February 2021

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Power Plant Siting on Public Lands: A Proposal for Resolving the Environmental-Developmental Conflict

BY LEE KAPALOSKI*

INTRODUCTION

There is perhaps nothing in the energy development arena more frustrating, complex, or misunderstood than the mystical process of energy facility siting on federal or public lands. Endless wasted hours of second-guessing, sidestepping and outrageous amounts of bureaucratic paperwork are the notorious hallmark of siting today.

This paper does not claim to be a panacea to this dilemma. However, the procedures proposed do have real potential for making the siting process at least comprehensible and, more important, efficient for both the private industrial applicants and the Bureau of Land Management (BLM).

Simply stated, this article presents¹ a straight-forward practical methodology for finding the best sites for energy development on public lands. Further, the procedures suggested are aimed at minimizing the lost time, manpower, and money inherent in the currently used siting process—a system which is realistically ad hoc at best.

The resulting proposal is organized into two separately considered but clearly overlapping concerns, the legal rationale and the technical methodology. The legal rationale sets out an argument that the BLM has a statutory duty to develop some process for siting large energy developments. The technical methodology section follows with a suggested solution for meeting that responsibility.

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1. This article is a condensation of the author's doctoral dissertation, A Geo-Legal Methodology for Considering Environmental Values in Siting of Energy Development on Public Lands (available through the University of Michigan Microfilm Library, Ann Arbor). The research for the dissertation was supported by the grant of the National Environmental Conservation Fellowship, granted by the National Wildlife Federation.
I. Legal Rationale

A. FLPMA & the BLM

With the passage of the Federal Land Policy and Management Act\(^2\) (FLPMA) in 1976, over one-third of the total land area of the United States was put under the administration of the BLM and became subject to dramatically expanded land use planning and management mandates. Beneath, upon, and above these public lands are a vast and varied array of resource values, both developmental and environmental, which the BLM must manage in a manner that on one hand, "recognizes the Nation's need for domestic sources of minerals, food, timber, and fiber from the public lands . . ."\(^3\) and, on the other hand, "will protect the quality or scientific, scenic, historical, ecological, environmental, and atmospheric water resources, and archaeological values."\(^4\)

The BLM must develop some management process which fulfills these two supposedly coequal goals in a fashion wherein "the national interest will be best realized."\(^5\) While any definition of the term, "national interest," is tenuous, the Public Land Law Review Commission (PLLRC) has developed the phrase "maximization of net public benefits."\(^6\) Inherent in the goal dichotomy are conflicts where the unrestrained maximizing of a developmental objective will seldom if ever be entirely compatible with the maximizing of the environmental goal. This inherent conflict of resource values imposes upon the BLM as part of its decisionmaking the responsibility to make the necessary sacrifices favoring one type of value over another.

In order to satisfy the responsibility of maximizing net social benefits, the procedures of conflict resolution in siting

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4. Id. §1701(a)(8).
5. Id. §1701(a)(12).
6. U.S. PUBLIC LAND LAW REVIEW COMMISSION, ONE THIRD OF THE NATION'S LAND 46 (1970). [Hereinafter referred to as PLLRC or PLLRC REPORT] The Commission developed the definition in response to its own mandate that "the public lands . . . shall be (a) retained and managed or (b) disposed of all in a manner to provide the maximum benefit for the general public." 43 U.S.C. § 1391 (1970). As stated in one of the Commission's reports, there was clear recognition that the net maximization would include both developmental and environmental goals. P. HAGENSTEIN, CRITERIA FOR PUBLIC LAND DECISIONS 10-15 (1970).
must be applied systematically and, perhaps more importantly, they must be timely relative to the realities of the utility industry's planning and constraints. The procedure must be one which forces the BLM to affirmatively identify potential zones for siting energy development prior to any significant commitment by a utility to a specific site. Intrinsic in the present posture of the BLM is the politically sensitive burden of challenging as respondent any industrially identified site which may not be of the best "net public benefit." This political burden often calcifies the agency's willingness to assert the necessary value trade-off resolutions in favor of the industry's predispositions, thus compromising certain very important public resource values. This section of the paper develops the argument that under both the Constitution and the FLPMA, the BLM is compelled to develop a siting process which, among other things, requires the BLM in cooperation with state and local governments to nominate or prequalify areas or zones for energy conversion facility siting prior to any formal applications from utilities.

B. Constitutional Basis

The generic governmental authority relative to managing federally owned public lands comes from the broad powers contained in the Property Clause of the Constitution which allows Congress to do essentially all that it feels is necessary to properly manage and protect these lands. The scope of this power has been historically expanded by the courts to the point of recent declarations by the Supreme Court in Kleppe v. New Mexico. In Kleppe the power delegated to the Secretary of Interior to manage wild burros was challenged. The central issue was "whether Congress exceeded its power under the Constitution in enacting the Wild Free Roaming Horses and Burros Act." The Court, in its interpretation of the scope of power under the Property Clause, directly discounted any claims of limited powers on federal lands.

This grant of almost unbridled congressional discretion is

7. U.S. Const. art. I, §3, cl. 2.
11. 426 U.S. at 531.
12. Id. at 539.
illustrated by the early statement of the Supreme Court that "it is not for the courts to say how that trust [in public lands] shall be administered. That is for Congress to determine." More explicitly, in a case about federal jurisdiction over the Hetchly Dam in the Yosemite National Park area, the Court indicates that Congress has plenary power over public property entrusted to it. More directly related to the power to determine the distribution and allocation of uses on public lands, the Court in Kleppe cites an earlier statement that Congress has the power to control land use and to condition rights in land.

Given these cases, there seems to be ample authority for Congress to authorize by statute the imposition of rules and regulations necessary to carry out public policies on public land. Congress' delegation of authority to the Secretary of Interior, then, would seem to be limited primarily by the restrictions Congress imposed in the statutory grant of the FLPMA.

In addition to these Property Clause powers, there are other constitutional powers held by Congress, as trustee for the public lands, which strengthen the legal rationale for delegating powers to develop an affirmative siting process. In sum, the public trust doctrine is based upon the recognition of the government as the trustee of certain natural resources with the responsibility to manage the trust for the benefit of all the people. Coupling this trust responsibility with the Property Clause, it is argued here that Congress not only can take positive steps to manage the public lands, but must, as trustee, take such steps to protect the public interest in these lands. The Supreme Court clearly states this duty is an affirmative responsibility rather than merely a power to be used at the discretion of Congress. Therefore, Congress, with trustee re-

18. The United States holds resources and territory in trust for its citizens in one sense, but not in the sense that a private trustee holds for a cestui que trust. The responsibility of Congress is to utilize the assets that come into its hands as sovereign in a way that it decides what is best for the future of the nation. Alabama v. Texas, 347 U.S. 272, 277 (1954).
sponsibility for the BLM administered public lands, is obligated to create a mechanism for protecting present and future public interests in the land against obtrusive interference by private parties. 19

C. Delegation to the BLM

It is a generally accepted principle of administrative law that, absent some inherent constitutional power of office, all federal administrative authority must be conferred by statute, either explicitly or implicitly. 20 The most comprehensive direct delegation of authority to the BLM is contained in the FLPMA. Although the Supreme Court almost universally allows limitless delegation, it is necessary as a prerequisite to later arguments favoring mandatory siting requirements to identify historic delegations by Congress which transfer the above-mentioned congressional trustee responsibilities to the Secretary of Interior. 21

The first congressional assignment of any true management or planning authority over the public lands to the executive branch occurred as a result of the Taylor Grazing Act of 1935. Prior to that period, all the lands outside the congressionally specified reserve lands were held for ultimate disposal. 22 Prior to and throughout this period “supervision of public business relating to . . . public lands, including mines was the general duty of the Secretary of Interior.” 23 Before 1946 the

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21. The instant question is not whether the BLM’s delegated authority was too broad or invalid but whether the delegation is clear enough to support the argument that Congress intended to require the BLM to develop for the public lands a land management mechanism which insures adequate protection of the public trust in that land. This statement relies upon the conclusion of GELLHORN & BYSE that the court has only twice limited congressional delegations. Schecter Poultry Corp. v. United States 295 U.S. 495 (1935); Panama Refining Co. v. Ryan, 293 U.S. 388 (1935).
23. 43 U.S.C. §1457 (1970). This general delegation of authority was approved by the Supreme Court when it determined:

By general statutory provisions the execution of the laws regulating the acquisition of rights in public lands and the general care of these lands is confided to the land department, as a special tribunal; and the Secretary of Interior, as head of the department, is charged with seeing that this authority is rightly exercised to the end that . . . the rights of the public [be] preserved.

Cameron v. United States, 252 U.S. 450, 459 (1920) (emphasis added).
General Land Office was the agency under the Secretary for administering all public lands not statutorily transferred to some preserve or reserve status such as the national forests and the national parks.\textsuperscript{24} It was in 1946 that the BLM was formally established by a reorganization plan issued by President Truman.\textsuperscript{25}

Later, in a 1950 executive order, the land management powers of the Secretary were more specifically stated.\textsuperscript{26} However, between the Taylor Grazing Act and the FLPMA, land management was still based on the assumption that the lands would eventually be disposed.\textsuperscript{27} There was no clear guidance to the BLM as to how it was to manage the lands beyond promotion of grazing and mineral extraction until the passage of the Classification and Multiple Use Act of 1964.\textsuperscript{28} This Act required the Secretary to recommend which federally reserved lands should be retained and which if any should be disposed.\textsuperscript{29}

In the period between 1964 and 1969 the PLLRC was to make its recommendations about the disposition of public lands.\textsuperscript{30} The final report of the Commission recommended a dramatic shift in attitude away from favoring disposal to a

\begin{itemize}
\item \textsuperscript{24} Reorganization Plan No. 3 of 1946, § 403, 60 Stat. 1097 (1946).
\item \textsuperscript{25} Id.
\item \textsuperscript{26} There are hereby transferred to the Secretary of Interior all functions of all other officers of the Department of Interior and all functions of all agencies and employees of such Department . . . . The Secretary of Interior may from time to time make such provisions as he [deems] appropriate authorizing the performance by any other officer, or by any agency . . . . of any function of the Secretary.
\item \textsuperscript{27} Reorganization Plan No. 3 of 1950, §§1-2, 43 U.S.C. 1451 (1970).
\item \textsuperscript{28} Id. at §1411(a).
\item \textsuperscript{29} Id. at §1411(a).
\end{itemize}
comprehensive retention policy. In addition, the Commission foresaw the vital necessity of comprehensive land planning by recommending that "[a]ll public land agencies should be required to formulate long range, comprehensive land use plans ..." It was not until the passage of the FLPMA in 1976 that the BLM finally had direct statutory mandates for this recommended planning process. The shift in policy toward retention is a crucial prerequisite to applying the public trust doctrine to the BLM lands.

In summary, it appears that Congress has explicitly delegated to the Secretary of Interior and the BLM certain powers and responsibilities which Congress constitutionally held over lands retained in trust for the public.

D. BLM Exercise of Power

For analysis, the duties of the Secretary via the BLM and the FLPMA are here divided into two classes. The first class is the policy duties to which the BLM must adhere. The second is the process duties which are the specific procedures which the BLM must use to achieve these policies.

The basic policy mandates relevant to planning and management are contained in the Declaration of Policy title of the FLPMA. This title contains three requirements imposing certain policy constraints on the actual planning process to be used by the BLM for managing the lands. While there is no explicit precedence among these mandates, by implication one seems to be the framework for achieving the others. This is the one requiring the implementation of the multiple use and sus-

32. Id. at 52.
33. The FLPMA specified the Secretarial powers:
   Subject to the discretion granted to him by Reorganization Plan
   Number 3 of 1950, the Secretary shall carry out through the Bureau [of
   Land Management] all functions, powers, and duties vested in him . . .
   through the Bureau of Land Management . . .
43 U.S.C.A. §1731(b) (Supp. 1978). Further, Congress endorsed land retention when it declared that "the public lands be retained in Federal ownership." Id. §1701(b). In the original Senate version, the retention philosophy was more explicit. "[T]he national interest will be best served by retaining the natural resource lands in Federal ownership." S. 507, 94th Cong., 1st Sess. §3(a)(4) (1975). See also, letter from Jack Horton, Assistant Secretary of Interior, to Senator Henry Jackson (March 6, 1975) in Hearings on S. 507 Before the Subcomm. on Environment and Land Resources, 94th Cong., 1st Sess. 59 (1975), for a similar endorsement of this policy.
tained yield principles as the basis for management.\textsuperscript{35} Within the framework of the multiple use and sustained yield principles, the actual land use planning and decisionmaking are to be carried out in a manner which includes equal consideration of the aforementioned environmental and developmental goals.\textsuperscript{36}

While the use of the multiple use and sustained yield framework can be somewhat procedural, policy goals and duties are also contained in the definition of multiple use.\textsuperscript{37} As a part of its duties as trustee, the multiple use principle directs the BLM to manage the lands in a way which somehow achieves the best combination of land uses over time. Referring to the Declaration of Policy title again, the combination of a necessity for legally established goals and objectives as guidelines for public land use planning with the requirement of multiple use as the basis for management can be interpreted to mean simply that the statements in the multiple use definition are to be the basic objectives of the management or land planning process.

The analytical limitation of these policy duties is the lack of specific standards against which the actions of the BLM can be judicially scrutinized. They are so broad and open-ended that without more definitive statutory direction, any attempts to force the BLM to take certain specific actions as a part of

\begin{itemize}
\item \textsuperscript{35} Id. §1701(a)(7).
\item \textsuperscript{36} Id. §1701(a)(8), (9).
\item \textsuperscript{37} The term "multiple use" means the management of the public lands and their various resource values so that they are utilized in the combination that will best meet the present and future needs of the American people; making the most judicious use of the land for some or all of these resources or related services over areas large enough to provide sufficient latitude for periodic adjustments in use to conform to changing needs and conditions; the use of some land for less than all of the resources; a combination of balanced and diverse resource uses that takes into account the long-term needs of future generations for renewable and nonrenewable resources, including, but not limited to, recreation, range, timber, minerals, watershed, wildlife and fish, and natural scenic, scientific and historic values; and harmonious and coordinated management of the various resources without permanent impairment of the productivity of the land and the quality of the environment with consideration being given to the relative values of the resources and not necessarily to the combination of uses that will give the greatest economic return or the greatest unit output.
\end{itemize}

these policies would be very tenuous. Therefore, this specificity must come from the process duties mentioned above.

The process requirements of the FLPMA are of two general types. One is the requirement of establishing an overall land management or planning process. The second is the mandatory rulemaking requirement which applies to all the BLM activities that are a part of "administering public land statutes and exercising discretionary authority granted by them . . . ." The rules called for therein are commonly designated informal rules contemplated under section 553 of the Administrative Procedures Act.

The problem is the extent of the BLM planning and land use activities which must be included in the rulemaking requirement of the FLPMA. In addition to the general policy mandate for rulemaking, the Act imposes on the Secretary two more rulemaking requirements. Support for the conclusions that a planning process is subject to the rulemaking requirements appears to come directly from these provisions. The scope of rulemaking described in the policy section includes activities in which the Secretary is "exercising discretionary authority granted by [the public land statutes] . . . ." In the planning process itself, the Secretary is granted discretionary authority to "issue management decisions to implement land use plans developed or revised under this section . . . ." Therefore, it seems evident that the land use planning which develops into plans to be implemented by secretarial management decisions are all on a continuum of the exercise of discretion which is within the scope of the rulemaking requirements. To isolate only the culminating decisions from the

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41. These separate sections require the Secretary to "issue regulations necessary to implement the provisions of this Act with respect to the management, use, and protection of the public lands . . . [and] promulgate rules and regulations to carry out the purposes of this Act." 43 U.S.C.A. §§1733, 1740 (Supp. 1977).
42. Id. §1701(a)(5).
43. Id. §1712(e).
basic process on which the management decision is based is an arbitrary division not consistent with the concept of the whole decision process which actually occurs under this section.

Further statutory support for integrating planning and specific decisionmaking comes from the statement that the planning process is "necessary to implement the provisions [for] the management, use, and protection of the public lands . . . ."44 Most importantly, the FLPMA imposes an informational prerequisite to any allocation of uses, withdrawals, or rights-of-way in the development of some land use plans for the areas involved.45

44. Id. §1733.
45. The following planning information is required for withdrawals of 5000 acres or more and is to come from the planning for the affected area. Therefore, the 202 planning must occur prior to the formal withdrawal. The required planning information is:

(1) a clear explanation of the proposed use of the land involved which led to the withdrawal;
(2) an inventory and evaluation of the current natural resource uses and values of the site and adjacent public and nonpublic land and how it appears they will be affected by the proposed use, including particularly aspects of use that might cause degradation of the environment, and also the economic impact of the change in use on individuals, local communities, and the nation;
(3) an identification of present users of the land involved, and how they will be affected by the proposed use;
(4) an analysis of the manner in which existing and potential resource uses are incompatible with or in conflict with the proposed use, together with a statement of the provisions to be made for continuation of termination of existing uses, including an economic analysis of such continuation or termination;
(5) an analysis of the manner in which such lands will be used in relation to the specific requirements for the proposed use;
(6) a statement as to whether any suitable alternative sites are available (including cost estimates) for the proposed use or for uses such as withdrawal would displace;
(7) a statement of the consultation which has been or will be had with other Federal departments and agencies, with regional, State, and local government bodies, and other appropriate individuals and groups;
(8) a statement indicating the effect of the proposed uses, if any, on State and local government interests and the regional economy;
(9) a statement of the expected length of time needed for the withdrawal;
(10) the time and place of hearings and of other public involvement concerning such withdrawal;
(11) the place where the records on the withdrawal can be examined by interested parties; and
(12) a report prepared by a qualified mining engineer, engineering geologist, or geologist which shall include but not be limited to informa-
Given these prerequisites for any formal action involving withdrawals or rights-of-way, which must of necessity be conditions precedent to action, the planning process, as the source of such prerequisite information, is intimately tied to the decisions involved. The development of the information for the planning process itself then is a part of the discretionary activities of the Secretary of Interior and the BLM. Therefore, it should come within the scope of the rulemaking requirements.

The significance of the rulemaking procedures becoming a requirement of the planning process is that they impose an added responsibility on the agency to formally articulate the decisionmaking framework inherent in the planning process prior to any actual use of the process. Without such a rulemaking requirement, there is a significantly greater burden on the agency when any legal challenge is made that the agency's discretionary actions are not in compliance with the broad statutory planning requirements. Without what Davis calls "procedural principles" contained in written rules and regulations on: general geology, known mineral deposits, past and present mineral production, mining claims, mineral leases, evaluation of future mineral potential, present and potential market demands.

Each right-of-way shall contain—

(a) terms and conditions which will (i) carry out the purposes of this Act and rules and regulations issued thereunder; (ii) minimize damage to scenic and aesthetic values and fish and wildlife habitat and otherwise protect the environment; (iii) require compliance with applicable air and water quality standards established by or pursuant to applicable Federal or State law; and (iv) require compliance with State standards for public health and safety, environmental protection, and siting, construction, operation, and maintenance of or for rights-of-way for similar purposes if those standards are more stringent than applicable Federal standards; and

(b) such terms and conditions as the Secretary concerned deems necessary to (i) protect Federal property and economic interest; (ii) manage efficiently the lands which are subject to the right-of-way or adjacent thereto and protect the other lawful users of the lands adjacent to or traversed by such right-of-way; (iii) protect lives and property; (iv) protect the interests of individuals living in the general area traversed by the right-of-way who rely on the fish, wildlife, and other biotic resources of the area for subsistence purposes; (v) require location of the right-of-way along a route that will cause least damage to the environment, taking into consideration feasibility and other relevant factors; and (vi) otherwise protect the public interest in the lands traversed by the right-of-way or adjacent thereto.

Id. §1765(a), (b).

46. K. Davis, Administrative Law Text §4.07 (3rd ed. 1972). Professor Davis, an authority of note on administrative law, feels very strongly that the potential for abuse
tions to guide the exercise of administrative discretion, the BLM very well could avoid certain specific responsibilities of the FLPMA by claiming that specific responsibilities are undefined.

E. Siting Within the Language of the FLPMA

Siting is the process of allocating various combinations of land uses to certain parcels of land for various periods of time. The very act of allocating a use in most instances preempts certain other potential land uses during the allocation time period. If it can be shown that the FLPMA specifies certain mandatory activities which are by the above definition siting activities, it follows that there is a mandate to the BLM to develop a siting process as a part of its overall management responsibility of public lands.

The basis for all the BLM management decisions must be the required adherence to the multiple use and sustained yield principles. Throughout the definition of multiple use are requirements for land use allocation decisions between various potential land uses. The primary thesis upon which the multiple use concept is built is that there is a necessity for some institutional restriction of certain uses for certain parcels of public land to protect the total public interest in that land. Implied in this thesis is the assumption that there is a greater aggregate demand for resources than there is an adequate supply for any particular parcel of public lands. With a condition of excessive demands, there is a strong possibility of resulting overallocation or overuse of certain lands to the detriment of the overall net public welfare unless there are some institutional constraints which insure that the use levels will not "substantially impair the public interest in the lands." The

of administrative discretion must be minimized mainly by rulemaking and not simply statutory guidance. "The chief hope for confining discretionary power does not lie in statutory enactments but in much more extensive administrative rulemaking." Id. at 94.

48. See Senate Hearings, supra note 33.
50. In the PLLRC's own study of the multiple use issue the institutional constraint on demand was recognized as a necessity.

The following three propositions give the basis of the multiple use concept.

First, lands can and do produce many goods and services in many circumstances they can be produced in various admixtures and combinations on a particular land area.
multiple use principles specified in the FLPMA as mandatory guidance for the BLM require the agency decisionmaker to make "the most judicious use of the land . . . [with] a combination of balanced and diverse resource uses . . . [in a manner in which there may be a] use of some land for less than all the resources . . . ." 51

The act of limiting or specifying certain uses for particular parcels of land is by its very nature an allocation process wherein the spatial location of the use is a key factor. Allocating or locating that "combination [of uses] that will best meet the present and future needs . . . ." 52 requires some type of comprehensive site analysis for all potential uses of the lands. The FLPMA specifies what principles or major uses are to be sited under multiple use. Under the multiple use concept are various processes which the BLM must use, including land use planning 53 and the rights-of-way processes. 54

Rights-of-way grants specifically include "systems for generation, transmission and distribution of energy." 55 While these are the main uses to be located on public lands, the multiple use management principles applied to this location process must equally take into account the "various resource values" 56 and other diverse resource uses such as "but not limited to . . . watershed . . . and natural scenic, scientific and historic values." 57 In addition, while the limited list of "principal or major uses" is separately defined, there is nowhere any statement in

Second, in many situations, total net benefits, however measured, and not necessarily limited to dollar measurements, can be increased, and perhaps maximized, through some judicious combination of two or more uses on a particular area of land as compared to single use of the land only.

Third, some harmonious and compatible combination of land uses, with flexibility for change in the future and without significant impairment of the land, is desirable in the public interest.


52. Id.
53. Id. §§1711, 1712.
54. Id. §§1702(1), 1763, 1764, 1765.
55. Id. §1761(a)(4).
56. Id. §1702(c).
57. The statutory definition of multiple use equates value and use implying no distinction in management. Id.
the FLPMA which requires any distinguishing priority be assigned to them.

The BLM planning process called the Multiple Framework Planning (MFP) system is a beginning, but the integration of large scale rights-of-way applications and environmental analysis and planning is still far from being systematic. The MFP concept does not focus significant attention on integrating large scale energy development questions which are a part of the rights-of-way permit process into the MFP system. The realities are that both the planning and the right-of-way processes are typically occurring concurrently and often unilaterally.

The serious problem with such separate and uncoordinated processes is the potential for right-of-way reviews to ignore or seriously discount the critical environmental values required to be considered in the land planning. The situation of inadequate planning to anticipate development plus a long history of unilateral and very poorly coordinated processes further illustrates the vital necessity for a legally supported imposition upon the BLM to integrate the two processes in order to adequately consider and protect the environmental values and create a timely siting process. Fortunately, the FLPMA has what appears to be more than adequate language to support such an imposition via a rulemaking demand or mandamus claim. In carrying out his responsibility of granting a right-of-way, the Secretary must identify and specify "terms and conditions which..."mini...
values and fish and wildlife habitat and otherwise protect the
environment; . . . require compliance with applicable air and
water quality standards . . ., and require compliance with
State standards for . . . environmental protection, and siting . . . .” In addition, the Secretary must identify and specify
those terms and conditions which he deems to be “necessary
to . . . require location of the right-of-way along a route that
will cause least damage to the environment, taking into consid-
eration feasibility and other relevant factors . . . .”

The whole right-of-way section of the FLPMA is prefaced
with the statement, “[e]ach right-of-way shall contain,” which explicitly imposes a requirement on the agency to come
up with the aforementioned terms and conditions prior to any
granting of a right-of-way. In addition, words such as “least”
and “minimal” are superlative terms which, if these areas
are to in fact be identified, require that all feasible areas must
be assessed. Otherwise, a secretarial conclusion that a parti-
cular right-of-way grant does indeed minimize damage will be
based on inadequate information and therefore be arbitrary.
Added to these statutory duties, the Secretary, in awarding
a right-of-way must specify the boundaries in such a way as
to insure the use “will do no unnecessary damage to the en-
vironment.” If the Secretary is to make a decision as to the
location of the right-of-way which he determines will do no
unnecessary damage, then all feasible rights-of-way (or sites)
must be considered.

Any attempt to plainly and specifically separate the plan-
ing duties of the BLM under the FLPMA into ministerial and
discretionary is unrealistic. In reality, the complex nature of
administering federal lands involves an inseparable mix of both
types of duties. Usually, the statutory commands include a
basis ministerial framework outlining broad policies and goals
under which certain degrees of administrative discretion can be
exercised in satisfying the ministerial framework require-
ments. Using the mixed ministerial/discretionary approach,

60. Id.
61. Id. §1765 (emphasis added).
62. Id. §1764(a)(4).
63. See GELLHORN & BYSE, 127-32 (5th ed. 1970); K. DAVIS, 3 ADMINISTRATIVE LAW
TREATISE §23.11 (1958). Specifically, one critic noted, “As a mode of analysis, the
ministerial-discretionary dichotomy is largely illusory because there are few federal
the issue is whether the Secretary's inaction or refusal to activate a preapplication right-of-way siting process is outside his permissible scope of discretion. Concurrent with the consideration of his not developing or implementing a siting process is the question of whether any issuance of a right-of-way permit without the siting process existing exceeds the permissive scope of discretion.

Throughout the cases which utilize this mixed ministerial/discretionary approach are phases setting the limit of discretion by the use of terms such as action beyond a "rational exercise of discretion," acts "beyond their discretion," and action "outside the scope" of discretionary authority, arguably all synonymous with abuse of discretion. The issue is whether Congress intended to allow the Secretary unbridled discretion to grant rights-of-way which allow major facilities to be built without a prerequisite comprehensive land planning process being implemented. Given the above-mentioned statutory requirements of the FLPMA, there are strong arguments for courts to compel the Secretary to carry out these requirements for planning and siting rather than allow the Secretary to take no action at all. In other words, purposeful inaction is felt by some courts to be an "action" which is challengeable, particularly where complex environmental values are involved.

administrative determinations that do not involve an element of discretion and few that are wholly discretionary." Byse & Fiocca, supra note 58 at 333.


65. In a decision where similar environmental values were involved and the agency (U.S. Dep't of Agriculture) failed or refused to act regarding cancellation of registration of the pesticide DDT, the court, characterizing the inaction as somewhat equivalent to an administrative order, declared, "when administrative inaction has precisely the same impact on the rights of parties as denial of relief, an agency cannot preclude judicial review by casting its decisions in the form of inaction." Environmental Defense Fund, Inc. v. Hardin, 428 F.2d 1093, (D.C. Cir. 1970). Being more specific as to the lack of any rulemaking to implement an agency mandate, the Ninth Circuit contended that an agency (Bureau of Indian Affairs) does not have within its administrative discretion the power to not issue certain regulations if statutorily ordered. Rockbridge v. Lincoln, 449 F.2d 567 (9th Cir. 1971).

66. Illustrative of this demand is Chief Judge Bazelon's increasingly strong arguments for the necessity of more explicit formal agency guidelines especially when environmental values are in question. Implying that the lack of such a framework may be an abuse of discretion he states,
Under the force of these arguments, it appears very possible that the BLM, via the Secretary of Interior, can be compelled to in fact develop and implement some procedures by informal rulemaking to insure that the siting requirements or duties may be fulfilled in the granting of rights-of-way for energy developments. Under the FLPMA, the procedure by which the BLM may be compelled to implement this process by informal rulemaking is contained in the general policy title. The Act states that "[i]n administering public land statutes and exercising discretionary authority granted by them, the Secretary [shall] be required to establish comprehensive rules and regulations . . . ."67 The issuance of a right-of-way is clearly a discretionary action coming within the scope of this mandatory rulemaking requirement. Further, the Act requires that, "[t]he Secretary shall issue regulations necessary to implement the provisions of this Act with respect to the management, use, and protection of the public lands . . . ."68 In another section entitled "Rules and regulations," the statute again requires that "[t]he Secretary . . . shall promulgate rules and regulations . . . ."69 In sum, there is a very strong legal rationale to compel the Secretary of Interior to implement, by rulemaking procedures as outlined in section 553 of the Administrative Procedures Act, rules and regulations for review of potential energy development rights-of-way. These rules and regulations should insure the identification of the site or sites which will be the most compatible with and do no unnecessary harm to the protected environmental values.

F. Exercise of Power by the BLM—Cases

Once rules and regulations are adopted, the agency is legally bound to administer their activities and decisionmaking within the principled framework specified in these rules and

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[The "new era" in administrative law] means . . . that courts will go further in requiring the agency to establish a decision-making process adequate to protect the interests of all "consumers" of the natural environment . . . . [I]n cases of great technological complexity, the best way for courts to guard against unreasonable or erroneous administrative decisions . . . is to establish a decisionmaking process which assures a reasoned decision that can be held up to the scrutiny of the scientific community and the public.

International Harvester v. Ruckelshaus, 478 F.2d 615, 651-52.
68. Id. §1733(a) (emphasis added).
69. Id. §1740. See supra notes 38-46 and accompanying text.
regulations. Courts which require the principled framework of decisionmaking see as a necessary element of this framework the existence of some systematic process by which the agency administrator can exercise a good faith assessment of alternative decisions available to him. This good faith test is especially applicable when there are basic public resources or environmental values being affected by the decision. In the landmark *Scenic Hudson* case, the court held that the Commissioner of the Federal Power Commission did not have within his scope of permissible discretion the authority to disregard the consideration of prudent alternatives to a proposed action, therein a 1000 megawatt pump storage power plant on the Hudson River. The court then stressed the necessity of developing an administrative process (or record) which insures adequate compliance with statutory requirements.

The agency must always act upon the record made, and if that is not sufficient, it should see the record is supplemented before it acts. It must always preserve the elements of fair play, but it is not fair play for it to create an injustice, instead of remedying one, by omitting to inform itself.

The analogy is direct between the Federal Power Commission (FPC) and the BLM's mandates as the manager of public lands for net social benefit to pursue the regulatory function of granting rights-of-way. Considering the BLM's duty to, among other conditions, "require location of the right-of-way along a route that will cause the least damage," it is strongly asserted

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70. This principle is stated in a recent appellate decision, "When an administrative agency promulgates rules to govern its proceedings, these rules must be scrupulously observed." Pacific Molasses Co. v. Federal Trade Comm'n., 356 F.2d 386, 389 (5th Cir. 1966). See also United States v. Wilbur, 427 F. 2d 947 (9th Cir. 1970) cert. denied, 400 U.S. 954 (1970); Elmo Div. of Drive-X Co. v. Dixon, 348 F.2d 342 (D.C. Cir. 1965); United States v. Associated Merchandising Corp., 261 F. Supp. 553 (S.D.N.Y. 1966). The Supreme Court principle on which this statement is based is in a 1957 case involving the State Department's deviation from its own rules. "[R]egulations validly prescribed by a government administrator are binding upon him as well as the citizen, and that this principle holds even when the administrative action under review is discretionary in nature." Service v. Dulles, 354 U.S. 363, 372 (1957). See also Vitarelli v. Seaton, 359 U.S. 535, 546 (1959) (separate opinion of Justice Frankfurter).


72. *Id.* at 612.


that without a comprehensive assessment of all feasible alternatives, there is an abuse of secretarial discretion under the Act in the form of acting ignorantly of certain omitted alternative locations for the right-of-way. This contention for all comprehensive alternative analyses was greatly bolstered with the passage of the National Environmental Policy Act of 1969 (NEPA).\(^7\) Among other requirements of the NEPA there is an explicit statutory requirement to "utilize a systematic interdisciplinary approach"\(^7\) to identify and assess alternatives.\(^7\)

Soon after the passage of the NEPA, it was perceived by many agencies that such alternative studies were to be necessary only if an environmental impact statement (EIS) was required and written.\(^8\) Their narrow view was that the alternative requirement of section 4332(2)(E)\(^9\) was only a repetition of the EIS alternative section that requires all EIS's to contain a discussion of "alternatives to the proposed action."\(^8\) However, recent decisions have explicitly distinguished the latter alternatives discussion requirement in an EIS from the prior more encompassing alternatives section which is applicable to ongoing administrative activities.\(^8\) In the seminal case on this issue, the Fifth Circuit divides section 4332(2)(C) into two separate requirements, "requirements as to methodology and writing requirements."\(^8\)

Again the analogy of the BLM's assessment of potential alternative sites for energy development is direct and clear. Coupling the NEPA's methodology requirements of section 4332(2)(E) with the FLPMA's above-discussed requirements, it can be concluded that indeed the BLM must "identify and develop methods and procedures"\(^9\) wherein it can fulfill the other methodology requirement to "study, develop and de-

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\(^8\) 42 U.S.C. §4332(2)(E).
\(^9\) Id. §4332(2)(C)(iii).
\(^8\) 42 U.S.C. §4332(2)(B).
scribe appropriate alternatives" or sites. A troublesome and perhaps limiting aspect of analogizing these NEPA cases to an argument for compelling the BLM's development of a comprehensive siting methodology is that, in these cases, there was an already defined proposal or action before the agency for consideration.

A basic and critical characteristic of a timely siting methodology is that there must be a comprehensive alternative assessment in anticipation of any potential proposals and not after a formal proposal or right-of-way application is initiated. While the Fifth Circuit seems willing to require such assessments throughout the agency planning process, other courts may be reluctant to so improve this assessment requirement without the prerequisite existence of a formal proposal.

If the timing of such alternative assessment requirements is in the latter stages of a right-of-way review and decisionmaking, the utility of the section 4332(2)(E) duty is minimal as an argument supporting the necessity to implement a nomination or prequalification type siting process. The Supreme Court in the Rockfish case first faced this timing question in deciding when a proposed rate increase for recycled materials by Interstate Commerce Commission (ICC) became a proposal under the NEPA. The court held that there is a proposal only at "the time at which it [the agency] makes a recommendation or report on a proposal for federal action." The conclusion from this could be that no necessity for imposing section 4332(2)(E) requirements occurs until the agency itself creates a proposal by some definitive recommendation or report. The question of when activities pass from a conceptual stage into something specific enough to be a proposed action under the NEPA was judicially discussed in detail by Judge Wright wherein he developed a four-part test to apply to agency activities.

84. Id. §4332(2)(E).
86. Determining when to draft an impact statement [i.e., when there is a proposed action under NEPA] . . . obviously requires a reconciliation of these competing concerns. Some balance must be struck and several factors should be weighed in the balance. How likely is the technology to prove commercially feasible, and how soon will that occur? To what extent is meaningful information presently available on the effects of application . . . and of alternatives and their effects? To what extent are irretrievable commitments being made and options precluded as the
Judge Wright later had opportunity to apply this test to an issue directly analogous to the siting question when the Sierra Club petitioned the Department of Interior to consider a whole regional energy development potential (in the Northern Great Plains area of the Powder River Basin) to be a proposed action under the NEPA. The court rejected offhandedly the *Rockfish* judicial deference to agency determination of what is an action or program. In determining that the Department of Interior contemplated the circuit action, the court held such contemplation would constitute a proposal for major federal action. Judge Wright relied heavily upon the existence of an agency planning process which was considering energy development in the whole region in an attempt to place the potential impacts of coal development in perspective and thereby assist “in the management of the natural and human resources of the region.” Because of this land use plan’s existence, the court declared,

> It is our view that when the federal government, through exercise of its power to approve leases, mining plans, rights-of-way and water option contracts, attempts to “control development” of a definite region, it is engaged in a regional program constituting major federal action within the meaning of NEPA whether it labels its attempts a plan, a program or nothing at all.

In determining when there is a proposed action, the threshold is that time when, “the agency may have the opportunity to assess the environmental impact of its plans before committing itself, even tentatively to action.” The court then proceeded to apply the four factor SIPI test and concluded that there was a contemplated or proposed action.

On appeal, Justice Powell in a confusing seven to two ma-

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88. *Id.* at 874-76. *See also Conservation Soc’y. of S. Vt., Inc. v. Secretary of Transp.*, 362 F. Supp. 627, 636 (1973) where the court held that a highway network which was “possible of accomplishment with legislative and federal approval over a long-range period of time” was to be considered a proposed action.
89. 514 F.2d at 876.
90. *Id.* at 878.
91. *Id.* at 879.
92. 481 F.2d at 1079.
93. 514 F.2d at 880.
jority opinion, overruled Wright's substantive determination that there was a proposed action, endorsing in total the contrary district court's conclusions. As a part of the Supreme Court's determination that no proposed action existed, the criteria of practical reasons was used and the fact that "there is nothing that could be the subject of the analysis envisioned [by the NEPA]." Indeed, the Court did not directly dispute the circuit court's conclusion that a contemplated plan or program could become a proposed action, but only overruled Wright's determination on the merits that such was contemplated in this case. In another statement seemingly contradictory to the rigid Rockfish holding, Justice Powell states that the legislative history of the NEPA supports the view that, "by requiring an impact statement Congress intended to assure such consideration during the development of a proposal . . . ."

Later, however, the court does declare that the four factor balancing test is not within the province of the Court's review powers under the NEPA and confusingly endorses its earlier rigid Rockfish definition of proposal. The real confusion occurs then, when discounting a court's power to use a balancing test, Justice Powell himself decides to articulate balancing tests for determining when a regional program becomes an action subject to an EIS. This determination the Court apparently leaves to the "informed discretion of the responsible official." Even in the alleged affirmation of the Rockfish view of when some agency process becomes a proposal, the Court confuses and ignores the realities of the NEPA process by quoting Rockfish with approval, "the moment at which an agency must have a final statement ready 'is the time at which it makes a recommendation or report on a proposal for federal action.'" There is no discussion of when the NEPA process must start which is the real time for alternatives assessments, a fact noted by Brennan and Marshall in dissent.

95. Id. at 401.
96. Id.
97. Id. at 406, n. 15.
98. Id. at 409 (emphasis added).
99. Id. at 406.
100. Id. at 412.
101. Id. at 406.
102. Id. at 417.
In sum, while it appears *Kleppe* places significant limitations on any claim to compel the BLM to do early siting prequalifications under the alternatives assessment requirements of section 4332(2)(C) of the NEPA, there is still a strong potential of sustaining the claim using both the NEPA section 4332(2)(E) and the FLPMA mandates as cumulative statutory support. While the Court in *Kleppe* did appear to reject any affirmative duty being imposed on an agency to do comprehensive alternatives impact assessment until a formal recommendation or action, it did endorse the intent of the NEPA to have such assessments occur in the preproposal stage. Furthermore, *Kleppe* never dealt with section 4332(2)(E) and the duties under that section. The focus of the decision was narrowed to only the EIS alternatives requirement of section 4332(2)(E).

G. FLPMA and NEPA

Notwithstanding the *Kleppe* confusions, the passage of the FLPMA combined with the NEPA's broad duties under sections 4332(2)(B) and (E) appears to significantly bolster the rationale of compelling the implementation of a comprehensive siting process. A major constraint on much judicial intervention into agency discretion under only the NEPA has been the relatively general language and policy of the Act. With the FLPMA there is a significantly greater level of specificity directing the BLM to do certain definitive acts as a part of its planning and decisionmaking. Specifically, there is language in the planning section directing the BLM to begin assessing alternatives as a part of the planning process prior to any formal proposed action. Therein, Congress directs that, “In the development of land use plans, the Secretary shall consider the relative scarcity of the [land resource] values involved and the availability of alternative means (including recycling) and sites for realization of those values.”104 As argued earlier, the development of such land use plans is an integral part of the Secretary's responsibility under his rulemaking requirements.

The clear statutory duties to carry out the planning process, especially the inventory and alternatives assessments prior to any actions on either withdrawals, rights-of-way, or management decisions, implies that if the BLM is to satisfy

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103. Id. at 406 n. 15.
these duties, then the time when the assessment of alternatives or siting must occur is well before the actual formal applications for rights-of-way or other management decisions.

The shortcoming relative to the BLM's planning responsibilities, in the prior discussion of alternatives assessment cases under the NEPA, is that most of these NEPA cases are in the context of questions about writing EIS's under section 4332(2)(C) for a specifically proposed project. In order to relate these cases and their judicial standards to the prequalification or nomination siting process, it is necessary to identify a rationale for extending the judicial consideration requirements beyond merely the proposed action stage or EIS preparation.

The basic legal rationale for such an extension is based on the presumption that the statutory intent of the FLPMA, especially the planning section, and the NEPA are so similar that the judicial arguments regarding the desirability of extending the considerations requirements into the overall planning of agencies under the NEPA apply even more to the BLM which is subject to both the NEPA and the FLPMA. Therefore,

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105. Statutory Similarities Between the Federal Land Policy and Management Act and the National Environmental Policy Act

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<tr>
<td>Section</td>
<td>Phraseology</td>
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<td>42 U.S.C. § 4332 (2)(A)</td>
<td>&quot;utilize a systematic, interdisciplinary approach which will ensure the integrated use of the natural and social sciences.&quot;</td>
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<td>§ 4331(b)(A)</td>
<td>&quot;preserve important historic, cultural and natural aspects of our national heritage.&quot;</td>
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<tr>
<td>§ 4332(2)(F)</td>
<td>&quot;weigh the . . . long term character of environmental problems.&quot;</td>
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certain NEPA cases become even more applicable to this argument for compelling broad level alternatives assessment throughout the agency planning.

One such early NEPA case, albeit an EIS challenge, discusses at length the necessity under the NEPA to take account of environmental considerations continuously during the agency’s operation, whether an EIS is required or not or whether there is a formal proposed action or not. A later similar case focused on the specific issue of whether there was actual agency consideration of environmental values in its decisionmaking and planning procedures. The court’s test of compliance was application of sections 4332(2)(A), (B) and (E)

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<th>§ 4332(2)(C)</th>
<th>§ 1712(c)(5)</th>
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<td>(iv) &quot;[consider] the relationship between short term uses of man’s environment and the maintenance and enhancement of long term productivity.&quot;</td>
<td>&quot;consider present and potential uses of the public lands.&quot;</td>
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<th>§ 4332(2)(E)</th>
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<td>&quot;study, develop and describe appropriate alternatives to recommend courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources.&quot;</td>
<td>&quot;consider the relative scarcity of the values involved and the availability of alternative means (including recycling) and sites for realization of those values.&quot;</td>
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106. The congressional mandate [of section 4331(b)] is clear. Federal officials are to appraise continuously all their activities not only in terms of strict economic or technological considerations but also with reference to broad environmental concerns . . . . Subject only to the limits of practicality, they are to strive constantly to improve federal programs to preserve and enhance the environment. In other words, federal officials are required . . . . to incorporate the consideration of environmental factors into the decision making process.

107. Environmental Defense Fund, Inc. v. Tennessee Valley Authority, 468 F.2d 1164, 1174 (6th Cir. 1972) (emphasis added). The court further noted the Congressional intent that environmental considerations permeate the whole of agency procedures by citing the following language of S. REP. No. 296, 91st Cong., 1st Sess. 14 (1969): “[NEPA would] provide all agencies and all Federal officials with a legislative mandate and a responsibility to consider the consequences of their actions on the environment. This would be true of the licensing functions of independent agencies as well as the ongoing activities of the regular federal agencies.” (emphasis in original). 468 F.2d at 1175.
as "directives that are intended to insure the integration of sound environmental planning principles and methods into
normal agency procedures." The court viewed the EIS re-
requirement of section 4332(2)(C) as primarily documentation of
the other required activities within the overall agency plan-
ing. Focusing on the specific consideration requirement
under section 4332(2)(C) of the NEPA, the court held that in
order to comply with this section, an agency must "search out,
develop and follow procedures reasonably calculated to bring
environmental factors to peer status with dollars and technol-
gen in their decision making."

This argument is significantly bolstered by the FLPMA's
requirements to implement a planning system and the environ-
mental consideration requirements contained therein. To re-
iterate, the planning system is intended to be the basic guid-
ance for management of the public lands and the framework
for management decisions made by the Secretary. Explicitly
included as a management decision are exclusions of one or
more principal uses in favor of one or more other such uses.

Rights-of-way, again, are by definition "principal or major
uses." In this statutory context, then, any actions which the
Secretary takes regarding a right-of-way which in fact excludes
any other major use is a decisionmaking activity with the
framework of the land use planning process mandated by the
Act. Further, there is strong argument that in order to fully
comply with the requirements of the rights-of-way process,
there must be some direct coordination between the grant of a
right-of-way and the planning process wherein grants are com-
patible with the overall land use inventory and assessments
required under the planning process.

108. Id. at 1132.
109. Id.
110. Id. at 1133. See also Sierra Club v. Froehlke, 359 F. Supp. 1289 (S.D. Tex.
1973). The Council on Environmental Quality, now given power to promulgate regula-
tions under the NEPA as a result of President Carter's Executive Order 1191 (May 24,
1977), declares the same intent of the NEPA in what are presumably to become official
regulations, "§4332(2)(C) requires agencies to build into their decision making
process, beginning at the earliest possible point, an appropriate and careful considera-
tion of the environmental aspects ... " 40 C.F.R. 1500.1(a).
112. Id. §1701(a)(7).
113. Id. §1712(e).
114. Id. §1712(e)(i).
115. Id. §1702(1).
116. Id. §1765. See supra note 59 and accompanying text.
Congressional and administrative support for this idea of the planning system being the basic guide for decisions is evidenced in the responses to committee inquiry by the Department of Interior in the Hearings on the FLPMA, wherein the Department clearly indicated the policy of utilizing the land use plans as basic prerequisites to any secretarial decisions or commitments.\textsuperscript{117}

H. The Nominating Process

The nomination or prequalification siting process includes two basic subprocesses or stages. The first is the macrolevel inventory and identification of all existing and potential land use values within a zone or area which has all the industrial prerequisites necessary for the contemplated development. The second more analytical subprocess which follows the inventory is the initial balancing of the relative land related values involved wherein certain sites are excluded from further consideration for development and others are preferred for more detailed consideration and in essence nominated, or prequalified, for development. Once the preferred sites are identified, any utility applicants desiring to develop in the site would submit the necessary rights-of-way applications triggering a more detailed analysis through the EIS process. An important point here is to distinguish the initial balancing process where basic resource value tradeoffs and conflict resolutions occur from what would be the subsequent EIS process tradeoffs which are more site specific and less extensive geographically. It is in this pre-EIS stage that the truly crucial macrolevel decisions and value judgments are made involving extensive lands and resources.

The procedural form of these specific selections are rights-of-way grants. Both of these management decisions involve resolution of value conflicts on the part of the Secretary and the BLM. Because of the above-cited judicial emphasis stressing the necessity of scrutinizing any agency process which involves environmental values, both stages of the siting balancing are most notably subject to intense judicial review.\textsuperscript{118}

\textsuperscript{117} See Senate Hearings supra note 33 at 91-94 and testimony of Curt Berklund at 3-4.

1712 of the FLPMA clearly extended the policies and procedural mandates of the NEPA into the pre-EIS or planning stage, then similarly, the FLPMA would extend the substantive NEPA review standards imposed by courts to the same pre-EIS planning procedures.

Given both the inclination of the courts in following the landmark decision of Overton Park to limit the agency's discretion involved in the actual decision by looking to applicable statutory mandates to protect the environment and the growing inclination of certain circuits to at least require equal consideration of such values even if only the NEPA is involved, there is a strong argument that certain language of the FLPMA is to be interpreted as direct statutory limitation upon the scope of discretion afforded the Secretary's actual balancing decisions within the siting process. Specifically, in the pre-right-of-way granting stage of the siting process, the mandates of the planning title clearly impose significant requirements on the BLM decisionmaking to establish a priority for certain values over others for certain identified areas.

In two other sections of the statute, this establishment of priorities is also given special emphasis. In the land use planning inventory, the Secretary must give priority to an inventory of these areas of critical environmental concern (A.C.E.C.).

Probably more important, the declaration of policy section imposes a duty on the Secretary to promulgate rules and regulations for protection of A.C.E.C.'s. With these reassertions by Congress, it seems clear that the Act's intent is for actual balancing decisions to establish a priority for these environmental values over other values when they are in conflict. Although the language on its face would seem to support such a conclusion, it is necessary to look at this language in the con-

119. 401 U.S. 402.
120. "Areas of critical environmental concern" are defined as:
areas within the public lands where special management attention is required (when such areas are developed or used or where no development is required) 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.
121. Id. §1701(a)(1).
122. Id. §1701(a)(11).
text of the whole statute before such a conclusion can be generally accepted.\textsuperscript{123}

Reiterating, these two goals are subject to guidance from the principles of multiple use and sustained yield wherein protection of public land areas of critical environmental concerns\textsuperscript{124} must be reconciled with "[recognition] of the Nation's need for domestic sources of minerals, food, timber and fiber from the public lands."\textsuperscript{125} Initially, resolution of such a dilemma by the agency seems to be not subject to a judicial interpretation which implies a favoring of one over the other. However, there can possibly be such an interpretation if viewed in the context of the mandatory compliance with the principles of the FLPMA's definition of multiple use\textsuperscript{126} and the NEPA as a part of the general system of environmental policy and planning.\textsuperscript{127} Recognizing the inherent conflicts between the developmental and environmental goals, a close examination of the language requiring protection of environmental values as opposed to recognition of development values allows for an argument that in certain so identified areas the BLM has a clearly unqualified duty to prioritize protection of A.C.E.C.'s. The developmental responsibility, however, can be argued to allow the Secretary a certain amount of discretionary leeway in how this is done.

The Mining and Minerals Policy Act of 1970 is the statutory guidance for recognition of development potentials as specified in the FLPMA.\textsuperscript{128} In that policy statement itself the

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\item[124.] \textit{See supra} note 120.
\item[126.] \textit{Id.} §1702(c).
\item[127.] The use of the NEPA to infer intent or assist the court in interpreting other agency statutes has been clarified by the Supreme Court in the \textit{Flint Ridge} case wherein the Court stated, referring to the Senate conference report, on the NEPA, The purpose of the new language is to make it clear that each agency of the Federal Government \textit{shall} comply with the directives set out in [NEPA] unless the existing laws applicable to such agency's operations expressly prohibits or makes full compliance with one of the directives impossible ... and that no agency shall utilize an excessively narrow construction of its existing statutory authorizations to avoid compliance. 115 Cong. Rec. 39703 (1969) (House Conferees).\footnote{Flint Ridge Dev. Corp. v. Scenic Rivers Ass'n, 426 U.S. 776, 787 (1976) (emphasis added).}
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development goals are to be balanced to "assure satisfaction of industrial security and environmental needs."\textsuperscript{129} In addition, that same minerals policy requires the development of methods "to lessen any adverse impact . . . upon the physical environment."\textsuperscript{130} Therefore, recognition is in reality a balanced recognition requiring at least equal consideration of environmental needs. At the same time there is no coequal requirement of balancing inherent in the A.C.E.C. protection requirements of the FLPMA once such areas are identified. The conclusion that there is a mandate for protection of A.C.E.C. values but only a requirement for discretionary recognition of other values when in conflict argues that the mandatory environmental protection will prevail over the discretionary development recognition for the A.C.E.C.'s.\textsuperscript{131} The most rational way to avoid a collision is to affirmatively specify to all potential utility applicants where these prioritizations will occur and where the developmental goal of energy development will not be in conflict with the environmental goal. This due notice to the industry, of course, must be timely and prior to extensive investments and commitments to sites which are likely to be in an A.C.E.C.

I. \textit{Basis on the Principles of Multiple Use}

Another statutory support for protection prioritization in the FLPMA lies in the principles of multiple use. By definition, this guiding doctrine requires the following principles to be applied to land management practices and decisions of the BLM. They

(a) must "best meet the present and future needs of the American people";

(b) must "take into account the long term needs of further generations for renewable and non-renewable resources";

(c) must not have any "permanent impairment of the productivity of the land" and the "the quality of the environment";

(d) must "not necessarily [be] the combination of uses that will give the greatest economic return or the greatest unit output."\textsuperscript{132}

\textsuperscript{129} \textit{Id.}
\textsuperscript{130} \textit{Id.} \textsuperscript{\(\text{\textsuperscript{\$}21(a)(4).}\)}
\textsuperscript{131} Ely \textit{v. Velde}, 451 F.2d 1130 (4th Cir. 1971).
\textsuperscript{132} 43 U.S.C.A. \textsuperscript{\textsuperscript{\$}1702(2)} (Supp. 1978).
These criteria weigh toward protection of options for future land resource demand over immediate returns of current demands thus being supportive of both the NEPA\textsuperscript{133} and other language guiding the planning process.\textsuperscript{134}

The only cases which directly addressed the scope of discretion under the Multiple Use and Sustained Yield Act,\textsuperscript{135} gave broad deference to the agency in interpreting and implementing the Act.\textsuperscript{136} In a recent appellate case, the court deferred to the expertise and discretion of the Forest Service's determination of the best mix of land uses. However, the court did inquire into the actual planning process used and the weights assigned to certain values. Therein multiple use is defined by the court as management "to provide maximum benefits to the greatest number of persons possible."\textsuperscript{138} The significant point is that three of the four above-mentioned multiple use principles or planning criteria (a, b, and c) were not contained in the old Multiple Use Act on which the above decision was based.\textsuperscript{139} This addition of new language, all stressing greater preference for consideration of the environmental goal, is further support for the argument for an environmental prioritization mandate existing in the FLPMA for A.C.E.C. lands.\textsuperscript{140}

The conclusion to be drawn from this is that the siting process must insure that the A.C.E.C.'s are identified first, then prioritized for protection, and further that the Secretary's decisions in the pre-EIS planning stage of nominating or pre-qualifying zones for potential development takes into account this prioritization. If the Secretary does not in fact show on the administrative record how this identification of such A.C.E.C.'s land prioritization did occur, the court review of the nominations would likely conclude (or at least would certainly

\textsuperscript{133} 42 U.S.C. §4332 (1976).
\textsuperscript{134} 43 U.S.C.A. §1712(b) (Supp. 1978).
\textsuperscript{136} In one case brought under the NEPA involving an action done under the Multiple Use and Sustained Yield Act, the court held a District Ranger had discretion to determine what mix of uses are appropriate for designation of a wildlife habitat. Kisner v. Butz, 350 F. Supp. 310 (N.D. W.Va. 1972).
\textsuperscript{139} See generally, PLLRC REPORT 43 (170).
allow a conclusion) that this lack in the record was grounds for holding the decision to be arbitrary and capricious. While some utilities may criticize the identification of these areas, the timing of the identification prior to major industrial commitments is far superior to the uncertainties of trying to second guess the BLM as to what in fact will be A.C.E.C.'s after a formal right-of-way application is filed. Using the A.C.E.C. identification mandate, the BLM clearly has ample authorization, indeed responsibility, to prequalify areas by the process of eliminating certain areas from further consideration as viable energy development sites.

J. Support in the A.C.E.C. Definition

In looking at the statutory definition of A.C.E.C.'s, it is explicit that the total spectrum of environmental values is to be included, especially with the catchall phrase, "or other natural systems or processes." Because many of these values are very widespread or at times even ubiquitous, the selection of a parcel of land as an A.C.E.C. requires some threshold of relative concentration or high level of one or more of these values in order to be designated as an A.C.E.C.; otherwise the special character or special management defining these areas is meaningless.

The key language for determining this threshold for designation is: (a) special management attention being required, (b) potential for irreparable damage, and, (c) the existing value being important. If it can be shown then that these three prerequisite conditions exist for any of the values on any parcel of land, the Secretary must designate them to be A.C.E.C.'s. To ignore them would be challengable according to the above arguments. Because of locally unique factors, special circumstances, and generally a lack of any clear indicators for designation, the initial determination of whether the three conditions exist will and should be within the discretion of the Secretary and the BLM technical staff. This assumes, of course, good faith consideration and analysis of all affected values throughout the identification process. The situation is somewhat analogous to the threshold determination as to whether a proposed action will significantly affect the human environment and require an EIS under section 4332(2)(C) of the NEPA.

For a court to intervene into the agency's threshold deter-
mination, there should be some further statutory guidance against which the court may review whether the determination was arbitrary. If the court intervenes without such further guidance, there is the problem of great administrative uncertainty about the potential future judicial reaction to agency planning, thus creating a real dilemma in developing long term administrative procedures. Fortunately, there are a number of federal statutes which do (in most cases) specify standards for determining the location of areas of importance or irreparability which require special attention, thus helping to lessen the dilemma of such second guessing.

In other words, there is indeed “law to apply” to further define and limit the Secretary’s discretion in the decision of designating A.C.E.C.’s. Statutes such as the Clean Air Act and the Clean Water Act are ones with which the Secretary must comply in the planning inventory.142 The A.C.E.C. identification and designation decision as a part of this inventory must likewise so apply the applicable standards to each land parcel to determine whether such land has any of the statutorily specified values making it by definition an A.C.E.C. The specific language for each statute used as criteria for designation must be that language which is relatively clear on its face as to meaning and also capable of being used to spatially identify land areas having such criteria for designation as A.C.E.C.’s. A more detailed specification of criteria is contained in the regulations and manuals under each of these acts which should be included as considerations in the A.C.E.C. decision by the BLM, especially when Congress specifies another agency to be specially qualified and so designated as the interpreter of these criteria.143

In the prequalification stage, the BLM would review all lands within the economic feasibility zone for the potential large scale facility and identify any land areas or zones which do contain any of these environmental values in the listed statutes. Once identified, however, the A.C.E.C.’s are not necessarily eliminated from consideration for energy development. The identification only “red flags” the area and such “red flagging” indicates the necessity of designating the zone an A.C.E.C. under special management attention. At this

142. Id. §1712(c).
point, if the BLM ignores these identifications of statutorily protected values, and proceeds in viewing the zone as subject to only ordinary management practices, it would seem such an ignoring is arbitrary in light of applicable "law to apply" from the statutes listed as well as the explicit requirement to identify and specify zones where special management attention is required.\textsuperscript{144} For example, if the Fish and Wildlife Service has identified an area of critical habitat for a certain endangered species, the BLM would logically be compelled to so designate the area an A.C.E.C. The existence of any statutorily specified environmental value will suffice to impose the necessity for such an A.C.E.C. designation because the A.C.E.C. definition lists the values with an "or" separation, meaning any one value is important enough for the designation. If more than one value exists in any zone, it should be so specified so that the later weighing process can evaluate the cumulative environmental value of the A.C.E.C.'s within the study area of potential sites for the major facilities.

Once the non-A.C.E.C. zones are identified by the process of elimination, there is the more important analysis of relative potential adverse offsite impacts on the A.C.E.C.'s from the non-A.C.E.C. development sites. It is at this point that the BLM must determine whether the A.C.E.C.'s fall into one of two categories. The first is one in which the development could occur near the A.C.E.C. without significant adverse impact with special management attention. The second category would be those areas in which no development is allowed in order to prevent irreparable damage. This is a threshold determination which is a matter requiring professional and technical analysis. The judicial scrutiny of this particular step would most likely be minimal except to screen against obvious abuses or arbitrary determinations. The real decision, subject to review of a more substantial nature, is the ultimate site selection from among alternatives identified in the elimination process.

Once certain development sites are identified as the residual areas outside the designated A.C.E.C.'s, or as acceptable within the A.C.E.C. under special management, the EIS stage begins wherein the relative environmental impacts are assessed for each alternative site. If through this process it is evident

\textsuperscript{144} 43 U.S.C.A. §1702(a) (Supp. 1978).
that one site will cause least damage to the environment, the BLM would seem to be compelled to select that site for the right-of-way grant. Otherwise, there seems to be a strong case for claiming an arbitrary and capricious decision in choosing a more environmentally damaging site. It must be kept in mind here that only sites within the general economic feasibility zone were ever considered. Therefore, the requirement in the rights-of-way section of "taking into consideration feasibility" is satisfied long before such alternatives assessments occur. Any argument that a more environmentally damaging site should be selected lacks any support in the section of the FLPMA dealing with the right-of-way choice. Nowhere in the rights-of-way section is there a requirement to maximize economic efficiency. This would be the complement to the requirement that the grant insure that the "location of the right-of-way [will be the one] that will cause least damage to the environment." As A.C.E.C.'s, only the site or corridor which causes the least cumulative damage to all these areas and their environmental values would be acceptable as the proper right-of-way under sections 1765(a) and 1765(b).

This conclusion does not mean, however, that there will never be any development which requires a right-of-way grant through or in an A.C.E.C. This only means that among all the reasonable alternative sites identified within the economic feasibility zone, the one chosen must be the one which would cause the relatively least damage to the environment. A restriction requiring no damage must come from some other more restrictive directive such as the Endangered Species Act which imposes absolute safeguards for the protection of endangered species habitat. If there is so much land with such absolute restrictions on it that no sites remain for locating facilities in the feasibility zone, the right-of-way review should stop and

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145. Id. §1765(b)(v).
146. Id.
147. Id. §§1763-65.
148. Id. §1765(b)(v) (emphasis added).
149. 16 U.S.C. §1531 (1976). This act specifically directs that, "all other Federal departments and agencies shall . . . insure that actions authorized, funded, or carried out by them do not jeopardize the continued existence of such endangered and threatened species or result in the destruction or modification of habitat . . . which is determined . . . to be critical." Id. §1536. See Hill v. Tennessee Valley Auth., 549 F.2d 1064, 1068-71 (6th Cir. 1977), aff'd, 98 S. Ct. 2279 (1978); National Wildlife Fed'n. v. Coleman, 529 F.2d 359, 371-74 (5th Cir. 1976), cert. denied, 429 U.S. 979 (1976).
an attempt should be made to identify other economically feasible zones in another acceptable area. A proper prescreening of such zones prior to the economic feasibility zone identification should, however, identify the majority of such absolute restrictions because of their usually notorious nature among the agencies or reviewers of agencies.

Once the prequalification process has identified all the A.C.E.C.'s at a macrolevel, the potential applicants for the rights-of-way can focus on residual areas and make their own internal evaluation of what specific sites they prefer, after which the formal rights-of-way application can occur. It is desirable here to allow an application for multiple alternative sites. This enables both the applicant and the BLM to evaluate all sites without biases due to prior political or economic commitments to one site. It also allows for negotiation and settling by stipulations conflicts between the applicant and the BLM at a stage where such adjustments and modifications are most feasible. Most important to the public interest, this staging of the siting process gives much more reliable assurance that the critical environmental values have been identified and protected prior to the development negotiation stage and irretrievable political or economic commitments.

K. Conclusion of Legal Basis

With such a comprehensive process as that proposed, the successful implementation requires good faith commitments by both government and the utility industry throughout the processes leading up to the ultimate decision on a site. If there is an administrative breakdown or inclination to abuse or ignore the process at any important formative stage, the resulting decisions will be adversely affected by increasing the potential for an arbitrary or bad faith determination. The reality of the complexity and intertwining of federal decisionmaking illustrates further the dilemma of relying totally on litigation to force agency implementation of complex planning procedures. The overall reason therefore for developing a rather comprehensive and detailed legal rationale is not to encourage reliance on a continuous legal challenge to the BLM for success, but to identify what are the supportive arguments to begin the process of good faith compliance.

II. SITING METHODOLOGY

By limiting this study only to siting, there is no attempt
to discount the importance of the other aspects of energy development decisionmaking. Indeed, the presiting issues of the actual need for such development are perhaps the most important decisions. This article presumes such issues to have been addressed in some systematic and equitable manner prior to the actual siting decision. The siting process is based on the concept that there will be some level of energy development necessarily on or near public lands. Within the present institutional framework, this siting methodology can do nothing more than identify the relatively best site or sites for a potential development using the criteria of least cumulative environmental degradation. Once this information is developed and arrayed for the decisionmaking entities involved, other decisional factors will come into play. However, in a legal context the public land manager has an affirmative trust responsibility to make decisions which will be the best in terms of protecting the total public interest under the public trust doctrine.\textsuperscript{150}

The problem of finding the optimal solution in allocating public resources has been a terribly frustrating issue of economic theorists for many years;\textsuperscript{151} however, with proper limitations and perspective, this problem is solvable in the context of this methodology. Generally defined, the best public welfare decision which allocates public common goods is the one which results in the greatest total net public benefits after deducting the total net public costs.\textsuperscript{152} More specifically to the siting decisions, the best choice will be that which results in the least costs to the public in terms of reduction in the total public values on the land. The real problem for pure optimization analysis is, of course, defining and in some manner qualifying these vague and often debatable values.

Fortunately, the analytical economic question of what has value can be conveniently deferred by accepting what the Congress and the judiciary have defined as values. These determin-


\textsuperscript{152} MISHAN, COST BENEFIT ANALYSIS (1971).
nations of value do in fact assign rights in the various land resources to the various groups who desire to use them. The eternal and complex issues of distributional equity and the correct assignment of such rights are presumed to be addressed, however loosely or politically, by Congress in the legislative process. One writer endorses the idea of assuming the inherent value or right assignments of the institutions and beginning the optimizing analysis from that point.\textsuperscript{153} Public land resources have a myriad of such assignments. Given the acceptance of these values as the true measures of the public welfare, the problem becomes one of efficient maximization of these values by the siting methodology.

This welfare efficiency in the siting decision is measured by the cumulative level of the assigned resource values. Any determination of what is the best site must be done in the framework of comparative or alternative assessments to avoid the unsolvable problem of the true optimum choice. Because the siting decision is one of choosing between a limited set of alternative sites, the comparatively best solution can be developed.

The siting process is one of comparative assessment to find the relativel\textsuperscript{y} best site as a part of the larger energy development decision process. The analysis of the optimal is focused on a spatial differential welfare function between sites for each assigned welfare value. A spatial differential is necessary; otherwise, any site would be the optimum as they all would result in the same total value level no matter where they were on the land. Variability over our public lands is obvious. Coupled with inherent spatial variability is the inherent differential of impacts from an energy development wherein the relative distance from the development affects the intensity of impact.\textsuperscript{154} The relative welfare efficiency of the decision or site chosen then is determined by the relative level of resulting welfare values on the land which is subsequently determined by subtracting or adding the relative degradation\textsuperscript{155} or enhancement.


\textsuperscript{155} The degradation of any welfare value is defined herein as an externality of the energy development. An externality occurs "whenever an output of one economic agent appears as an input in the consumption or production vector of another without
of these highly variable land resource values caused by the development. This relativity consequently depends on the location of the site in relation to the other land values; therefore, the optimization analysis is focused on the alternative sites for any development.

The externalities caused by energy development which are a concern in the siting methodology can be more definitively characterized as what one economist defines as true pollution as distinguished from congestion externalities.\textsuperscript{156} The relative degree to which these pollutant costs become true externalities in the context of the public land welfare functions depends on the relative destruction of the welfare values. Because the destructive or polluting production outputs of an energy development will be generally the same at any alternative site, the difference between each site's spatial relationships to the land characteristics with assigned welfare values will be the determining factors for identifying the most efficient site. In the vernacular of traditional welfare economics, the problem is to "properly evaluate a . . . land use policy which results in gains to some individuals [public users] and losses to others . . . ."\textsuperscript{157} The siting analysis is not the proper framework for assessing the total costs and benefits of X amount of energy development but is simply the framework for assessing the relative costs and benefits of each alternative.

The prequalification siting methodology has two major stages of decision analysis. The first stage is the feasibility zone identification and the second is the alternative sites analysis and identification of the most efficient site. This separation of anlaysis into a two-step process is significantly different from most siting methodologies recently developed. The first stage analysis involved in defining and identifying economically and physically feasible areas for energy development is distinctly accompanying payment." Fisher & Krutilla, \textit{Managing the Public Lands: Assignment of Property Rights and Valuation of Resources}, in \textit{The Governance of Common Property Resources} 35, 45 (E. Haefele, ed. 1974).

\textsuperscript{156} Rothenberg, \textit{The Economics of Congestion and Pollution: An Integrated View}, 60 \textit{Am. Econ. Rev.} 2, 114 (1970). Rothenberg's definition is paraphrased as, "a competing dissimilar use of the environment which alters the characteristics of the environmental resources in a way that is in some sense destructive, and in which there is an unidirectional flow of the costs associated with the resource exploitation." Fisher & Krutilla, \textit{supra} note 155 at 47.

\textsuperscript{157} Id. at 47.
different from the analysis involved in the specific site selection. This macrolevel analysis uses only industrial location factors based on sometimes very crude assessments of resource availability and regional distances between the resources and the market or demand point.\(^{158}\) At this point, the boundaries of the zones represent only thresholds of feasibility based on this macrolevel analysis. There is no assessment of relative costs over space in any refined fashion, nor, more importantly, are there any offsite externality assessments made. The second-level analysis must then use these feasibility zones as the universe of alternative assessments and therein take into account the externality-economic cost differentials based on site-specific analysis.\(^ {159}\)

Combining both levels of economic and physical feasibility with the externalities into one integrated siting analysis makes it impossible to array the relative economic costs against the relative environmental costs for better informed decision-making. The relative economic desirability of a particular site would then be indistinguishable from the relative environmental desirability of a site, thereby increasing the potential for distortion of the results. Inserting such quantitative costs into qualitative evaluations may very well cause the decisionmaker to falsely presume the site identified to be the optimal site regardless of public welfare considerations. This segregation in no way implies a discounting or minimizing of the importance of economic costs to the ultimate siting decision. However, it does recognize the pitfalls and potential for confusion inherent in mixing the two very different criteria.

Once a regional or cell suitability analysis has been completed, it is absolutely essential that the resulting identified cells or zones are not presumed to be the relatively best or most


\(^{159}\) G.W. Webb, Factors Affecting the Location of Coal Burning Steam Electric Generating Plants, 19 THE PROFESSIONAL GEOGRAPHER 173 (issue 4, 1967).
efficient locations without further analysis. This macrolevel analysis cannot identify the best specific site in these zones. The use of a two-level screening process also has a very practical advantage over a "one shot" or single integrated approach. With early macrolevel prescreening there is elimination of those areas which have little or no potential for development due to economic, physical, or institutional factors. This macrolevel screening can then be used by both the land management agency and the potential applicants to "red flag" these areas, minimizing the investment of large amounts of time and money in such very unlikely areas.

The following is a step-by-step specification of how the methodology procedures are to be implemented by any user of the process. The methodology is divided into major steps which are chronological stages of analysis. Under each major step are the procedures to be used to develop the data for the major step of the process.

**Step 1: Feasibility Zone Identification**

The aim of this step is to develop a relatively large scale map or series of maps delineating the available or feasible areas for the contemplated development. This step has three sub-steps. The first is a purely economic resource availability analysis followed by institutional macrolevel and absolute constraint analyses. The separation is necessary here to isolate the relatively static constraints of physical resource characteristics from the more variable institutional constraints. Therefore, adjustments of modifications in the institutions can be incorporated into the analysis without reevaluating the physical suitability zones.

**Step 1.1: Identification of Primary Economic Constraints**

The beginning point of this analysis must have some defined potential energy development to analyze. This development will have certain key economic constraints which are related to the relative location of water and coal (if a coal-fired

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160. The thing that makes cell analysis possible is vagueness or 'macro-ness'. That is, a given cell characteristic (say, water availability) is taken to be characteristic of any potential site within a cell... Cell analysis has [only] the potential for gross screening to determine those areas not suitable for specific facilities; beyond this, site specific analysis is mandatory.

plant) vis-a-vis the demand center(s). In terms of importance, water availability usually is the most critical.\(^{161}\) Other significant macrolevel constraints to use in this step are firm supplies of high-quality coal for the life of the development and developed or feasible transportation systems both for the coal to power plant delivery and power plant to demand center transmission. The actual procedure begins with an identification of all general areas with a sufficient water supply to sustain the energy development requirements.\(^{162}\)

Next, the coal supplies must be inventoried for the study region to identify coal supplies which are of sufficient amount to satisfy the requirements of the potential energy development. Third, Step 1.1 surveys the existing transportation system for adequate roads or railroads to move the coal from its source. Finally, the existing transmission system is inventoried for capacity and potential relative to the known demand points.

**Step 1.2: Delineation of Macrolevel Transportation Costs and Identification of Unconstrained Feasibility Zones**

Once the basic resource supplies are identified, a generalized transportation limitation isopleth (or equal value line) is constructed around each supply of coal and water. Overlaid on this isopleth map is a similar transmission limitation isopleth from the demand centers. Because the level of information is rather crude at this point, the specificity of the isopleths should be rough. The results will be a map delineating all feasible zones for energy development of the size and type being analyzed. The economic sophistication of Step 1.2 is purposely simple to avoid becoming too site-specific prior to the public welfare analyses. The only information sought at this point is the absolute geographical limitations on feasibility from an economic point of view and not an economic location optimization. The policy presumption supporting this approach is that the potential for minimizing the overall total public welfare requires latitude for imposing a certain amount of economic

\(^{161}\) According to Deasy and Gruss in their locational study of the American Electric Power System, 49 of the 55 power plants analyzed specified water availability to be the most critical location factor. Deasy & Gruss, *Factors Influencing Distribution of Steam Electric Generating Plants*, 12 *The Professional Geographer* 1 (issue 3, 1960).

costs on the development (up to the point of feasibility limitation if necessary). This policy presumption is further supported by the fact that the ultimate liability for added economic costs is the large population of electrical power consumers which can be presumed to accept the congressional assignment of the aforementioned welfare values for protection.

**Step 1.3: Identification of Absolute Institutional Constraints in the Unconstrained Feasibility Zones**

Once the unconstrained feasibility zones are identified and mapped, the macrolevel institutional constraints which are mandatory (at that point in time of the analysis) are mapped. These are only constraints which will (1) be reasonably certain to remain in force for the development period of operation and (2) allow for no variance or modification without either legislative or judicial action. Such constraints are either based on land management jurisdiction prohibitions or imposition of physical resource quality degradation limits or a combination of both.\footnote{163} Step 1.3 analysis takes these and other absolute institutional constraints and delineates only those areas within the Step 1.2 zones which would not be available for development as a result of these prohibitive constraints. Because of the inability to technically specify precise "L" boundaries for many of these constraints, these lines are only tentative at this point in the analysis. Later adjustments can be made in situa-

\footnote{163. An example of land management absolute prohibitions is the National Park's general prohibition against the construction of large coal-fired power plants within the park boundaries or allowing high voltage transmission lines unless specially authorized by legislation. The Capital Reef National Park Enabling Act created the special right to have a transmission corridor developed through the park as determined by the National Park Service. 16 U.S.C. §273(d) (1971). The obvious example of a resource quality protection prohibition is the Prevention of Significant Deterioration Standards in the 1977 Clean Air Act which imposes an absolute threshold on the level of emissions which can be emitted from an energy development. The Clean Air Act of 1977, 42 U.S.C. §7401 (1977). An example of a combination is the antidegradation policy of the Clean Water Act for waters within National Parks, 33 U.S.C.A. §1251 (West Supp. 1978). The regulations state this antidegradation as follows:

*Existing high quality waters which exceed those levels necessary to support propagation of fish, shellfish and wildlife and recreation in and on the water shall be maintained and protected unless the State chooses... to allow lower water quality as a result of necessary and justifiable economic or social development. In no event, however, may degradation... be allowed in high quality waters which constitute an outstanding National resource... and waters of exceptional recreational or ecological significance.*

40 C.F.R. §130.17(e)(2) (1977).}
tions requiring more precise site-specific refinement of the boundary by such means as air quality site modeling or intensive on site resource evaluations and inventories. By first identifying the economically and physically feasible zones, the amount of analysis and inventory work is greatly reduced by focusing all further analysis only on these zones.

Another type of potential constraint is the state and local land use policies which may prohibit certain development activities. These are to be incorporated at this point if they do in fact satisfy the two above conditions of (1) being reasonably certain of remaining in force and (2) not allowing any variance or modifications without legislative or judicial action.

The residual of Step 1.2 and Step 1.3 is the actual feasibility zone to be analyzed at a site-specific level in all the remaining steps. It is at this point in time that the BLM would nominate or prequalify these areas for further study as potential energy development areas, being careful to note that these are only study areas and not yet definitely acceptable sites. This can be done either by use of the management decision process of the planning process\textsuperscript{164} or in combination with the corridor identification process.\textsuperscript{165} At this point, there has been no formal decision made by the BLM absolutely prohibiting any applications for energy development outside these Step 1.3 feasibility zones. However, the strong preference to so confine such applications will result from this nomination bias by the BLM. Such a bias is definitely supportive of this study’s aim to focus the energy industry’s planning into the more acceptable zones early in the industry’s planning, to minimize the investments in sites outside the zones which have much greater potential for resource use conflicts, and to minimize drawn out administrative and litigative haggling.

*Step 2: Public Welfare Value Inventory*

This step is focused entirely upon the transfer of the legislatively assigned welfare values contained in statutes and regulations to the particular land areas which contain them. The analytical procedure begins with the physical land inventory of the BLM planning process and builds upon this inventory the welfare values which are derivative from certain land charac-

\textsuperscript{165} Id. §1763.
A very important distinction between this methodology and other spatial impact assessment approaches is, analogous to the segregation in Step 1, a definite segregation of the simple inventory of values from the actual impact assessment (Step 3). This segregation is necessary due to the significant difference between the existence of a land value and the resulting impact on such a value from an energy development. The correlation between the amount of any land value existing in an area and the amount of adverse impact is not direct and is very low for many land values; therefore, identifying the optimal site as simply the area with the lowest relative level of value existence is very misleading.

The analysis of efficiency or site optimality must be based on the site which causes the least relative cumulative adverse impacts on these existing values (i.e., pollution externalities as defined by Rothenberg). This can be determined only by analyzing the net change in the total welfare land values resulting from adverse development externalities (i.e., pollution). The net change on these land values is dependent upon two factors: (1) the relative sensitivity of the value to the outputs or physical changes caused by the development, and (2) the relative distance between the value and the development. Symbolically, this can be represented as follows: \( V_{1B} \) represents the relative amount of value 1 on X parcel of land in the feasibility zone before any development at Y, then \( V_{1A} \) represents the resulting level of that initial amount of value 1 after the development. If \( V_{1A} < V_{1B} \), then there would be a degradation of the value resulting from the development. This is then, by the above definition, an externality. If \( V_{1A} \geq V_{1B} \), then there has been no externality, even though the amount of the value may be very high at that X location. The externality is then \( X_{1B} - V_{1A} \). \( V_{1B} - V_{1A} \) is a function of the above stated factors, the relative impact sensitivity, and \( f(x) \). The distance between point X and point Y (the development site) represented as \( f(d_{XY}) \) where \( d \) is distance. The cumulative externality of any site, \( Y = \epsilon V_{nB} - V_{nA} \) where \( \epsilon V_{nB} - V_{nA} = [f(x)f(d_{XY})] V_{nB} \). \( f(x) \) is therein expressed in terms of relative reduction of value and \( f(d_{XY}) \) is expressed in terms of distance decay of such sensitivities.

For example, suppose land parcel X has a high \( V_{1B} \). The

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166. Rothenberg, supra note 156, at 114.
relative sensitivity of this value to energy development is extreme within one mile of the site but is nonexistent at five miles and the decay is linear. This case allows the distance decay function to go from 1.00 at one mile or closer to 0.00 at five miles with the linear point at any intermediate distance being the f(x) function. The sensitivity function is simply a scalar amount proportionate to the sensitivity in a none, low, or high range because this methodology uses only the three scalar levels.

Step 2.1: Land Characteristics, Value Inventory, and Identification

Step 2.1 involves use of the existing land resource inventories and any supplemental information which allows the land planner to identify the existence and location of all land characteristics which have derivative land values. This can be done in either of two ways, depending on the characteristic being inventoried. One approach is to make a land grid dividing the feasibility zone into convenient analytical cells. Then for each cell, identify any such land characteristics which exist in the cell. The other approach is to delineate the extent of the particular land characteristic within the zone by a boundary line. A combination of both approaches is likely to be used depending on the land characteristic being inventoried. For example, wetland areas containing wildlife values are fairly well known so the delineation approach could be used. Scenic viewpoint values may be better identified by the grid system approach. There is no relative value assignment in this step but only a binary specification of either existence (+) or nonexistence (0) of the value.

If there is any portion of a grid cell having any such characteristic it will be assigned a +. This presumes a theoretically homogeneous grid at this point, but is not oversimplification because the relative level of such value's existence will be determined in Step 2.2. Up to this point, the evaluation of land resources has been oriented to the physical or biological character of the land. This allows for truly ecological systems analysis prior to the infusion of the political and economic balancing into the methodology enabling the scientist in the field to make the essential ecological inventories relatively unfettered by political constraints.

The philosophy of using the ecological system as the basis
for planning has had strong supporters in recent years.\textsuperscript{167} There is, however, in Step 2.1 integration of the institutional factors by identifying those land characteristics which express the values specified in the legislation, these values being derivatives of these certain characteristics. Because of the focus primarily on these institutionally important values rather than the ecologically important factors, this methodology is not what the theorists would call a pure "ecological systems" approach.\textsuperscript{168} This shortcoming, as the systems theorist would claim, is a necessity in the context of the siting model being aimed at implementation rather than theoretical purity. The siting process developed here includes only procedures that can be legally defended if challenged, or conversely, legally imposed if not self-initiated by the agency. This condition constrains the methodology to the use of only institutionally recognized values in the evaluation, however unecological this may seem.

\textit{Step 2.2: Relative Value Assignments}

This is perhaps the most critical element in the methodology in that it contains the highest degree of deference to the expertise of the agency for value assignments. It is in Step 2.2 that there is the highest potential for professional (or political) bias, insufficient data, or poor correlation analysis between the land (ecological) characteristic and the institutional value. This methodology recognizes these potential problems and, in an attempt to minimize them, has reduced the range of relative value assignments which can be given to any area in the grid to only three—low, medium, or high. One hypothesis for such a restricted range is that any evaluation of qualitative values is by definition subjective; therefore, the size of the range allowed for assignment of value is directly related to the potential for distortion or bias.

Another methodology characteristic which is aimed at minimizing the above problems is the stress upon \textit{relativity} of analysis. This methodology makes no claim to assign any absolute value to any element of the process, including the sites themselves. Finally, the dispersion of the values into indivi-


\textsuperscript{168} For the first comprehensive statement of this approach, see Odum, \textit{Fundamentals of Ecology} (2d ed. 1971).
dual cells for site-specific assessment and value assignment to be later cumulated helps to reduce the tendency to generalize a value's relative ranking over the total extent of its existence in the feasibility zone. Such a generalization without the grid cell analysis may distort the outcome by presuming the value's relative intensity to be homogeneous over the total extent of its range. Such homogeneity of land values is very rare indeed.

The actual procedure of this substep is as follows: Each positive (+) cell identified in Step 2.1 is evaluated for each value contained in the cell and assigned either a low, medium, or high intensity. Guidelines and specific criteria for each value will be developed and applied uniformly for all positive cells in the feasibility zone. The important condition here is uniformity of application with whatever criteria developed. The cell evaluation must be focused on the values specifically expressed in that particular cell's land characteristics and deemphasize the surrounding cell values. The idea here is to segregate the evaluation and minimize the subjectivity as much as possible by concentrating on the small areas individually.

Because this is a relativity evaluation, the universe of values must be specified in order to define the limits of comparison. The relative value is a direct function, in most cases, of the size of the universe considered, due primarily to the fact that the relative value is usually related to the relative scarcity of like resources available to the consumer. This relationship is especially valid when the resource's value is dependent in some degree upon the factor of uniqueness or the existence of extraordinary features. In order to correlate the value assignment to the legal rationale or framework supporting the siting process, the universe chosen should correspond as closely as possible to the management universe of the decisionmaking entity using the process.

**Step 2.3: Extraordinary or Special Value Assignment**

This step is intended to allow the analyst to adjust the Step 2.2 value assignments because of unique or special conditions which exist and to relate the value more closely to relative

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169. An excellent example of this is the variation in relative value assignment of flatwater recreation. If the universe specified includes many existing large reservoirs with extensive recreational values, the relative intensity of this value at the margin will be significantly less than if the universe has few such reservoirs. Krutilla & Fisher, The Economics of Natural Environment 39-59 (1975).
demand for the value by the interested public. The principal special or modifying conditions to be applied here include irreversibility of the value loss and minimal intervalue substitutability between the value lost and another replacement value (stream fishing replaced by lake fishing as opposed to a unique stream value not being replaceable by another such value).  

The basic rationale for including minimal substitutability is similar to the irreversibility theory. The substitutability assessment is based on the amount of other replacement options to approximately satisfy the same demands where the irreversibility assessment may or may not be based on the ability to substitute other values.

Another special modifying condition is relative accessibility to the value. This modifier is strictly limited to those values which require accessibility as a part of their manifestation as a value. Where such physical access is not a part or is only a portion of the prerequisite conditions for enjoying the value, then it should not be applied, or should be discounted accordingly. In other words, the rationale for applying such a condition to the evaluation is the recognition that certain values require access to gain any utility or welfare value from them.

Access here is defined as the ability to utilize or gain satisfaction of the land value using whatever particular combination of senses required to do so and does not necessarily require physical proximity. With such a definition as guidance, it must be first determined what senses are required to utilize each value, and secondly, whether physical access to that land area

170. There is ample economic theoretical support for giving extraordinary consideration to these conditions, although admittedly controversial. Krutilla and Fisher succinctly summarize the argument for such special consideration:

If a destructive use of environmental resources involves a welfare loss in perpetuity, irrespective of its implications for the more basic constituents of human welfare, a case has been made for giving different weights or priority to the rights based on the constructive-destruction dismotion made in the use of the environment.

Krutilla & Fisher, Managing the Public Lands, in Governance of Common Property Resources, supra note 153, at 54. See also, Fisher, Krutilla & Cicchetti, The Economics of Environmental Preservation, 61 AM. ECON. REV. 605 (1972); Mishan, The Postwar Literature on Externalities: An Interpretive Essay, 9 J. Or Econ. Ltr. 1 (1971). This theory is based on the following basic assumption for public resources wherein the costs are total social costs. “[When] a destructive use of common property resources has an irreversible effect or is remediable only at great cost or difficulty, there is some value [added] to keeping the option that would be foreclosed by the destructive alternative.” Id.
is a prerequisite to such utilization. In some cases, lack of access is required or at least positively enhances the particular value; for example, wilderness or watershed protection where there is too much access actually degrades the value.

These Step 2.3 special value assignments can either modify the existing Step 2.2 value assignment or be specially noted as additional elements of the value assignment. Because of the importance of such special conditions as irreversibility and extreme scarcity (minimal substitutability), it is recommended that these be separately designated in this step while accessibility should be an incorporated modifier of Step 2.2 assignments.

A separate map and statistical compilation of each value is then done in order to allow later weighting and separate consideration of each value. Caution must be exercised in the use of such Step 2.3 maps and dates in order not to misconstrue what is represented by them. This step has only identified the inherent values and not the potential impacts upon these values from an energy development. Many environmental assessments are guilty of allowing this faulty presumption of a direct correlation between the existence or level of a land resource value and the potential adverse impacts upon them. The analysis must focus on the impact which, as stated above, is not dependent only on the relative value level but more importantly on both distance from the development and relative sensitivity of the value to the various outputs of the development.

**Step 3: Relative Impact Assessment**

Prior to beginning Step 3, there should be initiated by a multisite right-of-way application an identification of the best sites from an applicant's perspective within the feasibility zone. These sites are first ranked according to their relative desirability to the applicants and evaluated simply from engineering and economic criteria, exclusive of the public welfare factors. This identification would most likely be done by potential applicants who desire to have their own locational criteria used. In terms of integrating the siting process into the BLM comprehensive planning system, completion of all the steps up to Step 3 would suffice as a framework for nominating areas. No further analysis by the BLM will be required until applicants come forward with site-specific proposals which would trigger Step 3. Such a suspension of the siting analysis is
essential because of the variable factors of time, technology, and economics. This would be useful also because of the minimizing of unnecessary detailed analysis. By identifying the feasibility zones and precluding other infeasible areas, the goal of agency assertion of the public interest value protection prior to applications will be achieved if Steps 1 and 2 are already completed. This also allows the applicants time to adjust to and analyze the nominations within their planning system. In addition, and perhaps most important, there will be much less uncertainty among the applicant industries about the “licensability” of their developments if they stay within the feasibility zones.

In order to allow for consideration of all reasonable alternatives, it may be necessary for the BLM by rulemaking to require applicants to identify all specific sites they would be willing to consider within the feasibility zone. If only one site is selected by an applicant, the agency is still obligated to consider all reasonable alternatives. Therefore, applicants take a very significant risk if only one site is acceptable to them. Once the applicant has specified proposed sites, the relative impact analysis can begin. This is also the most logical point to begin the formal Environmental Impact Statement for the specific developments.¹⁷¹

**Step 3.1: Impact Sensitivity and Distance Functions Analysis**

The analysis is done for each value identified in the zone on a cell by cell level to again avoid oversimplification of total areas analysis and to take into account the differentials of each land cell and the value development distance factors. For each cell where a value exists, the relative impact sensitivity is specified for each output from the development. This measure is again restricted to a range of none, low, medium, or high. (An optional more restrictive range can be used which includes none, minimal and significant sensitivity.) The determination of this sensitivity index then incorporates the distance decay function of each impact sensitivity where applicable.¹⁷²

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¹⁷¹. There would also be a programmatic Environmental Statement prepared prior to this stage on the overall feasibility zone nomination process similar to the national wilderness studies being conducted by the U.S. Forest Service under the rubric RAREII.

¹⁷². This inclusion of distance decay is critical to making this methodology more representative of the real impacts than other siting models without such a function. Such models do not take into account offsite impacts because of the built-in presumption that use compatibility of the value is only affected by onsite use conflicts.
The relative impact assessment is then made for each value in each cell for each alternative site being analyzed. Symbolically, $X_1, X_2 \ldots X_n$ represent the particular land cells being evaluated and $Y_1, Y_2 \ldots Y_n$ represent the alternative sites being considered. $V_1, V_2 \ldots V_n$ represent the various resource values being considered. $X_n, Y_n$ and $V_n$ are all static throughout the analysis in this Step 3.1, meaning they do not vary except as modified by the following functions. $X_n$ and $Y_n$ are points which are set and $V_n$ simply denotes the existence of a value at point $X_n$. The modifying functions are represented as follows:

$$f_{s_n} = \text{impact sensitivity index for n output}.$$  

$$f_{d_n} = \text{distance decay of impact sensitivity for n output}.$$  

$$f_{i} = \text{relative intensity of value existing in cell n where the range of } f_{s_n} = \text{none, low, medium or high and the range of } f_{i} = \text{low, medium or high.}$$

Using these functions, the relative impact of the development from production, output I, at site $Y_1$ for value $V_1$ at cell $X$ is:

$$I_1 = f_i(V_{1X}) f_{d1} f_{s1} (dX, Y).$$

**Step 3.2: Cumulative Impact Assessment**

The cumulative impact of $I_1$ on $V_1$ then is simply the total of the impacts on all cells $X_n$ containing $V_1$ or $\epsilon f_i(V_{1X}) f_{d1} f_{s1} (X_n$ to $Y_1$ distance). Similarly, the total relative impact of development at site $Y_1 = \epsilon_1 n$ where $n = \text{all potential adverse impacts.}$ At this point, any special or extraordinary factors identified in Step 2.3 (irreversibility or minimal substitutability) should be added to the impact analysis for each applicable impact. This addition should be a specially designated job of the decision maker wherein the factor's significance will not be discounted by aggregation into the overall cumulation equation.

**Step 4: Value Weighting Options**

This step must be viewed as optional and is segregated to clearly identify the highly discretionary process of weighting

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Such a presumption does not allow for the more realistic evaluation of offsite impacts as a function of distance. In energy development, the outputs causing such impacts are often highly mobile or offsite in nature (e.g., air emissions, up-stream water discharges or diversions). This characteristic of development externalities requires the use of offsite distance decay analysis in order to adequately present the total potential impacts of development. McHarg, *Design With Nature* 143-45 (1969), where he uses the phrase, "degree of compatibility" to denote this index.
from the more structured and systematic value assessments in Steps 1 through 3. These weightings are also distinguishable from the Step 2.3 factors because these options are focused more on special political or social influences while Step 2.3 is derived from and dependent upon the land characteristic itself.

Any combination of these options can be applied to any combination of values or locations; therefore, the potential number of permutations is extremely high giving great flexibility to the methodology. This high degree of flexibility, however, creates perhaps an undesirable degree of administrative discretion. Therefore, the use of Step 4 must carry a prerequisite of very extensive documentation and supporting evidence. From a legal perspective, the burden of proof should be upon the agency to justify the use of these options rather than upon the critic in challenging the use. Their use should be viewed as extraordinary and justified only where special conditions exist.

Option 1

The relative values developed in Step 2 can be increased or decreased if there is significant public support for such a particular value modification. The public support must, however, be representative of the total public interest in that particular value. Use of Delphi or survey methods are possible means of developing such information as well as the review and hearing comments in the EIS process for the alternatives and the prior feasibility zone programmatic EIS. Special care must be exercised to insure true representation of such special public concerns.

Option 2

This option is labeled the land use policy compatibility index. This is in response to the growing demand for better coordination between governmental planning entities, especially between the federal and state or local levels. There are also regulatory mandates for such coordination in both the NEPA and the FLPMA.

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173. Where a conflict [between the proposed action and local land policy] or inconsistency exists, the statement should describe the extent to which the agency has reconciled its proposed action with the plan, policy or control, and the reasons why the agency has decided to proceed notwithstanding the absence of full reconciliation.


174. 43 U.S.C.A. § 1712(c)(9) (Supp. 1978) requires extensive compatibility of the BLM activities with local and state land use policies.
If there are local land use policies which emphasize one or more values for preservation or enhancement, these policies can be reflected in a positive weighting of that value in Step 2. This weighting is represented mathematically by modifying the fi function in Step 3.1 accordingly (e.g., from low to high). In certain special cases, the value may be negatively weighted if the land use policies clearly indicate a discounting of such value; however, these discounting weightings can only occur when they are not in conflict with national policy. For example, in no case can a negative weighting be justified or allowed for a value having national significance such as a wilderness or a wild and scenic river.

Option 3

If the value has a very short recovery time from impacts, a discounting of the value may be exercised. If conversely, the recovery time of a value from such impacts is extremely long term (but not irreversible), there can be an added weighting. This weighting is applied to the impact sensitivity function, \( f_{sn} \), in Step 3 accordingly. The rationale for such a weighting is based on the theoretical presumption of a direct correlation between potential opportunity costs to time of value lost.

Step 5: Alternative Site Comparisons

Once the cumulation of all net impacts has been done plus the applicable weightings for each alternative site, Step 5 becomes the interface of information and decisionmaking. Because this is a critical transition from the insulated world of professional analysis to the very exposed world of decisionmaking, this step must be very structured in its presentation format to insure that there is a minimum of misunderstanding and/or misuse of the information developed. It is also at this stage of the siting process where the framework of tradeoffs between economic development costs and public welfare values must be clearly illustrated to the decisionmakers responsible for such balancing.

Step 5.1: Lease Cost Tradeoff Analysis

Each alternative site \( Y_n \) is assigned both its current con-

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175. "Land use plans of the Secretary . . . shall be consistent with State and local plans to the maximum extent he finds consistent with Federal law and the purposes of this Act." Id.
struction and operational economic costs for development. This is to be broken down into components of the project (e.g., transmission system, water system). The quantifications of these costs are only those added to the least cost alternative for each component and total costs. Therefore, the least total cost alternative is represented by $L_T$ and the least component cost likewise is $L_C$. The relatively greater costs or additive costs are arrayed according to their level of departure from the least cost figures. Similarly, the least cost public welfare site (i.e., most optimal environmentally) is assigned both a least total cost ($E_T$) and a least component cost ($E_C$). All other alternatives are then arrayed according to their additive impacts above the optimal site and for each component.

A comprehensive arraying of all values and all component costs for all sites will give the decisionmaker (and the reviewers of the decisions) a clear and focused identification of the tradeoffs involved in any siting choice. It also makes possible component adjustments or mitigations to make certain sites more attractive to a decisionmaker by being less polluting to a certain critical value.

**Conclusion**

Siting of energy development in environmentally sensitive areas is unavoidably a complex problem. Presenting an overly simplistic solution of generalized platitudes such as the need for balancing or one-stop licensing without a substantive discussion of the actual process is no solution at all. This relatively detailed (although summarized) presentation hopefully does substantively identify a way which is now legally justified and technically practical for achieving that elusive balancing of our own society's dichotomous and idealistic desires for both more energy and preservation of our environmental quality.
The Denver Journal of International Law and Policy regrets the omission from Volume 7:1 of Mr. Gregory A. Dahl, Editor.
The Journal greatly appreciates the support of its friends and wishes to thank the following for their contributions:

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