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FEDERAL LAND MANAGEMENT POLICY AND THE DRIVE TO DEVELOP AN ALTERNATE ENERGY SOURCE, GEOTHERMAL ENERGY: SHALL THE TWAIN EVER MEET?

JACK McNAMARA*

INTRODUCTION

Since the Arab oil embargo of October 1973 and the sharp O.P.E.C. price increases of that same fall, national attention has been focused on the so-called "Energy Crisis" and our dire need for some type of an "Energy Policy." While wave after wave of Congressional and Executive action (or at least motion) has been forthcoming¹ and the federal energy budget has soared even higher than the O.P.E.C.-set oil prices,² yet another policy trend has quietly but surely made even more progress in a vitally related area.

Though federal land use planning is not, in the abstract, contrary to the espoused national goal of "energy independence," land use planning and its attendant "inventorying" of the vast "public lands"³ pose severe problems for energy planners working to achieve this independence. Exploration for and development of on-shore oil, gas, coal and geothermal resources beneath the vast, mostly uncharted expanse of the "public domain" may have to await the completion of an intensive identification and classification program covering hundreds of millions of acres of federal lands. This inventory is required under the statutory mandates of the Forest and Rangeland Renewable Resources Act of 1974,⁴ the National Forest Management Act of 1976⁵ and, in particular, the Federal Land

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1. See, e.g., Energy Policy and Conservation Act of 1975, Pub. L. No. 94-163, 89 Stat. 871; Emergency Petroleum Allocation Act of 1973, Pub. L. No. 93-159, 87 Stat. 627; Federal Nonnuclear Energy Research and Development Act of 1974, Pub. L. No. 93-577, 88 Stat. 1878; Department of Energy Organization Act, Pub. L. No. 95-91, 91 Stat. 565 (1977); Energy Conservation and Production Act, Pub. L. No. 94-385, 90 Stat. 1125 (1976); National Energy Act (H.R. 6831, 95th Cong., 1st Sess.).

2. The FY 1979 budget request for the new Department of Energy is \$10.69 billion.

3. "Public lands" is used here as a broad term, covering National Forests, Parks, Monuments, "public" and acquired lands, etc., rather than its usual term of art sense, i.e., lands which have always been in the "public domain" and lands obtained in exchange for other "public lands" or for timber on "public lands."

4. Pub. L. No. 93-378, 88 Stat. 476, 16 U.S.C. § 1601 *et. seq.* (1976).

5. Pub. L. No. 94-588, 90 Stat. 2999, 16 U.S.C. § 1600 *et. seq.* (1976).

Policy and Management Act of 1976.⁶ The author has dealt elsewhere with those two recent statutes affecting the 226 million-plus federal acres under the management of the Forest Service, and with their attendant impact upon geothermal resources development.⁷ The purpose of this article is to examine the impact of the Federal Land Policy and Management Act of 1976 (FLPMA) upon the development of onshore domestic energy sources, particularly the potentially vast alternate energy derivable from geothermal resources.⁸

THE FEDERAL LAND POLICY AND MANAGEMENT ACT OF 1976 (FLPMA)

A. The Background

When former Senator Floyd Haskell (D. Colo.) introduced the bill which would eventually become the FLPMA (S. 507, usually called the "Bureau of Land Management Organic Act" (BLM) on January 30, 1975, for himself, Senator Jackson (D. Wash.) and the late Senator Metcalf (D. Mont.) he stated that although the "public domain" dated back to October 30, 1779, federal management of this enormous area had left quite a bit to be desired. "For over a century and a half this vast land mass was woefully neglected . . . over one billion acres were transferred out of federal ownership. . . . The land which remained lacked any consistent management. . . ."⁹ He then pointed out that it was not until the passage of the Taylor Grazing Act of 1934¹⁰ that the "general policy of Federal land disposal and the failure to accept land management responsibilities was abandoned."¹¹

Noting that the Forest Service and Park Service had "Organic Acts" statutorily defining their respective land management responsibilities since 1897 and 1916, respectively, Haskell called "the lack

6. Pub. L. No. 94-579, 90 Stat. 2743, 43 U.S.C. §1701 *et. seq.* (Supp. 1978).

7. See McNamara, *Integrating Energy Development and Land Management Goals In The National Forests: Or How Geothermal Resources Got Lost In The Woods*, 11 NAT. RESOURCES L. 325 (1978).

8. The latter are defined by the Geothermal Steam Act of 1970 (P.L. 91-581, 84 Stat. 1566) as follows: "'geothermal steam and associated geothermal resources' means (i) all products of geothermal processes, embracing indigenous steam, hot water and brines; (ii) steam and other gases, hot water and hot brines resulting from water, gas, or other fluids artificially introduced into geothermal formations; (iii) heat or other associated energy found in geothermal formations; and (iv) any byproduct derived from them" (30 U.S.C. §1001 (c) 1976). For a discussion of their scope, see McNamara, *id.* and USGS CIRCULAR 726 (1975).

9. 121 CONG. REC. 1846 (1975).

10. Pub. L. No. 73-482, 48 Stat. 1269 (1934).

11. CONG. REC., *supra* note 9.

of a BLM Organic Act . . . convincing evidence of the embarrassing failure of Congress to complete the legislative task of providing a comprehensive statutory base for the management of all our public lands"¹² and "a dereliction of duty."¹³ Two months later he and Jackson introduced the Nixon-Ford administration's version, which closely paralleled their own.¹⁴ Its passage thus seemed assured.

B. The Public Land Law Review Commission

Senator Jackson had served on the Public Land Law Review Commission (PLLRC) in the late 1960's, and had been introducing virtually identical legislation in the area since that panel made its final report to Congress in 1970.¹⁵ Curiously, the Public Land Law Review Commission's recommendations leaned strongly toward a pro-energy fuels/pro-mineral development stance. The Commission came out as "strongly [in] favor, [of] . . . *an overriding national policy* that encourages and supports the discovery and development of domestic sources of supply"¹⁶ since "total reliance on foreign sources would be a hazardous economic and potential political policy."¹⁷

The Commission further stated that "[m]ineral exploration and development should have a preference over some or all other uses on much of our public lands"¹⁸ and it maintained that this "use preference is warranted by nature's sparse and random distribution of valuable mineral deposits and the vital relationship between our national welfare and assured supplies of minerals."¹⁹ While recognizing that "the environment must be given consideration,"²⁰ they felt that "regulations must not be arbitrarily applied"²¹ and "development will frequently have to proceed, subject to reasonable controls designed to lessen the adverse impacts, *even though these impacts exist.*"²²

Significantly, even though the Commission felt that "Congress should continue to exclude some classes of public lands from future

12. *Id.*

13. *Id.* at 1847.

14. 121 CONG. REC. 8157 (1975).

15. PUBLIC LAND LAW REVIEW COMMISSION, ONE THIRD OF THE NATION'S LAND (1970) (hereinafter cited as PLLRC).

16. *Id.* (emphasis added).

17. *Id.*

18. *Id.* at 122 (emphasis added).

19. *Id.*

20. *Id.* at 123.

21. *Id.*

22. *Id.* (emphasis added).

mineral development,"²³ it noted that "[t]oo often in the past exclusions have been accomplished with little or no knowledge of mineral values"²⁴ and called for "mineral examinations" and "mineral surveys" (through the use of geological, geochemical and geophysical techniques) in order to "provide reliable information"²⁵ as to the mineral values being foregone by any exclusion, withdrawal or reservation. In fact, the Commission went even further and urged such passive mineral exploration on already withdrawn areas.²⁶

It is intriguing to note that these rather clear, pro-development statements were authored in July 1970, fully three years before the "Energy Crisis" made a dent on the national consciousness. Yet S. 507 as introduced in January 1975 and passed in October 1976, in the very midst of the energy crisis fever, had a diametrically opposed set of priorities.

C. *The Legislative Transformation*

Section 102(a) of S. 507 directed the Secretary of the Interior to "prepare and maintain an inventory of all national resource lands . . . giving priority to areas of critical environmental concern."²⁷ The latter were defined as:

areas within the national resource lands where special management attention is required when such areas are developed or used to protect, or where no development is required to prevent irreparable damage to, important historic, cultural, or scenic values, or natural systems or processes, or life and safety as a result of natural hazards.²⁸

The administration's own version was indistinguishable and the final legislation retained the draft language, both as to the environmental priority²⁹ and the definition of these "sensitive" areas.³⁰

Though both the draft bill and final public law contained a "savings" phrase ("The preparation and maintenance of such inventory or the identification of such areas shall not, of itself, change or prevent change of the management or use of public lands"³¹), it was

23. *Id.*

24. *Id.*

25. *Id.*

26. *Id.*

27. CONG. REC., *supra* note 9, at 1848, § 102(a) (emphasis added).

28. *Id.* at 1848, § 2(e).

29. 43 U.S.C. § 1711 (Supp. 1978) (inventory) and 43 U.S.C. § 1712(c)(3) (1970) (land use plans).

30. *Id.*, § 1702. The words "fish and wildlife resources or other" were inserted prior to "natural systems or processes."

31. *Id.*, § 1711.

clear that the pro-energy development recommendations of the PLLRC had been replaced by a pro-environmental prioritization in Congress, despite the intervening burgeoning of the "Energy Crisis." This new set of management duties, which shall be discussed in more detail below, is in addition to National Environmental Policy Act (NEPA) requirements which BLM, the U.S. Geological Survey (USGS) and the Forest Service were still struggling to implement.

Geothermal resources, being the newest member of the "club" of resources, and located mainly in areas previously untouched by mineral development, would bear the brunt of these new responsibilities. Even in the absence of the new responsibilities, the federal geothermal leasing process had been a long slow march.

THE GEOTHERMAL STEAM ACT AND THE FEDERAL GEOTHERMAL LEASING PROGRAM PRIOR TO PASSAGE OF THE FLPMA

A. *Early Attempts at Access*

Attempts at securing access to the geothermal resources believed to exist beneath the "public lands" began in the early 1960's. Magma Power Company, the pioneering geothermal firm which had begun production at The Geysers in the late 1950's, attempted to file mining claims for geothermal resources on the federal lands. When they were rebuffed in this effort by the Interior Department Solicitor,³² they then tried to purchase geothermal resources under the Materials Act of 1947.³³ This creative ploy unfortunately was also turned back by the Interior Department (Interior) which, after originally succumbing to Magma's logic,³⁴ later reversed itself, stating that it failed to perceive an unstated congressional mandate to "dispose" of geothermal resources in that legislation's authority to sell, outright, vegetative materials such as yucca and "common varieties" of sand, gravel and other surface deposits of similar character located on federal land.³⁵ New legislation was obviously needed.

32. See note 34.

33. 61 Stat. 681 (1947), 30 U.S.C. §601 (1976).

34. Letter from Theodore F. Stevens, Solicitor, U.S. Dept. of Interior, to Joseph W. Aidlin, Magma Power Co., L.A., Calif., Jan. 19, 1961. "Water . . . although it is a mineral substance or material, has never been deemed to be a mineral subject to location. . . . [It] is clearly a mineral material [and] may be sold under the Materials Act of . . . 1947," Quoted in Brooks, *Legal Problems of The Geothermal Industry*, 6 NAT. RES. J. 511 (1966).

35. "Upon reconsideration of this question we believe that geothermal steam is not subject to disposition by this Department as a 'mineral material' under the Materials Act. . . . [We] conclude that geothermal steam is developed from hot springs systems and that the greatly dominant component in these systems is meteoric water. . . ." Letter from Interior Solicitor to J. W. Aidlin Aug. 00, 1961, reprinted in *Hearings on S. 883 Before the Subcomm. on Minerals, Materials and Fuels of the Sen. Comm. on Interior and Insular Affairs*, 88th Cong., 1st Sess., 70 (1963).

B. *The First Geothermal Leasing Legislation*

The first attempt at creating federal leasing authorization for geothermal resources was made in the 88th Congress, when then-Senator Bible (D. Nev.) introduced a bill to amend the Mineral Leasing Act of 1920³⁶ to include geothermal resources.³⁷ The bill was the subject of several hearings before the Senate Interior Committee,³⁸ but despite a favorable Committee recommendation³⁹ and Senate passage,⁴⁰ the bill failed to be enacted by the House.

S. 1674, introduced by Senator Bible in the 89th Congress, fared much better. It was reported favorably by both Interior Committees⁴¹ and passed by both Houses,⁴² but was vetoed by President Lyndon B. Johnson because it ran "counter to sound public policy."⁴³ The President cited "six major flaws," including provisions rather standard in oil and gas leases, such as a lease coterminous with production and royalties payable only on steam "sold or utilized." He also opposed the legislation's extension of "grandfather" rights to Magma and other developers who had filed mining claims or obtained mineral leases on federal land prior to September 1, 1965. The section in question would allow them to convert these to geothermal leases.⁴⁴

C. *The Geothermal Steam Act of 1970 and Its Implementation*

Finally, in the waning moments of the 91st Congress, the Geothermal Steam Act of 1970 was enacted.⁴⁵ The already decade-long struggle to obtain rights to the geothermal resources underlying the federal lands was only beginning, however. The recent passage of NEPA in 1969, the relative infancy of geothermal development, and the "virgin" nature of the areas in which development occurred led to a protracted delay before issuance of the first geothermal leases.

A "programmatic" Environmental Impact Statement (EIS) was deemed necessary, one which would describe the impacts of the

36. 41 Stat. 437, 30 U.S.C. §71 *et. seq.* (1976).

37. 109 CONG. REC. 2270 (1963).

38. On July 12, 1963 and October 25, 1963.

39. S. REP. NO. 1508, 88th Cong., 2d Sess. (1964).

40. On August 21, 1964.

41. See S. RPT. NO. 683, 89th Cong., 1st Sess. (1965), and H. RPT. NO. 2140, 89th Cong., 2d Sess. (1966).

42. 112 CONG. REC. 28,041 (Senate), 28,532 (House) (1966).

43. Geothermal Steam Act of 1966—Memorandum of Disapproval, 112 CONG. REC. 28863.

44. *Id.*

45. Pub. L. No. 91-581, 84 Stat. 1566 (codified at 30 U.S.C. §1001 *et. seq.* (1976)). See also S. RPT. NO. 1160, 91st Cong., 2nd Sess. (1970, CIS #S443-80) and H. RPT. NO. 91-1544, 91st Cong., 2nd Sess. (1970, CIS #H443-70).

entire federal geothermal leasing program on over one million acres of federal land scattered over five states. This acreage had been "withdrawn" by Interior in the late 1960's in anticipation of leasing authorization.⁴⁶ In addition, this broad scale environmental document included specifics on the three areas—all in California—believed the most promising: The Geysers, Mono-Long Valley and East Mesa in the Imperial Valley. This activity took place in the early, tumultuous and heavily litigated post-NEPA phase, of course, and Interior understandably took great pains to assure themselves (and others) that their efforts would withstand the judicial scrutiny they were becoming increasingly accustomed to in their mineral leasing programs for onshore coal and Outer Continental Shelf oil and gas. In addition, the geothermal developmental cycle was a relative unknown, and thus its actual impacts were hard to gauge. The only commercial field in the United States, The Geysers, could not serve as an accurate model since its dry steam system is the exception rather than the rule of geothermal formations.

Thus, it was not until October 1973 that the EIS was finally completed. The first competitive lease sale was held shortly thereafter, in January 1974, fully three years after passage of the Geothermal Steam Act.⁴⁷ Noncompetitive leasing—the other component of the federal lands geothermal program—did not begin until January 1975 with the issuance of a lone lease in Nevada.

This administrative prioritization of competitive over noncompetitive leasing was due to two factors: BLM's oft-expressed desire for an all-competitive system (and their experience with noncompetitive leasing in coal and onshore oil and gas) and pressure by the Office of Management and Budget (OMB) to bring "quick returns" to the Treasury from lease bonuses. Unfortunately, due to the evolving nature of geothermal exploration techniques, choosing the best areas (and by statute, the *Known Geothermal Resource Areas* (KGRA)) for competitive bidding was mostly an exercise in speculation. In addition, the unnecessarily vague statutory "KGRA" definition unduly skewed this choice towards inclusivity, with the result that many supposed KGRA tracks were, in reality, left for the rank-

46. See, 32 Fed. Reg. 2588 (1967); 32 Fed. Reg. 4030 (1967); 32 Fed. Reg. 4506 (1967); 38 Fed. Reg. 35507 (1973). See also Exec. Order No. 5389 (1930), as amended by Public Land Order 399 (1947) (12 Fed. Reg. 5780).

47. 12 tracts (8755 acres) at The Geysers were offered and high bids on 10 accepted totaling \$5,045,246.86; Seven tracts (13,714.03 acres) at Mono-Long Valley were offered but only three bid on, for \$632,818.43; 14 tracts (30,168.53 acres) at E. Mesa (Imperial Valley) were offered but only five drew bids, for \$653,133.82 in "quick" revenue to federal coffers.

est of wildcatters. They either received no bids or drew token offers only.^{4 8}

Although BLM has not required EIS preparation on either succeeding competitive lease sales or noncompetitive lease issuance, its creation of the supposedly less time-consuming Environmental Analysis Records (EARs) for these tracts has nonetheless led to further delays in leasing, vociferous complaints from developers,^{4 9} and at least one environmentalist lawsuit for failure to do a full EIS.^{5 0} Nevertheless, the program has made significant progress.

D. Status of the Geothermal Leasing Program

By the end of 1977, BLM records showed that 6,418 noncompetitive applications had been filed (4,560 on BLM-administered land), with 1,011 leases issued (978 on BLM land).^{5 1} Another 1,068 were "awaiting action" by BLM.^{5 2} In addition, developers had withdrawn 1,894 applications, refused to accept 141 preferred leases, and relinquished another 230 leases after issuance.^{5 3} Another 1,358 applications had been rejected by BLM, mostly due to a "KGRA" classification by USGS as required by the Steam Act.^{5 4}

In all, some 4,404 of the 6,418 noncompetitive lease applications had been accounted for, while the bulk of those still "awaiting action" were on Forest Service land (891 of 2,014).^{5 5} Over 1,000 leases, extending over 1.7 million acres, had been issued noncompetitively. The competitive leasing program had offered 523 units covering 1 million acres. Only 248 had drawn bids. Counting bid rejections, etc., 218 leases on 412,251 acres had been issued.

BLM, despite restrictive budgets, fear of lawsuits, a myriad of other responsibilities, and a statute which skewed its efforts to the less fruitful competitive leasing program, had done a tolerably good job at turning out geothermal leases prior to the passage of the

48. As of 9/30/77, of 471 parcels (896,317 acres) put up for competitive lease, only 227 (426,334 acres) had received any bids (with nine rejected by BLM as not meeting presale USGS estimates of value) for a total of \$18,061,217.00 in revenue or a \$44.18 per acre average. This total includes the roughly \$6 million brought in by 12 tracts in The Geysers (BLM *Monthly Summary Status Report* (9/30/77)).

49. See, e.g., *Proceedings: Conference on Geothermal Energy and The Law* (Feb. 3, 4 & 5, 1975) (U.S.C. Law Center and National Science Foundation (R.A.N.M.) at 13-14, 20-21.

50. *Sierra Club v. Hathaway*, 579 F.2d 1162 (9th Cir. 1978) (usually called the "Alvord Desert Case"). The District Court refused to enjoin the lease sale and require an EIS and the Ninth Circuit affirmed.

51. BLM, *supra* note 48.

52. *Id.*

53. *Id.*

54. *Id.*

55. See McNamara, *supra* note 7, for a discussion of these problems.

FLPMA. However, given the recent congressional passage of tax incentives for geothermal exploration and development, the pressure for access to the geothermal resources beneath the public lands is bound to increase exponentially. That heightened interest and the mandates of the 1976 statute are now on a collision course.

THE IMPACT OF THE FLPMA ON THE FEDERAL GEOTHERMAL LEASING PROGRAM

A. Public Lands Inventory and Land Use Planning Mandate

The basic additional responsibility thrust upon BLM by the FLPMA involves the aforementioned "inventory" of the public lands, identifying "their resource and other values (including, but not limited to, outdoor recreation and scenic values), giving priority to *areas of critical environmental concern*."⁵⁶ Since the lands covered by the statute's sweep total nearly 500 million acres,⁵⁷ this delegation represents a sizeable task. As it inventories land, BLM must also formulate "land use plans" for these vast areas,⁵⁸ though no "target date" is set for their preparation. This is in contrast to the National Forest Management Act, where the year 2000 has been set as the outside limit.⁵⁹

It does not appear that Congress intended that BLM "drop everything" and go into inventorying/land use planning on a full scale basis. The inventory subsection itself states that "[t]he preparation and maintenance of such inventory or the identification of such areas shall not, of itself, change or prevent change of the management or use of public lands."⁶⁰ This statement, together with the absence of any time limit, even an expansive time frame such as that given the Forest Service, and the absence of any earmarked budget authorization⁶¹ make it clear that ongoing and future energy projects on the public lands, including geothermal leasing, shall proceed in parallel with the implementation of BLM's new planning responsibilities. That is, at least in theory.

On the other hand, there is no blinking the fact that BLM's present levels of personnel and budget are far below optimal, given their numerous duties, both new and preexisting. BLM has only one

56. 43 U.S.C. §1711(a) (Supp. 1978) (emphasis added).

57. *Id.* at §1702(e) ("The term 'public lands' means any land . . . administered . . . through the Bureau of Land Management . . ."). BLM, PUBLIC LAND STATISTICS 1976 shows BLM's at 470,174,318.40 acres (Table 9, at 20).

58. *Id.* §1712(a).

59. 16 U.S.C. §1607 (1976).

60. 43 U.S.C. §1711(a) (Supp. 1978).

61. *E.g.*, §1711(b) begins, "As funds and manpower are made available. . . ."

employee per 45,000 acres, versus one for every 8,500 acres in the Forest Service and one in 4,000 acres in the Park Service.⁶² Thus it may be forced to "water down" its commitment to geothermal leasing/EAR preparation, simply as a matter of internal resource exhaustion. Congress did take the somewhat extraordinary step of requesting that BLM (beginning last year) come forth with a four-year projection of its budget needs and a request for authorization of same, "notwithstanding any budget guidelines or limitations imposed by any official or agency of the executive branch."⁶³ However, it is not yet clear whether appropriations in equal amounts will follow.

The subsection in question seems to be a thinly veiled slap at the OMB. Charles Callison of the Public Lands Institute recently stated that BLM has long been "cowed by O.M.B., a single-track, money-saving agency that probably has not understood that, like running a farm, running the public lands requires some investment to produce optimum benefits."⁶⁴ Given this historical background, one should probably expect more than a little leanness in BLM's ultimate budget appropriations. If the FLPMA is really going to impinge on geothermal resources leasing, however, the pinch will probably come first from other, more specific duties mandated by the Act.

B. *BLM Wilderness Study and the Protection of "Areas of Critical Environmental Concern"*

(1) Wilderness Study Areas

In 1964, Congress established the "National Wilderness Preservation System."⁶⁵ Unlike the National Forest System or National Park System, areas to be included therein would continue to be managed by the agency having responsibility for them prior to their classification as "wilderness."⁶⁶ A "wilderness" was defined as "an area where the earth and its community of life are untrammelled by man, where man himself is a visitor who does not remain."⁶⁷ It also possessed certain other characteristics, including size of "at least five thousand acres. . . ."⁶⁸ As usual, Congress was freer with its prose than its purse, however, and appropriations for administration and management of such areas were expressly forbidden.⁶⁹

62. Nice, *Senate Looks At BLM Funding Needs*, HIGH COUNTRY NEWS, January 27, 1978, at 12.

63. 43 U.S.C. § 1748(b) (Supp. 1978) (emphasis added).

64. Nice, *supra* note 62.

65. 16 U.S.C. § 1131-1136 (1976).

66. *Id.* § 1131(b).

67. *Id.* § 1131(c).

68. *Id.*

69. *Id.* § 1131(b).

But for some minor, specific exceptions, the Act did not apply to BLM's sprawling domain. It was directed instead at the Forest Service and Park Service as well as the national wildlife refuges and game ranges managed by the U.S. Fish and Wildlife Service. In the FLPMA, however, Congress handed BLM the task of identifying possible wilderness areas within its lands, and this time they were given a deadline:⁷⁰

Within fifteen years after the late approval of this Act, the Secretary shall review those roadless areas of five thousand acres or more and roadless islands of the public lands, identified during the inventory required by section 201(a) of this Act as having wilderness characteristics described in the Wilderness Act. . . .⁷¹

There were several other congressional dictates also contained in this section, and these will have an impact on geothermal leasing and development on the public lands. First of all, although Congress has directed that such areas shall continue to be subject to "existing mining and grazing uses and mineral leasing in the manner and degree . . . same . . . [as were] being conducted on the date . . . of this Act . . .,"⁷² this is of little solace to the fledgling geothermal leasing program, which is roughly a full century behind mining activities on federal lands and a half century shy of onshore oil, gas and coal leasing.

In addition, Congress called for management of such areas "in a manner so as not to impair the[ir] suitability . . . for preservation as wilderness"⁷³ during "the period of review."⁷⁴ They then further strengthened this mandate by calling upon the Secretary of Interior to take "by regulation or otherwise . . . any action required to prevent unnecessary or undue degradation of the lands and their resources or to afford environmental protection."⁷⁵ It is difficult to conceive of geothermal resource exploration of anything but the most passive geological/geophysical type taking place in such a context.

Moreover, it is likely that even that minimal assessment will be performed only by federal agencies. The Act provides (in a faint echo of the Public Land Law Review Commission) that no final wilderness recommendation be made to the President until the Geological Survey and Bureau of Mines have conducted "mineral surveys" of

70. 43 U.S.C. §1782(a) (Supp. 1978).

71. *Id.*

72. *Id.* §1782(c).

73. *Id.*

74. *Id.*

75. *Id.*

the designated area "to determine the mineral values, if any, that may be present. . . ."76 Both the 1964 and 1976 Forest Service mandates also required mineral surveys, even after wilderness classification,77 but to the author's best knowledge such assessments have never been carried out.

To get a sense of the impact of the BLM Wilderness Study upon energy projects, one need only look to Pacific Power and Light's proposed 500 kv transmission line from Shoshone, Idaho to Medford, Oregon. Ninety-three roadless areas were identified by BLM along the proposed route. A preliminary inventory concluded that no less than 32 of these areas "may have sufficient wilderness values to warrant their further study as possible wilderness areas. . . ."78 The Secretary of Interior has suggested a drastically altered route to the utility.79

Unlike a power line corridor, however, geothermal resource systems cannot be moved around like chessmen to avoid wilderness areas. Their fate under BLM's Wilderness Study remains clouded. Even lands already leased for geothermal development may be reclassified as a result of the inventory.80

(2) "ACEC's"

There is yet another wilderness-type program required by the FLPMA and not yet underway, which is a potentially large hurdle for geothermal development. "Areas of critical environmental concern" (ACEC) are to be identified by BLM during its inventory and "given special management attention."81 An ACEC is defined in FLPMA as requiring that "attention" in order "to protect and prevent irreparable damage to important historic, cultural, or scenic values, fish and wildlife resources or other natural systems or processes, or to protect life and safety from natural hazards."82 As envisioned by BLM, such a designation "will fulfill a function that no other designation can in highlighting areas of critical values. . . . The [ACEC], in some in-

76. *Id.* §1782(a).

77. *Id.* §1782(c).

78. BLM News (1978), BLM Oregon State Office.

79. *Id.*

80. 43 U.S.C. §1712(a), (d) (Supp. 1978). The Solicitor's opinion cited *supra* note 75, concludes that ". . . Section 603(c) does not limit mining and grazing activities to the precise level at which they were occurring on October 21, 1976. It allows for expansion or curtailment of these activities so long as the wilderness characteristics of the land under review are not impaired," at 39.

81. See, *Industry Fears New Land-Use Curbs From BLM*, 1978 OIL & GAS J. (1978), 28, quoting from a September 26, 1978 BLM Directive and §103(a) of the Act.

82. 43 U.S.C. §1702 (1978).

stances, overlaps with authorities.”⁸³ BLM has indicated that this “catch all” authority is a “complement” to the wilderness inventory program. It expects to begin selection of ACEC’s in Fiscal 1979.⁸⁴

If a potential geothermal area is not quite isolated enough for wilderness designation, it can still be classified as an ACEC, of course, and possibly be closed to exploration and development. In certain highly touted geothermal areas of California, there is yet another possible pitfall.

C. California Desert Conservation Area

While there is peril to geothermal development in both the long term “inventorying” and “15 year wilderness study” dictates of the FLPMA, its most immediate impact may be felt in those prime geothermal prospects included within the Act’s most specific directive: the creation, by 1980, of a land use plan for the “California Desert Conservation Area”⁸⁵ (CDCA). The “California Desert” plan must cover a vast area roughly equal to one quarter of a 100 million-plus acre state. The Plan extends from both the Mexican and Arizona borders, along the Eastern Sierras to the Inyo National Forest on the north, and westward past the Lancaster-Palmdale area of Los Angeles County and into the Anza-Borrego Desert State Park of eastern San Diego County.⁸⁶ For geothermal purposes, it is significant because it contains the Coso Hot Springs, North Salton Sea, Randsburg and East Mesa KGRA’s.

The latter is already the site of two proposed developer-built geothermal power plants, both on federal land.⁸⁷ Coso, located largely within the U.S. Navy’s China Lake Naval Weapons Center, is as yet relatively unexplored but widely believed to be a significant geothermal prospect, perhaps containing another dry steam field.⁸⁸ BLM and the Navy have reached a tentative Memorandum of Understanding (MOU), a sort of interagency treaty, as to the leasing of the 43,000 federal acres within the 52,000-acre KGRA. BLM has initiated a full EIS which is to be completed by September of next year. Much of the area’s attractiveness stems from its proximity to

83. OIL & GAS J., *supra* note 81, at fn. 82.

84. *Id.*

85. *Id.* §1781.

86. Map of California Desert Conservation Area (BLM Drawing Number: CA-69 (Jan. 1977)).

87. Magma Electric (a Magma Power Co. subsidiary) and Republic Geothermal are the actors, the latter with a federal loan guarantee.

88. USGS has extensive open files on the area and D.O.E.’s Division of Geothermal Energy has funded the drilling of two exploratory holes.

the state's largest electric load center, Los Angeles, as well as several large transmission lines.^{8 9}

Creation of a land use plan for the California Desert, which includes many sensitive areas, or of an EIS for geothermal leasing at Coso is bound to run into intense interest and objections by environmentalists, Native Americans, recreational users and the archeological/scientific community.^{9 0} It would not be surprising if either or both were subject to legal challenge upon completion.

Already, BLM's time frame for the Coso EIS has been shuffled until it is strikingly in sync with that of the Cal Desert study.^{9 1} Thus there may have already been some "slippage" in progress towards leasing this key geothermal prospect.

SUMMARY

The Federal Land Policy and Management Act of 1976, by greatly expanding the Bureau of Land Management's already-overburdened responsibilities for land use planning on nearly 500 million acres of federal land, mandating a wilderness review and evaluation on this total area within 15 years, and requiring a specific land use plan by 1980 on an area containing several of the Nation's most significant geothermal prospects, has cast a pall over the future of geothermal resource development on the federal lands. Only by drastically upgrading BLM's budget and personnel levels, and putting evaluation of areas containing potentially important geothermal systems on a high priority basis, can Congress insure that this potentially vast and secure energy resource makes a contribution towards meeting our future fuel needs.

89. See, McNamara, *Legal and Institutional Barriers to Geothermal Development: An Area By Area Study* (USC Law Center, Feb. 1978).

90. See, REPORT OF THE STATE GEOTHERMAL RESOURCES TASK FORCE: EXECUTIVE SUMMARY AND RECOMMENDATIONS 10-12.

91. Oral communication to the author.