St. Mary's Law Journal

Volume 11 | Number 3 Article 4

9-1-1980

Energy Independence - The Return to Coal, Constraints on Production and Utilization of Our Most Abundant National Energy Resource Symposium - Coal Utilization by Electric Utilities - The Costs of Conversion.

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ENERGY INDEPENDENCE — THE RETURN TO COAL, CONSTRAINTS ON PRODUCTION AND UTILIZATION OF OUR MOST ABUNDANT NATIONAL ENERGY RESOURCE

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I. INTRODUCTION

The late 1960's and early 1970's saw a rapid decline in American reliance on coal. In 1920 over 70 percent of our national energy needs were fulfilled by coal.[1] By 1950, this figure had dropped to 38 percent and by 1978, only 18 percent of our total energy requirements were met by coal.[2] Increased reliance on oil and natural gas as the nation's primary energy source resulted from their abundance and low cost. During the 1960's, world oil prices declined as liberal federal oil import policies encouraged the use of foreign oil.[3] Environmental legislation, in particular the concentrated effort to

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1. *See* DEGOLYER & MACNAUGHTON, TWENTIETH CENTURY PETROLEUM STATISTICS 104 (1979).

2. *See id.* at 104.

3. In 1975 dollars, a barrel of imported crude cost $5.34 in 1960, $4.10 in 1972, and $4.91 in 1973. *See* [1977] EN. USERS REP. (BNA) 81:0268.

clean the nation's air beginning with the Clean Air Act of 1967,[4] favored gas and oil since they were cleaner to burn than coal.[5] More recently, increasing costs of coal rail transportation have rendered coal a less attractive alternative to industrial and utility shippers.[6] The lack of a forward looking energy policy made possible the adverse impact of the 1973-1974 Arab oil boycott. More effective utilization of domestic energy resources became necessary for the sustained health of the national economy. The result has been a careful reexamination of national priorities concerning energy use.

The need to balance competing energy and environmental needs was recognized in the National Energy Plan announced by President Carter in 1977.[7] Nonetheless, the past three years have slipped away without any improvement in the domestic energy situation. At the time of the 1973 Arab embargo, the United States imported about 2.4 million barrels of oil per day from OPEC nations.[8] During 1979, however, OPEC imports had doubled to about 4.9 million barrels per day.[9] Continued growth of oil imports reflects the lack of a coordinated effort to develop realistic alternative energy resources. Further complicating this situation is the inability to make full use of presently existing alternative sources of energy. The recent temporary shutdown of a number of nuclear plants, for example, has encouraged continued dependence on oil.[10]

In response to drastic increases in energy prices and recent regional dislocations of gas and petroleum supplies, President Carter, in April 1979, appointed a commission to study avenues for development of independent energy resources. The preliminary results of

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4. Pub. L. No. 90-148, 81 Stat. 485 (codified at 42 U.S.C. §§ 1857-1858a (1970) (amended 1970, 1977)).

5. The experience of Potomac Electric Power Company (Pepco) clearly documents the changing trends in energy use. Until 1965 Pepco's plants burned nothing but coal. As oil became cheaper and coal more expensive as a result of environmental regulation, Pepco began to build oil-fired plants in the late 1960's. As a result of the 1973 Arab Oil boycott, Pepco is now engaged in heated debate concerning whether to spend significant sums to convert oil-fired capacity to coal. *See* The Washington Post, Oct. 10, 1979, at § A1, col. 4.

6. *See* Student Symposium, *Singing the Coal Train Blues: The ICC, Railroad Coal Hauling Rates, and National Energy Policy*, 11 ST. MARY'S L.J. 734, 759 (1980).

7. EXECUTIVE OFFICE OF THE PRESIDENT, ENERGY POLICY AND PLANNING, THE NATIONAL ENERGY PLAN 25-34 (1977).

8. *See* New York Times, Nov. 18, 1979, § 3, at 1, col. 6.

9. *See id.*

10. The potential conversion of two units at Virginia Electric Power Company's (Vepco) North Anna station from nuclear to coal raises the spectre that the 1980's may witness long-term shifts away from nuclear power. *See* The Washington Post, Oct. 15, 1979, at § B1, col. 1.

this study appeared in the July 1979 Report of the Presidents Commission on Coal, known as the "Rockefeller Report."[11] The Report concluded:

> America's growing reliance on imported oil has brought us to the verge of a national crisis. The Commission believes that our vast available coal reserves must be tapped to *dramatically reverse* this alarming trend.
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> Current policy must be toughened. The reasonable practical objectives are clear:
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> 1. Coal-capable electrical boilers now burning oil and gas should be reconverted to burn coal.
> 2. Oil and gas fired utility boilers not capable of burning coal should be replaced by new coal fired units.
> 3. New large industrial boilers should be absolutely prohibited from burning oil or natural gas.
> 4. Immediate action must be taken to develop a major, efficient synthetic fuels industry.
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> . . . .
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> No exemptions, extensions, exceptions, or waivers should be allowed. Penalties for noncompliance should be automatic and substantial.[12]

Although the National Energy Plan dealt in broad terms with a variety of renewable and nonrenewable alternative resources, the Rockefeller Report focuses on increasing use of coal,[13] making the success of the renewed drive for energy independence contingent upon development of the United States' vast coal reserves.

The consumption patterns of the 1960's[14] that encouraged use of oil and gas must be changed if available coal resources are to be fully utilized. The National Energy Plan addressed this problem in part by emphasizing the need for certainty and consistency in environmental policy in order to "provide the confidence the industry needs to make improvements in energy facilities" and to develop more effective and economic methods to meet air pollution control

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11. PRESIDENT'S COMM'N ON COAL, ACCEPTABLE WAYS TO HASTEN THE SUBSTITUTION OF COAL FOR OIL: AN INTERIM REPORT OF THE PRESIDENT'S COMM'N ON COAL (1979).

12. *Id.* at 7.

13. *See id.* at 1, 4-7.

14. *See* DEGOYLER & MACNAUGHTON, TWENTIETH CENTURY PETROLEUM STATISTICS 104 (1979). During the 1960's petroleum and natural gas accounted for approximately 75 percent of the United States' total energy consumption. *See id.*

standards.[15] These objectives, however, have been frustrated at times by regulatory action that has taken divergent approaches to balancing economic and social costs.[16]

While sufficient flexibility can arguably be read into legislation by an administrative agency in order to harmonize national policies,[17] experience has shown that pressure on agencies from competing interest groups seldom permits such harmonization.[18] The con-

15. EXECUTIVE OFFICE OF THE PRESIDENT, ENERGY POLICY AND PLANNING, THE NATIONAL ENERGY PLAN xix (1977).

16. The use of regulatory analyses in formulating standards is encouraged by Executive Order 12044. *See* Exec. Order No. 12,044, 43 Fed. Reg. 12661 (Mar. 23, 1978). In rulemakings implementing the Clean Air Act, EPA has avoided opportunities to utilize cost-benefit and cost effectiveness analyses in setting national ambient air quality standards. *See* Union Electric Co. v. EPA, 427 U.S. 246, 266-68 (1976); Brief for Respondents, American Petroleum Inst. v. Costle, No. 79-1104 at 128 (D.C. Cir., filed Nov. 30, 1979). Under a similar statutory standard dealing with hazardous air pollutants, however, EPA has found sufficient flexibility to consider economic and technological feasibility in setting standards of performance. *See* 44 Fed. Reg. 58642 (Oct. 10, 1979).

17. Reliance on cost analyses in setting regulatory standards may increase as a result of a Fifth Circuit ruling overturning OSHA's benzene rules for failure to consider economic impact analyses. American Petroleum Inst. v. OSHA, 581 F.2d 493, 503, 510 (5th Cir. 1978), *cert. granted*, 440 U.S. 906 (1979). Other courts, however, have been more reluctant to read additional criteria for regulatory standards into statutes. *See* Alabama Power Co. v. Costle, 13 E.R.C. 1993, 2021-22 (D.C. Cir. Dec. 14, 1979); Hercules Inc. v. EPA, 598 F.2d 91, 114 (D.C. Cir. 1978); Ethyl Corp. v. EPA, 541 F.2d 1, 12, 24 (D.C. Cir.), *cert. denied*, 426 U.S. 941 (1976); Portland Cement Ass'n v. Ruckelhaus, 486 F.2d 375, 378-90, 401-02 (D.C. Cir. 1973), *cert. denied*, 417 U.S. 921 (1974).

18. Charges that an administrative agency has "caved in to industry" typically accompany efforts to balance energy and economic considerations in developing regulatory standards. UNITED STATES GENERAL ACCOUNTING OFFICE, COMPTROLLER GENERAL REPORT TO CONGESS: IMPROVING THE SCIENTIFIC AND TECHNICAL INFORMATION AVAILABLE TO THE ENVIRONMENTAL PROTECTION AGENCY IN ITS DECISION-MAKING PROCESS 4 (1979) (CED-79-115) [hereinafter cited as GAO REPORT ON EPA DECISION-MAKING]. The administrative agency, therefore, finds itself trying to defend its decisions against industry groups who contend regulations are too stringent and environmentalists who contend they are too lenient. *See* GAO REPORT ON EPA DECISION-MAKING, *supra*, at 4. At a recent hearing on coal utilization, Senator Jennings Randolph described his views on the failure of administrative agencies to respond to statutory flexibility, stating that:

> I have always believed it is possible for economic and environmental issues to be resolved in a compatible way so that industry can maintain economic stability and profitability while the environment is protected. Congress, in laws affecting coal production and use, has tried to design them in a fashion that insures equitable and uniform regulation of the industry. Flexibility has often been built into newly formulated statutes to provide sufficient latitude in implementing legislation. Unfortunately in many cases, this has led to a situation where flexibility has been interpreted by agencies as an absence of position. In turn they have mistakenly exceeded the intent of the law in developing their regulations. We cannot, in my opinion allow agencies to write their own legislation through regulation.

Government Regulations Associated With Coal Production and Use: Hearings Before the

tinued weakness of the Administration's most recent proposals is the failure to account for basic constraints on coal production that detract from the competitiveness of coal as an alternative energy source, and limitations on demand growth operating independently of direct incentive programs. This article explores regulatory barriers to the expansion of coal production and assesses, in light of these constraints, the practicability of the Administration's key objective—doubling the utilization of coal by 1985.[19]

It is important to establish several points of reference with respect to an analysis of regulatory action. First, current energy and environmental laws reflect a fundamental decision that society is willing to pay for maintenance of a certain quality of life.[20] Unfortunately, what these laws have not been able to resolve is the extent to which society is willing to pay for incremental improvements in that quality of life. While this balancing process is generally left to an administrative agency, efforts to implement environmental and energy law at the agency level have often resulted in paralyzing controversy.[21] Following time-consuming and expen-

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Subcomm. on Advocacy and Future of Small Business of the Senate Select Comm. on Small Business, 96th Cong., 1st Sess. 1979 (opening statement of Senator Jennings Randolph) [hereinafter cited as *Government Regulations Associated With Coal Production and Use*]; *see* Weyerhauser Co. v. Costle, 590 F.2d 1011, 1045 (D.C. Cir. 1978) "Congress did not mandate any particular structure or weight for the many consideration factors [enumerated in section 304 of the Clear Water Act]. Rather, it left EPA with discretion to decide how to account for the consideration factors, and how much weight to give each factor." *Id.* at 1045

19. *See* EXECUTIVE OFFICE OF THE PRESIDENT, ENERGY POLICY AND PLANNING, THE NATIONAL ENERGY PLAN xiii (1977).

20. A recent study for the Business Roundtable focusing on industry expenditure of regulatory dollars attributes 77 percent of regulatory expenditures to environmental protection. *See* CHEMICAL WEEK, Mar. 21, 1979, at 21. A recent study performed by EPA for Congress on the costs of environmental regulation indicates a *minimum* expenditure of $360 billion will result from the implementation of environmental regulation over the next ten years. UNITED STATES ENVIRONMENTAL PROECTION AGENCY, THE COST OF CLEAN AIR AND WATER REPORT TO CONGRESS viii (1979) (EPA 230/3-79-001) [hereinafter cited as EPA COST REPORT].

21. Authorizing legislation often requires merely that an administrative agency consider such factors as economic impact. *See* Clean Air Act Amendments of 1977, Pub. L. No. 95-95 § 317, 91 Stat. 778 (codified at 42 U.S.C. § 7617 (Supp. I 1977)) (economic impact assessment). EPA must take "into consideration the cost of achieving . . . emission reduction and any non-air quality health and environmental impact and energy requirements" in setting national emission standards for new sources. 42 U.S.C. § 7411(g)(4)(B) (Supp. I 1977). Similar statutes have been interpreted to require only *pro forma* review of enumerated criteria by the agency. *See* Weyerhauser Co. v. Costle, 590 F.2d 1011, 1045-47 (D.C. Cir. 1978). In *Weyerhauser*, the court contrasted (1) "comparison factors," for which Congress mandated a particular structure and weight of consideration, and (2) "consideration factors," for which Congress left the structure and weight of consideration to the administrative agency to decide. *See id.* at 1045-47. *See generally* Hercules Inc. v. EPA, 598 F.2d 91, 106, 123 (D.C. Cir.

sive administrative implementation, courts have been unwilling to review agency decisions concerning substantive law. Thus, the balancing of competing national priorities often reverts to Congress. Whether a given piece of legislation strikes a realistic balance between competing objectives must, therefore, be given more attention by lawmakers. Second, given limited financial resources, regulatory reform efforts must be limited to what is economically practicable. Finally, understanding the regulatory philosophies and interaction between agencies is significant in analyzing means of effecting reform, so as to protect competing interests while promoting effective implementation of national policies.

II. PRODUCTION CONSTRAINTS

Federal and state legislation affects coal production in a variety of ways. First, certain legislation effectively precludes the development of coal resources. Into this category fall portions of (1) the Surface Mining Control and Reclamation Act of 1977,[22] (2) the Clean Air Act[23], (3) the Roadless Area Review and Evaluation pro-

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1978). While a statute may contain provisions allowing an agency the opportunity to balance competing concerns, an agency typically can withstand a challenge to the adequacy of its consideration of balancing interests by presenting evidence that it gave *some* consideration to the relevant statutory criteria. *See* American Petroleum Inst. v. OSHA, 581 F.2d 493, 502 (5th Cir. 1978), *cert. granted,* 440 U.S. 906 (1979). This is especially true in cases characterized by a complex administrative record, when courts typically defer to the "expertise" of the administrative agency. *See, e.g.,* Edwards v. Pacific Fruit Express Co., 390 U.S. 538, 543 (1968); United States v. Davis, 370 U.S. 65, 73-74 (1962); Natural Resources Defense Council Inc. v. Train, 510 F.2d 692, 706 (D.C. Cir. 1975).

A variety of proposals to require more specific evaluation of the costs of government action were introduced during the first session of the 96th Congress. *See* 37 CONG. Q. WEEK. REP. 13:560-63 (Mar. 31, 1979); 37 CONG. Q. WEEK REP. 7:283-86 (Feb. 17, 1979). The concern that judicial deference to administrative expertise has led to affirmance of administrative decisions inconsistent with the authorizing statute has given rise to proposals to reverse the presumption in favor of administrative action. *See* Administrative Procedure Act, 5 U.S.C. § 706 (1976) (burden on person challenging administration decision to show final rule has no basis in the record). An amendment to the Federal Court Improvement Act of 1979, approved by the Senate, would place the burden on the agency to prove the validity of a challenged regulation by a preponderance of evidence. *See* S. 1477, 96th Cong., 1st Sess. (1979). *See generally* [1979] 10 ENVIR. REP. (BNA) 1156; 37 CONG. Q. WEEK. REP. 37:2014 (Sept. 15, 1979). In addition, a recent proposal to expedite construction of important energy projects would allow Congress to waive, upon recommendation of an Energy Mobilization Board, substantive laws hindering the project. *See* The Priority Energy Project Act of 1979, H.R. 4985, 96th Cong., 1st Sess. (1979); *The Energy Daily* 211 (Nov. 2, 1979).

22. 30 U.S.C. §§ 1201-1328 (Supp. I 1977).

23. 42 U.S.C. §§ 7401-7642 (Supp. I 1977).

gram,[24] (4) the Federal Land Policy and Management Act of 1976,[25] (5) federal coal leasing policies,[26] and (6) the Endangered Species Act of 1973.[27] Other legislation restricts the competitiveness of coal as an alternative energy source by increasing the costs of developing available coal resources. These include (1) the Surface Mining Control and Reclamation Act, (2) the Resource Conservation and Recovery Act of 1976,[28] (3) the Clean Water Act of 1977,[29] (4) the Safe Drinking Water Act,[30] (5) the Clean Air Act, (6) the National Environmental Policy Act of 1969,[31] and (7) the Coal Mine Health and Safety Act.[32]

A. Environmental Impacts of Coal Production

1. Surface Mining Control and Reclamation Act of 1977. The land impacts of coal mining, including disruption of surface contours, soil, vegetation and potential contamination of land and water resources resulting from disposal of mine wastes and chemical runoff, constitute the most direct constraints on coal production.[33] These impacts are regulated primarily through the Surface Mining Control and Reclamation Act of 1977 (SMCRA).[34] The basic premise of the SMCRA is that mining is a temporary activity; once ended, the land should be left in a state comparable to that which existed before mining began. To ensure restoration of mined lands to their prior condition, the SMCRA mandates states to adopt permit programs to regulate surface mines and the surface operations of underground mines.[35]

Each application for a surface mining and reclamation permit must include detailed information about physical characteristics of the site, the presence of any structures or features of historic interest, the probable hydrologic consequences of mining and reclama-

24. 43 Fed. Reg. 9539 (Mar. 8, 1978).

25. 43 U.S.C. §§ 1701-1782 (1976).

26. *See* Mineral Lands Leasing Act of 1920, ch. 85, 41 Stat. 437 (codified in scattered sections of 30 U.S.C.).

27. 16 U.S.C. §§ 1531-1543 (1976 & Supp. I 1977).

28. 42 U.S.C. §§ 6901-6987 (1976).

29. 33 U.S.C. §§ 1251-1376 (Supp. I 1977).

30. 42 U.S.C. §§ 300f-300j-10 (1976 & Supp. I 1977).

31. 42 U.S.C. §§ 4321-4367 (1976 & Supp. I 1977).

32. 30 U.S.C. §§ 801-961 (1976 & Supp. I 1977).

33. *See generally* Pedco Environmental, Inc., Study of Adverse Effects of Solid Waste From All Mining Activities on the Environment (1979).

34. 30 U.S.C. §§ 1201-1328 (Supp. I 1977).

35. *Id.* §§ 1253, 1266.

tion, and a reclamation plan.[36] Permits require the mine operator to meet all applicable environmental standards relating to waste disposal, revegetation, road construction, air, water, and land impacts.[37] Permits for underground mining require, in addition, that the operator prevent subsidence or drainage of any toxic substances.[38]

The Act contains detailed provisions concerning designation of lands as suitable or unsuitable for mining.[39] Mining in areas containing prime farmlands, alluvial valleys of the arid West, and areas characterized by steep slopes is strictly regulated, if not totally prohibited.[40] Coincidentally, these areas contain substantial deposits of coal—for example, about 13 percent of the leases in the West and 75 percent of the coal leases in Illinois.[41]

In addition to land impacts, SMCRA affects water quality by setting performance standards for surface mines and the surface operations of underground mines.[42] These standards are designed to prevent harmful chemical leaching and disruption of local water supplies. A mining permit under the SMCRA will not be granted unless the operator demonstrates all applicable federal and state water quality standards and effluent limitations will be met.[43]

A number of concerns have arisen within the mining industry and among the states over the SMCRA regulatory program. Coal producing states are encouraged to assume regulatory responsibility by developing permanent programs for control of mining and reclamation of mined lands. Prior to approval of state plans, however, the Office of Surface Mining (OSM) of the Department of Interior (DOI) retains authority to regulate mining operations.[44] The SM-

36. *See id.* §§ 1257, 1258. Reclamation includes revegetation, restoration of the land to its original contours, and replacement of any water systems. *See* 44 Fed. Reg. 64254 (Nov. 6, 1979).

37. 30 U.S.C. § 1265 (Supp. I 1977).

38. *Id.* § 1266(b).

39. *Id.* § 1272; *see id.* §§ 1260(d), 1265(d); 30 C.F.R. § 716.7 (1979).

40. The OSM regulations implementing the "prime farmland" program have been partially reversed. *See In re* Surface Mining Regulation Litigation, 456 F. Supp. 1301, 1312 (D.D.C. 1978). *But see In re* Surface Mining Regulation Litigation, 452 F. Supp. 327, 336 (D.D.C. 1978). Revised regulations were proposed in 44 Fed. Reg. 33626 (June 11, 1979).

41. OFFICE OF TECHNOLOGY ASSESSMENT, UNITED STATES CONGRESS, THE DIRECT USE OF COAL 247 (1979).

42. *See* 30 U.S.C. § 1251(a)(B) (Supp. I 1977).

43. *See id* §§ 1260, 1265.

44. *See id.* § 1201(f). "[B]ecause of the diversity in terrain, climate, biologic, chemical, and other physical conditions in areas subject to mining operations, the primary governmen-

CRA established a precise timetable for development and approval of state plans and for the promulgation of interim and final regulations by the OSM.[45] DOI, however, missed the date for publishing permanent regulations by seven months, delaying the entire timetable. Failure of OSM to meet the statutory schedule of the SMCRA has caused concern among states that they will not be able to meet the June 3, 1980 deadline for submission of final regulatory programs,[46] resulting in continued federal regulation by OSM.[47] The United States District Court for the District of Columbia has declared the statutory timetable not binding, however, and has ordered DOI to make alterations necessary to reflect the changed circumstances.[48] The need for flexibility in statutory deadlines governing development of regulations is an initial area where reform is needed.

The lack of flexibility afforded states in shaping their regulatory programs is another prime area for reform. As a result of the failure of the SMCRA to afford the flexibility needed to account adequately for local conditions, enforcement of the federal regulatory program in some areas is more stringent than necessary. Concern of the states may be based on experience with other regulatory programs. For example, under the Clean Air Act, state implementation plans have been approved only if the state plan

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tal responsibility for developing, authorizing, issuing, and enforcing regulations for surface mining and reclamation operations subject to this chapter should rest with the States." *Id.* § 1201(f). Most of the requirements of the Act are in the course of implementation and thus not yet in effect. The permanent program regulations published by OSM in March 1979, for example, do not go into effect for most purposes until after June 3, 1980. *Government Regulations Associated with Coal Production and Use, supra* note 18 (statement of Walter N. Heine).

45. 30 U.S.C. §§ 1252, 1254 (Supp. I 1977). The Secretary of Interior was to publish the permanent regulatory program by August 3, 1978; states were given until August 3, 1979, to submit their regulatory programs for initial review by the Department of Interior (DOI); states were given until November 15, 1979 to make necessary revisions after the initial review; DOI would approve or disapprove all or part of a state plan by February 3, 1980; states could resubmit disapproved plus by April 3, 1980; and by June 3, 1980, either a state or federal permanent program would have to be in place. *Id.* §§ 1252, 1254; *see In re* Permanent Surface Mining Regulation Litigation, 13 E.R.C. 1587, 1589 (D.D.C. Aug. 21, 1979).

46. *See* GAO REPORT ON EPA DECISION-MAKING, *supra* note 18, at 6-7.

47. *See* UNITED STATES GENERAL ACCOUNTING OFFICE, REPORT BY THE COMPTROLLER GENERAL OF THE UNITED STATES: ISSUES SURROUNDING THE SURFACE MINING CONTROL AND RECLAMATION ACT 4-8 (1979).

48. *In re* Permanent Surface Mining Regulation Litigation, 13 E.R.C. 1587, 1589 (D.D.C. Aug. 21, 1979). In September 1979, the Senate passed amendments to the SMCRA that would extend the statutory deadline. S. 1403, 96th Cong., 1st Sess. 125 CONG. REC. S12387 (daily ed. Sept. 11, 1979); *see* [1979] 10 ENVIR. REP. (BNA) 1456.

tracks very closely federal regulations.[49] This problem would be alleviated by providing that state programs need not duplicate federal guidelines if the state plan accomplishes the same result through alternate means.[50] For example, similar objectives could be achieved at substantially less cost by writing rules based on "best practice" rather than stringent limits set by federal regulations.[51] Such an approach would better permit accommodation of local conditions in developing a state regulatory program consistent with the SMCRA.[52]

Duplication of regulatory programs between federal agencies is a third problem raised by SMCRA. Serious conflicts have arisen between the water quality regulatory programs of OSM and EPA.[53]

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49. A particularly striking example of this experience is shown by EPA's recent proposal to disapprove portions of Indiana's state implementation plan (SIP). EPA has tentatively disapproved Indiana's definition of "State Implementation Plan" as the "state plan of the Indiana Air Pollution Control Division" since EPA "believes this definition is confusing and misleading since a State Implementation Plan must be federally approved pursuant to the Clean Air Act." Air Pollution Control Division, State of Indiana, Draft Approval and Promulgation of Nonattainment Plan for Indiana 9 (1979).

50. *See* [1979] 10 ENVIR. REP. (BNA) 1456. Environmentalists have typically opposed such flexibility at the state level because they lack the resources to follow case-by-case application and development of state standards. *See* Report of the National Coal Policy Project, Where We Agree: Recommendations of the Mining Task Force, Interim Report 3 (1979) (published by the Center for Strategic and International Studies) [hereinafter cited as Report of the National Coal Policy Project]. Funding of private interest groups to monitor the regulatory process could reduce opposition to more flexibility at the state level. *See* Report of the National Coal Policy Project, *supra* at 3-10.

51. For example, Consolidation Coal Company has estimated compliance with OSM regulations concerning runoff and impoundment of waste materials would cost the company about $3.70 per ton of coal, while compliance with the same requirements through "good engineering practice" would cost about $1.35 per ton. *See* [1979] 10 ENVIR. REP. (BNA) 530. Consolidation further estimates OSM's regulations could cost the coal industry about $35 billion over the next decade, while use of good engineering practices would cost only about $12.7 billion. *See id.*

52. See note 44, *supra.*

53. *Compare* 30 C.F.R. § 715.17 (1979), *as amended by* 44 Fed. Reg. 77451 (Dec. 31, 1979) (OSM water quality regulations) *with* 40 C.F.R. Part 434 (1979), *as amended by* 44 Fed. Reg. 76791 (Dec. 28, 1979) (EPA water quality regulations). Six federal agencies and multiple branches within are involved in various aspects of surface coal mining and reclamation activities. These include:

Department of Agriculture
  Soil Conservation Service
  Forest Service
Department of Energy
Department of Interior
  Bureau of Land Management
  Bureau of Mines
  Bureau of Indian Affairs
  Bureau of Reclamation

For example, the EPA program contains variance provisions while the OSM program does not.[54] OSM sets water quality design standards in terms of absolute "worst case" events regardless of the probability of such event occurring, EPA does not.[55] Since the mine operator is subject to regulation by both agencies, he would have to follow the more stringent program, and in some cases different sets of regulatory criteria, to be in compliance with all regulations. To eliminate such inconsistencies, OSM and EPA have proposed a "memorandum of understanding" aimed at coordinating their water permitting programs.[56] While this is a start, full coordination between the two regulatory programs is in a very preliminary stage.[57]

A fourth area of concern focuses on the different approaches adopted by state and federal agencies to enforce surface mining regulations. The state regulatory approach typically has been to work with operators to correct violations and resort to penalties only when the mine operator has demonstrated an intent not to

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Fish and Wildlife Service
Geological Survey
National Park Service
Office of Surface Mining, Reclamation, and Enforcement
Department of Labor
Mining Safety and Health Administration
Army Corps of Engineers
Environmental Protection Agency

See UNITED STATES GENERAL ACCOUNTING OFFICE, REPORT BY THE COMPTROLLER GENERAL OF THE UNITED STATES: ISSUES SURROUNDING THE SURFACE MINING CONTROL AND RECLAMATION ACT 45 (1979)

54. *See* 40 C.F.R. § 434.22 (1979), *as amended by* 44 Fed. Reg. 76791 (Dec. 28, 1979) (EPA effluent limitation guidelines); *cf.* 30 C.F.R. § 715.17 (1979), *as amended by* 44 Fed. Reg. 77451 (Dec. 31, 1979) (OSM effluent limitation guidelines). *See generally In re* Surface Mining Regulation Litigation, 456 F. Supp. 1301, 1314-15 (D.D.C. 1978).

55. *See* 30 C.F.R. § 715.17 (1979), *as amended by* 44 Fed. Reg. 77451 (Dec. 31, 1979) (protection of hydrologic systems). *But see* 40 C.F.R. § 434.22 (1979), *as amended by* 44 Fed. Reg. 76791 (Dec. 28, 1979) (EPA effluent limitation guidelines). *See generally In re* Surface Mining Regulation Litigation, 456 F. Supp. 1301, 1314-15 (D.D.C. 1978). Both the OSM and EPA regulations are currently the subject of litigation. *See* Atlantic Richfield v. Department of Interior, Nos. 78-2190, 78-2191, 78-2192 (D.C. Cir., filed Jan. 30, 1979); National Coal Ass'n v. EPA, No. 79-2406 (D.D.C. 1979). In response to this latter suit, EPA retreated from the stringent OSM storm exemptions which it had adopted, and promulgated a more flexible set of exemptions. *See* 44 Fed. Reg. 76788 (Dec. 28, 1979).

56. *See* 44 Fed. Reg. 55322 (Sept. 25, 1979).

57. *See id.* at 55323. The District Court for the District of Columbia held OSM's regulations need not be the same as EPA's regulations. *See In re* Surface Mining Regulation Litigation, 456 F. Supp. 1301, 1314-15 (D.D.C. 1978). Thus, in the absence of new legislation, the two regulatory programs will be harmonized only through affirmative joint action by OSM and EPA.

comply. This approach has been successful for several reasons: (1) state and local agencies deal with fewer sources than do federal agencies, (2) state agencies are often better acquainted with local owners and operators, and thus have a better understanding of the circumstances under which they must operate, (3) state agencies have a better knowledge of the local operators' history of compliance with surface mining regulations, and (4) they have a better understanding of the impact of such regulations on the local economy and the operator.[58] Federal enforcement personnel, on the other hand, are several steps removed from the local setting, which combined with a shortage of manpower[59] has resulted in a more automatic, standardized response to compliance problems.

As a result of these concerns, suits have been instituted to enjoin enforcement of SMCRA compliance regulations. In *Virginia Surface Mining and Reclamation Association v. Andrus*,[60] the District Court for the Western District of Virginia granted a temporary restraining order preventing the Secretary of Interior from enforcing the compliance provisions of the SMCRA.[61] While this order was later vacated by the Fourth Circuit,[62] the district court entered a permanent injuction on January 3, 1980 declaring unconstitutional provisions of the Act requiring restoration of steep slopes to their "approximate original contours" and provisions granting enforcement powers to federal officials.[63]

2. *Resource Conservation and Recovery Act of 1976.* Land disposal of mine wastes is regulated by the Resource Conservation

58. Environmental groups, on the other hand, have complained that state political pressure has led to lax enforcement. [1979] 10 ENVIR. REP. (BNA) 529; *see* Report of National Coal Policy Project, *supra* note 50, at 12-13.

59. While the SMCRA requires OSM to inspect every surface mine at least twice a year, in 1979 OSM had only 181 inspectors to cover 30 coal producing states. *Government Regulations Associated with Coal Production and Use, supra* note 18 (statement of Walter N. Heine); *cf.* PRESIDENTS COMM'N ON COAL, COAL: A DATA BOOK 118-19 (1979) (number of U.S. coal mines by size).

60. No. 78-0224-B (W.D. Va. filed Oct. 23, 1978).

61. *Id.* No. 78-0224-B (W.D. Va. Feb. 14, 1979) (order granting temporary restraining order).

62. Virginia Surface Mining & Reclamation Ass'n v. Andrus, 13 E.R.C. 1554, 1556 (4th Cir. Aug. 10, 1979). The court of appeals found the district court had applied the wrong standard for injunctive relief. *Id.* at 1556. The statutory criteria mandated by SMCRA for temporarily enjoining any order issued by the Secretary of Interior constitute the proper standard. *Id.* at 1556; see [1979] 10 ENVIR. REP. (BNA) 1015.

63. Virginia Surface Mining & Reclamation Ass'n v. Andrus, No. 78-0224-B (W.D. Va. Jan. 3, 1980) (order granting permanent injunction).

and Recovery Act of 1976 (RCRA).[64] RCRA provides for development of standards for design, construction, and maintenance of disposal sites within the permit area,[65] as well as providing standards for the generation, treatment, transportation, and disposal of hazardous wastes to prevent leaching of substances into ground and surface waters.[66] Hazardous wastes are subject to exacting federal regulation until such time as a state adopts an EPA approved regulatory plan. Although nonhazardous wastes are subject solely to state control,[67] RCRA provides for federal assistance to encourage states to create programs for handling of nonhazardous wastes in an environmentally acceptable manner.[68] Rulemaking establishing criteria for defining, handling, storage, and disposal of hazardous wastes is ongoing within EPA,[69] albeit behind schedule.[70]

Agency proposals would require all generators of waste to apply specified laboratory tests to determine whether waste materials are hazardous. At present some substances, including useful byproducts of coal production, have been listed as hazardous by EPA under section 311 of the Clean Water Act.[71] In addition, since solid wastes are defined to include liquid and gaseous materials, the Act creates the possibility of overlap with other environmental regulatory programs.[72] Rulemaking that took place in 1979 concerning whether solid waste discharges must be regulated under RCRA as well as under the Clean Water Act permitting process addressed this problem, properly limiting regulation of such discharges to the Clean Water Act program.[73]

3. The Clean Water Act. The impact of coal mining on water resources is regulated primarily by the Clean Water Act.[74] The objective of the Act is to achieve water quality adequate for protection and propogation of fish and wildlife and for maintenance of recreational uses by 1983.[75] More stringent limitations designed to

64. 42 U.S.C. §§ 6901-6987 (1976).
65. *Id.* § 6924.
66. *Id.* §§ 6903(5), 6924, 6943; *see* 43 Fed. Reg. 58946-51 (Dec. 18, 1978).
67. *See* 42 U.S.C. § 6943 (1976).
68. *Id.* §§ 6947, 6948.
69. *See* 43 Fed. Reg. 58946 (Dec. 18, 1978).
70. *See* [1979] 10 ENVIR. REP. (BNA) 1673).
71. 44 Fed. Reg. 10266 (Feb. 16, 1979); 43 Fed. Reg. 27533 (June 26, 1978); 43 Fed. Reg. 10479 (Mar. 13, 1978).
72. 42 U.S.C. § 6903(27) (1976).
73. 44 Fed. Reg. 32854 (June 7, 1979).
74. 33 U.S.C. §§ 1251-1376 (1976 & Supp I 1977).
75. *See id.* § 1251(a)(2) (Supp I 1977).

eliminate additional pollutant discharges are planned for the late 1980's.[76] The Clean Water Act (CWA) sets effluent limitations for chemical and physical discharges from coal mines and coal preparation facilities[77] that are enforced through a federal-state permitting system.[78] Regulated substances include iron, manganese, total suspended solids for both acidic and alkaline mine drainage, plus pH standards for all discharges.[79] Among the significant rulemaking activities by EPA pursuant to the CWA are the following: (1) proposals to modify factors the agency will consider in classification of substances deemed toxic under section 307 of the CWA,[80] (2) efforts to develop point source discharge limitations for "priority" pollutants, (3) implementation of rules governing discharge of hazardous pollutants,[81] (4) development of water quality criteria for toxic pollutants which would establish a presumptive zero-exposure requirement for a variety of substances,[82] and (5) implementation of rules reforming and reorganizing the water discharge permitting system.[83]

As explained by the foregoing discussion, substantial overlap exists between SMCRA, RCRA, and the CWA. This is partly a result of conflicting statutory mandates. One of the objectives of the SMCRA is to coordinate regulation of mining activity, yet the Act specifically provides that it should not be construed to supersede other applicable environmental laws.[84] Pursuant to this mandate, OSM has promulgated regulations that in some instances cover areas of concern also addressed by EPA under RCRA, the Army Corps of Engineers under the CWA, and the Mine Safety and Health Administration under the Coal Mine Health and Safety Act (CMHSA). As a result, litigation has arisen over problems caused by overlapping regulatory jurisdiction.[85]

Additionally, the issue of water consumption is a significant

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76. *See id.* § 1251(a)(1).

77. *Id.* §§ 1311, 1314(b) (1976 & Supp. I 1977).

78. *Id.* § 1314(h) (Supp. I 1977).

79. 40 C.F.R. §§ 434.32, 434.42 (1979), *as amended by* 44 Fed. Reg. 76791 (Dec. 28, 1979).

80. *See* 44 Fed. Reg. 18279 (Mar. 27, 1979).

81. *See* 44 Fed. Reg. 50776 (Aug. 29, 1979) (to be codified at 40 C.F.R. Part 117).

82. *See* 44 Fed. Reg. 56628 (Oct. 1, 1979); 44 Fed. Reg. 43660 (July 25, 1979); 44 Fed. Reg. 15926 (Mar. 15, 1979).

83. *See* 44 Fed. Reg. 32854 (June 7, 1979).

84. 30 U.S.C. § 1292 (Supp. I 1977).

85. *See In re* surface Mining Regulation Litigation, 456 F. Supp. 1301, 1314-15 (D.D.C. 1978); *In re* Surface Mining Regulation Litigation, 452 F. Supp. 327, 335 (D.D.C. 1978).

secondary impact of coal production in arid and semi-arid regions of the United States, where the energy industry must compete with irrigated agriculture for limited water resources.[86] While there are no specific federal regulations concerning consumption of water, SMCRA requires that water resource management be considered in state water quality planning.[87] In addition, this factor is typically considered in development of other regulatory programs having an impact on water consumption.

4. The Clean Air Act. The Clean Air Act[88] contains a broad array of provisions limiting emissions of substances into the air. Air quality regulations, however, place far greater constraints on combustion of coal than on coal production.[89] Emissions of air pollutants from the mining process primarily involve fugitive dust from surface and underground mines, releases from uncontrolled fires at mines or within mine refuse piles, and particulate emissions from coal cleaning facilities.[90] Control of fugitive dust involves covering transportation vehicles and wetting exposed dust accumulations. The more significant effect of clean air regulations on coal production has been to reduce the demand for coal by rendering it less cost competitive with other fuels. This results from the enormous expense of complying with the requirements for control technology to limit emissions from the combustion process.[91]

B. Federal Coal Leasing

The original federal coal leasing policy contained in the Mineral Leasing Act of 1920[92] came under heavy attack in the early 1970's as encouraging abusive land use practices.[93] These abuses included lack of coordinated review of applications often resulting in irrational leasing patterns, lack of regard for energy and environmental

86. *See generally* Student Symposium, *The Impact of Limited Water Availability on National Coal Policy*, 11 ST. MARY'S L.J. 704 (1980).

87. *See* 30 U.S.C. § 1307 (Supp. I 1977) (mine operator must replace water supply contaminated, diminished, or interrupted by mining).

88. 42 U.S.C. §§ 7401-7642 (Supp. I. 1977).

89. *See* Truitt & Abeles, *Coal-Fired Electric Generating Facilities: Impediments Under Federal Environmental Legislation*, 11 ST. MARY'S L.J. 609, 617 (1980).

90. OFFICE OF TECHNOLOGY ASSESSMENT, UNITED STATES CONGRESS, THE DIRECT USE OF COAL 186-87 (1979).

91. *See* Truitt & Abeles, *Coal-Fired Electric Generating Facilities: Impediments Under Federal Environmental Legislation*, 11 ST. MARY'S L.J. 609, 626 (1980).

92. 30 U.S.C. §§ 181-287 (1976).

93. *See generally* MacDonald, *Federal Energy Resource Leasing Policy*, 18 NAT. RESOURCES J. 747 (1978).

factors, and lack of procedures to preclude speculative investments.[94] In response to these difficulties, the Department of Interior placed a freeze on all long-term leases in 1973 and also issued new criteria for short-term leases.[95] At present, short-term leasing is permitted only when necessary to maintain levels of production at an existing mine or to meet existing contracts and then, only when the lease is not longer than three years.[96]

The Department of Interior proposed regulations dealing with the federal land planning process in March 1979[97] and has scheduled the resumption of long-term competitive coal leasing for January 1981.[98] Environmentalists have been critical of these regulations, claiming the planning criteria will be subverted by the DOE-DOI objective of leasing lands containing 1.5 billion tons of coal between 1981 and 1982.[99] The mining industry has indicated it may challenge these regulations as containing provisions on land use not authorized by Congress.[100] The Federal Coal Leasing Amendments Act, passed by Congress in 1975,[101] encourages sound land use and environmental planning and removes certain speculative advantages of holding federal leases, such as those arising from royalty payments not reflective of market conditions.[102] Although the Department of Interior promulgated regulations implementing this legislation in 1977,[103] their impact has yet to be realized.

Federal leasing policy will have a substantial effect on the production of western coal since the federal government owns 65 percent of the coal lands in the West and indirectly controls another 20 percent.[104] In recent years, western coal production has grown at an annual rate of over 13 percent, constituting 29 percent of total

94. *See generally* BUREAU OF LAND MANAGEMENT, UNITED STATES DEP'T OF INTERIOR, HOLDINGS AND DEVELOPMENT OF FEDERAL COAL LEASES (1970).

95. 38 Fed. Reg. 4862 (Feb. 17, 1973).

96. OFFICE OF TECHNOLOGY ASSESSMENT, UNITED STATES CONGRESS, THE DIRECT USE OF COAL 341 (1979) Short-term leasing has produced little coal; only 12 leases covering 30,459 acres have been issued since 1973. *Id.* at 341.

97. 44 Fed. Reg. 16809 (Mar. 19, 1979).

98. *See* [1979] 10 ENVIR. REP. 532 (1979).

99. *See id.* at 532.

100. *See id.* at 532.

101. Pub. L. No. 94-377, 90 Stat. 1983 (codified in scattered sections of 30 U.S.C.).

102. 30 U.S.C. §§ 201; 208-1 (1976).

103. 42 Fed. Reg. 4451 (Jan. 25, 1977).

104. OFFICE OF TECHNOLOGY ASSESSMENT, UNITED STATES CONGRESS, THE DIRECT USE OF COAL 399 (1979).

United States' coal production in 1979.[105] While the amount of coal presently under lease is sufficient to satisfy demand for the near term, federal coal leasing policy will become an increasingly significant tool for controlling the production of western coal.[106] The significance of federal coal leasing policy could be increased by environmental regulation encouraging the use of low-sulfur western coal which is cleaner burning than high-sulfur eastern coal.[107]

C. *Summary of Production Constraints*

Production of coal is subject to extensive regulation commencing months before mine construction begins and lasting long after the last mineable coal is brought out of the ground. Leases must be negotiated and permits acquired to begin mine construction, mine, discharge effluents, generate, store, and dispose of wastes, and to emit pollutants into the atmosphere. The key issues requiring resolution from the standpoint of regulatory reform involve determination of the appropriate roles of federal and state agencies, harmonization of overlapping regulatory programs, the amount of information required to be submitted before an agency should act, the promptness by which an agency should be required to act, and the allocation of costs of regulation between the mining industry and society.

III. Production Constraints Versus Demand Constraints

The consequences of the system of constraints on coal production described thus far are significant limitations on the competitiveness of coal as an alternative energy source. The cost of complying with the various regulatory programs governing coal production has led to declining productivity in the industry and higher prices for

105. *See* The Energy Daily 4 (Dec. 18, 1979); The Washington Post, Sept. 17, 1979, at § A1, col. 1.

106. *See* Office of Technology Assessment, United States Congress, The Direct Use of Coal 339 (1979). Sixteen billion tons of coal are presently under lease, and another nine billion are subject to existing applications for preference right leases. *See id.* at 340. In addition, there are an estimated 93.4 billion tons of recoverable coal reserves on private lands in the West. *See id.* at 340.

107. *See* Truitt & Abeles, *Coal-Fired Electric Generating Facilities: Impediments Under Federal Environmental Legislation*, 11 St. Mary's L.J. 609, 611 (1980); Utility Air Regulatory Group, Petition for Reconsideration of the Revised New Source Performance Standards 7-8 (Aug. 10, 1979) (EPA Docket No. OAQPS-78-1).

coal.[108] As production costs have risen, there has been a trend towards economic concentration in the coal industry as a result of the costs of government regulation.[109]

If the Administration's short-term goal of doubling coal production by 1985 is to be met, however, facilitating production of coal must at least for the present take a secondary role to development of greater demand for coal. As a senior analyst at Dean Witter Reynolds put it:

> On the whole supply and demand thing, there's so much goddamn coal around it's scary. It looks like we're going to come up with surpluses of over 40 million tons in both the East and West next year. Now it's not going to be that, because obviously you're not going to produce 80 million tons more than you need—something's going to happen to somebody.[110]

The recent decline in coal prices and closing of many small and intermediate mines in eastern fields attest to this excess of supply over demand. One industry estimate indicates the coal industry has the capacity to produce an additional 100 million tons per year —the equivalent of one million barrels of oil per day or 11 percent of our current oil imports.[111]

Coal utilization will not increase to meet the Administration's energy goal unless action is taken to increase demand for coal. The coal industry recognizes that fact, and has called for conversion of more utilities to coal, rationalization of environmental restrictions on coal combustion, and development of a commercial synfuels

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108. According to a recent estimate, worker productivity declined by 43 percent in underground mines and by 22 percent in surface mines between 1967 and 1977. *See* OFFICE OF TECHNOLOGY ASSESSMENT, UNITED STATES CONGRESS, THE DIRECT USE OF COAL 280 (1979). The safety record over the same period is mixed; fatalities have decreased while total injuries have increased. *See id* at 275; PRESIDENT'S COMM'N ON COAL, COAL: A DATA BOOK 136-43 (1979). Costs related to the health provisions of the CMHSA have been substantial; close to six million dollars was paid in black lung compensation alone from 1970-1977. *See* OFFICE OF TECHNOLOGY ASSESSMENT, UNITED STATES CONGRESS, THE DIRECT USE OF COAL 260 (1979). The safety costs associated with preventing a coal mine fatality average $125,000 annually and $4,000 annually to prevent a disabling injury. *See id.* at 275. Since 1970 rising labor costs and more stringent reclamation requirements have been responsible for increased coal prices. *See* PRESIDENT'S COMM'N ON COAL, COAL: A DATA BOOK 104-05, 108-09 (1979).

109. *See* THE ENERGY DAILY 168-169:8 (Sept. 4, 1979). *See generally* PRESIDENT'S COMM'N ON COAL, COAL; A DATA BOOK 119-123 (1979).

110. THE ENERGY DAILY 168-69 (Sept. 4, 1979).

111. The Washington Post, at § A2, col. 1 (May 23, 1979). The American Mining Congress indicates coal mines in the United States have the workers and equipment to produce at least 15 percent more coal per year, but the industry cannot find buyers. [1979] 10 ENVIR. REP. (BNA) 166.

program.[112] The Administration's recent proposals to increase coal utilization are an attempt at a dramatic solution to the demand bottleneck. If coal utilization is not to be restrained by limited demand, regulatory reform is essential in two areas: (1) domestic coal use and (2) the coal export market.

A. Domestic Coal Use

Reform efforts to increase coal utilization must focus on regulation of two industrial categories: electric utilities and coal benefaction facilities.[113] The Administration's goal of increasing coal use by electric utilities will be accomplished in part through the mandatory conversion program of the Powerplant and Industrial Fuel Use Act of 1978 (FUA).[114] FUA enables the Secretary of Energy to prohibit the use of oil or natural gas in new electric utility generation facilities, to require existing coal capable facilities to burn coal, and to require non-coal capable units to use coal-oil mixtures.[115] Recognizing coal conversion is inhibited by economic as well as environmental constraints, Congress included a series of exemptions designed to limit mandatory conversions to truly economic conversions and to allow construction of oil-fired plants where new coal-fired capacity is prohibited by environmental or site availability restrictions.[116]

Any modifications to the mandatory conversion program encouraging additional conversions must focus on either (1) allocation of additional resources to the mandatory program, or (2) removal of

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112. *See* Letter from Carl E. Bagge, President, National Coal Ass'n, to Stuart Eizenstat, Assistant to the President (Sept 12, 1979).

113. Utilities account for more than 75 percent of domestic coal production. *See* PRESIDENT'S COMM'N ON COAL, COAL: A DATA BOOK 29 (1979). The administration's synthetic fuels program will result in substantial additional consumption of coal by the end of the decade. *See* 3 ENERGY INFORMATION ADMINISTRATION, UNITED STATES DEP'T OF ENERGY, ANNUAL REPORT TO CONGRESS: FORECASTS 234-35 (1978). The Department of Energy has estimated that during the remainder of the century, close to 90 percent of the coal consumed in the United States will be burned directly. *Government Regulations Associated with Increased Coal Production and Use, supra* note 18 (statement of Alvin L. Alm, Ass't Sec'y for Policy and Evaluation).

114. Pub. L. No. 95-620, 92 Stat. 3289 (codified at 42 U.S.C.A. §§ 8301-8483 (West Supp. 1978)) (Fuel Use Act); *see* Toll & Cottingham, *Powerplant and Industrial Fuel Use Act of 1978 and Possible Amendments Thereto*, 11 ST. MARY'S L.J. 653, 653 (1980).

115. Fuel Use Act, §§ 201, 301, 42 U.S.C.A. §§ 8311, 8341 (West Supp. 1978); *see* SENATE COMM. ON ENERGY AND NATURAL RESOURCES, POWERPLANT AND INDUSTRIAL FUEL USE ACT OF 1978, S. REP. No. 95-988, 95th Cong., 2d Sess. 242-57 (1978) (discussing Titles II & III of the Act).

116. *See* SENATE COMM. ON ENERGY AND NATURAL RESOURCES, POWERPLANT AND INDUSTRIAL FUEL USE ACT OF 1978, S. REP. No. 95-988, 95th Cong., 2d Sess. 242-57 (1978).

other barriers inhibiting coal conversion.[117] Due to the significant costs of coal conversion it is often more economical to continue operating older, less efficient oil and gas-fired plants, which are usually subject to less stringent environmental standards than new plants. The preferable option would be to encourage voluntary coal utilization wherever economically or otherwise feasible. Serious consideration, accordingly, should be given to regulatory reform aimed at reducing new coal plant leadtimes, and to grandfathering voluntary as well as mandatory conversions from more stringent environmental regulations.[118]

Many of the same impediments to utility coal conversion affect coal benefaction facilities. About 50 percent of all coal used by industrial boilers requires some cleaning to remove impurities before it can be combusted,[119] and recent regulatory action by EPA will very likely require physical or chemical cleaning of *all* eastern

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117. The lengthy permitting process in the air, water, and solid waste areas has led to substantial uncertainty in the construction of new capacity. *See* NUS Corp., Impact of Implementation of New Regulations on Power Station Construction Schedules and Costs 4-1 (Jan. 1978) (prepared for Edison Elec. Inst., Utility Air Regulatory Group). The permitting process involves detailed data gathering and analysis of all potential environmental impacts under a variety of alternative scenarios. *See* 42 U.S.C. §§ 7470-7479 (Supp. I 1977) (prevention of significant deterioration of air quality); 44 Fed. 35158-73 (June 18, 1979) (NEPA permitting regulations). Standards have been set so low that using existing techniques is impossible. *See* Natural Resources Defense Council, Inc. v. Train, 411 F. Supp. 864, 870 (S.D. N.Y. 1976). Certain rules require compliance with standards determined using monitoring systems whose accuracy and reliability are not proven. *See generally* 44 Fed. Reg. 46482 (Aug. 8, 1979). The substantial civil and criminal penalties provided for by recent environmental legislation underlies the importance of identifying the capabilities of measurement systems. *See* 42 U.S.C. § 7413(b), (c) (Supp. I 1977). Depending on the number of wastes categorized as hazardous under RCRA, additional expenditures for waste disposal could be significant. *See* Comments of the Utility Air Regulatory Group in Rulemaking to Revise New Source Performance Standards, Appendix D, Table 11A (Jan. 12, 1979) (EPA Docket No. OAQPS-78-1).

118. Regulations promulgated under the Clean Air Act exempt mandatory conversions from stringent new source review standards. *See* 40 C.F.R. § 60.14(e)(4) (1979). Voluntary conversions of plants not having the prior capability to burn coal, however, would be subject to new source review standards. *See id.* § 60.14(a). Under the Clean Air Act new sources must install best adequately demonstrated control technology. 42 U.S.C. § 7411(a)(1)(C) (Supp. I 1977). Technology-based new source standards are reviewed every four years to incorporate recent improvements in technology. *See id.* § 7411(b)(1)(B). In addition, new sources in clean air areas are subject to review to determine whether more advanced technology is applicable in that particular situation. *See id.* § 7411(g)(4). In non-attainment areas, a new source must meet the lowest emission rate achieved anywhere in the country. *See id.* § 7503.

119. *See* OFFICE OF TECHNOLOGY ASSESSMENT, UNITED STATES CONGRESS, THE DIRECT USE OF COAL 73-74 (1979).

coal.[120] Since coal cleaning facilities in the East are typically located near mines in rugged terrain, they will have additional difficulties complying with clean air requirements.[121]

The Administration's plan for increased coal liquefaction and gasification may also be seriously constrained by environmental legislation.[122] One of the major complaints over synthetic fuel production is that it will drastically increase the carbon dioxide content of the atmosphere.[123] Additionally, many of these plants, like coal cleaning facilities, will be located in rural, clean air areas, thus raising problems of compliance with air quality regulations.[124] A further problem concerns the large quantity of wastes generated by synfuel processes.[125] If these wastes are classified as "hazardous" under RCRA, insurmountable storage and disposal problems may arise. To avoid costly and time-consuming modification of facilities, an integrated energy/environmental policy analysis of the problems of commercial synfuel production is essential. EPA has stated its intent to develop specific regulations for synthetic fuel processes, prior to commercialization, in the areas of hazardous waste, toxic substances, air pollutants, and groundwater protection in an attempt to avoid the need for regulations requiring costly retrofit.[126]

B. The Coal Export Market

The United States has traditionally been the world's largest coal-exporting nation. In the past the United States furnished approximately 30 percent of the world market for coal.[127] This share

120. *See* 44 Fed. Reg. 33582, 33596 (June 11, 1979).

121. *See* OFFICE OF TECHNOLOGY ASSESSMENT, UNITED STATES CONGRESS, THE DIRECT USE OF COAL 76-77 (1979). Prevention of significant deterioration requirements will often restrict the location and size of the plants in rough terrain. *See* 42 U.S.C. § 7475(a) (Supp. I 1977). In addition, the trend towards siting electric utility plants close to coal sources will lead to increasing competition for clean air "increments" in such areas of the country. The negative impact on growth could be significant. Since population exposure will be minimal because of the rural location of these plants, the substantial expenditures associated with stringent air quality control may not be justified.

122. *See* EPA COST REPORT, *supra* note 20, at 38. EPA has estimated that compliance with environmental regulation will cost coal gasification plants alone at least $412 million over the next decade. *See id.*

123. *See* [1979] 10 ENVIR. REP. (BNA) 645.

124. *See* UNITED STATES DEP'T OF ENERGY, ENVIRONMENTAL ANALYSIS OF LIQUID SYNTHETIC FUELS 69 (1979).

125. *See* [1979] 10 ENVIR. REP. (BNA) 646 (200 tons of waste per ton of feed coal).

126. *See* [1979] 10 ENVIR. REP. (BNA) 1451.

127. *Government Regulations Associated with Increased Coal Production and Use,*

slipped to 25 percent in 1977 and to about 20 percent in 1978.[128] In 1975, for the first time, the United States lost its place as the world's largest coal exporter to Japan. Coal exports have typically been high quality metallurgical grade coal, and thus have risen and fallen with the world steel production. While some steam coal is exported to Canada, the United States has not participated in the growing world market for this type of coal.[129]

The National Coal Association (NCA) estimates only a modest increase in coal exports over the next four years—from 54 to 59 million tons.[130] Failure of the United States to maintain a significant share of the world market, as demand for coal increases, is related to cost and productivity factors. The Coal Exporters Association reports there is currently an excess of supply for all grades of coal in the world market, thus prices are highly competitive.[131] Increasing capital costs, labor disputes, and rail transportation rates have made American coal less competitive in the world market as well as the domestic market. Productivity at underground mines dropped from 15.61 tons per man-day in 1969 to 8.5 tons per man-day in 1977—a decline of 47.1 percent.[132] The costs imposed on coal mining by government regulations implementing the Clean Air Act, Clean Water Act, the Surface Mining Control and Reclamation Act, the Resource Conservation and Recovery Act, the abandoned mine reclamation fund tax, the black lung disability trust fund tax, and other costs of complying with the Federal Mine Safety and Health Act have contributed significantly to the rising costs and declining productivity in the American coal industry.[133]

IV. RECOMMENDATIONS

Significant reforms in the regulatory process are needed to balance economic and environmental concerns, yet not detract from

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supra note 18 (statement of William W. Mason, President, Coal Exporters Ass'n).

128. *Government Regulations Associated With Increased Coal Production and Use, supra* note 18 (statement of William W. Mason, President, Coal Exporters Ass'n).

129. *See* The Washington Post, May 19, 1979, at § A8, col. 1.

130. *See* THE ENERGY DAILY 4 (Oct. 3, 1979). *See also* PRESIDENT'S COMM'N ON COAL, COAL: A DATA BOOK 61 (1979) (projected coal exports 1985, 1990).

131. *Government Regulations Associated With Increased Coal Production and Use, supra* note 18 (statement of William W. Mason, President, Coal Exporters Ass'n).

132. *See* OFFICE OF TECHNOLOGY ASSESSMENT, UNITED STATES CONGRESS, THE DIRECT USE OF COAL 280 (1979).

133. *Government Regulations Associated With Increased Coal Production and Use, supra* note 18 (statement of William W. Mason, President, Coal Exporters Ass'n).

the health and welfare objectives of environmental protection. Energy and environmental policies must not continue to be formulated independently of each other.[134] While major regulatory action requires consideration of energy and economic policies in formulating standards,[135] such factors too often are treated in a perfunctory manner. For example, the National Commission on Air Quality (NCAQ), appointed in 1977 to study the 1977 CAA and recommend appropriate modifications to Congress,[136] focused on ways to facilitate a balance between energy and the environment; yet its study plan contains no specific means of addressing the impact of environmental legislation on energy policy.[137]

The Administration should continue its efforts to establish an Energy Mobilization Board (EMB) as a means of facilitating consideration of priority energy projects.[138] Three congressional committees are considering legislation to authorize such a board.[139] Each bill would allow the proposed board to review the procedural provisions of existing energy and environmental laws and recommend waiver of those provisions when necessary to facilitate energy projects.[140] The Interior Committee bill, in addition, would have included provisions allowing the board to recommend to the President waivers of substantive provisions of existing laws, on the grounds that limited waiver of substantive law is essential to make the "fast track" proposal effective.[141] If the proposed board is to be

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134. *See* [1979] 10 ENVIR. REP. (BNA) 279 (statement of James Schlesinger on coal use and environmental constraints); *id.* at 518 (Barbara Blum, Deputy Administrator, EPA, on clean air legislation and coal use); *id.* at 664 (Sen. Gary Hart, Colo., on conflict between energy needs and clean air). *See generally* 125 CONG. REC. S7681 (daily ed. June 14, 1979) (James Schlesinger on increased coal use and environmental policy).

135. *See generally* 42 U.S.C. § 7411(b) (Supp. I 1977).

136. *Id.* § 7623.

137. *See* NATIONAL COMM'N ON AIR QUALITY, DRAFT PLAN OF STUDY (1979), *printed in* 44 Fed. Reg. 27271 (May 9, 1979).

138. *See generally* 37 CONG. Q. WEEK. REP. 39:2134 (Sept. 29, 1979).

139. *See* H.R. 4862, 96th Cong., 1st Sess. (1979) (House Comm. on Interstate and Foreign Commerce bill); H.R. 4985, 96th Cong., 1st Sess. (1979) (House Comm. on Interior and Insular Affairs bill); S. 1308, 96th Cong., 1st Sess. (1979) (Senate Comm. on Energy and Natural Resources bill).

140. *See* [1979] 10 ENVIR. REP. (BNA) 1239, 1447.

141. *See* H.R. 4985 96th Cong., 1st Sess. § 36, 125 CONG. REC. H10097 (daily ed. Nov. 1, 1979). The Senate bill would allow waiver of substantive requirements enacted after commencement of construction of the facility. *See* S. 1308, 96th Cong., 1st Sess. § 226 (1979). The bill was approved by the Senate on October 4, 1979 with a compromise provision allowing EPA and DOI to override EMB decisions in certain situations. *See* 125 CONG. REC. S14054 (daily ed. Oct. 4, 1979). The House Interior Committee proposed a revised bill in November 1979 reflecting several amendments introduced by Senator Ribicoff to the Senate

effective, the authority of the board to waive certain substantive provisions should be preserved. Potential abuses can be avoided by limiting the board's discretion to truly critical projects and by allowing waiver of only secondary substantive provisions. In addition, rather than limiting the role of the EMB to a case-by-case consideration of energy projects, the experience of the board could be useful in formulating general reforms to current regulatory programs restricting energy development.

The environmental permitting process is burdened with multitudinous and overlapping requirements resulting in delays in receiving individual permits.[142] For example, while EPA has contended the prevention of significant deterioration (PSD) permitting process under the Clean Air Act takes on the average less than six months,[143] experience of utility companies has been that such permitting can take much longer.[144] The benefits of such delay are questionable when compared with the significant costs of extended delay. EPA's recently proposed consolidated permitting procedures by which the separate permitting processes under the CAA, National Pollutant Discharge Elimination System (NPDES), RCRA, and the Safe Drinking Water Act would be combined, represents an attempt to deal with overlapping regulation, yet is not free from problems.[145] Since consideration of all applications is consolidated in a single forum, it is possible all permits would be delayed if any single application was not in order.

Congress should reexamine the statutory deadlines set in environmental legislation in light of the inability of agencies to meet such deadlines.[146] While the need for deadlines is necessary to force

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bill but rejected by the Senate. *See* [1979] 10 ENVIR. REP. (BNA) 1276 (Ribicoff amendments), 1447 (revised interior bill). The revised Interior Committee bill would allow waiver of substantive laws only on approval of both houses of Congress. THE ENERGY DAILY 1-2 (Nov. 2, 1979). The House-Senate conferees could not agree on a compromise substantive waiver provision during December 1979, and the "fast track" energy projects bill, therefore, will have to wait for resolution until Congress reconvenes in 1980.

142. *See* 44 Fed. Reg. 34244 (June 14, 1979) (proposed consolidated permit regulations); Edison Elec. Inst., Utility Water Act Group, Utility Air Regulatory Group, National Rural Electric Cooperative Ass'n, Comments on Proposed Consolidated Permit and NPDES Application Regulations 4-17 (Sept. 12, 1979).

143. *See* United States Environmental Protection Agency, Press Release OPA 101/9 (Apr. 1979).

144. *See* NUS Corp. Impact of Implementation of New Regulations on Power Station Construction Schedules and Costs 4-6 to -8 (Jan. 1978) (prepared for Edison Elec. Inst., Utility Air Regulatory Group).

145. *See* 44 Fed. Reg. 34244 (June 14, 1979).

146. *See In re* Permanent Surface Mining Regulation Litigation, 13 E.R.C. 1586, 1589-90 (D.D.C. Aug. 21, 1979). The United States District Court for the District of Columbia has

the regulatory agencies to act, it must be recognized that such deadlines are not absolute, but mere approximations which must be reviewed periodically.

Explicit provisions for expanding the energy-environment balancing process, including the need for cost-benefit analysis and identification of "least burdensome alternatives" should be incorporated in all energy and environmental decisions.[147] Although Congress began this process with the Clean Air Act Amendments of 1977, consideration of costs has resulted in less than thorough evaluation of the cost-effectiveness or cost-benefit implications of clean air regulation.[148]

Close coordination between federal agencies is an essential element of regulatory reform. The need for cooperation among federal agencies was forcefully pointed out by the agencies' responses to President Carter's April 1979 energy message in which the President asked EPA, DOE, and DOI to prepare a report on the implications of increased coal utilization. Unable to reach any agreement, the three agencies produced separate reports, each advocating their respective "agency position."[149] Nonetheless, certain agencies have begun to implement procedures to coordinate regulatory efforts. The Office of Surface Mining of the Interior Department and the Environmental Protection Agency, for example, recently issued a "memorandum of understanding" in an attempt to integrate the point source permitting program under Title V of the Surface Mining Control and Reclamation Act and the Clean Water Act.[150]

For some federal agencies, harmonization of regulations may be slow, if not impossible, due to basically inconsistent mandates, or the desire to protect particular areas of regulatory authority. For example, while the Fuel Use Act directs that a copy of any rule issued by DOE be given to EPA for review and comment,[151] to date

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taken an interesting approach to interpretation of statutory deadlines, calling them "directory" guides for the "conduct of orderly procedures" and not "absolute timetables that carry a penalty for noncompliance." *See id.* at 1590.

147. *See* Regulatory Flexibility and Administrative Reform Act of 1979, S. 2147, 96th Cong., 1st Sess. §§ 622, 623, 125 CONG. REC. S19042-43 (daily ed. Dec. 19, 1979) (Senate Comm. on Judiciary and Senate Comm. on Governmental Affairs).

148. *See* EXECUTIVE OFFICE OF THE PRESIDENT, ENERGY POLICY AND PLANNING, THE NATIONAL ENERGY PLAN xix (1977).

149. *See* [1979] 10 ENVIR. REP. (BNA) 279.

150. See 44 Fed. Reg. 55323 (Sept. 25, 1979).

151. *See* Fuel Use Act § 701(f), 42 U.S.C.A. § 8411(f) (West Supp. 1978).

interaction between the Department and the Agency has been marked by delay, friction, and disagreement.[152] While certain interagency activity is ongoing to coordinate overlapping regulatory programs, impetus for large-scale interagency coordination in many cases must come from outside the agencies. The General Accounting Office should be charged with periodic review of regulatory overlap and responsibility for making specific legislative or administrative proposals to eliminate unnecessary duplication.

Lack of understanding at the federal level of local concerns is also a continuing source of controversy. Several steps have been taken to alleviate this problem; for instance, the SMCRA and the CAA mandate the federal government and the states to consult one another concerning air quality and mining regulation. With respect to mining coal on federal lands, cooperative agreements have been reached between federal authorities and state governments.[153] In addition, the President's Regulatory Council in August 1979 called on the governors of 21 coal-producing states to assist the Council in its efforts to identify and eliminate overlapping and inconsistent state and federal regulation of the coal industry.[154] Implementation of substantive provisions in regulatory legislation allowing for greater state and local flexibility in developing regulatory programs to conform to local concerns is desirable. A proposed amendment to the SMCRA, pending in the Senate, would provide that state regulatory programs need only comply with the Act itself and not the federal regulatory plan.[155] While some federal direction is necessary in many cases to encourage state regulation, the need for local flexibility in achieving national goals should be considered when establishing regulatory programs.

Finally, the federal government must reexamine its policies affecting the competitiveness of United States' coal in the world market. The level of United States coal exports will not increase substantially until American coal can be offered at price levels competitive with foreign coal products. If the United States is to

152. J. Quarles, *Federal Regulation of New Industrial Plants* 42 (1979) *in* [1979] 10 ENVIR. REP. (BNA) Monograph No. 28, at 42 (interaction between FEA and EPA under ESECA).

153. *See* 44 Fed. Reg. 33640-62 (June 11, 1979) (federal-state cooperative agreement concerning regulation of coal mining on federal lands in Montana, Utah, and Wyoming). *See generally* Endall, *Some Observations on State and Federal Control of Natural Resources*, 15 HOUS. L. REV. 1201 (1978).

154. See [1979] 10 ENVIR. REP. (BNA) 1018.

155. *See* 37 CONG. Q. WEEK. REP. 37:1981 (Sept. 15, 1979).

compete with foreign coal in the world market, several domestic reforms are essential: (1) state flexibility in implementing the SMCRA and other environmental legislation to avoid retarding local economic growth, (2) federal leasing policies designed to encourage coal exports, (3) realistic assessment of the adverse impact of high coal transportation costs, and (4) harmonization of regulations between EPA and DOI.

A viable energy program requires regulatory reform as well as dramatic changes in patterns of energy use. The process is complicated by the highly emotional participation of well organized interest groups in the regulatory process—industry, environmentalist organizations and federal agencies—and by the slow pace of the legislative process. An overall approach to harmonization of this complex regulatory structure, nonetheless, is essential to the timely and economic development of alternative energy sources.