: Columbia University Press.

Muir, William K., Jr.

1977 POLICE: STREETCORNER POLITICIANS. Chicago: University of Chicago Press.

Munn, Robert F.

1975 "The development of strip mining in southern Appalachia." APPALACHIAN JOURNAL 3(Autumn): 87-93.

Murphy, Jerome T.

1973 "The educational bureaucracies implement novel policy." Pp. 160-98 in Allan P. Sindler (ed.), POLICY AND POLITICS IN AMERICA. Boston: Little, Brown.

Nash, Gerald D.

1957 "Origins of the Interstate Commerce Act of 1887." PENNSYLVANIA HISTORY 24: 181-90.

National Coal Association

1980 KEYSTONE COAL INDUSTRY MANUAL. New York: McGraw-Hill.

National Research Council

1974 REHABILITATION POTENTIAL OF WESTERN COAL LANDS. Cambridge, Mass.: Ballinger.

1977 DECISION MAKING IN THE ENVIRONMENTAL PROTECTION AGENCY. Washington, D.C.: National Academy of Sciences.

1981 COAL MINING AND GROUND-WATER RESOURCES IN THE UNITED STATES. Washington, D.C.: National Academy Press.

1981a DISPOSAL OF EXCESS SPOIL FROM COAL MINING AND THE SURFACE MINING CONTROL AND RECLAMATION ACT OF 1977. Washington, D.C.: National Academy Press.

1981b SURFACE MINING: SOIL, COAL, AND SOCIETY. Washington, D.C.: National Academy Press.

Nettler, Gwynn

1979 "Criminal justice." ANNUAL REVIEW OF SOCIOLOGY 5: 27-52.

Nichols, Albert L. and Richard Zeckhauser

1977 "Government comes to the workplace: An assessment of OSHA." THE PUBLIC INTEREST 49(Fall): 39-69.

Nivola, Pietro S.

1978 "Distributing a municipal service: A case study of housing inspection." JOURNAL OF POLITICS 40: 59-81.

O'Conner, James

1973 THE FISCAL CRISIS OF THE STATE. New York: St. Martin's Press.

1981 "The Fiscal Crisis of the State revisited: Economic Crisis and Reagan's Budget Policy." KAPITALISTATE 9: 41-61.

Offe, Claus

1974 "Structural problems of the capitalist state." In Klaus von Beyme (ed.), GERMAN POLITICAL STUDIES. Beverly Hills, Cal.: Sage Publications.

Office of the President of the United States

1981 EXECUTIVE ORDER -- FEDERAL REGULATION. February 17.

Office of Surface Mining

1980 ANNUAL REPORT -- 1979. Washington, D.C.: U.S. Department of the Interior.

1980a INSPECTION MANUAL. Washington, D.C.: Office of Surface Mining, Office of Inspection and Enforcement.

1980b MANAGEMENT EVALUATION OF THE OFFICE OF INSPECTION AND ENFORCEMENT AND I&E REGIONAL OPERATIONS. Review Draft. Division of Planning and Evaluation. January.

1980c PENALTY ASSESSMENT MANUAL. Washington, D.C.: Branch of Assessment, Division of Enforcement.

1980d REGIONAL MEMO -- Field Office.

1981 INSPECTABLE UNITS. January 6.

1981a OFFICE OF SURFACE MINING REORGANIZATION. June 12.

1981b OFFICE OF SURFACE MINING REORGANIZATION--HEADQUARTERS: ORGANIZATION, STAFFING AND FUNCTIONS. July 15.

1981c OFFICE OF SURFACE MINING--STATE OFFICES: ORGANIZATION, STAFFING AND FUNCTIONS. July 15.

1981d OFFICE OF SURFACE MINING--TECHNICAL SERVICE CENTERS: ORGANIZATION, STAFFING AND FUNCTIONS. July 15.

1981e SCHEDULE FOR REGULATORY REFORM. n.d.

1982 PLANS AND PROCEDURES FOR THE EVALUATION OF THE STATES' PERMANENT PROGRAM. n.d.

Office of the Vice-President of the United States

1981 STATEMENT OF THE VICE-PRESIDENT REGARDING AN EXECUTIVE ORDER SIGNED TODAY BY THE PRESIDENT CONCERNING REGULATORY MANAGEMENT. News Release, February 17.

1981a STATEMENT BY THE VICE PRESIDENT REGARDING ACTIONS TAKEN BY THE PRESIDENT'S TASK FORCE ON REGULATORY RELIEF. News Release, March 25.

Owen, Bruce M. and Ronald Braeutigam

1978 THE REGULATION GAME. Cambridge, Mass.: Ballinger.

Parfit, Michael

1980 LAST STAND AT ROSEBUD CREEK: COAL, POWER, AND PEOPLE. New York: Dutton.

Parsons, Talcott and Edward A. Shils (eds.)

1951 TOWARD A GENERAL THEORY OF ACTION. Cambridge, Mass.: Harvard University Press.

Peltzman, Sam

1975 REGULATION OF AUTOMOBILE SAFETY. Washington, D.C.: American Enterprise Institute.

Plumlee, John P. and Kenneth Meier

1978 "Capture and rigidity in regulatory administration: An empirical assessment." Pp. 215-34 in Judith V. May and Aaron B. Wildavsky (eds.), THE POLICY CYCLE. Beverly Hills: Sage Publications.

Poulantzas, Nicos

1969 "The problem of the capitalist state." NEW LEFT REVIEW 58 (November): 67-78.

President's Commission on Coal

1980 COAL DATA BOOK. Washington, D.C.: U.S. Government Printing Office.

Pressman, Jeffrey L. and Aaron Wildavsky

1973 IMPLEMENTATION. Berkeley: University of California Press.

Quirk, Paul J.

1980 "Food and Drug Administration." Pp. 191-235 in James Q. Wilson (ed.), THE POLITICS OF REGULATION. New York: Basic Books.

1981 INDUSTRY INFLUENCE IN FEDERAL REGULATORY AGENCIES. Princeton. N.J.: Princeton University Press.

Reiger, John F.

1975 AMERICAN SPORTSMEN AND THE ORIGINS OF CONSERVATISM. New York: Winchester.

Reiss, Albert J., Jr.

1971 THE POLICE AND THE PUBLIC. New Haven, Conn.: Yale University Press.

Reiss, Albert J., Jr. and David J. Bordua

1966 "Environment and organization: A perspective on the police." Pp. 25-55 in David J. Bordua (ed.), THE POLICE: SIX SOCIOLOGICAL ESSAYS. New York: John Wiley & Sons.

Reitze, Arnold W., Jr.

1971 "Old King Coal and the merry rapists of Appalachia." CASE WESTERN RESERVE LAW REVIEW 22: 650-732.

Robinson, Glen O.

1975 THE FOREST SERVICE: A STUDY OF PUBLIC LAND MANAGEMENT. Baltimore: The John Hopkins University Press.

Rose, Arnold

1959 "Sociological factors in the effectiveness of projected legal remedies." JOURNAL OF LEGAL EDUCATION 2: 470-81.

Rossi, P.H., E. Waite, C.E. Bose and R.E. Berk

1974 "The seriousness of crimes: Normative structure and individual differences." AMERICAN SOCIOLOGICAL REVIEW 39(April): 224-37.

Sabatier, Paul A.

1975 "Social movements and regulatory agencies: Toward a more adequate -- and less pessimistic -- theory of 'clientele capture.'" POLICY SCIENCES 6(September): 301-42.

Salamon, L.B. and G.L. Wamsley

1976 "The federal bureaucracy: Responsible to whom?" Pp. 151-88 in L.N. Reichenbach (ed.). THE RESPONSIVENESS OF AMERICAN INSTITUTIONS. Bloomington: Indiana University Press.

Save Our Cumberland Mountains

1978 A STUDY OF TENNESSEE STRIP MINE ENFORCEMENT, 1972-77. East Tennessee Research Corporation.

n.d. A STUDY OF TENNESSEE STRIP MINE ENFORCEMENT, 1981. East Tennessee Research Corporation.

Schneider, David A.

1971 "Strip mining in Kentucky." KENTUCKY LAW JOURNAL 59: 652-72.

Sellin, Thorsten, and Marvin Wolfgang

1964 MEASUREMENT OF DELINQUENCY. New York: John Wiley & Sons.

Serber, David

1975 "Regulating reform: The social organization of insurance regulation." THE INSURGENT SOCIOLOGIST 3(Spring): 83-105.

Sharfman, I.L.

1931 THE INTERSTATE COMMERCE COMMISSION, vol. 1. New York: Commonwealth Fund.

Shore, F.M., J.R. Bradley, J.A. Corgan and A.V. Coleman

1941 "Anthracite." In MINERALS YEARBOOK REVIEW OF 1940. Washington, D.C.: U.S. Bureau of Mines.

Shover, Neal

1980 "The criminalization of corporate behavior: Federal surface coal mining." Pp. 98-125 in Gilbert Geis and Ezra Stotland (eds.), WHITE-COLLAR CRIME: THEORY AND RESEARCH. Beverly Hills, Cal.: Sage Publications.

Skelly and Loy

1979 ANALYSIS OF THE IMPACT OF PUBLIC LAW 95-87 ON MINING PERFORMANCE, FINAL REPORT. Harrisburg, Penn.: Skelly and Loy.

Skolnick, Jerome H.

1967 JUSTICE WITHOUT TRIAL. New York: John Wiley & Sons.

Smith, Robert G.

1976 THE OCCUPATIONAL HEALTH AND SAFETY ACT: ITS GOALS AND ITS ACHIEVEMENTS. Washington, D.C.: American Enterprise Institute.

Snider, Laureen

1982 "Traditional and corporate theft: A comparison of sanctions." Pp. 235-58 in Peter Wickman and Timothy Dailey (eds.), WHITE-COLLAR AND ECONOMIC CRIME. Lexington, Mass.: D.C. Heath.

Stacks, John P.

1972 STRIPPING. New York: Sierra Club.

Stigler, George J.

1971 "The theory of economic regulations." BELL JOURNAL OF ECONOMICS AND MANAGEMENT SCIENCE 2(Spring): 3-21.

Thomas, John M.

1980 "The regulatory role in the containment of corporate illegality." Pp. 107-40 in Herbert Edelhertz (ed.), THE DEVELOPMENT OF A RESEARCH AGENDA ON WHITE-COLLAR CRIME. Seattle: Battelle Human Affairs Research Centers.

Tognacci, Louis R., R.A. Weigel, M.F. Wideen and D. Vernon

1972 "Environmental quality -- how universal is public concern? ENVIRONMENT AND BEHAVIOR 4: 73-86.

Udall, Morris K.

1979 "The enactment of the Surface Mining Control and Reclamation Act of 1977 in retrospect." WEST VIRGINIA LAW REVIEW 81: 553-57.

U.S. Congress, House of Representatives

1972 REGULATION OF STRIP MINING. Hearings before the Subcommittee on Mines and Mining of the Committee on Interior and Insular Affairs. 92nd Congress, 1st Session. Washington, D.C.: U.S. Government Printing Office.

1972a PROVIDING FOR THE REGULATION OF STRIP COAL MINING. Report (Together with Separate View) from the Committee on Interior and Insular Affairs. 92nd Congress. Washington, D.C.: U.S. Government Printing Office.

1973 REGULATION OF SURFACE MINING. Hearings before the Subcommittee on Environment and the Subcommittee on Mines and Mining of the Committee on Interior and Insular Affairs. 93rd Congress, 1st Session. Washington, D.C.: U.S. Government Printing Office.

1975 VETO OF THE SURFACE MINING CONTROL AND RECLAMATION ACT OF 1975. 94th Congress, 1st session. Washington, D.C.: U.S. Government Printing Office.

1977 SURFACE MINING CONTROL AND RECLAMATION ACT OF 1977. Hearings before the Subcommittee on Energy and the Environment of the Committee on Interior and Insular Affairs. 95th Congress, 1st Session. Washington, D.C.: U.S. Government Printing Office.

1977a SURFACE MINING CONTROL AND RECLAMATION ACT OF 1977. Report of the Committee on Interior and Insular Affairs. 95th Congress, 1st Session. Washington, D.C.: U.S. Government Printing Office.

1978 IMPLEMENTATION OF THE SURFACE MINING CONTROL AND RECLAMATION ACT OF 1977. Oversight Hearings before the Subcommittee on Energy and the Environment of the Committee on Interior and Insular Affairs. 95th Congress, 2nd Session. Washington, D.C.: U.S. Government Printing Office.

1979 IMPLEMENTATION OF THE SURFACE MINING CONTROL AND RECLAMATION ACT OF 1977. Oversight Hearings before Subcommittee on Energy and the Environment of the Committee on Interior and Insular Affairs. 96th Congress, 1st Session. Washington, D.C.: U.S. Government Printing Office.

1980 OVERSIGHT ON THE SURFACE MINING CONTROL AND RECLAMATION ACT OF 1977. Oversight Hearings before the Subcommittee on Energy and the Environment of the Committee on Interior and Insular Affairs. 96th Congress, 2nd Session. Washington, D.C.: U.S. Government Printing Office.

1981 IMPLEMENTATION OF THE SURFACE MINING CONTROL AND RECLAMATION ACT OF 1977. Oversight Hearings before Subcommittee on Energy and the Environment of the Committee on Interior and Insular Affairs. 97th Congress, 1st Session. Washington, D.C.: U.S. Government Printing Office.

1981a REORGANIZATION OF THE OFFICE OF SURFACE MINING. Oversight Hearings before Subcommittee on Energy and the Environment of the Committee on Interior and Insular Affairs. 97th Congress, 1st Session. Washington, D.C.: U.S. Government Printing Office.

1982 OVERSIGHT HEARING ON THE OFFICE OF SURFACE MINING RECLAMATION AND ENFORCEMENT BUDGET FOR FISCAL YEAR 1983. Subcommittee on Energy and the Environment of the Committee on Interior and Insular Affairs. Xerox.

U.S. Congress, Senate

1968 SURFACE MINING RECLAMATION. Hearings before the Committee on Interior and Insular Affairs. 90th Congress, 2nd Session. Washington, D.C.: U.S. Government Printing Office.

1971 SURFACE MINING. Hearings before the Subcommittee on Minerals, Materials, and Fuels of the Committee on Interior and Insular Affairs, 92nd Congress, 1st Session. Washington, D.C.: U.S. Government Printing Office.

1972 SURFACE MINING. Hearings before the Subcommittee on Minerals, Materials, and Fuels of the Committee on Interior and Insular Affairs. 92nd Congress, 1st Session. Washington, D.C.: U.S. Government Printing Office.

1973 REGULATION OF SURFACE MINING OPERATIONS. Hearings before the Committee on Interior and Insular Affairs 93rd Congress, 1st Session. Washington, D.C.: U.S. Government Printing Office.

1974 SURFACE MINING CONTROL AND RECLAMATION ACT OF 1974. Conference Report to Accompany S.425. 93rd Congress, 2nd Session. Washington, D.C.: U.S. Government Printing Office.

1978 IMPLEMENTATION OF PUBLIC LAW 95-87. Hearing before the Subcommittee on Public Lands and Resources of the Committee on Energy and Natural Resources. 95th Congress, 2nd Session. Washington, D.C.: U.S. Government Printing Office.

1979 OVERSIGHT--THE SURFACE MINING CONTROL AND RECLAMATION ACT OF 1977. Hearings before the Committee on Energy and Natural Resources. 96th Congress, 1st Session. Washington, D.C.: U.S. Government Printing Office.

1981 HARRIS, STEARNS, AND RICHARDS NOMINATIONS. Hearing before the Committee on Energy and Natural Resources. 97th Congress, 1st Session. Washington, D.C.: U.S. Government Printing Office.

1981a JAMES G. WATT NOMINATION. Hearings before the Committee on Energy and Natural Resources. 97th Congress, 1st Session. Washington, D.C.: U.S. Government Printing Office.

U.S. Department of Energy

1980 COAL DATA: A REFERENCE. Washington, D.C.: Energy Information Administration.

1981 COAL PRODUCTION -- 1979. Washington, D.C.: Energy Information Administration.

1981a ENERGY DATA REPORT. Washington, D.C.: Energy Information Administration, January 9.

1981b ENERGY DATA REPORT. Washington, D.C.: Energy Information Administration, July 17.

1982 1981 ANNUAL REPORT TO CONGRESS. VOLUME 2, ENERGY STATISTICS. Washington, D.C.: Energy Information Administration, May.

U.S. Department of the Interior

1967 SURFACE MINING AND OUR ENVIRONMENT. Washington, D.C.: U.S. Government Printing Office.

U.S. Department of Justice

1982 Letter to the Surface Mining Project, University of Tennessee, May 6.

U.S. Regulatory Council

1981 COOPERATION AND CONFLICT: REGULATING COAL PRODUCTION. Washington, D.C.

Van Liere, Kent D. and Riley Dunlap

1980 "The social bases for environmental concern." PUBLIC OPINION QUARTERLY 44(Spring): 181-97.

Vietor, Richard H.K.

1980 ENVIRONMENTAL POLITICS AND THE COAL COALITION. College Station: Texas A&M University Press.

Wardell, William M. and Sam Lasagna

1975 REGULATION AND DRUG DEVELOPMENT. Washington, D.C.: American Enterprise Institute.

Weaver, Paul H.

1978 "Regulation, social policy, and class conflict." THE PUBLIC INTEREST 50(Winter): 45-63.

Weber, Max

1946 "Bureaucracy." Pp. 196-244 in H.H. Gerth and C. Wright Mills (eds.), FROM MAX WEBER: ESSAYS IN SOCIOLOGY. New York: Oxford University Press.

Weinstein, James

1968 THE CORPORATE IDEAL IN THE LIBERAL STATE: 1900-1918. Boston: Beacon.

Welborn, David M.

1977 GOVERNANCE OF FEDERAL REGULATORY AGENCIES. Knoxville: Univeristy of Tennessee Press.

Wiener, Daniel P.

1980 RECLAIMING THE WEST: THE COAL INDUSTRY AND SURFACE MINED LANDS. New York: Inform, Inc.

Wilson, James Q.

1968 VARIETIES OF POLICE BEHAVIOR. Cambridge, Mass.: Harvard University Press.

1978 THE INVESTIGATORS. New York: Basic Books.

1980 THE POLITICS OF REGULATION. New York: Basic Books.

Zeigler, L.H. and G.W. Peak

1972 INTEREST GROUPS IN AMERICAN SOCIETY, 2nd ed. Englewood Cliffs, N.J.: Prentice-Hall.

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