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THE FEDERAL ROLE IN ROCKY MOUNTAIN ENERGY DEVELOPMENT

JAMES L. PLUMMER*

INTRODUCTION

Of course, there is no overall federal "policy," or "strategy," or "role" in relation to Rocky Mountain energy development. There is only a collection of past actions, political rhetoric, present intentions, and endless studies on the part of dozens of federal agencies and bureaus. These actions, statements, and studies are usually reactive in character, and quite often mutually inconsistent. If the fast-fading energy crisis could not force more integration of federal policies than it did, it is probably unrealistic to expect a more integrated federal approach to emerge in a less pressured period. That degree of integration or coordination of federal actions and policies remains low when measured on an absolute scale, and is merely a reflection of the diversity of interests represented in the federal government and the federal system.

This paper describes the strategic points of energy policy interaction between the federal government and the state governments in the Rocky Mountain region. Some ideas are also offered as to how the various parties at interest may have misunderstood the thinking of the other parties.

Only coal development and synthetic¹ fuels will be treated in this paper, even though oil, gas, and uranium development will play a significant part in the region's energy development. An especially important and complex area of federal-local interaction, that of energy development on Indian lands, will not be covered at all. No summary paper can do justice to those issues. Also excluded here are considerations of energy consumption and conservation patterns, a subject which will no doubt receive greater attention as state governments in the region try to live up to their energy conservation rhetoric by implementing the goals contained in the Energy Policy and Conservation Act of 1975. The complex subject of water allocation procedures on federal lands will also not be covered.

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1. President Ford lumped oil shale together with coal synthetics in his January 1975 State of the Union Address.

FEDERAL POLICIES WHICH DIRECTLY IMPACT ROCKY MOUNTAIN COAL DEVELOPMENT

Federal Coal Leasing Program

The Bureau of Land Management (BLM) in the Department of the Interior is charged with implementing the Federal Coal Leasing Program. This program is administered under the provisions of the Mineral Leasing Act of 1920, a law whose ambiguous language has led to sloppy regulatory implementation by the BLM. A key provision of the law requires that coal leases be contingent on the "diligent production and continuous operation of a mine." However, leaseholders have been allowed to hold leases without producing coal if they pay one year of advance rent, often only \$1.00 per acre per year, to the federal government. Lease adjustments can only be made by the government after twenty years. Another much-criticized provision of the law is the "preference right leasing system." This system allows prospectors to obtain permits to explore unsurveyed land. If the prospector finds coal, he is automatically granted a lease for only a \$10 filing fee.²

In the 1960's, the BLM miscalculated and did not foresee that Western coal resources would become so economically attractive by the early 1970's. As a result, too many leases were granted on terms which were overly favorable to the lessees. The backlash from the loose regulation of the 1960's, plus environmental controversy caused the BLM to defer most coal leasing as of 1970. The BLM issued no coal leases at all between May 1971 and February 1973 when Secretary of the Interior Rogers Morton officially rejected all pending permit applications under the preference right leasing system and also stated that all new applications would be rejected until further notice. This "moratorium" is still in effect as of this writing.

In June 1973 a suit was filed by the Sierra Club and five other environmental groups which claimed that "generic" Environmental Impact Statements (EIS) were required (under the National Environmental Policy Act) from BLM for its total leasing program in the Northern Great Plains in addition to the lease-by-lease EIS's. Several court decisions in each direction delayed resolution of this issue until June 1976 when the Supreme Court ruled that this kind of generic EIS was *not* required.

Since the inadequacies of past coal leasing practices became widely recognized in the early 1970's, several concurrent efforts have been

2. For an analysis of the economic implications of these statutory and regulatory provisions, see T. Ferrar, *Legal and Economic Considerations in Federal Coal Leasing* (unpublished paper prepared for the Office of Energy R & D Policy, Nat. Sci. Foundation, Dec. 1974).

underway in both the Executive and Legislative Branches to get the Federal Coal Leasing Program out of its morass. These efforts may be on the verge of some success within the near future.

Since 1971 the BLM has been developing and gradually implementing the Energy Minerals Allocation Recommendation System (EMARS). The purpose of this program is, first, to build a comprehensive information system on the physical, environmental, and economic characteristics of all coal tracts on federal lands. Secondly, the system attempts to evaluate which tracts should be offered first for competitive leasing, using many different policy criteria, including the projected market demand for a given type of coal in a given location. Once the terms of lease bidding are determined, and a lease is made, EMARS also would monitor the "diligent production and continuous operation of the mine," as well as site reclamation and rehabilitation activities. Beginning in December 1974, the BLM has also been tightening up the definitions and procedures used in the Federal Coal Leasing Program so that as much "diligence" as is consistent with the language of the Mineral Leasing Act can be obtained.

In 1976 the Congress passed into law the Federal Coal Leasing Amendments Act over President Ford's veto. This Act contains provisions to modify the preference right leasing system, to replace the present system of lump-sum bonus bid payments with a system of deferred bonuses for at least half of the future coal leases, to make royalty payments a function of the market value of the coal, to shorten the initial waiting period for lease adjustments from 20 years to 10 years (and every 5 years thereafter), and to make the maintenance of a lease beyond 10 years strictly contingent on the continuous production of commercial quantities of coal. A controversial feature of the Act is a provision to increase the states' share of bonus and royalty payments from 37.5% to 50%, and to give the states much greater freedom in the expenditure of these funds. This change in the leasing system is important because it gives the states more front-end capital with which to develop programs to deal with facility siting regulation and impacted communities, as well as thorough monitoring and enforcement of land reclamation and rehabilitation regulations.

There are other hopeful signs within the Executive Branch. The Department of the Interior is gradually finalizing various environmental impact reports on Western resource development to which the separate bureaus of the Department will be held over the next few years. Although there is no formal linkage between publications of these reports and an end to the coal leasing moratorium, environmentalists and other interested parties see the two potential actions

as closely linked. It remains to be seen whether these reports will have sufficient credibility with the interested parties to actually permit a political decision to be made to begin new coal leasing.

Some of the heat seems to be going out of the coal leasing debates. Greater use of stack gas scrubbers rather than Western coal as the short term approach to the sulfur emissions problem (more about this below) has dampened some of the projections of huge market demands. When Secretary of the Interior Rogers Morton addressed a meeting of Rocky Mountain governors in Denver on January 24, 1975, he spoke of a goal of 250-300 million tons a year of production from Western surface mines in 1985 (a roughly fourfold increase), rather than the 500-600 tons per year figures (a roughly ninefold increase) which had been put forward in various federal reports and speeches by federal officials. These lower projections are still the basis for the planning efforts going on within the Department of the Interior. If major political miscalculations and explosions can be avoided, there is some hope that a new leasing program may begin on a much sounder basis than before. There will always be conflict over the rate of new coal leasing, just as there is over the rate of Outer Continental Shelf oil leasing. What may be achievable in the near future is some degree of routinization of resolution of other conflicts within the context of a better run leasing program. Over the long term, issues such as land rehabilitation, and socioeconomic impacts would seem to have much more substantive and political importance than the procedural details of coal leasing. As state and local governments develop new programs for dealing with these substantive problems directly, the proper design and implementation of these programs may take the spotlight away from the federal leasing program.

Reclamation and Rehabilitation of Surface-Mined Land

For purposes of this paper, the definitions of restoration, reclamation, and rehabilitation will be those used by the Environmental Studies Board of the National Academy of Sciences.³

Restoration implies that the conditions of the site at the time of disturbance will be replicated after the action.

Reclamation implies that the site is habitable to organisms that were originally present or others that approximate the original inhabitants.

Rehabilitation as used in this report implies that the land will be returned to a form and productivity in conformity with a prior land

3. National Academy of Sci., *Rehabilitation Potential of Western Coal Lands*, A Report to the Energy Policy Project of the Ford Foundation 11 (1974).

use plan, including a stable ecological state, that does not contribute substantially to environmental deterioration and is consistent with surrounding aesthetic values.

There is substantial variation among state laws as to the definition of these terms. Most of the public discussion implies a spectrum running from more stringent reclamation requirements to less stringent requirements labeled rehabilitation. Note, however, that rehabilitation can turn out to be more expensive or more aesthetically pleasing, depending on what is contained in a "prior land use plan."

To understand the public discussion over reclamation and rehabilitation, it is necessary to realize: (1) that it is not a new subject in state legislatures or Congress, having been around for more than a decade, and (2) that, despite the volume of debate on the subject, there is very little actual experience on which to base projections as to what methods would succeed in given ecological settings.

All of the Rocky Mountain states have laws dealing with reclamation or rehabilitation of coal lands. Many of these laws have been passed or strengthened within the past few years. The wide variations in these laws and their implementation reflect the interstate diversity of biological conditions, aesthetic preferences, economic activity, and political power structures. At the 1975 meeting of the Western Conference of the Council of State Governments in Anchorage, a resolution was passed which opposed the enactment of federal surface mining legislation.⁴ The resolution stated that the federal role should be restricted to regulating mining on federal lands in a manner as consistent as possible with the particular needs and conditions of each state. This resolution reflects a certain ambivalence on the part of state governments in the Rocky Mountain region. They would like to see the federal government define minimum reclamation and rehabilitation standards so that the coal industry would not be able to play one state off against another, yet they do not want federal interference with their own programs for defining and implementing standards above the minimum standard.

The Department of the Interior has always had the authority to regulate reclamation and rehabilitation of federal coal lands. In 1969, the Department of the Interior issued regulations,⁵ known as "Part 23," which established the regulations, procedures, and delegations of authority for implementing a surface mining control program. These regulations are quite detailed. It is difficult to see how Department of Interior regulation of coal mining on federal lands would be

4. As reported in COAL MARKET COMMENTARY RESEARCH SERVICE (pub. Appalachian Coals, Inc., Oct. 16, 1975).

5. 43 C.F.R. § 23.3041 (1969) v; 30 C.F.R. § 211 (1969).

much different under proposed federal legislation than it would be under existing regulations.

What, then, can be the purpose of new federal legislation in this field? There seems to be three purposes: (1) to give the Department of the Interior more authority to set minimum reclamation and rehabilitation standards for non-federal lands which might, in some instances be stricter than the standards implemented under state programs; (2) to confine the types of land eligible for coal leasing or mining to definitions which may be stricter than those contained in state laws; and (3) to make more explicit the process of federal-state interaction on the leasing, reclamation, and rehabilitation of federal coal lands. Environmentalists have supported these pieces of federal legislation because they suspect that some states might be too loose in the actual promulgation and implementation of regulations. In the early stages of these debates, some industry groups supported some kind of federal legislation because they thought it would provide some outer limits on the requirements laid upon them, and because they thought they might be able to get the legislative uncertainties resolved more quickly at the federal level. Industry opinion has now swung more and more against having any federal legislation.

Although Congress has been holding hearings on this subject for more than a decade, the major push came when President Nixon requested legislation in his 1971, 1972, and 1973 Environmental Messages to Congress. By the time that a bill passed both houses and was sent to President Ford in December, 1974, the energy crisis had made the Executive Branch much more risk averse about environmental legislation that might generate new uncertainties in energy supply. President Ford's veto message asked for twenty-seven changes in ambiguous language so as to avoid lengthy court battles. New legislation was passed, and was then vetoed on May 20, 1975. The President listed the same complaints about vague language, and added that the bill gave insufficient weight to jobs, energy independence, and the cost of electricity. His veto was sustained in the house by only two votes.

It seems likely that some form of new legislation will be enacted. The issue here is what impact it will have on the states. The most recently vetoed bill, "The Surface Mining Control Act of 1975" (H.R. 9725, 94th Congress), would require each state to submit its reclamation program to the Secretary of the Interior for approval. If the Secretary did not approve a state's program, he would then have the authority to promulgate and implement his own federal program in that state, at least until the state came up with an approvable program. Thus Section 504(g) of the bill states:

Whenever a Federal program is promulgated for a State pursuant to this Act, any statutes or regulations of such State which are in effect to regulate surface mining and reclamation operations subject to this Act shall, insofar as they interfere with the achievement of the purposes and the requirements of this Act and the Federal program, be preempted and superseded by the Federal program.

It is easy to see why men who are introduced in public as "Governor of the Great Sovereign State of _____" might bristle a bit at such legislative language. It is reasonable to question whether the alleged gains of federal over state legislation are worth the political friction which could be caused by this federal preemption clause. The issue turns mainly on one's perception of how good or bad the implementation programs of given states would be in the absence of such a clause. As a practical matter, it would take extreme circumstances for a Secretary of the Interior to consider it worth the political price to invoke the preemption clause. The experience of the Environmental Protection Agency (EPA) with a similar preemption clause dealing with State Implementation Plans for achieving federal ambient air quality standards indicates that such clauses do little substantive good, add an unpredictable element of political irritation, and mainly create enormous amounts of work for lawyers.

An important point to note about the proposed legislation is that it might not always result in more stringent reclamation or rehabilitation requirements than would the state laws by themselves. It is conceivable that the process of obtaining federal approval of a state program could serve as an impediment to a state government which wished to be more restrictive in a particular aspect of reclamation or rehabilitation.

Section 510 (b) (5) of the bill, dealing with approval or denial of mining permits, stipulates that ". . . the proposed surface coal mining operations, if located west of the one hundredth meridian west longitude, would not interrupt, or prevent farming on alluvial valley floors that are irrigated or naturally subirrigated . . ." and ". . . not adversely affect the quantity or quality of water in surface or underground water systems that supply these valley floors." Thus, the inevitable question arises, "How the hell do you precisely define an alluvial valley floor?" While the alluvial valleys have been blown out of their quantitative importance by critics of the bill, this language is a good example of the difficulties inherent in dealing with ecological complexities in statutes at either the federal or state level.

The proposed federal legislation deserves close attention because, if passed, it would probably generate more day-to-day business and potential conflicts between federal and state governments than any

of the other areas of energy policy interaction described in this paper. Since actual experience with reclamation or rehabilitation of Western coal lands is so limited, there are bound to be substantial errors committed by all parties involved. It is hard for experimentation to flourish in an atmosphere in which each party at interest has a platoon of lawyers trying to seize each data point as a precedent to bind future actions. The federal bureaucrats have better technical resources to call upon, while the state bureaucrats have much better appreciation of local ecological conditions, economic implications, and aesthetic preferences. The key question is whether the state governments are willing to invest in the technical manpower (yes, that means much higher salaries) that will be required to fully implement reclamation and rehabilitation programs. If they are willing to make such an investment, then their expertise and superior local information will leave them invulnerable to federal dominance. Under those circumstances, one could even expect state regulation to become the primary determinant of reclamation and rehabilitation procedures on federal coal lands. The proposed legislation does not necessarily convey dominance to either the federal government or the states. The actual outcome depends on investment in technical resources and sustained political interest in resolving the problem.

Finally, the weakness of regulatory approaches to any environmental problem must be recognized in relation to reclamation and rehabilitation. Environmental regulations can never mandate a final environmental outcome, but only the technical methods to be used to try to obtain a given environmental goal. Just as EPA regulations only mandate the use of a particular "best available technology" for pollutant abatement, and not the ambient air quality result, so do most reclamation and rehabilitation regulations specify that industry use particular methods. These regulations implicitly assume that application of these methods will result in a successful outcome. Since experience with reclamation and rehabilitation technologies is so limited, it is likely that there will be reclamation failures.⁶ If industry applies a regulation-mandated method and it fails (e.g. due to long-term climatic change), has industry fulfilled its obligations? If a local farmer or community is damaged by such a failure, from whom would they seek damages in a civil suit? Suppose a federal agency forces a state agency to impose Method A when the state agency would rather use Method B, and then Method A fails. Who is liable? The more uncertainty there is about the success of a given

6. See Nehring, *Coal Development and Government Regulation in the Northern Great Plains*, R-1981-NSF, Rand Corporation Ch. 4 (August 1976).

technological method of reclamation and rehabilitation, the more difficult it is to apply regulatory mandates or sanctions, and the more complexity and delay is introduced by having two levels of government involved.

Eminent Domain for Coal Slurry Pipelines

In terms of economics alone, the problem of supplying Western coal to its markets is more a transportation problem than a mining problem. When Western coal is delivered to Midwest markets, 60% to 80% of the delivered price is transportation cost. Since railroad lines into the Western coal fields are limited and may become overburdened, the use of coal slurry pipelines offers an attractive alternative. Whether slurry pipelines are always less costly than unit trains has become a lively controversy.⁷ Peabody Coal has very successfully operated its Black Mesa slurry pipeline in northern Arizona. Montana has so far prohibited the use of slurry pipelines, while the Wyoming legislature has given its approval to a slurry pipeline to be built from the Powder River Basin to Arkansas. Over such long distances, it is inevitable that these pipelines will have to cross the right-of-way of a railroad or some other property owner with an economic interest in blocking their route. So the coal industry, the slurry pipeline builders, and affected utilities have asked Congress to legislate eminent domain rights for slurry pipelines. This legislation is opposed by the railroads and by some environmental groups who fear that new pipelines will be an unbearable drain on the water resources of the Rocky Mountain states. Although it failed to get the votes to reach the floor of either house in 1976, the legislation seems likely to pass sometime in the near future. Then the water resource issues will be passed back to the state level for resolution.

FEDERAL POLICIES WHICH INDIRECTLY IMPACT ROCKY MOUNTAIN COAL DEVELOPMENT

There are several federal energy and environmental policies which are not directed toward any one region, but nevertheless have a very uneven regional impact. Some of these policies will have a substantial impact on Rocky Mountain coal development.

7. See M. Rieber and S. Lee Soo, ROUTE SPECIFIC COST COMPARISONS: UNIT TRAINS, COAL SLURRY PIPELINES, AND EXTRA HIGH VOLTAGE TRANSMISSION (Center for Advanced Computation, Univ. of Ill., May, 1976); and Energy Transportation Systems, Inc., SLURRY PIPELINES, INNOVATION IN ENERGY TRANSPORTATION (March, 1975).

Scrubbers Everywhere

The Clean Air Act Amendments of 1970 called for all states to be in compliance with the National Ambient Air Quality Standards for sulfur oxides by June 1975. It soon became apparent to EPA that application of emission abatement equipment to power plants and other sulfur oxide polluters would not be sufficient to avoid non-compliance in many areas of the country by 1975 or any other near term date. In Fall 1972 EPA announced a national clean fuels policy which allowed the states to mandate the use of low-sulfur coal in place of emission abatement equipment. Low-sulfur coal was defined to be that which emitted 1.2 pounds or less of sulfur oxides per million BTU's of heat. This policy, which came as no surprise to coal and utility industries, resulted in a substantial increase in the value of low-sulfur coal production and reserves. Western coal, which is typically lower in both sulfur content and BTU content, became much more economically attractive.

It was recognized that EPA would not continue to rely on a clean fuels approach solely, but would continue to search for a flue gas desulfurization technology which would allow more of the higher sulfur coals to be burned. This search for better technology was intensified by the oil embargo and OPEC price increases of 1973-74 which made "clean" oil and gas fuels too valuable for permanent use in power plant boilers. EPA's search focused on a particular set of devices known as scrubbers. The engineering reliability of scrubbers was challenged by American Electric Power, a large Midwest utility which owns and produces large amounts of Eastern high-sulfur coal. Over the 1973 to 1976 period greater engineering optimism emerged that scrubbers could be reliably operated, even if their total system costs might be quite high (3 to 7 mills per kilowatt hour).

Analysts for the utilities, coal companies, and state and local governments began depicting footraces between scrubbers and low-sulfur Western coal. In some markets Western coal would lose because of poor transportation links, and in other markets Western coal would win because of the cost of retrofitting some older power plants with scrubbers. In any case, the future of Western coal became closely interdependent with the future of scrubbers.

Because many of the air quality compliance deadlines of the Clean Air Act Amendments of 1970 were not achievable by the 1975 and 1977 dates specified in the act, there are bills pending in Congress to extend these deadlines and make other revisions in clean air policy. There is significant sentiment in Congress in favor of expanding the use of power plant scrubbers to minimize the delays in achieving full

compliance with national sulfur oxide standards, to ease the burden on other sulfur polluters, and to allow more Eastern high-sulfur coal to be burned. These provisions, if passed into law, could require given utilities in certain locations to install scrubbers even if they have low-sulfur coal available to them. Support for this legislation comes partly from environmentalists who believe, because sulfur oxides may be a non-threshold pollutant (that is, a pollutant which causes significant health damages even at very low ambient concentrations), that *both* scrubbers and low-sulfur coal should be used in some areas in order to reduce emissions to an absolute minimum.⁸ Other support for the legislation comes from some Eastern legislators whose coal-producing regions may potentially be hurt by substitution of Western for Eastern coal.

Even if such legislation were to pass, it would probably allow the EPA Administrator significant discretion in its implementation. The exercise of that discretion would depend on the relative strength of the conflicting political interests. The phrase "scrubbers everywhere" is certainly an overstatement of the likely outcome of such a political struggle. There are many scenarios of implementation which could have an enormous impact on the economic incentives to use Western coal, and thus on the previously anticipated rapid growth in Western coal production. The vagueness of the scenarios for implementing this proposed legislation has discouraged analysis of this subject, but it should definitely be given a high research priority.

The Significant Deterioration Issue

The preamble to the Clean Air Act Amendment of 1970 states that the purpose of the legislation is to "preserve and enhance" air quality. The Sierra Club claimed that this language precluded EPA approval of any State Implementation Plan which allowed significant deterioration in air quality in those regions where air quality was already better than the national ambient standards. The Sierra Club won this suit in a 1972 Supreme Court decision.

As part of the new Clean Air Act Amendments under consideration in Congress, there are provisions to include in the statute a zone system much like the one that has been proposed by EPA since 1973. A Class I Zone would be an area such as a national park or

8. Even if it were established that sulfur oxides were a non-threshold pollutant (which has not been done), that would not necessarily justify the cost of abating sulfur oxide emissions to the minimum level technologically feasible. Knowing that a pollutant has non-threshold health effects just means that the benefit-cost analysis used to decide the optimal level of abatement would have to be expanded to measure the health damages incurred at times and locations of low ambient concentrations. This multiplies the amount of empirical information required to do such an analysis.

wilderness preserve where no new polluting activities would be permitted. A Class II Zone would be an area where new polluting activities would be selectively permitted so long as they did not raise pollutant levels above the ambient concentrations of the national standards. The Rocky Mountain states have higher proportions of their land area which are candidates for Class I treatment than do other states.

The significant deterioration concept can greatly restrict the building of coal conversion facilities, or other coal-using secondary industry, in the Rocky Mountain states. For states such as Montana which have, for many diverse reasons, effectively adopted a "strip and ship" philosophy toward coal development, the federal policies regarding significant deterioration are seen as complementary developments. For other states, such as Utah, which look more favorably on coal conversion facilities and coal-using secondary industry, the formal enactment of strict language on significant deterioration is seen as a threat to their economic development plans. Senator Frank Moss of Utah is probably the strongest opponent of these legislative proposals.

The other side of the environmental coin to the philosophies of significant deterioration and strip and ship is the resultant environmental damage which occurs along the coal transportation links and at the coal conversion facilities near large population centers. Many of these centers have not been able to comply with the national ambient air quality standards, and are thus subject to "non-attainment" prohibitions on the addition of new coal conversion facilities. This, in turn, intensifies the search for intermediate sites where public preferences allow some air quality deterioration, but which have a comfortable cushion underneath the national ambient pollution concentration standards.

Adding to the significant deterioration controversy in the Rocky Mountain states is the recent trend for some of these states to adopt ambient sulfur oxide standards which are often five or six times more stringent than the national standards set in 1971 by EPA. There is much debate as to whether there is a health effects justification for these state standards, and much suspicion on the part of industry that these standards are merely indirect proxies for an outright prohibition of coal conversion plants or coal-using industry. This debate has heated up partly because of proposals to build very large (2000 MWe and larger) coal-fired power plants in parts of the Rocky Mountain region. Since the same state legislatures and state agencies which imposed these standards can also allow case-by-case variances to

them, it is unclear whether the actual outcomes will prove to be as restrictive as presently indicated.

OTHER FEDERAL POLICIES POTENTIALLY IMPACTING ROCKY MOUNTAIN COAL DEVELOPMENT

Federal Energy Facility Siting Legislation

One of the legacies of the energy crisis is the belief held by some groups that the federal government needs to get involved in energy facility siting so that the national interest is protected when localities, states, and particular federal agencies regulate siting decisions. Much of this attention focuses on nuclear power parks, oil pipelines and port facilities, and facilities connected with exploitation of Outer Continental Shelf oil and gas.

Legislation to this effect proposed by the Ford Administration in 1975 did *not* become part of the Energy Policy and Conservation Act of 1975. It would have required each state to set up an energy facility siting program and to submit an energy facility siting plan to the Administrator of the Federal Energy Administration (FEA) for approval. The legislation gives the FEA Administrator the authority to disapprove a state's plan, and to promulgate a substitute plan *for* the state. Section 804 (i) (4) of this bill provides that:

Whenever a State management program is promulgated by the Administrator for a State any statutes, rules, or regulations of such State or instrumentality or municipality thereof which relate to energy facility planning or which affect the siting, construction, and operation of energy facilities shall be preempted and superseded to the extent specified in the promulgated State Management program.

Western governors liked this preemption clause even less than the one cited above from the proposed federal reclamation legislation. During the pressure of the energy crisis this proposed legislation was supported by some energy industry groups, but most of them have since turned sour toward it. Most environmental groups saw these proposals as a potential steamroller which could be used to roll over the environmental review processes whenever they interfered with energy development. Thus, they strongly opposed the legislation, even though many environmental groups remain committed to other forms of national land use planning legislation. Many environmental groups in the Rocky Mountains regarded the proposed legislation as a crude assault on the various state measures which had been adopted as part of the strip and ship approach to coal development.

Even though federal energy facility siting legislation isn't going

anywhere in Congress at the present time, the best insurance policy the Rocky Mountain states can buy against the reemergence of these proposals is the enactment and implementation of their own industrial siting programs. This is now happening. In Wyoming, for example, the 1975 Legislature enacted the "Industrial Development Information and Siting Act," the "State Land Use Planning Act," and the "Community Development Authority Act." Even if state programs are in their formative stages and the concepts are still alien at the local level, the states are developing more direct instruments to guide their own development.

Federal Limitations on State Coal Taxation

Theoretically, the Rocky Mountain states could individually or collectively demand exorbitant tribute from the rest of the country for the coal resources of those states. This, in turn could provoke a response from the federal government in the form of limitations on coal severance taxes, and perhaps even regulation of interstate shipments as is now practiced by the Federal Power Commission for natural gas. This subject has been the object of some overdramatization by a few politicians and some elements of the news media.

The reality is that factors such as the recession, deceleration in electricity demand growth, greater potential use of scrubbers, and slower federal coal leasing plans have all resulted in much slower expected growth rates (down from about 15-18% per year to about 8-11% per year for the 1975-85 period) for Western coal production. This slower growth is less likely to cause the states to lay on heavy severance taxes, and also means that the economic development penalties implicit in raising severance taxes too high too fast would be all the more apparent. The Rocky Mountain states no longer feel themselves as pressured by overly rapid coal development, and are thus much less likely to provoke the federal government into preemptive actions. Such scenarios were never very likely, and are now even more remote.

The 30% severance tax enacted in Montana is sometimes called a prohibitive export tax which could impede interstate commerce and not be in the national interest. That tax was probably motivated partly by the history of copper mining in Montana politics and a desire to have development occur at a more controllable pace "this time around." However, it seems likely that the Montana legislature was also motivated by a desire to finance part of its general budget out of the taxes paid by out-of-state coal consumers. The 30% tax is higher than would be required to pay the direct and indirect costs of

coal development. As much as two-thirds of the revenue may end up in the state general fund. While there have been no strident reactions by other states or the federal government, and no drastic sell-off or price decreases in Montana coal properties, the Montana tax is certainly a provocative element whose impacts should be followed closely.

It is important to note that Wyoming shows no signs of following Montana's lead in the short term. While there is talk of "interstate harmonization of severance taxes," no concrete movement toward that vague objective has taken place. It seems quite doubtful that the Western Governors' Regional Energy Policy Office (WGREPO) or any other present organization would have the political unity or desire to become a domestic OPEC.

Other Potential Federal Actions

There are many other federal actions which touch on Rocky Mountain coal development. Elimination of the federal oil depletion allowance, for example, is an action which has probably resulted in a net shift of investment resources from oil exploration into coal development. The tendency of the Interstate Commerce Commission to maintain higher rates for coal transport so that the railroads can sustain less profitable traffic is certainly a factor in the economics of Rocky Mountain coal. Mine Health and Safety Act regulations for Eastern underground mining are an important economic determinant of the value of Western coal.

THE FEDERAL SYNTHETIC FUELS PROGRAM

The goal of one million barrels a day of synthetic fuel production (including shale oil) by 1985 was announced by President Ford in his January 1975 State of the Union address to Congress. It was a good example of the Washington phenomenon of speechwriters establishing a presidential policy before policy analysts have had a chance to thoroughly examine a subject. Most of the concern about this program in the Rocky Mountains comes from taking the whole thing much too seriously.

After the speech, the Synfuels Interagency Task Force was formed, consisting of every federal agency with any relevant expertise. By the time the Task Force presented its report⁹ to the President's Energy Resources Council in July 1975, some elements of reality had already penetrated the political rhetoric. Most synthetic

9. Synfuels Interagency Task Force, RECOMMENDATIONS, FOR A SYNTHETIC FUELS COMMERCIALIZATION PROGRAM (June, 1975).

fuel technologies were at an early stage of research and development. The capital costs of these technologies could not be estimated with any confidence. Even if one made more optimistic assumptions about their costs, it was very difficult to dream up scenarios of future world energy development in which the availability of a million barrels of synthetic fuel by 1985 yielded a net positive societal benefit. The program was cut back to a goal of 350,000 barrels per day by 1985 before it was submitted to Congress in the Fall of 1975. Congress has been shaving down and tightening up the proposals ever since. The program is now pitched in terms of the learning—technological learning, environmental impact learning, and socioeconomic impact learning—that will come from having commercial scale plants operating in various parts of the country. Then, it is argued, if foreign energy imports become much more costly or insecure, the nation will have that much less learning to do in building up a large scale industry.

In September 1976 the synthetic fuels authorization bill (H.R. 12112) was killed by one vote during a procedural debate in the House of Representatives. The program's proponents will soon try again to obtain Congressional authorization for loan guarantees and price supports for synthetic fuel demonstration plants, this time in the legislative context of creating an overall energy technology demonstration program within the U.S. Energy Research and Development Agency (ERDA). Some form of synthetic fuels subsidization program seems likely to receive Congressional approval in the near future.

Do the Rocky Mountain states have much to fear from this scaled-down program? Probably not a great deal. Much of the learning to be done is technological and can be done anywhere in the country. If the promoters of the program face resistance in the Rocky Mountains, they will no doubt site the first few coal gasification plants in states such as Illinois, Ohio, Kentucky, and West Virginia which have expressed an eagerness to have them. In order to achieve well-rounded learning about socioeconomic impacts and environmental impacts there will be an effort to eventually build one coal gasification plant in the Powder River Basin in Wyoming, with North Dakota being a fallback compromise possibility. As contrasted with geographically dispersed coal mining, a coal gasification plant would have very situation-specific impacts which can be worked out in relation to the characteristics of a given site. There is no present need for the Rocky Mountain states to develop a regional approach to coal gasification facilities.

The only impact of the synthetic fuels program which might have

been cause for some concern was the environmental impact of surface-retort shale oil plants. The best shale is geographically concentrated in a small part of Northwest Colorado. Many shale oil tracts are close to resort areas and tributaries of the Colorado river. Small communities such as Rifle, Rangely, Glenwood Springs, and Meeker would have to provide the social service needs of new oil shale workers. Environmental groups have been uncomfortable with surface-retort oil shale development because its environmental impacts have only recently begun to be studied.¹⁰ They preferred to see oil shale development deferred while they allocated their limited legal and technical resources to coal development issues.

As Congress whittled the synthetic fuels program down to a smaller scale, the oil shale was the component subjected to the most restrictions. Section 18 (b) of H.R. 12112 contained the following provision:

... [T]hat no loan guarantee for a full sized oil shale facility shall be provided under this section until after successful demonstration of a modular facility producing between six and ten thousand barrels per day, taking into account such considerations as water usage, environmental effects, waste disposal, labor conditions, health and safety, and the socioeconomic impacts on local communities.

This amendment would have put very tight (and probably too rigid) restrictions on the growth of federally sponsored oil shale projects. Economic forces such as capital cost escalation have slowed the pace of non-federally sponsored shale projects to the point that there is no significant threat of adverse socioeconomic or environmental impact from these non-federal projects.

The proposed legislation contains provisions for federal loan guarantees and some grant funding to help communities handle the front-end investments in roads, schools, health facilities, etc. that may be required to accommodate the work force of a commercial scale synthetic fuel facility. The use of loan guarantees, whether for industry or state and local governments, as the principal instrument for implementing the synthetic fuels program is a bit disquieting. It is impossible to arrive at comprehensive *ex ante* definitions of all the conditions under which honorable default of a loan would take place. For industry and state and local governments to have this uncertainty hanging over their heads would seem to provide the potential for more tension and conflict than if some more straightforward means of subsidization had been chosen.

10. See Rattien and Eaton, *Oil Shale: The Prospects and Problems of an Emerging Energy Industry*, 1 ANNUAL REVIEW OF ENERGY (1976).

SOME OBSERVATIONS ABOUT THE FEDERAL ROLE IN AMELIORATION OF SOCIOECONOMIC IMPACTS

There is little doubt that socioeconomic impacts are a crucial aspect of Rocky Mountain energy development. In recent years these impacts have often outweighed environmental impacts as the primary concern of local politicians and interest groups. It has sometimes been suggested that concerns about environmental impacts were just a "cover story" concealing more fundamental socioeconomic concerns like loss of political control to new voters and monied interests, loss of absolute control over water allocations to agriculture and ranching, and disruption of Western culture. These delicate and very important issues will not be treated in any detail in this paper. The issue here is whether the federal government ought to get involved in special efforts to ameliorate these kinds of impacts (beyond the regular grant programs of the Department of Housing and Urban Development and other federal agencies).

For problems which are locally perceived as being caused in part by federal policy (e.g. coal leasing policy), it is at least arguable that the best role the federal government could play in ameliorating them is to stay away. It may be an inherent contradiction to expect that additional federal involvement will be favorably perceived by independently-minded people who consider their lives already disrupted by events related to federal actions. While no supporting arguments or analysis for this maverick viewpoint can be presented here, the plea can be made to at least consider this possibility as the null hypothesis in future studies of the subject.

There is a modest and temporary role which can be played by the federal government in funding studies to determine how alternative scenarios of energy development in the Rocky Mountains can be accomplished while minimizing the resultant population immigration and diversion of water resources from alternative uses. What mix and siting pattern of activities can move energy development closer to this social welfare efficiency frontier? A beginning in this direction was made by the Northern Great Plains Resources Program,¹¹ a Department of Interior sponsored information-gathering effort which included other federal agencies operating in the region, industry representatives, state and local officials, and universities. Two other federally-sponsored efforts are now underway to broaden the information base: (1) EPA has funded a large-scale effort to apply tech-

11. Northern Great Plains Resources Program, EFFECTS OF COAL DEVELOPMENT IN THE NORTHERN GREAT PLAINS: A REVIEW OF MAJOR ISSUES AND CONSEQUENCES AT DIFFERENT RATES OF DEVELOPMENT (April 1975).

nology assessment methodology to Western energy development impacts, and (2) the Council on Environmental Quality is sponsoring a multi-phased study to arrive at quantitative projections of Western energy production levels, quantitative measures of environmental impacts, and measures of potential socioeconomic disruption. The goal of these and other federally sponsored studies of these problems ought to be to involve local universities, government agencies, interest groups, and business firms so that these local institutions can carry on independently to build upon their own expertise and information base. If the federal government can use its funding to prime the pump of local knowledge institutions and then have the good sense to disengage from further involvement, then local institutions can proceed with the confidence which is bestowed by better information.

CONCLUSIONS

Having read all the above descriptions of actual and potential conflicts between the federal and state governments, the reader may get the impression that the level of tension will be ever increasing. Actually there are some indications that tension has subsided and may not necessarily reemerge to as high a confrontation level. The level of anxiety about energy development in the Rocky Mountain states has decreased substantially since the 1974-75 period when these states thought they were about to be overwhelmed by both coal and oil shale development. However, the anxiety of that period did stimulate some states to pass legislation dealing with reclamation, energy facility siting, and the socio-economic impacts of energy development. The question now is whether the political leadership at the state level will have the sustained interest in these issues to invest in the implementation programs necessary to deal with them. The federal agencies may be somewhat understaffed in these fields, but the states have pitifully small staffs which are outrageously underpaid. The states face the clear choice of either paying for better expertise or seeing the federal agencies dominate them technically.

Issues of Rocky Mountain energy development are sometimes seen as battles along an equity-efficiency tradeoff frontier, with the states defending an oppressed minority and the federal government defending the need for greater energy supply in order to protect the efficiency of the national economy. Actually, the states are capable of inequitable actions (e.g., the 30% Montana severance tax on coal), and the federal government is capable of actions which could damage national economic efficiency (e.g., the large federal synthetic fuels subsidization program first proposed).

Another oversimplification of Rocky Mountain energy development issues is to view them as just struggles between environmental interests and economic interests. There are many complex tradeoffs to be examined within the realm of environmental policy. The siting of more coal-fired power plants in the Rocky Mountains may decrease environmental damage in the sense of fewer cases of lung disease in Midwest or West Coast urban centers, yet increase environmental damage in the sense of not preserving the aesthetic beauty and delicate ecology of the Rocky Mountains. At this early stage, there hasn't been empirical research to know the terms of trade of these environmental tradeoffs, or whether they even exist.

While the issues described in this paper are fascinating conceptually, the debates over them cannot proceed very far without a lot more solid empirical information. The present deceleration in Rocky Mountain coal and oil shale development provides some limited time for more empirical research to be conducted before the pace of development once again gets far ahead of the information base. It is hoped that both the state and federal governments will realize the need to keep the information base expanding at a rate necessary to deal with these complex issues.