Power and the Environment: A Statutory Approach to Electric Facility Siting

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POWER AND THE ENVIRONMENT:  
A STATUTORY APPROACH TO  
ELECTRIC FACILITY SITING

...a greater number of appliances which provide increased leisure will be useless if there is such disharmony between man and his environment that man is unable to understand himself and his relationship to the universe.

Charles R. Ross†

Great dams and massive power plants supply the energy needed to keep the nation functioning smoothly. At the point of consumption, electricity is the cleanest and most versatile form of energy available. But the benefits of electricity are not without their price. At the point of generation there is an unfortunate by-product: pollution. This comment examines the conflicts between the construction of new generating facilities1 and environmental interests,2 and suggests a resolution of the problem in the long-range public interest.

I. THE POWER PROBLEM

A. Prognostication for Pollution

That the generation and transmission of electrical energy exacts enormous environmental costs is indisputable.3 The choice between

† Mr. Ross is a former member of the Federal Power Commission. The statement has been recorded in THE ENVIRONMENTAL CRISIS 183 (H. Helfrich ed. 1970).

1. New facilities are needed to meet rapidly rising demands for power. See Hearings on S. 2732 Before the Subcomm. on Intergovernmental Relations of the Comm. on Government Operations, 91st Cong., 2nd Sess., pt. 1, at 40 (1970) [hereinafter cited as Intergovernmental Relations Hearings.]

2. So significant are the adverse environmental effects of power plants that the construction of new facilities is opposed by citizens and environmental groups to the extent that some utilities have experienced power shortages and have had to appeal to customers to curtail non-essential uses of electricity. TIME, Aug. 10, 1970, at 39.


About one-quarter of all energy produced in the United States is in the form of electricity. Remarks of Lawrence J. O'Connor, Jr., Commissioner, Federal Power Commission, before the Pittsburgh Section of the American Nuclear Society, American Society of Mechanical Engineers and the Power Group of the Institute of Electrical and Electronic Engineers, in Pittsburgh, Pa., March 24, 1970. Hence, electric utilities, since they
fossil-fueled,\textsuperscript{4} nuclear\textsuperscript{5} and hydroelectric\textsuperscript{6} generating facilities is a choice between competing brands of environmental destruction. That electrical energy is essential is similarly unarguable. The extent to which our needs for power will be allowed to consume our environment is the question presently being widely debated.

B. Electrical Power Demand Increasing

The demand for power has been doubling about every ten years and it is expected to continue at that rate in the future.\textsuperscript{7} Electricity usage continues to climb as a result of population growth,\textsuperscript{8} discoveries of new industrial processes and consumer appliances,\textsuperscript{9} and utility promo-
tion activities. In meeting this staggering demand, electric generation, transmission and distribution has become the largest industry in the United States with over $100 billion in capital investments. Yet while the demand for power grows, new facility construction is increasingly opposed.

Utilities are under strong pressure to supply the demand which they themselves helped to create through their promotion activities. By encouraging the use of more electricity, sales and consequently revenues are increased. Increased revenues mean higher profits, contented stockholders and greater capacity to serve even larger customers. Many cities seek to attract new industry to enlarge the local tax base. This further increases demand since new industry requires more electricity and any associated increase in population means more power customers. Thus utilities are eager to work in cooperation with local chambers of commerce in promoting their service area as a good place for industry. This cycle continues its upward spiral: as more power becomes available, more industry is attracted and demand again justifies the construction of a new power plant. In addition, utilities are under a legal duty to serve their customers. The obligation to serve was imposed at common law and today is often statutory, a condition of the franchise, a charter obligation or a contract duty. Hence, both as a practical matter, and as a legal obligation, utilities are bound to provide electricity in sufficient quantities for their customers' needs. Public opposition to new facility construction, among other things, has made this task more difficult.

C. Current Regulatory Structure

Resolution of the power-environment conflict has been attempted in both the public and private sectors. An evaluation of the effectiveness of those attempted resolutions is the concern of this section. In


10. See notes 76-80 and accompanying text, infra.


dealing with the public regulatory structure, both the general pattern and recent regulatory initiatives are examined.

1. Private Regulation

In many states power plant siting decisions are made largely by the utilities concerned. Utilities may act individually, but many of today's massive power plants require such an immense investment that they are constructed and operated jointly by several power companies. Under the traditional method of expansion the utilities secretly project their future demand, covertly acquire land, and then, at the last minute, apply to regulatory agencies for approval of the site just in time to meet construction deadlines. This procedure effectively excludes public participation in the site selection process. It also precludes effective regulation by the agency because the utilities can argue that any delay would adversely affect electric power reliability. Hence, the regulatory agency can do little but rubber stamp the utility proposals.

When private planning is challenged, utilities often do little to meet the criticisms of environmentalists. One can speculate that a utility executive would resist public participation in the site selection process on the grounds that outside groups do not have the experience, expertise or responsibility to deal properly with this complex problem and that early site designation may make land more costly to acquire. However, vigorous public participation and supervision is urgently needed because the utility industry is unwilling to undertake major programs to reduce the adverse impact of power facilities. They are so penurious that even as recently as 1969 they spent less than one-quarter of one percent of their gross revenues on research and development activities. In contrast, nearly seven times as much is spent on


Perhaps one reason why utilities spent little on research and development is that they could not be sure how these expenditures would be treated in computing their rate base. Hence most utilities simply turned research and development over to the electrical equipment manufacturers. This research and development would be reflected in higher equipment costs which are reflected in the rate base. The difficulty with this arrangement is that manufacturers develop improvements that sell more of their own equipment. There is little inducement, and manufacturers are not properly structured and organized, to conduct broad scale research to reduce environmental impacts.
advertising and sales promotion. Often utilities refuse even to recognize environmental damage inflicted by their facilities and merely step up their public relations activities when faced with opposition by environmentalists. Hence, private regulation of utility siting is unsatisfactory to environmentalists and the general public alike.

2. Public Regulation

(a) Federal Involvement. Federal regulation of the electric utility industry is uncoordinated and sporadic among various segments of the industry. The Federal Power Commission (FPC) is charged with overseeing the industry and regulating utility securities, but only to the extent that these matters are not subject to regulation by the states. The basic policy of the FPC is to assure an abundant supply of electricity at the lowest rates by maintaining the existing fractionated, largely privately-owned utility system coordinated by voluntary cooperation through "regional reliability councils." In addition to this industry supervisory role, the FPC exercises pricing authority over wholesale electric rates. Pursuant to the Federal Power Act, the FPC has established elaborate requirements for nonfederal hydroelectric license applications, developed procedures for granting, denying, or conditioning those licenses, and instituted inspection programs during hydroelectric project construction and operation.

18. E.g., Nation's First Comprehensive Report on Utilities and the Environment, ELECTRICAL WORLD, June 1, 1970, at 53. The article dismisses the thermal pollution problem of power plants as follows: "A West Coast utility executive explains his company's contribution to thermal effects this way: 'Take a spoonful of hot water and toss it into a bathtub full of cold water. Then jump in. I dare you to do that tomorrow morning.'" Id. at 60.
However, a typical nuclear plant may require about 150 million gallons of water per hour for cooling. Intergovernmental Relations. Hearings, supra note 1, at 203. That is hardly a teaspoonful—it equals the flow of a substantial river.
25. Id. FPC licensing, at this time, is concerned only with the siting of non-federal hydroelectric projects, and not with other types of power generating facilities or transmission systems. FPC Oversight Hearings, supra note 4, at 24.
26. Paper delivered by M. F. Thomas, Chief, Division of Licensed Projects, Federal
Other federal agencies are involved in activities that affect the utility industry. The Atomic Energy Commission (AEC) licenses and promotes nuclear power plants.\textsuperscript{27} The AEC has established strict construction and operation requirements and to a limited extent regulates the siting of atom plants to meet its standards of safety and distance from major population centers. The Army Corps of Engineers issues permits to utilities that discharge cooling waters and other effluents into navigable waters.\textsuperscript{28} The Tennessee Valley Authority is a largely autonomous federal agency created during the Depression to supply the energy needs of a large part of the Southeast.\textsuperscript{29}

Power generated by federal hydroelectric projects in the Pacific Northwest is marketed by the Bonneville Power Administration which closely integrates its operations with other public and private utilities in its service area.\textsuperscript{30} The Rural Electrification Administration assists financially in the supplying of electricity to the nation's farms where private utilities alone are not providing adequate service.\textsuperscript{31} These agencies are primarily oriented toward development, seeking to provide power to various areas and regulate the electric utility industry.

On the other hand, the Environmental Protection Agency was recently created to carry out the functions of the Federal Water Quality Administration, the Environmental Health Service, the Federal Radiation Council and several other agencies.\textsuperscript{32} The purpose of the EPA is to improve the quality of the environment, primarily by establishing and enforcing pollution control standards in conjunction with the states.


\textsuperscript{28} \textit{Intergovernmental Relations Hearings, supra} note 1, pt 2, at 489.

\textsuperscript{29} Tennessee Valley Authority Act, 16 U.S.C. § 831 (1964). The sale of power is conducted in such a way as to promote the widest possible use of electricity and to assist in the region's economic development. \textit{See} 16 U.S.C. § 831h.

\textsuperscript{30} 1970-71 \textsc{United States Government Organization Manual} 245.

\textsuperscript{31} Rural Electrification Act of 1936, 7 U.S.C. § 901 (1970). The act established a loan program to finance electric distribution, transmission, and generation to unserved persons in rural areas. The loans may extend over a term of 35 years at an interest rate not to exceed 2 percent.

Although the National Environmental Policy Act\(^3\) requires that all federal agencies consider the impact on the environment of any major federal action, the objectives of the EPA and the other federal agencies involved in the electric industry often conflict. The activities of these various agencies, because they were established at different times for different purposes, result in complexity and fragmentation in present federal regulation of utilities.

An important weakness of federal involvement in power plant siting is that regulation is limited to FPC licensing of hydroelectric projects and AEC licensing of nuclear plants. The construction of the vast bulk of generating facilities, the fossil-fuel steam and internal combustion generators which produce over eighty percent of the nation's power, has not been regulated on a systematic basis by federal agencies.

Because delays in power plant construction can cause power shortages over vast areas covering several states,\(^4\) the federal government is vitally interested in power plant siting. An interagency task force\(^5\) has studied the problem and the President is recommending preventive legislation.\(^6\) While the President's proposal is subject to change, it is likely that certain provisions will nevertheless be enacted. It is proposed that long range utility planning be delegated to voluntary reliability councils.\(^7\) Twelve of these councils covering the entire nation were initially formed by investor-owned utilities after the 1965 Northeast power failure to coordinate activities and exchange information. The most important feature of the proposed legislation is early

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4. E.g., the Northeast Power Failure of 1965 affecting eight states with a total population of 30 million might have been alleviated had Consolidated Edison's proposed pumped storage generating unit at storm King Mountain been in operation. Federal Power Comm'n., The Northwest Power Failure (3 Vols. 1967).
6. Council on Environmental Quality, The President's 1971 Environmental Program 239-70 (1971). For a discussion of this proposal and others that have recently been introduced in Congress see Ramey, Planning for Environmental Protection in the Siting of Nuclear and Fossil Powered Plants, 12 Atomic Energy L. J. 59 (1971).
public disclosure of utility construction plans. Notice to all interested parties at an early stage in the planning process provides the opportunity to work out difficulties and negotiate compromises long before construction is scheduled to commence. The bill proposed by the administration will require utilities to submit annual plans of projected activities for the succeeding ten years. In addition, the proposed bill requires utilities to identify tentative sites five years in advance and to apply for certification at least two years before construction of major facilities is to begin. The states would be given the opportunity to establish qualifying state or regional certifying agencies, to license the construction of non-federal power facilities, and to supervise their maintenance and operation. To qualify, a state or regional certifying agency would have to comply with the proposed act and federal guidelines to be formulated by the President.

A federal certifying agency would be appointed by the President, under the administration's bill. This agency would review the power facility construction plans of federal agencies to insure that applicable environmental standards are complied with. The agency would also approve non-federal power facility siting if: (1) the state chose not to establish a state certifying agency, (2) the state certifying agency had its federal approval revoked or (3) if a utility petitioned for removal after showing that the state agency failed to reach a decision within two years and that the public interest was suffering as a result of an inadequate power supply.

Thus the proposed administration bill deals with the issue of power facility siting by permitting the states to handle the problem under federal guidance. The quality and substance of that guidance will invariably be affected by the sharp conflicts of interest among federal agencies. For example, both the FPC and the AEC wish to expedite power facility construction while the EPA is attempting to preserve environmental values.

(b) State Regulation. Because federal regulatory activities are so limited and because proposed increases in federal regulation leave most of the burden on state governments, there is much room for state action. Direct regulation of utilities historically has been accomplished

38. Id. at 247-48.
39. "The President intends to designate the Department of Natural Resources as the federal certifying agency after it is established." Id. at 242.
by the establishment of state public service commissions to protect the
public interest by regulating utility practices and approving rates. Most utilities favor continued regulation by the states, as opposed to
national agency regulation, and strenuously advocate that any site
certification authority be vested in state commissions, because the
utilities often dominate agency activities or at least have established
cordial working relationships over the years. These state agencies are
normally staffed by political appointees with no expertise in utility
economics who are often no match for skilled utility lawyers. Inade-
quate funding makes it difficult to attract an able staff and thus most
commissions must accept utility calculations without question. Hence,
most state regulatory commissions are ineffective in their original task
of rate setting. Until recently, state public service commissions did not
even have jurisdiction to regulate the siting of new power facilities.

However, states can indirectly control utility siting through enforce-
ment of air and water quality standards. Depending upon the type of
controls, the utilities tend to locate in those areas where their com-
bined pollution control and energy transmission costs will be mini-
mized. It is generally least expensive to locate as close as possible to
load centers (the cities). But if, for example, the metropolitan area has
stringent sulfur dioxide emission or thermal discharge controls, then
the utility will balance the additional cost of longer transmission lines
against any savings realized by locating in places with less stringent
environmental controls. Thus a state can influence the location of
power plants indirectly through gradation of pollution controls among
various areas of the state. This method of siting control, however, is
inprecise and often ineffective.

Some states have recently adopted more comprehensive regulatory

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40. See, e.g., Letter from W. Donham Crawford, Managing Director, Edison Electric Institute, to Senator Henry M. Jackson, in Senate Interior Comm. Hearings, supra note 9, pt. 2, at 411; FPC Oversight Hearings, supra note 4, at 60.
41. See L. JAFFE, JUDICIAL CONTROL OF ADMINISTRATIVE ACTION 10 (1965). See also Note, Of Birds, Bees and the FPC, 77 Yale L.J. 117 & n.4, wherein it was stated: "[T]he Commission process has tended to a per se rule by which all projects with sub-
stantial power benefits receive licenses."
42. Wicklein, Where Will You Be When the Lights Go Out?, WASHINGTON MONTHLY, Sept. 1969, in Intergovernmental Relations Hearings, supra note 1, at 397, 405.
43. By 1970, at least theoretically, 29 state commissions had some degree of licen-
sing authority over thermal power plant or transmission line siting. ENERGY POLICY STAFF, OFFICE OF SCIENCE AND TECHNOLOGY, ELECTRIC POWER AND THE ENVIRONMENT 56 (1970).
These approaches to resolving the competing interests of the utilities industry and environmental groups are described below.

In New York, recent legislation assigns to the New York Public Service Commission exclusive original jurisdiction in cases requiring approval of utility transmission facilities. The Act stipulates that, notwithstanding other provisions of law, no other state or local agency may require a permit for the construction of transmission facilities. The Commission is required to conduct a hearing on the record in contested cases. The statute makes the applicant and state agencies dealing with industrial development, the environment, conservation, and land use planning parties to the hearing. Optional parties are affected individuals and environmental, consumer or industry groups.

The New York Commission before granting a permit must find that: (1) there is a need for the transmission facility, (2) it imposes the minimum practical adverse environmental impact, and (3) the proposed facility conforms to all other applicable state laws and regulations issued by other agencies. The facility must also conform to all local laws and regulations unless the Commission finds that they are "unreasonably restrictive in view of the existing technology, or of factors of cost or economics, or the needs of consumers."\textsuperscript{45}

Jurisdiction of the New York Public Service Commission is further protected by preventing interference by any state trial court. The Act removes trial court jurisdiction over any controversy involving transmission facility siting, but a party aggrieved by a Commission decision may appeal to the state's appellate courts, which must decide the matter from the record below. A Commission finding supported by substantial evidence in the record or by information properly considered in the opinion may not be set aside. The jurisdiction and scope of review of the courts in New York is thus severely limited in the area of transmission facility siting.

The Act also provides for the establishment of a temporary state commission\textsuperscript{46} to propose thermal power plant siting legislation to the 1971 session of the New York legislature.

\textsuperscript{44} N.Y. PUB. SERV. LAW §§ 120-30 (McKinney Supp. 1970).
\textsuperscript{45} Id. § 126(f).
\textsuperscript{46} This commission is known as the McGowan Commission. In April of 1971, Governor Rockefeller introduced amendments to the transmission siting legislation which would have carried the same statutory provisions over to utility plant siting. N.Y. S.Bill 6385-A, Reg. Sess. [1971]. In the opinion of Albert K. Butzel, a New York City attorney, the amendments
Maine has taken innovative action by forming a Water and Air Environmental Improvement Commission that has broad power to supervise pollution control and site location of major industrial and commercial development. The Commission consists of ten members appointed by the governor. The following interests are each represented by two members: manufacturing, municipalities, the general public, conservation and air quality.\footnote{47} Apparently the Commission can be composed entirely of private citizens but it is likely that at least the cities would be represented by public officials. The statute imposes a duty on the Commission “to control, abate and prevent the pollution of the air, waters, coastal flats and prevent diminution of the highest and best use of the natural environment of the State,”\footnote{48} and to regulate the location of developments “to insure that such developments will be located in a manner which will have a minimal adverse impact on the natural environment of their surroundings.”\footnote{49}

Before major construction can commence, notice must be given to the Commission, which may approve the proposed location or hold a hearing. If a hearing is held, notice is given by newspaper publication. The Commission is directed to approve a development proposal if it finds that (1) the applicant has the financial capacity and technical ability to meet all state pollution control standards, (2) there is adequate provision for traffic movement, (3) there will be no adverse effect on the natural environment or scenic and property values and (4) that the soil type is suitable for the undertaking. The applicant has the burden to prove compliance with these criteria.

A verbatim transcript is kept of each hearing and the Maine Commission may issue an order granting, conditioning or denying the applicant’s proposal to “protect and preserve the environment and the public’s health, safety and general welfare.”\footnote{50} An applicant may appeal a Commission order to the Supreme Judicial Court. However, review is limited to the record and the court may consider only whether the Commission acted regularly within its authority and

\footnote{47} ME. REV. STAT. ANNOT. tit. 38, § 361 (Supp. 1970).
\footnote{48} Id.
\footnote{49} Id. § 481.
\footnote{50} Id. § 484.
whether its findings are supported by substantial evidence. Enforcement of Commission orders is by civil action prosecuted by the State Attorney General.

Recent Maryland legislation\textsuperscript{51} establishes a comprehensive power plant siting regulatory scheme. Construction of any plant which requires the use or appropriation of any waters of the state without the prior consent of the Department of Natural Resources is prohibited. Under the direction of that department, a power plant environmental research program and an annual long-range power plant site evaluation are required. An important feature of the legislation is that it provides for state purchase of future sites with provision for resale to the utilities when the need for a new plant arises. This ambitious Maryland program is to be financed by an environmental surcharge on each kilowatt hour of electricity generated by any electric company in the state after January 1, 1972.

Washington has adopted a policy of recognizing the need for more generating facilities while at the same time requiring them to be located and operated to produce minimal adverse effects on the environment and the ecology of the state's lands and waters.\textsuperscript{52} The Washington legislation has implemented this policy by establishing a Thermal Power Plant Site Evaluation Council, which is composed of representatives of the 15 state agencies\textsuperscript{53} with interests in power plant siting, and a representative of the county in which a power facility is proposed to be located.\textsuperscript{54} The Council chairman is directly appointed by the governor.\textsuperscript{55}

Within sixty days of receipt of all applications for site certification the Council must conduct a hearing pursuant to the state administra-


\textsuperscript{52} WASH. REV. CODE § 80.50.010 (1970).

\textsuperscript{53} The represented agencies are: (a) Water Pollution Control Commission, (b) Department of Water Resources, (c) Department of Fisheries, (d) Department of Game, (e) State Air Pollution Control Board, (f) Department of Parks and Recreation, (g) Department of Health, (h) Interagency Committee for Outdoor Recreation, (i) Department of Commerce and Economic Development, (j) Utilities and Transportation Commission, (k) Office of Program Planning and Fiscal Management (l) Department of Natural Resources, (m) Planning and Community Affairs Agency, (n) Department of Civil Defense, (o) Department of Agriculture. WASH. REV. CODE § 80.50.030(3) (1970).

\textsuperscript{54} Id. § .030(4).

\textsuperscript{55} Id. § .030(2).
tive procedure act. The Washington legislation attempts to balance the applicant's presentation by providing for adequate representation of environmental interests in two ways: First, the state attorney general is directed to appoint a special counsel to represent the public's interest in protecting environmental quality; second, to ensure that resources are available for an environmental case, the act provides for a $25,000 application fee to be used for an independent environmental study of the utility proposal. The disposition of an application by the Council may be appealed to superior court, but there is no right to a jury, and review by the court is confined to the record. A council decision can be set aside only if it was in excess of authority, its procedure irregular, or its findings clearly erroneous.

A glaring weakness of the Washington Act is that after the completion of elaborate studies and formal hearings, the Council's decision is merely a recommendation to the governor. Only if the governor approves the application does the Council execute the certification agreement.

The attorney general or the prosecutors of affected counties may bring criminal or civil proceedings for violation of the certification agreement. Willful violation of the certification agreement is a gross misdemeanor and the court may assess civil penalties between $1000 and $25,000 per day for material violation of the site certification agreement.

(c) Local Controls. Most local government units require permits before utilities may begin facility construction. As public demand for environmental protection has increased, local control is zealously exercised through building and zoning codes. Approval of a single facility often requires permits from many entities. For example, an important interconnection between the Pennsylvania–New Jersey–Maryland power pool and Consolidated Edison of New York required over twenty permits from local governments. Presently, construction is delayed (and has been since 1965) by litigation and the refusal of a single county to issue a permit. A $200 million project can be de-

56. WASH. REV. CODE ch. 34.04 (1967).
57. WASH. REV. CODE § 34.04.130 (1967).
layed or prevented from operating if any one of many localities is dissatisfied.

3. An Appraisal

Utilities are faced with the dilemma of being required to produce sufficient power to meet burgeoning demands, while their construction proposals are met with resounding disapproval by the concerned public. Because utilities are required to obtain permits from many different agencies, a multi-million dollar project is subject to veto at many points. Various interest groups can take advantage of the utilities' extreme vulnerability by engaging in harassing and delaying actions before each of the public entities which require a permit. The result of this process may be a delay or even a cancellation of a proposed utility project. Unfortunately, immediate power needs are then often met with temporary actions taken with little regard for economics or environment. Clearly, present regulations in most states do not provide an effective mechanism for resolving the complex siting problems of the utilities. Regulation by the federal government, despite its potential for taking control, has not been effective or consistent. Consequently, neither consumer nor environmental values are adequately protected.

II. PROPOSED NEW BALANCE BETWEEN POWER AND THE ENVIRONMENT: A REFLECTION OF ADJUSTED PRIORITIES

Proper resolution of the power-environment conflict is far too important to be left, as in many states today, to a small group of utility executives. The following discussion concerns four areas which must be dealt with to protect all concerned: the power demand, pollution control technology, state statutory regulation, and comprehensive planning.

60. See note 13 and accompanying text, supra.
61. Statement of Charles F. Luce, Chairman of the Board and Chief Executive Officer, Consolidated Edison of New York. Intergovernmental Relations Hearings, supra note 1, at 66.
A. Reduce Power Demand

Establishing mechanisms to determine where power facilities should be located is only part of the problem. Of initial importance is the problem of determining the appropriate growth rate of electricity usage and the size and number of plants required for the future. The resolution of this problem is far more complex than determining where to place plants because the pressures are largely indirect, because more government agencies are involved, and because a single authority cannot pre-empt the field.

The FPC estimates that by 1990 the nation’s electric generating capacity will have to be more than four times the capacity of 1970. To increase capacity by such a staggering amount will require the construction of about ninety major hydroelectric projects, ninety fossil and 156 nuclear steam-electric plants on new sites. These projections assume that past growth in the consumption of power will continue at the same rate into the future. But a major factor contributing to this rapid growth is a series of public and private actions that artificially stimulate electricity demand. It is time to review these policies in light of the fact that it may become increasingly difficult to build a new power plant anywhere. The following are feasible measures that can now be taken to reduce the need for more generating facilities.

1. Curtail Government Subsidization

The federal government heavily subsidizes the utility industry. The AEC this year plans to spend $12.8 million on training, education and informational services largely to neutralize public opposition to nuclear projects. The AEC lowers fuel costs and provides disposal services for spent fuel. The federal government also provides $478 million in excess liability insurance on each nuclear power plant. In

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62. See text accompanying notes 84-97, infra.
64. Id. at 170.
1971 the AEC has budgeted $432 million for reactor development. Critics argue that this massive government subsidization of nuclear power plants only conceals how "impractical, uneconomical, and hazardous" they really are.

In addition, the government has constructed massive hydroelectric projects in various parts of the country. Although Congress adopted cost-benefit analysis to evaluate the desirability of proposed projects, often a below-market discount rate is used to depress costs in the cost-benefit analysis of a project. If the cost of a federal project is understated, the power it generates may be sold at a lower price and as a result utilities receive an indirect subsidy.

Finally, federal electric entities receive congressional appropriations to assist them in meeting expenses. In 1971 the Tennessee Valley Authority, the sole supplier of electric power in the area of 80,000 square miles of the Tennessee Valley states, received an estimated appropriation from Congress in excess of $50 million.

Perhaps such policies make sense if a nation is in a period of early rapid industrialization or if an essential industry is ailing, but neither of these is the case with the utilities and hence subsidization is inappropriate. All of these federal programs tend to reduce the price of electricity below what would otherwise be its market price. Hence, electric users, particularly large industrial customers, will use more electricity because of this artificially low price, and consequently the demand is distorted upward.

2. Restructure Rates.

A second major factor that encourages overuse of electricity and aggravation of the siting problem is the current rate structure used by most utilities. Most companies employ a promotional rate structure

68. 1971 BUDGET, supra note 65, at 793.
70. S. Doc. No. 97, 87th Cong., 2d Sess. 7-12 (1962).
71. For example, in 1962 the rate generally applied was 2½ percent. Had a rate of 5 percent been employed, 64 percent of the gross investment of that year would have had a cost-benefit ratio of less that one and would not have been constructed. Fox & Herfindahl, Efficiency in the Use of Natural Resources: Attainment of Efficiency in Satisfying Demands for Water Resources, AM. ECON. REV., May 1964, at 190, 201, 205. in J. SAX, WATER LAW, PLANNING & POLICY 39 (1968).
72. 1971 BUDGET supra note 65, at 975.
that reduces unit cost to the consumer with increased usage.\textsuperscript{73} The lower “all-electric” rate is one familiar example. This practice encourages consumers to use even more electricity. Further, the electric rate structure as a whole is biased to favor heavy users in other categories. Residential sales in the United States account for about 25 percent of the sales of electricity marketed by private utilities, but revenues from residential sales account for 37 percent of the total utility revenues.\textsuperscript{74} In contrast, major industrial users account for 37 percent of the kilowatt hours used but only 24 percent of the utility revenues.\textsuperscript{75} Hence, it is clear that the lighter user of electricity is subsidizing the heavier user and that all residential customers are assisting the large industrial customer. The state utility commissions generally approve retail rates and should be petitioned to take action to change the rate structure.

Promotional rate structures and rates in general should not necessarily be altered across the board; the rate structure should be manipulated so as to favor those uses of energy that least degrade the environment. For example, rates should be low for mass transit systems, sewage disposal and water treatment plants, which require large amounts of power. Rates for residential uses of electricity, up to reasonable requirements as determined by the state public service commission, should be maintained at present levels to make essential amounts of electricity available to all economic groups. But beyond these reasonable requirements, the price of power, particularly for industrial uses, should be increased to reflect stringent pollution controls and true social costs.

3. \textit{Deter Industry Promotion}

A third factor encourages overuse of electricity: industry promotion activities. State regulatory commissions should be urged not to con-

\textsuperscript{73} \textit{Federal Power Comm'N, National Power Survey, Pt. I,} at 278 & Figure 139 (1964).
\textsuperscript{74} \textit{Federal Power Comm'N, Statistics of Privately Owned Electric Utilities in the United States,} Table 3, at xiv (1968).
\textsuperscript{75} \textit{Id.} It is sometimes argued that large customers of power should pay less to reflect economies of scale. However over 60 percent of an average utility's expenses are applied to generation costs while only 14 percent of the cost of power represents distribution expenses. \textit{Id.}, Table 4, at xv. Hence a utility realizes few economies of scale by serving large customers.
sider promotional expenditures that tend to increase electric usage in calculating the rates that utilities are permitted to charge. Inducements for increased electricity usage take many forms and vary in different parts of the country. Many electric utilities spend heavily on advertising.76 Further, many electric utilities aggressively seek new customers by such practices as paying developers for underground wiring if they construct “all-electric” homes.77 Electric heating is thus encouraged even though it requires three times the energy of oil or gas heating78 and in many areas requires large reserve capacity because of wide fluctuation in electric heating demands. Other arrangements give customers free electric equipment or free service on electric appliances and developers of electric homes are provided with cash payments, reimbursements for advertising, open house activities and model home exhibits.79 Allowing such expenditures to be passed on to customers is absurd when certain areas of the nation are experiencing power shortages and when increasing power production means further environmental degradation.

If government subsidization were reduced, the rate structure adjusted, and promotional activities curtailed, the price of power will increase for certain customers and demand growth will be checked. The understanding that power will become more expensive in the future will provide industry with powerful incentives to develop industrial processes and machinery that conserve electricity. One major utility, New York’s Consolidated Edison Company, is now trying to persuade customers to reduce consumption by means of an advertising campaign.80 Such developments will tend to make better use of existing supplies of power and reduce the need for constructing new facilities.

76. In 1968 the major private utilities spent nearly $290 million in advertising and sales promotion. Id., Table 17, at xxxvi.
77. See, e.g., Washington Post, July 31, 1970 at B-5, col. 1: “A builder of 50 all-electric houses, for example, might get an allowance of $250,000 based on an estimate of a year’s revenue created by the housing units. . . .”
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B. Incentives for Pollution Control Technology

State certification agencies should require all power plants to be equipped with the best practical devices to minimize adverse effects on the environment. To stimulate advancement in pollution control technology, more industry research and development efforts must be undertaken. Utilities previously have spent little on general research and development, let alone research on reducing adverse environmental effects of power facilities. If electric utilities were encouraged to undertake a balanced, well-funded, sophisticated research program, perhaps by strengthening such existing organizations as the Edison Electric Institute or the Electric Research Council, more technological progress could be accomplished to make up for many years of neglect. Tightening pollution control regulations administered by certifying agencies, together with proposed rulemaking by the FPC permitting research and development costs to be calculated in the base rate, may induce the necessary commitment from the industry to minimize the harmful aspects of their plants. Other action can and should be taken by the government to alleviate current problems of utility siting.

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81. See note 16 and accompanying text, supra.
83. The following are a few suggestions of other government action that could alleviate the crisis faced by utilities. Because electricity relative to other goods and labor has been declining in price, there has been scant incentive to develop appliances or industrial processes that conserve electricity. Hence today's electrical devices are highly inefficient. The federal government can use its vast purchasing power selectively to buy appliances with the highest electrical efficiency thus encouraging design and marketing of such devices. By making better use of current power supplies there will be less pressure to construct additional power generation facilities.

Congress should be urged to authorize the Federal Power Commission to require interconnection between systems. Now the FPC is largely confined to encouraging voluntary interconnection. 16 U.S.C. § 824a (1964). If neighboring utility systems are interconnected, they can often take advantage of differing seasonal or daily peak loads, thus reducing the need for additional generating facilities.

The government should accelerate its efforts to increase the natural gas supply. The current gas shortage is not a matter of the world running out of natural gas, but it is a question of economics. N.Y. Times, Aug. 16, 1970 at 36, col. 1. The natural gas supply should be increased because it is the cleanest of fossil fuels. Natural gas combustion emits very small amounts of particulates and sulfur oxides although moderate amounts of nitric oxides are produced. Energy Policy Staff, Office of Science and Technology, Considerations Affecting Steam Power Plant Site Selection, Table 5, at 106 (1968). Hence, its use as a power plant boiler fuel could reduce air pollution materially. To increase the gas supply the Interior Department should be urged to con-
C. Proposed Model State Power Facility Siting Act

The utility industry has traditionally been regulated because it is a parameter of development in such other areas as cities and industry. Moreover, utilities are monopolies, and where the privilege of monopoly has been granted, its exercise must be safeguarded. Regulation in the past, from an environmental point of view, has not been adequate. The proposed Model Act, set out in the Appendix, is designed to assure that environmental interests are protected. It incorporates certain innovations of state legislation discussed previously and hopefully avoids the weaknesses. Additionally, the Act is designed to meet the requirements of proposed federal legislation in the power siting field.

The construction of major power facilities is prohibited unless the constructing party has first secured certification from the state or regional certifying agency established by the proposed statute. After setting out applicable definitions and general terms in section I, the proposed statute specifies the composition of the certifying agency, its powers, procedures, and mechanisms for enforcement. This proposed statute is intended to create a certifying agency which would balance adequately power and environmental interests.

1. The Certifying Agency: Composition and Powers

As previously discussed the typical state public utility commission is incapable of balancing environmental and power interests because it is often dominated by the utility industry and because it does not possess the necessary vision or expertise to adequately consider environmental values. Therefore an independent agency which permits adaptation to particular situations in different states is created by the proposed

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duct more lease sales, require immediate development (with stringent environmental controls), encourage the entry of independent producers, and share with government the risks and rewards of exploration.

Finally, environmentalists can urge government to fund research into alternative methods of generating electricity that are more efficient and produce less pollution. Government sponsored research may be particularly appropriate into the development of pollution-free self-contained units for homes.

84. See notes 44-58 and accompanying text, supra.
85. See note 36 and accompanying text, supra.
86. See notes 41 and 42 and accompanying text, supra.
statute. This certifying agency is structured to be an independent council because site certification decisions require careful study, experience, and freedom from immediate political pressures applied by powerful special interest groups. Several provisions ensure the effectiveness and independence of the certifying agency.

First, in section II (a), the appointment process is carefully designed. Power facility siting is largely a political decision that requires the weighing of competing interests. After all the data is compiled the final decision remains at least partially a value judgment. Thus, the certifying agency should be responsible to the people, and for this reason its members are to be appointed by the state governor. It is intended that the governor choose highly qualified persons representing environmental, development and public interests. To guard against personal political cronyism it is required that the upper house of the state legislature, after hearings as necessary, confirm the governor's appointments before they can take office.

Second, within the same section, partisan political considerations in the appointive process are minimized by fixing the terms of certifying agency members to four years and then staggering the expiration of terms so that no more than three vacancies occur at one time. In addition no more than five of the nine members may belong to the same political party.

Third, section III (b) directs the certifying agency to hire a director and a competent staff, and to engage consultants as needed. Although the certifying agency members themselves should be adequately compensated, theirs' will generally not be full-time positions.

Finally, provision is made in section III (a) to secure an independent and sound financial base for the certifying agency. Its operations can be financed in several ways: by general tax revenues, by application fees, or by an electricity surcharge. The proposed statute would finance the certifying agency's continuing operations by a surcharge on each kilowatt hour of power generated in its jurisdiction. This spreads the cost of operation to customers in proportion to the amount of power they use, and it makes the charge to them reflect the social cost of electric power. General tax revenues could also finance the agency, but then the costs of electricity would not be apportioned in the same ratio that its benefits are distributed and the certifying agency would be subject to an uncertain future at the hands of a fickle state legislature. An application fee is inadequate as a sole source of
operating funds because the agency would tend to function on an ad hoc basis and would be unable to attract a competent staff. However, an application fee of $50,000 is recommended to cover special studies required on a particular proposal. Regardless of the financing method chosen, it is imperative that reasonable budget requirements are met, otherwise the agency cannot do its job and the public will have but a phantom guardian which merely validates utility proposals.

All of the above provisions are designed to make the certifying agency responsive to the long range public interest and yet insulate it from immediate political pressures. Hopefully this will result in a better and more rational placement of power facilities.

The proposed statute insures that the state certifying agency is vested with sufficient powers to carry out its functions. Especially important is the certifying agency’s power under section III (c) to conduct studies to locate those areas within its jurisdiction which are best suited for power facilities. This actively involves the certifying agency in utility planning and makes it more than a mere passive recipient for utility proposals. Advanced concepts such as ocean floor or underground plant siting should be carefully studied and such procedures as the “McHarg method” combining analytical, mapping, and computer techniques, should be employed to fit development into

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87. The proposed statute provides for limited public planning largely because planning by voluntary reliability councils, as favored by the industry, has not been a notable success. Of the 12 reliability councils, some are more interested in creating a good image than in solving problems, and many of their efforts are mere tokenism in the environmental protection field. Main, A Peak Load of Trouble for the Utilities, FORTUNE, Nov. 1969, at 116. State purchase of sites, with provision for resale to utilities when need is shown, is not recommended because this may be an involvement by the regulator in the operations of the utilities which compromises the independence of the certifying agency.

88. The “McHarg method” can be described as follows:

Take, for instance, the method we used to select a route for the Richmond Parkway in New York. Traditionally, a city selects the route that gives the best combination of shortness and low construction costs. We drew up maps showing these engineering considerations. But then we made a list of all the other questions we considered important. What would the road do to wildlife? We drew up a transparent map showing in different shadings of gray the various areas that would be least and worst affected, with the least affected areas the lightest and the worst affected the darkest. What would the excavation and the laying of concrete surface do to the ground-water supply? Again, a transparent map shaded from least to worst affected. What about the road’s effect on forests, on land erosion, recreational values, scenic qualities, historic buildings and so forth? For each one, we drew a map.

Then we laid all the maps on top of one another and put them on an illuminated
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the environment. Following such studies and planning, utilities are required to locate facilities in these environmentally favorable areas.

Though the utilities and the certifying agency will have engaged in extensive advance planning, the construction of a major generating facility is of such importance and has such long-range effects that careful study of each individual application is still required. It is mandatory under the proposed statute that the certifying agency consult with other agencies at all levels of government that have an interest in power plant siting. At a minimum the applicable environmental standards of all other agencies must be incorporated in plans and be conditions on the siting certificate. However, the regulations of local governments may be waived by the certifying agency if it finds them to be unreasonable and arbitrary.

In addition to applying the environmental and ecological standards developed by other agencies, the certifying agency has the power to promulgate and enforce more stringent standards for power facilities. Higher environmental standards should be prescribed for utilities than for other industries. Nonutility companies often successfully prevent a state from tightening pollution control standards by arguing that they must remain economically competitive with industry elsewhere. Utilities are not under the same type of competitive pressure because of their monopolistic position and their ability to pass costs on to customers, and therefore, more should be demanded from utilities in con-

89. Agencies that should be consulted include the local governmental units directly affected by the construction and operation of the facility, state planning, pollution control, natural resources, economic development and fish and wildlife agencies. Where the project has a substantial impact upon neighboring states or regions, they should be informed and invited to comment. On the national level, suggestions should be solicited from the EPA, the FPC, the Department of the Interior and, where appropriate, the AEC.

90. E.g., if the city or county absolutely prohibited power transmission lines. The agency, in deciding whether to waive local government regulations, should balance the public interest in providing power against the interests purported to be protected by the regulations.
trolling pollution.\textsuperscript{91} Authorizing the certifying agency to establish standards\textsuperscript{92} will provide a speedy mechanism continuously to advance standards as new technology makes possible the construction or modification of facilities that are more compatible with the surrounding environment.\textsuperscript{93}

Finally, it is intended that the certifying agency continuously monitor the emissions of all power plants in its jurisdiction. Generally other pollution control agencies will establish the monitoring network, but if the certifying agency determines that the existing measuring system is deficient, it must construct its own. Data obtained from monitoring thermal power plant emissions will permit detailed examination of the effects of each plant and allow comparative studies of various plants and utilities. This information is to be available to the public.

\textsuperscript{91} For example, once-through cooling might be prohibited entirely and dry-cooling towers required in some areas. A once-through cooling process takes water from a suitable source, passes it through a condenser and then immediately returns in a heated state to the source. However, because of the enormous quantities of water that are heated in this process, it is not suitable for most areas. \textit{FPC Oversight Hearings}, supra note 4, at 220.

Dry cooling towers operate much like a giant automobile radiator. Cooling water is contained in a closed system and heat is dissipated to the air through heat exchangers. No large commercial system is yet installed in the United States, but successful plants are in operation in Europe. Such systems do not even have to be located near bodies of water. \textit{Id.} at 229-30.

\textsuperscript{92} Section III(h) and section III(i) of the Proposed State Power Facility Siting Statute authorize the agency to adopt certain standards. A problem may arise as to the agency's power to set standards with respect to radioactive pollutants. The AEC is of the view that it has exclusive jurisdiction to establish radiation standards. Ramey, \textit{Planning for Environmental Protection in the Siting of Nuclear and Fossil Power Plants}, 12 \textit{Atomic Energy} L.J. 59 (1971). The State of Minnesota has enacted more stringent standards. G. \textit{Bryerton Nuclear Dilemma} 113 (1970). However, congressional preemption was held to prevent the state from enforcing the stricter radiation standards. \textit{Northern States Power Co. v. Minnesota}, 320 F. Supp. 172 (D. Minn. 1970). \textit{See 55 Minn. L. Rev.} 1223 (1971).

A particularly difficult problem for the certifying agency may be determining the location of transmission lines. Appropriate standards should be developed that encourage the use of utility corridors, the upgrading of existing lines, and the routing of new lines in a manner calculated to reduce intrusions in scenic areas. \textit{Working Comm. on Utilities, Report to the Vice President and to the President's Council on Recreation and Natural Beauty} (1968). In spite of higher costs, wherever possible the certifying agency should require cables to be underground. \textit{Advisory Committee on Underground Transmission, Federal Power Comm'n, Underground Power Transmission} (1966).
2. **Certifying Agency Procedure**

The procedure under the proposed statute is designed to permit the certifying agency to balance intelligently the need for power against environmental costs. The procedure established includes four steps: (1) identification of potential power facility sites by advance planning, (2) disclosure of power facility needs for the next ten years, (3) identification and approval of actual sites five years in advance of need, and (4) application for certification of actual facilities on an approved site two years in advance of construction. Cooperation and consultation with other agencies together with free public access to all data is required at all stages.

Planning to identify potential sites for power facilities suitable from an environmental point of view is to be done by the certifying agency as discussed in the previous section. This will provide the certifying agency with an independent source of information against which it can measure utility proposals. Utilities must plan to locate facilities in these potential sites unless they can affirmatively show that their proposed site possesses superior environmental characteristics.

The utilities within the certifying agency's jurisdiction are required to engage in long-range planning and to subject these plans to public scrutiny. Each year utilities must file with the certifying agency plans for system replacements, retirements and additions programmed for the next ten years. The certifying agency, after inviting public response and soliciting comments from other agencies at all levels of government that by law or expertise have an interest in power facility siting, shall review and comment upon the utilities' ten year plans.

As part of the required ten year plans the utilities must also identify, five years in advance of need, desired sites and alternates from the potential sites identified in the planning process. The certifying agency shall hold public informational hearings in the vicinity of these proposed sites to permit public testimony and comment by interested

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94. Subjecting plans to public scrutiny should not create problems of land speculation. First, plans at the ten year stage are only concerned with identification of the general area. Specific sites are not designated until the five year stage, and even at that time the specific sites are subject to change. Second, strict adherence to the notice requirements of the proposed statute should adequately inform persons holding land considered as possible construction sites at the ten year stage.
governmental agencies. However, once a site becomes part of the inventory of approved sites, the certifying agency still may deny use of that site for a particular proposed facility at the certification stage if that facility would unduly impair important environmental values at that location.

The final and most important stage of the facility approval process is the certification stage. Here, after widely published notice, an adjudicatory-type hearing is held, with full public participation and careful study by the certifying agency staff, all other interested agencies and citizens' organizations. It is contemplated that the applicant will present the case for the proposed facility. In the past, some utilities have been completely insensitive to environmental problems. To balance this deficiency, it is proposed that the applicant supply information that states the total social cost of the proposed project in terms of additional health hazards posed and the added harm to surrounding ecological systems, vegetation and added costs of maintenance. Such social costs must be detailed and specific. It is recognized that much of this information is at the threshold of present knowledge, but the applicant is to prepare the best estimates available.

To insure that the applicant's information is accurate and complete, a special counsel for the environment must be appointed to present an environmental case and to subject the applicant's presentation to cross-examination and rebuttal. More important, the special counsel is to have sufficient resources at his disposal (derived largely from the application fee) to conduct independent field studies in cooperation with the certifying agency's staff and to obtain all necessary expert testimony. The presence of the special counsel should not prevent other parties from appearing or being represented by counsel.

Many factors should be considered by the certifying agency in deciding whether to deny or how to condition the certification to construct power facilities. Some of the matters that the agency should consider in passing upon applications before it are whether adverse environmental effects are minimized, if alternatives have been thoroughly studied, whether there is a genuine need for the facilities and if state and local land-use plans have been complied with. A mere showing that electric demand has increased is not enough to justify the

harm that the construction and operation of a new facility will cause. The applicant has the burden of proving that, on the whole, the facility is in the public interest.96

The proposed statute requires denial of certification in cases where the proposed facilities would be located in parks or recreation areas, where air or water conditions are not suitable for efficient dispersion of plant emissions, where coordination with neighboring systems has not been fully studied or where environmental values would be unduly impaired by the construction or operation of the facility.

3. Enforcement of Certifying Agency Decisions

The proposed statute gives the certifying agency the power to make a final decision on any proposal properly before it. This is essential. If the certifying agency acted merely in an advisory capacity, the reasonable applicant would direct his lobbying efforts to the real decision makers and reduce proceedings before the certifying agency to a mere formality.

The certifying agency's decision is subject to judicial review on the record, but the court may consider only whether the agency acted in violation of constitutional or statutory provisions, whether findings are supported by substantial evidence97 and whether the action was arbitrary or capricious.

Once the certifying agency reaches a decision, no other state or local body may require further permits or otherwise impede the authorization of the utility to proceed pursuant to the certifying agency's order. It has the power to enforce that decision by bringing appropriate court action seeking injunctive relief or civil damages. In addition the proposed statute permits other state officers as well as ag-

96. The new Maine statute provides:
[T]he burden shall be upon the person proposing the development to affirmatively demonstrate to the commission that each of the criteria for approval . . . have been met, and that the public's health, safety and general welfare will be adequately protected.

97. The proposed statute adopts the same standard as to scope of review that is found in the federal Administrative Procedures Act, 5 U.S.C. § (1) (E) (1964). Adoption of this standard, the "substantial evidence" test, provides a more restrictive scope of judicial review than the "clearly erroneous" test. See, e.g., WASH. REV. CODE § 34.04.130(6)(e) (1967).
grieved citizens to bring court action to enforce certificate conditions if the certifying agency fails to take vigorous action.

Certifying agencies adequately financed and operating pursuant to this proposed statute should be capable of wisely balancing the need for power facilities against the need for enhancing environmental quality. Often these two interests are incompatible and it is hoped that the certifying agency will resolve conflicts in the public interest.

D. Comprehensive Planning Needed

The problem of power facility siting is not solved by passage of the proposed statute alone. It is merely the first step toward a rational resolution of many conflicts. Not only must power facilities be located in a way that makes environmental sense, but other development should be carefully planned to minimize adverse environmental effects. The lack of any sensible land-use planning in the vast majority of states results in the cancellation, delay or relocation of major developments, and causes ad hoc growth in areas of least political resistance. In addition CAP federal programs frequently clash, and state, local and federal efforts are often wholly uncoordinated and conflicting. Hence it is necessary that the nation move towards comprehensive planning over entire states or regions.

The President has called for a national land use policy to form a partnership between all levels of government to deal effectively with the problems of urbanization and resource management. Legislation proposed by the administration would establish a federal grant-in-aid program administered by the Secretary of the Interior to assist states in formulating a state land-use program. Earlier proposals called for direct state administration of land-use plans but the President’s program would also allow states to qualify merely by setting land use planning criteria to be followed by local governments or by establishing state administrative review of local plans. To be eligible for assistance, state programs would be required to meet federal

guidelines in controlling major public and private development and taking measures to protect coastal zones, shorelands and other areas of scenic or historic interest. In the administration's proposal, federal activities must be consistent with state land use programs unless there is an overriding national interest.

Because electric utility planning is inextricably intertwined with an area's overall economic development, it is essential that power facility planning be closely coordinated with all other major development activities in the state. A sound national land use policy should at least provide a rational mechanism to resolve major industrial or utility siting disputes and coordinate the activities of government agencies and private developers. Thus such a policy would provide the proposed certifying agency with regular, institutional channels for obtaining comments from other state and federal agencies.

There are dangers that the state planning agencies will be dominated by developers and merely ratify uncoordinated development efforts rather than guide development as has unfortunately occurred in many cities. However, with satisfactory guidelines from the federal government, vigorous implementation by the states, and widespread public support, the goal of coordinated sensible development and wise land-use decision making can be attained.

CONCLUSION

The choice between environment and power is not an either-or proposition—it is a matter of adjusting and resolving conflicting interests. Utilities, however, appear ill-prepared for this painful period of transition; this is because they are accustomed to widespread public and governmental support in order to produce an abundant supply of power at the lowest cost. Today national priorities and public support have shifted and we are no longer primarily concerned with rapid industrialization of the country. The plan here proposed is an effort to make regulatory agencies and state policies responsive to the current need for environmental protection in the area of power facility siting.

Implementation of the proposed statute will ensure that the design and location of power plants will minimize environmental damage. The siting crisis can be further alleviated by altering the rate structure so that it would not favor large users, by preventing the industry from engaging in promotional practices that encourage greater use of
power, and by eliminating government subsidization of the utility industry.

The power plant siting problem is only one aspect of the much larger tension between development and environmental interests. But the supply of electricity is a crucial parameter regulating development. Hence the decision of whether and where to build a power facility should not be left to a few board members or to sporadic and ad hoc litigation; these decisions require public participation and close public scrutiny. The proposals herein can result in an effective resolution of these conflicts in the public interest.

APPENDIX

PROPOSED STATE POWER FACILITY SITING STATUTE

I. GENERAL PROVISIONS, DEFINITIONS:

(a) The legislature finds that the construction of additional power facilities may be necessary to meet the increasing need for electricity, and that such facilities have an adverse effect on the environment, an impact on population concentration, and an effect on the welfare of the citizens of this State. Therefore, it is the policy of this State to ensure that the location, construction, and operation of necessary power facilities will produce minimal adverse effects on the environment and, therefore, no power facility shall hereafter be constructed within this state without a certificate acquired pursuant to this Act.

(b) As used in this Act,

(1) "Electric utility" means any municipality, public utility district, electric company, electric cooperative or joint operating agency, or any combination thereof, engaged in or authorized to engage in the business of generating, transmitting or distributing electric energy;

(2) "Power facility" means any electrical generating plant using any fuel, including nuclear materials, to produce more than fifty megawatts of electricity for transmission and/or distribution by electric utilities; associated facilities designed for, or capable of operation at, a capacity of 100 megawatts or
more; or electric transmission lines and associated facilities designed for, or capable of, operation at nominal voltages in excess of 200,000 volts; but shall not mean any facility licensed pursuant to Part I of the Federal Power Act;

(3) "Certification" means a final order of the certifying agency granting permission, following a hearing and findings pursuant to this Act, to an electric utility to construct power facilities.

II. COMPOSITION OF THE CERTIFYING AGENCY

(a) The State certifying agency shall be a nine member council called the "State Power Facility Siting Council." Its members shall be appointed by the Governor and confirmed by the upper house of the state legislature. There shall be three members representing environmental interests, three members representing economic development interests and three members representing the public at large. The Governor shall designate one of the members as chairman. Members shall be appointed to staggered four year terms. Members may hold other state or local government offices or may be private citizens. If members are affiliated with a political party, no more than five members shall belong to the same party.

(b) The Governor is authorized and encouraged to negotiate and enter into agreements with neighboring states to establish a regional certifying agency provided that the regional agency is governed by the provisions of this Act.

III. POWERS OF THE CERTIFYING AGENCY:

The certifying agency is authorized and directed:

(a) To assess and collect a surcharge on all electricity generated in its jurisdiction sufficient to meet the agency's reasonable budget requirements. The certifying agency is also authorized to charge a fee of $50,000 for applications to construct an electric generating plant. Reasonable application fees may also be charged for other power facilities and transmission lines required to be certified. These fees are to be applied to the cost of engaging consultants to study the environmental consequences of the proposed facilities.

(b) To employ a director and a competent inter-disciplinary professional and technical staff, as well as other employees or agents and special consultants as may be required.
(c) To conduct independent studies to map those areas of the certifying agency's jurisdiction where power facilities might best be located in the interest of preserving the environment.

(d) To receive, review and comment upon the ten year plans submitted by electric utilities, after giving other agencies and the public opportunity to comment.

(e) To receive, review, comment upon or reject the utility's identification of specific sites and alternate sites that will be required by the utility within the next five years.

(f) To prescribe the form, content and necessary supporting documentation for plans and site certification applications.

(g) To conduct public hearings as required by Part IV of this Act and to prescribe the rules therefore, and to allow full participation by the public and other interested agencies of state and local government.

(h) To develop and apply environmental and ecological standards regulating the type, design and location of power facilities.

(i) To establish emission standards for gaseous, particulate, radioactive, thermal and other pollutants and to promulgate operational safeguards that are more stringent than those established by other state agencies or the federal government, if the certifying agency deems it necessary or proper in the public interest.

(j) To receive applications for, and to grant, condition or deny certification and give the reasons therefore, after a public hearing pursuant to this Act.

(k) To monitor the effects arising from the construction and operation or power facilities to assure continued compliance with the terms of certification and to provide information to the certifying agency and the public to assist the agency in establishing emission standards.

(l) To prepare a written annual report to the Governor summarizing the certifying agency's activities and to make the report available to other agencies and the general public.
(m) To make all plans, applications and other documents submitted by
the utilities available for public inspection.

(n) To exercise all other powers necessary to carry out the provisions
of this Act.

IV. CERTIFYING AGENCY PROCEDURE:

(a) As soon as possible following the appointment and qualification of
the initial certifying agency and the employment of the agency staff,
the certifying agency shall undertake, with the assistance of indepen-
dent consultants and with full public participation, the map-
ing of those areas of its jurisdiction where power facilities can
be constructed and operated with the least adverse effect on the
environment, taking into account total social and economic costs
and benefits. Following the completion of the mapping and
annual revisions thereof, the certifying agency shall require all
electric utilities within its jurisdiction to locate power facilities
only at these sites. If an electric utility submits plans or applies
for certification of a power facility at another site, the utility shall
have the burden of proving that its proposed site will result in
social and economic benefits in excess of social and economic
costs superior to that of the nearest site selected on the basis of the
certifying agency's studies.

(b) Each electric utility operating or authorized to operate within the
jurisdiction of the certifying agency shall, pursuant to agency regu-
lations, individually or as part of a single regional plan, annually
prepare and submit to the certifying agency:
(1) Plans for power facilities to be constructed, altered or retired
within the succeeding ten years; plans to make existing and
proposed facilities more compatible with the environment;
efforts undertaken to cooperate and interconnect with other
utilities; efforts undertaken to coordinate with plans prepared
by land-use planning agencies and such other information as
the certifying agency may require;
(2) The ten year plans shall also identify, at least five years in
advance of anticipated construction, specific sites and alternate
sites that shall be required by the electric utility.

(c) Following receipt of these plans, the certifying agency shall:
(1) Obtain the participation of environmental protection, natural resource, public service and planning components of the state government by filing a copy of the plans with these agencies and by inviting their comment. In addition, the certifying agency shall invite public comment after transmitting copies of the plans to all federal, regional state and local governmental units, citizens environmental protection groups, individuals that have requested them, and all daily newspapers and radio and television stations within the jurisdiction of the certifying agency;

(2) Hold public informational hearings within 45 days of receipt of the plans from the utilities to obtain the views of other interested agencies, citizens groups and individuals and to assist the agency in its function of:

(i) reviewing and commenting upon the ten year plans submitted annually by the electric utilities and

(ii) reviewing, commenting upon or rejecting the five year projections of power plant site alternatives submitted annually by the utilities. Non-rejection of proposed specific sites amounts only to tentative approval, and the certifying agency may at the later certification stage of the procedure reject a site if, on the basis of more detailed information than was previously available, use of the site would adversely effect the environment.

(d) The procedure outlined in subsections (b) and (c) of this section shall be modified as is just and equitable under the circumstances as determined by the certifying agency during the first two years of its operation.

(e) Two years before the proposed construction date of any power facility, the electric utility which proposes to operate the facility shall apply for certification from the certifying agency. On an application for certification the certifying agency shall require disclosure of at least the following:

(1) That the proposed project is in pursuance of the plans publicly filed or, if at variance, the reasons therefore;

(2) A discription of the important features of the proposed project, its estimated power capacity and cost;

(3) A listing of other alternatives considered and detailed disclosure of their relative advantages and disadvantages; and

(4) The environmental impact of the proposed action, including:
(i) the estimated types and quantities of emissions into the air. Included, where applicable, should be the annual discharge of particulates, gases, and radioactive materials and the short and long-term effects of each on the surrounding population, vegetation and structures, including estimated additional man-days of work lost as a result of higher incidents of chronic respiratory diseases, the added harm occasioned by higher levels of radioactivity, such as shorter life spans, malignancy rate changes and genetic effects, the additional hazards to crops, plants and vegetation and the resulting higher degree or corrosion and maintenance required as a result of the presence of the proposed facility;

(ii) the estimated emissions and their effects on the surrounding waters. The projected increase in water temperatures and its effects on fish population and changes in the species of marine life present in the area must be detailed. The applicant must disclose the measures taken to reduce waste heat discharges such as increasing plant efficiency or the installation of cooling towers and ponds. The radiological effects on aquatic life and the presence of radioactive substances appearing in the food chain should be examined together with the estimated extent of biological injuries resulting from prolonged exposure to an increase in low level background radiation. Effects on industrial and municipal water supplies should also be studied;

(iii) a plan of solid waste disposal, where applicable, should be presented with the application;

(iv) the impact of the proposed facility on wildlife and ecological systems in the area; and

(v) the effect of additional noise levels on the surrounding population.

(f) The certifying agency shall take the following actions upon receiving an application to construct power facilities:

1. The certifying agency shall give notice of the application for certification and hearing thereon by press releases to all local daily newspapers in its jurisdiction, and by publishing in every local daily newspaper within its jurisdiction once each week for eight weeks a notice that identifies the specific site and gives a description of the facilities proposed. Within
30 days of receipt of the application for certification, the certifying agency shall also transmit the application for certification to all federal, regional, state and local governmental units, citizens environmental protection and resource planning groups, and individuals who have requested them or by law or expertise have an interest in power facility siting;

(2) After receiving an application for certification, the certifying agency shall conduct its own independent study to measure the consequences of the proposed power plant on the environment;

(3) The certifying agency shall notify the State Attorney General of the application and he shall appoint a special counsel for the environment who shall represent the public and its interest in protecting the quality of the environment. This provision shall not prevent any person from being heard or represented by counsel in accordance with the provisions of this Act;

(4) The certifying agency shall consult with and obtain the comments of, local, state, regional and national planning, resource development, and environmental power and conservation groups. Certifying agencies in other states or regions should be consulted when they are potentially affected;

(5) The certifying agency shall consult with all local state, and national pollution control and land-use planning agencies and incorporate in the certification all standards and requirements established by these other agencies which are applicable to the proposed power facility. The certifying agency may, however, waive specific local regulations provided that it finds them to be unreasonable and arbitrary;

(6) The certifying agency shall impose more stringent pollution control, design and location standards and regulations than would be imposed by other agencies if the necessary technology is available or can be developed and if such actions would protect important environmental values;

(7) The certifying agency shall set a time, and select a place as near as practical to the proposed facility, for a public hearing within approximately 90 days after the date of application;

(8) In reaching a decision as to whether to grant or deny certification for a proposed facility, the certifying agency shall consider, but not be limited to the following:
(i) the measures the applicant has taken to conserve the use of power;
(ii) the extent to which the applicant participates in or conducts a comprehensive research and development program to improve the utilization of existing plants and minimize their environmental impacts;
(iii) the environmental impact of the proposed facility and the steps taken to reduce its adverse effects;
(iv) the need for new generating facilities to increase reliability;
(v) whether the proposed site is in compliance with county or regional land use plans or zoning ordinances in effect at the date of the application;

(9) The certifying agency shall deny certification if:
(i) the power facilities are proposed to be located in existing or proposed national, state or municipal parks, recreation areas, wilderness regions, or historic sites;
(ii) the meteorological or hydrological conditions are not suitable for efficient dispersion of plant emissions;
(iii) interconnection and coordination with neighboring systems to reduce the need for new generating facilities and increased reliability has not been fully explored;
(iv) existing and proposed air, water, land use and solid waste disposal standards are not complied with or other aspects of the environment are unduly impaired;

(10) It is the intent of the legislature that the certifying agency reach a final decision within two years after the date of application, except in special or unusual cases.

V. ENFORCEMENT OF CERTIFYING AGENCY DECISIONS:

(a) The certifying agency shall have exclusive jurisdiction over power facility siting and, notwithstanding any other provision of state law, no other state or local agency may require additional permits or otherwise impede the certification received by the electric utility. If the certifying agency approves or denies an application for certification, such action shall be final, except appellate court review on the record shall be available. The certifying agency's findings of fact, supported by substantial evidence, shall be conclusive.
(b) The certifying agency may bring an action in its name in the courts of this State seeking such restraining orders, temporary or permanent injunctive relief, or civil penalties as is necessary to secure compliance with the provisions of this Act or with the terms of site certifications.

(c) Civil or criminal proceedings to enforce the provisions of this Act or the terms of site certifications may be brought by appropriate state or local officers or by citizens affected by the violation.

(d) Whoever knowingly and willfully violates any of the provisions of this Act, or fails to comply with the terms of a site certification, shall be fined not more than $1,000 for each violation or each day of a continuing violation, or imprisoned for not more than one year, or both.

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