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BACKGROUND REPORT ON
POWERPLANT SITING

PREPARED AT THE REQUEST OF

Honorable WARREN G. MAGNUSON, *Chairman*

FOR THE USE OF THE

COMMITTEE ON COMMERCE
UNITED STATES SENATE

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LETTER OF TRANSMITTAL

U.S. SENATE,
COMMITTEE ON COMMERCE,
July 17, 1972.

To Members of the Committee on Commerce:

Transmitted herewith is a Background Report on Power Plant Siting prepared by Mr. Daniel P. Beard, Analyst, Environmental Policy Division, Congressional Research Service of the Library of Congress.

The principal bills dealing with power plant siting pending before the Committee are S. 1684, S. 1915 and S. 3631. Extensive hearings on this subject were held on April 28, May 15 and June 1, 1972. More than 20 witnesses representing a broad spectrum of interests including government, the utility industry, environmentalists and consumers were heard.

This background report will be helpful when the committee commences its consideration of this matter in the near future.

WARREN G. MAGNUSON, *Chairman.*

(III)

LETTER OF TRANSMITTAL

U.S. DEPT. OF AGRICULTURE
COMMISSIONER OF FOREST SERVICE
WASHINGTON, D.C.

TO THE HONORABLE SENATOR
FROM THE STATE OF CALIFORNIA
WASHINGTON, D.C.

SIR:

I have the honor to acknowledge the receipt of your letter of the 10th inst. in relation to the proposed purchase of the land in the State of California, and to inform you that the same has been forwarded to the proper authorities for their consideration.

Very respectfully,
WILLIAM C. MONTGOMERY, Chief

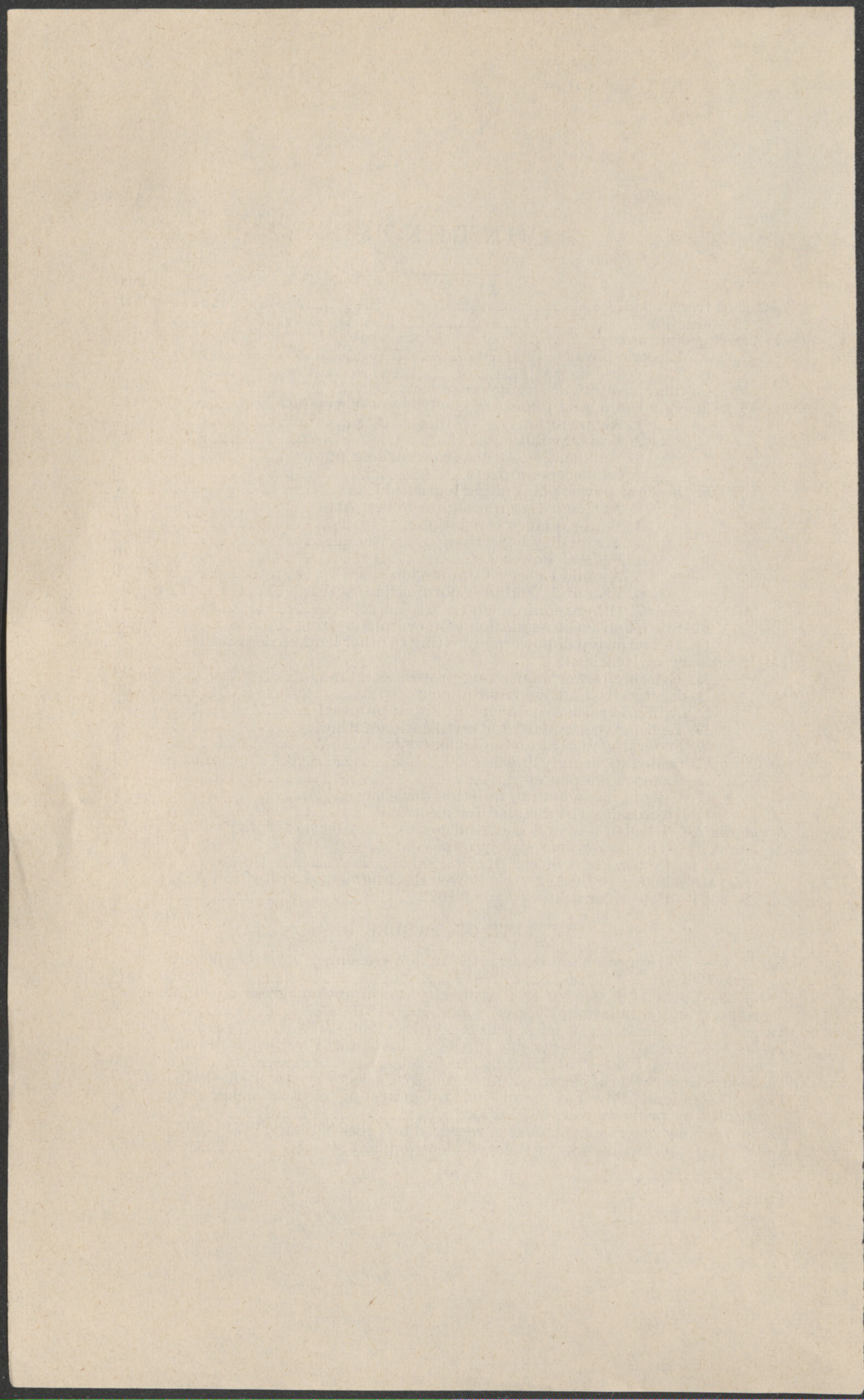
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BACKGROUND REPORT ON POWER PLANT SITING

I. INTRODUCTION

The economic development of the United States has long been buttressed by ample supplies of domestic energy resources.¹ While there have been periods of short-term shortages as well as inequities in prices, energy resources have traditionally been readily available at reasonable cost to meet our steadily growing demand. In the last five years, however, the adequacy of existing energy production systems and resources have become questions of considerable concern.

A specific illustration of the growing reliability problem in the energy field is the Northeast Blackout of 1965 which marked a significant turning point in the history of the electric power generation industry. Prior to 1965, the industry had generally provided adequate and dependable power supplies across the Nation with the occurrence of only temporary and local power outages. The Northeast Blackout, however, demonstrated the Nation's heavy dependence on electricity and the wide range of socio-economic problems which could arise from breakdowns in interconnected electric systems. Previously, since many small utilities were serving limited geographic areas, power failures were local in nature. But as systems became interconnected, with reliance placed on fewer, larger units for generating capacity, the opportunity was increased for major blackouts and system failures.

This problem of reliability was exacerbated by the unexpected increase in demand for electricity during the latter half of the 1960's; during this period demand grew at a rate in excess of government and industry estimates.

In addition, the growing public concern over problems of environmental protection has dramatically influenced the operations of the electric power industry. This interest has been primarily focused on air and water pollution, radiation hazards, land use conflicts, solid waste disposal and aesthetic impacts.

The electric power industry ranks as one of the Nation's major polluters and its environmental impacts are highly visible and often concentrated near areas of high population densities. These factors, combined with the regulated nature of the industry, make power companies highly susceptible to public pressure and vulnerable to litigation.

¹ One important exception to this generalized view of energy supplies is the importation of oil supplies. However, government intervention has held the level of imported oil to 25 percent of domestic oil consumption.

For example, the industry has recently experienced difficulty in locating and constructing new facilities, as noted in a report of the Office of Science and Technology:

Planned utility construction is increasingly being delayed by controversy and litigation over environmental concerns. Such delays combined with shortages of skilled labor, equipment delays and malperformance, and fuel shortages could prevent the industry from meeting the immediate demands for power. Localized "brownouts" have already occurred and are expected to continue in the future. These power shortages seriously reduce the reliability of the Nation's power supply.²

As demand for electricity rises, the need for more power plants will also grow and thereby increase the pressures already developing. Securing sites for future plants looms as one of the major problems faced by the industry as it moves toward the 21st century.

This report on the power plant siting issue has been divided into two sections. The first section presents general background information relevant to the three power plant siting proposals now before the Committee on Commerce. The second section summarizes the hearings recently held by the Committee on these proposals. A list of recent writings and hearings, and the texts of S. 1684, S. 1915 and S. 3631 are found in the appendices.

² U.S., Executive Office of the President, Office of Science and Technology, *Electric Power and the Environment*, Washington: Government Printing Office, 1970, pp. 1-2.

II. BACKGROUND ISSUES

A. Electric Power—1960–1970

The 1960's saw a dramatic growth in the consumption and production of electricity. At the beginning of the decade, electricity ranked fourth as a major consumer of energy resources; by the end of the decade it had risen to second position, consuming 25 percent of all energy resources (Table 1). This increase is in keeping with the approximate 10-year doubling time for electricity consumption over the last fifty years.

Table 2 indicates the increasing dominance of electricity in our economy. Columns 8 and 9 show the amount of energy and electricity required to produce an equivalent dollar of gross national product. In the case of energy, this ratio has, until the last five years at least, decreased,³ indicating an increase in the efficiency of energy use. The same figure for electricity, however, has steadily increased over the last fifty years.

TABLE 1.—CONSUMPTION OF ENERGY BY MAJOR CONSUMER GROUPS, SELECTED YEARS, 1960–70

[Trillion B.t.u.]

	1960	1962	1964	1966	1968	1970
Industrial.....	14,867	14,984	16,596	18,449	19,712	21,129
Percent.....	33	32	32	33	32	31
Transportation.....	10,882	11,417	12,538	13,348	15,302	16,436
Percent.....	24	24	24	23	25	24
Household and commercial.....	10,214	10,996	11,181	12,429	13,148	14,098
Percent.....	23	23	22	22	21	20
Electrical generation, utilities.....	8,387	9,054	10,341	12,125	14,043	16,967
Percent.....	19	19	20	21	22	25
Miscellaneous.....	671	1,169	1,020	597	243	180
Percent.....	1	2	2	1		
Total.....	44,960	47,620	51,676	56,948	62,448	68,810
Percent.....	100	100	100	100	100	100

Sources: U.S., Department of the Interior, Bureau of Mines, Minerals Yearbook: 1964, Mineral Fuels, Washington: Government Printing Office, 1964, p. 8; Ibid., Minerals Yearbook: 1969, vol. I–II, p. 25; Resources for the Future, Energy Research Needs, a report to the National Science Foundation, p. 1–14.

³ There has been considerable writing and debate concerning the reasons for this change in the ratio's trend. One good discussion is given by Bruce C. Netschert, "Energy Consumption and Gross National Product in the United States: An Examination of a Recent Change in the Relationship," *Congressional Record*, Daily Edition, July 15, 1971, p. E7705.

While the figures for total electric consumption have increased, the per capita figures have shown even greater rises. In 1920, for example, per capita consumption of electricity was 540 kilowatt-hours (kwh); by 1950 this had increased nearly five times (Table 2). Figures for 1970 show that per capita consumption of electricity has risen to 8,025 kwh which is nearly a 1,400 percent increase over the last fifty years. This rate of increase far exceeds the equivalent per capita increase for all energy consumption—80 percent during the same period. Table 3 indicates that in the 1960's the major increases in consumption have been in the residential and commercial sectors. The reasons for these increases are not fully explained, although rising personal income and improved standards of living undoubtedly represented major influences.

TABLE 3.—TOTAL ELECTRICITY SALES, SELECTED YEARS, 1960-70

[Million kilowatt-hours]

	1960	1962	1964	1966	1968	1970
Residential.....	196,400	226,414	262,010	306,572	367,692	447,795
Percent.....	29	29	29	29	30	32
Commercial ¹	114,806	144,095	183,539	225,878	265,151	312,750
Percent.....	17	19	20	22	22	22
Industrial ²	344,799	373,916	409,356	465,077	518,834	572,522
Percent.....	50	48	46	45	43	41
Other ³	27,194	31,663	35,451	41,455	50,644	58,292
Percent.....	4	4	4	4	4	4
Exports ⁴	788	1,661	4,253	3,176	4,285	3,346
Percent.....			1		1	1
Total.....	683,987	777,749	894,609	1,042,158	1,206,606	1,394,705
Percent.....	100	100	100	100	100	100

¹ Appeared as "Small light and power" in original.

² Appeared as "Large light and power" in original.

³ Includes street and highway lighting, other public authorities, railroads and railways, and interdepartmental sales.

⁴ Exports to Canada and Mexico.

Source: Edison Electric Institute, Statistical Year Book of the Electric Utility Industry for 1970, New York, Edison Electric Institute, 1971, p. 31.

The absolute increases in industrial sales can be attributed to several factors. One factor has been the substitution of materials which are more energy-intensive in their production for less energy-intensive materials (for example, synthetic fibers for cotton and wool.) A second factor is the continuing substitution of energy-consuming capital equipment and labor. There has also been substitution of electric energy for other energy forms in some industrial processes. Growth due to these factors has not been as rapid as that in other sectors.

Industrial sales of electricity, as a percent of all sales, decreased steadily over the last 10 years. One explanation for this decrease may lie with the wide latitude of uses for electricity in industrial processes. Industrial uses of electricity allow for the introduction of more efficient methods of use than do residential demands. Another reason might be that industries can shift to other fuel forms easier than other consuming sectors.

The type of power plant used to generate electricity continued to change during the decade of the 1960's (Table 4). There was an increase in relative importance of steam generation over other power sources, especially hydroelectricity. Table 4 indicates that nuclear steam plants have made only insignificant contributions over the last

ten years. While the numbers are not yet large, nuclear power has definitely "arrived" and will take a larger share of total generation if present trends continue.

TABLE 4.—GENERATION OF ELECTRICITY IN THE UNITED STATES, BY PRIME MOVER, SELECTED YEARS 1960-70
[Million kilowatt-hours]

Prime mover	1960	1962	1964	1966	1968	1970
Conventional steam.....	602,824	676,956	798,564	938,910	1,089,239	1,254,414
Percent.....	80	79	81	81	82	82
Hydroelectricity.....	145,516	168,283	177,073	194,756	222,491	247,328
Percent.....	19	20	18	17	17	16
Nuclear steam.....	518	2,270	3,343	5,520	12,528	21,801
Percent.....	1	1	1	1	1	2
Internal combustion.....	4,492	4,805	5,010	5,164	5,185	6,038
Percent.....	1	1	1	1	1	1
Total.....	753,350	852,314	983,990	1,144,350	1,329,443	1,529,581
Percent.....	100	100	100	100	100	100

Source: Edison Electric Institute, Statistical Yearbook of the Electric Utility Industry for 1970, New York: Edison Electric Institute, September 1971, pp. 18-19.

Changes in transmission technology have influenced electricity generation. Improvements in high voltage transmission technology during the past decade have enabled the construction of large generating complexes at greater distances from load centers because of a decrease in the per unit cost of transporting electric energy in comparison to energy in fuel forms. This, plus the ease of locating in rural areas, has contributed to the construction of power plants at considerable distances from power markets.

But these developments have also caused certain difficulties involving right-of-ways:

The same increases in electric power transmission capability and reduction in unit costs, which permitted the practical consideration of remote plants, also made it feasible to move large blocks of power between neighboring power systems under exchange or interchange arrangements that were advantageous to the participants.

The steady increase in electric power use and the accompanying expansion of electric power networks with their many connecting transmission lines have produced problems of obtaining transmission line right-of-ways to the extent that this sometimes creates considerable impact on power plant site selection.⁴

The size of new generating units has grown considerably in the last decade. *The 1970 National Power Survey* noted:

In 1930, the largest steam-electric unit in the United States was about 200 megawatts, and the average size of all units was 20 megawatts. Over 95 percent of all units in operation at that time had capacities of 50 megawatts or less. By 1955, when the swing to larger units began to be significant, the largest unit size had increased to about 30 megawatts, and the average size had increased to 35 megawatts. There were then 31 units of 200 megawatts or larger. By 1968, the largest unit in operation was 1,000 megawatts; there were 65 units in the 400 to 1,000 megawatt range; and the average size for all operating units had increased to 66 megawatts. In 1970, the largest unit in service was 1,150 megawatts; three 1,300-megawatt units were under construction; and three additional 1,300-megawatt units were on order. The average size of all units under construction was about 450 megawatts. As the smaller and older units are retired, the average size of units is expected to increase to about 160 megawatts by 1980 and 370 megawatts by 1990.⁵

⁴ U.S., Executive Office of the President, Office of Science and Technology, *Considerations Affecting Steam Power Plant Site Selection*, Washington: Government Printing Office, 1968, p. 66. Hereafter cited as *Considerations*.

⁵ U.S., Federal Power Commission, *The 1970 National Power Survey*, Washington: Government Printing Office, 1971, Part I, p. I-5-2. Hereafter cited as *National Power Survey*.

The *National Power Survey* also noted that the size of power plants has increased while average investment costs per kilowatt of installed capacity has declined.⁶

Fuel use for the generation of electricity over the past ten years was characterized by some substitution of fuel oil for coal, especially in the last three years of the decade. As indicated in Table 5, coal is still the major fuel source for the generation of electricity, but between 1968 and 1970, its share of total generation declined sharply. Fuel oil, on the other hand, took over a larger share of total generation. This substitution of fuel oil for coal was largely due to more stringent air pollution regulations. Because supplies of low-sulfur fuel oil were more readily available than low-sulfur coals, they were substituted to meet new environmental requirements.

TABLE 5.—GENERATION OF ELECTRICITY BY FUEL SOURCE, SELECTED YEARS, 1960-70

[Million kilowatt-hours]						
	1960	1962	1964	1966	1968	1970
Coal.....	403,067	450,249	526,230	613,475	684,905	709,111
Percent.....	54	53	53	53	51	46
Fuel oil.....	46,105	46,983	56,954	78,926	104,276	180,948
Percent.....	6	6	6	7	8	12
Gas.....	157,970	184,301	220,038	251,151	304,433	369,512
Percent.....	21	22	22	22	23	24
Nuclear.....	518	2,270	3,343	5,520	12,528	21,801
Percent.....					1	1
Hydro.....	145,516	168,283	177,073	194,756	222,491	247,328
Percent.....	19	19	19	18	17	17
Total.....	753,350	852,314	983,990	1,144,350	1,329,443	1,529,581
Percent.....	100	100	100	100	100	100

Source: Edison Electric Institute, Statistical Yearbook of the Electric Utility Industry, 1970, New York: Edison Electric Institute, 1971, p. 18 and 22.

The following conclusions are based on the above review of the changes which have taken place within the electric power industry over the past decade: (1) In the area of demand, electricity is increasing faster than any other energy form with the greatest increases coming in the residential and commercial sectors; (2) The per capita consumption of electricity is increasing faster than other forms of energy; (3) With regard to the pattern of fuel consumption, fuel oil and nuclear fuels are taking on more importance, while hydroelectricity is decreasing in its share of total electricity generation; (4) The size of power generating plants has steadily increased during the past decade while the efficiency of fuel oil and coal plants has leveled off; (5) The most important technological innovation during the decade has been the introduction and development of nuclear power plants and they are expected to become an important segment of the industry by 1980.

B. The years ahead

Many of the trends which emerge from the discussion of the 1960's, form the basis for events that are projected in the electricity industry over the next thirty years. The estimates for the growth in electricity demand, for example, provide an insight into future industry conditions. According to the *National Power Survey*:

⁶ It should be pointed out, however, that the trend for investment costs per kwh of capacity was up, rather than down, in 1969 and 1970. This reversal can be attributed to several factors including price inflation, higher labor costs, increased investment in environmental protection equipment and rapidly increasing demand for facilities.

The average annual rate of growth of total energy consumption from 1970 to 1990 is estimated to be 3.7 percent. . . . electric energy consumption, including that self-generated at industrial plants, is projected to increase from 1,642 million megawatt-hours in 1970 to 3,202 million megawatt-hours in 1980 and to 5,978 million megawatt-hours in 1990. The average annual growth rate for 1970 to 1980 is thus expected to be about 7.0 percent, for 1980 to 1990 about 6.4 percent, and for the entire 20-year 1970-1990 period about 6.7 percent. At these rates of growth, energy consumed in the United States to produce electricity would increase from 26 percent of total energy consumption in 1970 to 41 percent in 1990.⁷

In the area of electricity generation, the most significant changes are expected in steam generation. While fossil-fuel steam generation will decline as a percent of all generating capacity, it will remain the largest single source of electricity in 1990. Nuclear steam generation is expected to grow much faster than any other source and should become the second largest producer of electricity in 1980 (Table 6).

TABLE 6.—FEDERAL POWER COMMISSION ESTIMATES OF ELECTRIC GENERATING CAPACITY BY PRIME MOVER, 1970-2000

[Billion kilowatt-hours]

Prime mover	1970	1980	1990
Conventional hydro.....	234	308	372
Percent.....	15	10	7
Pumped storage hydro.....	16	122	317
Percent.....	1	4	5
Fossil steam.....	1,174	1,768	2,529
Percent.....	76	59	44
Nuclear.....	30	635	2,154
Percent.....	2	21	38
Internal combustion and gas turbine.....	87	181	339
Percent.....	6	6	6
Total.....	1,541	3,014	5,711
Percent.....	100	100	100

Note: Original figures appeared in megawatts; conversion was made assuming a 0.5174 load factor for all prime movers in the table.

Source: U.S. Congress, House of Representatives, Committee on Interstate and Foreign Commerce, Subcommittee on Communications and Power, Hearings on Powerplant Siting and Environmental Protection, 92d Congress, 1st session, May 1971, p. 439.

Not only will thermal power plants provide the vast majority of generating capacity, but the size of future plants is expected to be significantly greater. The Federal Power Commission projects that the largest fossil-fuel thermal plants could exceed 2,000 MW by 1990. Plants of this size will involve significant technological innovations and changes in ownership patterns. Because of the large capital investment required to build these plants, smaller utilities will be forced to combine their resources. In addition, power pools will be formed to share output over an interconnected transmission grid and obtain the benefits which can accrue from such an integrated system.

There has been a steady decrease over the past few decades in the number of utilities with power generating facilities; the large investment costs needed to construct future power plants may enhance this trend. In fact, some observers have suggested that eventually there may be only one or two dozen producers and transmitters of electric power, with the remaining utilities limiting their operations to distribution.

⁷ *National Power Survey*, *supra* note 5, at I-3-4.

The actual number of large power plant sites which will be required in 1990 is shown in Table 7. This table does not reflect, however, changes that will take place at existing sites where additional capacity will be required, or at sites that may be abandoned over the next 20 years.⁸

The shape of future transmission technology is expected to have a great impact on the growth of industry. The past trends have been toward higher line voltages, which, in turn, have brought about many changes in the location of power generating facilities. All indications point to a continuation of this trend which could have a two-fold impact.

TABLE 7.—NEW GENERATING PLANTSITES REQUIRED, BY TYPES OF PLANT, 1971-90

	Number of plantsites		
	1971-80	1981-90	1971-90
Conventional hydro (100 mw. and above).....	15	25	40
Pumped storage hydro (300 mw. and above).....	20	35	55
Fossil steam (500 mw. and above).....	80	60	140
Nuclear (500 mw. and above).....	70	90	160
Total.....	185	210	395

Source: 1970 National Power Survey, p. I-18-7.

First, it may hasten the development of large, joint-ownership generating plants remote from load centers; larger, more economical units can be justified by individual utilities because of the savings achieved. However, the Office of Science and Technology's report pointed out that joint ownership "places greater emphasis on the transmission line costs and right-of-way problems which can be controlling in that selection of a site for such an installation and the associated transmission connections."⁹

Secondly, the expansion of extra-high voltage (EHV) transmission facilities predicted by 1990¹⁰ should require large amounts of land. The 300,000 miles of electric power transmission lines in service today occupy about 4 million acres of land. By 1990, the predicted 497,000 miles of transmission lines would require roughly 7,100,000 acres (or more than 11,000 square miles, an area over twice the size of Connecticut).¹¹ While the greater use of EHV transmission lines, the wider right-of-ways, the more massive and higher towers, and the larger conductors could compound the problem of preserving scenic and other environmental values.

The demands for more aesthetically designed transmission facilities have forced utilities to give more serious consideration to undergrounding technology. The technical problems of placing high voltage

⁸ It is interesting to note that the estimate for the number of sites required has increased each year. In 1968, the Office of Science and Technology estimated that 225 new sites would be required for fossil-fuel and nuclear plants of 500 MWe or larger by 1990 (*Considerations*, *supra* note 4 at 5). At the House hearings on power plant siting, Chairman Nassikas estimated a need for 300 sites (U.S. House, Committee on Interstate and Foreign Commerce, Subcommittee on Communications and Power, *Powerplant Siting and Environmental Protection*, 92nd Cong., 1st Sess., May 1971, p. 439; hereafter cited as *House Hearings*.)

⁹ *Considerations*, *supra* note 4 at 66.

¹⁰ See *National Power Survey*, Chapter 18.

¹¹ U.S. Congress, Joint Economic Committee, *Economy, Energy and the Environment*, Committee Print, prepared by the Legislative Reference Service of the Library of Congress, 91st Cong., 2nd Sess., 1970, p. 116.

transmission lines underground are now being extensively researched by private and public groups. High cost is the major factor inhibiting the extensive use of underground transmission lines at the present time.

C. The power plant siting controversy

The conflict over power plant siting developed quite recently. It involves a combination of several interrelated events which have taken place within the electric power industry over the past six to seven years.

As noted previously, the Northeast Blackout of 1965 drew national attention to the growing problems of electric power reliability. Immediately following the blackout numerous legislative proposals were introduced in the Congress calling for the improvement of reliability to insure that power demands would be met nationwide. During the ensuing period of Congressional debate nationwide interest was also developing in the improvement of environmental quality.

The power industry was affected by this development in two ways: First, strong interest was shown by citizen groups in the decision-making process of utilities resulting in increased demand for "public input". Secondly, citizen concern brought about new legislative and administrative action by governmental bodies at all levels to control the environmental impact of electric power generation.

The electric power industry's initial reaction to these changes in public attitudes was to discount it. But this reaction proved wrong as noted by the Chairman of the Board of Consolidated Edison, Charles F. Luce:

It is not correct to say—or to imply as did a recent two page advertisement in the *New York Times*—that only a "handful of people" are expressing this concern by opposing new power plants. Every Gallup poll taken on the subject in the past few years shows that concern about air and water pollution ranks very high in any list of the citizenry's concerns about national problems.¹²

One dimension of the debate over environmental protection measures has been the questioning of the desirability and necessity of meeting future electricity demand. The time had come, environmental critics claimed, for the policies of expanding electricity demand to come to an end. To illustrate, Professor William Rodgers noted at the April 28th Committee hearing in Hanford, Washington:

There has been some but not enough discussion of how future usage and sales policies can be influenced by internalizing pollution costs, discouraging promotion, revising rate structures, warning consumers about high energy-demanding appliances or banning them altogether.^{12a}

Federal and State legislation enacted during the late 1960's placed increased environmental responsibilities on industry and government regulators. For utilities, the major responsibility took the form of larger investments in pollution abatement and control facilities which, in turn, required added lead time for plants to become operational. Also required is a reappraisal of existing planning processes to take into account such environmental factors as aesthetics and land use controls.

The action of groups intervening to oppose the siting, construction and operation of many new electric power facilities brings new responsibilities to government regulators. These interveners have expressed

¹² Charles F. Luce, "Power for Tomorrow: The Siting Dilemma," 25 *The Record* 17 (1970).

^{12a} Statement of Mr. William Rodgers before the Senate Committee on Commerce, Richland, Washington, April 28, 1972, p. 13.

the view that the existing siting process does not give adequate consideration to environmental factors and fails to address adequately the need for additional power. Legal intervention proved successful because:

Whether they are government-owned or investor-owned and regulated by commissions in open proceedings, the electric utilities are peculiarly sensitive in response to public opinion. They are large and highly visible targets because of the logic and history of their development and because they are rooted in their franchise areas. Some of their plants are located in densely populated urban areas and produce highly visible smoke plumes. Modern generating plants, even though they can technologically be located many miles from a city, are large and have great potential impact upon the environment. Understandably, they often draw the attention of those whose concern is the preservation of the natural environment. When this occurs, it is clear that many methods are available within our system of government and court review by which construction and operation of a new power plant can be stopped or greatly delayed by determined opponents.¹³

While environmental interveners have been successful in some cases before the regulatory agencies, there are other important causes of delays which have been experienced by utilities in the last few years. In this connection, the Chairman of the Federal Power Commission noted at the House hearings on power plant siting,¹⁴ the contributing causes for delays associated with 114 steam-electric generating units of 300 MWe and larger between 1966 and 1970 were as follows: 52 percent involved labor problems; equipment failure, faulty installation of equipment and start-up problems accounted for 23 percent; late delivery of equipment was responsible in 14 percent; and various delays in the regulatory clearance process, including environmental factors were the cause in six percent of the cases. Nevertheless, according to the testimony of the Office of Science and Technology, the FPC is projecting that the figure for environmental delays may rise to 50% for plants scheduled to begin operation in the 1973-1977 period.

The existing systems for site approval (which has been changing rapidly in response to new environmental laws) have also contributed to delays in adding new generating capacity. Normally, the siting of a new power plant requires continued liaison between the utility and governmental agencies at all levels. The separate and sometimes conflicting reviews required by Federal, State and local agencies can mean that a utility would have to be in contact with as many as 70 different governmental bodies for approval of one site. An uncoordinated site application approval system can lead to excessive duplication and expense.

The problems associated with the present "patchwork" of rules and regulations of various governmental bodies has stimulated a debate on the desirability of creating a "one-stop" site approval system. Under this proposal, a utility would get all the necessary approvals from one government agency, thus avoiding the present system of red tape and duplication.

In summary, the problems which power plant siting legislation might attempt to address are basic: (1) It must identify ways to improve the present site approval system to insure the addition of "needed" generating capacity; (2) It must provide all groups with ample opportunity to voice their opinions concerning location and

¹³ National Academy of Engineering, *Engineering for Resolution of the Energy-Environment Dilemma: A Summary*, Washington: National Academy of Engineering, 1971, pp. 1-2.

¹⁴ *House Hearings*, *supra* note 8 at 438.

need for utility plants; and, (3) It must insure that environmental protection measures are adequately considered.

The next three sections of this report will examine the environmental impact of producing electric power, the existing Federal and State power plant siting policies, and the relationships of power plant siting legislation to land use and coastal zone management proposals before the 92d Congress.

D. Environmental impact of electric power generation

1. *Air pollution.*—Air pollution control is an important element in the siting, construction and operation of generating facilities. Power generating facilities account for a large part of the particulate matter and sulfur oxides which are emitted in and near major population centers.

Sulfur dioxide is the most significant form of air pollution produced by fossil-fueled electric power plants. Power plants now account for 60 percent of all sulfur dioxide emissions in the country. The chemical processes and environmental considerations involved are described below:

When fossil fuels are burned, chemical oxidation occurs as combustible elements of the fuel are converted to gaseous products and the noncombustible elements to ash. Typically, more than 95 percent of the gaseous combustion products are not presently known to be harmful (oxygen, nitrogen and carbon dioxide, and water vapor) and therefore apparently are not factors in air pollution. The noxious gases (oxides of sulfur, the oxides of nitrogen, and organic compounds including polynuclear hydrocarbons) are harmful to humans, plants, animals, and material. Controls are available for particulates, but there are presently no fully tested commercially available control systems for oxides of nitrogen and sulfur from fuel combustion. Combustion of natural gas yields comparable quantities of the oxides of nitrogen, but is generally very low in the production of particulates and sulfur oxides.

The oxides of sulfur are of immediate concern and extensive research efforts are underway to develop economical control processes adaptable to utility and commercial combustion units. Upon discharge, sulfur dioxide may convert to sulfur trioxide, and sulfur trioxide to sulfuric acid mist, which may cause extensive damage to humans, vegetation, and property. In combination with other pollutants, for example particulates, sulfur oxides have been shown to exhibit "synergistic" effects several times more severe than comparable exposure to either pollutant alone.¹⁵

Reduction in the adverse effects of air pollution emissions from power plants can be achieved by: (1) changing the fuel used, (2) improving plant design and operation, (3) invoking site selection factors, and (4) adding new abatement equipment.

The production of electricity is the major consumer of coal in this country. Most of this consumption takes place in the East where a majority of coal-fired plants are located. However, less than one-third of national coal reserves of all classes are located east of the Mississippi River, and nearly ninety percent of the low sulfur reserves (less than 1 percent sulfur) are found in the West. Of the low sulfur reserves that are available in the East much is generally channeled to the steel industry. Since most thermal power facilities are located in the East, meeting future air pollution standards with low sulfur coal reserves may not be possible without considerable added transportation costs to consumers.

Present technology permits the removal of sulfur from residual oil for use in electric power plants at the refinery. Oil can be desulfurized

¹⁵ *Considerations, supra* note 4 at 30-31.

for an incremental cost of about 50 to 75 cents a barrel, depending on the type of fuel and the processes used.¹⁶ According to the Office of Science and Technology, "... recent studies [1968] indicate that the lowest capital investment figure for desulfurization plant is on the order of \$260 per barrel of daily capacity and required construction lead time of 2 to 3 years."¹⁷

The OST report also concludes:

For the immediate future limited quantities of low-sulfur residual oil will be supplied largely from natural low-sulfur stock or by blending such stock with high-sulfur residual oil. Domestic crude is generally lower in sulfur content than imported, but it is priced too high for use in U.S. power plants.¹⁸

Several power plant design options are available to control air pollution. Particulate control equipment has recently been developed which can accomplish economical recovery of materials. The average efficiency of collectors being ordered today ranges from 98 to 99 percent; research is being undertaken to raise that figure above 99 percent. Projections of particulate emissions from utilities in the next 30 years indicates a decline in spite of increased coal use.

Tall stacks are another plant design control for air pollution control which has demonstrated effectiveness in lowering the ground-level concentrations of pollutants. However, they do not reduce the amount of pollutants released into the atmosphere. Beyond about 10 miles from the stack, the height generally has little influence, and from some stacks, plumes can extend over 100 miles under certain meteorological conditions.

There are several options for decreasing the sulfur oxide emissions from power plants. The most commonly used method is to switch to low-sulfur fuels; as noted earlier this has resulted in increased use of fuel oil in power plants. Other options are to take the sulfur out of the fuel either at the refinery or the mine, or to remove the sulfur from stack gases. At the present time there are two general methods used to remove sulfur from stack gases. The first are the "throw-away" processes which recover the sulfur emissions for disposal as solid waste; however, these processes can cause solid waste and water pollution problems. Secondly, the "by-product" processes attempt to recover sulfur in a useful form for re-sale. The stack scrubbing processes are beginning to approach commercial feasibility at the present time.

2. *Water Pollution.*—In both nuclear and fossil-fueled power plants, large quantities of water are used for cooling purposes. The lower the efficiency of such plants, the greater the impact on water quality.

The best conventional fossil-fueled plants achieve efficiencies of about 40 percent. Operationally, this means that about 8,600 Btu of heat must be expended to produce 3,413 Btu (or one kilowatt-hour) of electrical energy. Thus, for every kilowatt-hour of energy produced, approximately 5,100 Btu of heat is lost in the form of waste heat. In nuclear plants, which at the present time operate at a lower temperature and therefore a lower efficiency, the amount of waste heat produced is larger. The comparison of the Btu heat disposal produced by the two types of plants is shown below:¹⁹

¹⁶ The price of residual fuel oil varies between \$2 and \$4.75, depending on the location and sulfur content of the oil.

¹⁷ *Considerations*, *supra* note 4 at 34.

¹⁸ *Id.*

¹⁹ R. E. Donovan, "Environmental Impact of Power Plants", 63 *Military Engineer* (January-February 1971), p. 6.

	Conventional	Nuclear
Electrical output.....	3,413	3,413
Stack losses.....	850	0
In-plant losses.....	437	537
Heat rejected to cooling medium.....	3,900	6,050

The most pronounced environmental influence of thermal discharges is upon aquatic life. Many biological processes are regulated by water temperature, and are highly susceptible to changes. With fish, for example, as the temperature increases, the oxygen requirement for fish life increases, the dissolved oxygen content of the water decreases, and algae may increase to the point of competing with the fish for the remaining oxygen. Changes in temperature are also important for the migration behavior of a number of species.

Increases in the temperature from cooling water discharges can result in increased evaporation, consequent reduction in the available water supply and an increase in the concentration of the minerals already present in the water.

There are several potential beneficial effects of waste water cooling. In northern climates, the discharge of heated water will tend to reduce ice cover. Research is being conducted to investigate possible uses of warm water discharges for shrimp and fish farming, and in irrigation to increase crop yields. Increased temperature may also make waters more desirable for swimming and other water contact sports.

The Office of Science and Technology's report noted the relationship between thermal pollution and site location:

The ability to dispose of waste heat in an acceptable manner must now become a major factor in the selection of a desirable generating station site. Major rivers, large reservoirs or lakes, and the ocean should be given primary consideration if artificial cooling is to be avoided . . .

As additional plants are constructed, the waste heat load to the stream will increase unless controlled.²⁰

Present methods of reducing thermal effects are based on rejecting the waste heat into the atmosphere. The two most common methods are the use of cooling towers and cooling ponds. Cooling towers may be either the wet (evaporative) or dry type. In the wet type, water is sprayed into a cooling tower and cooled by evaporation. In the dry tower, water is circulated through cooler panels in the base of the tower, the heat transfer being similar to a car radiator. While dry towers avoid the problems of fogging, mist and icing, they are not as effective in cooling water as dry towers. A cooling pond is simply an artificial basin used as a storage site for condenser cooling water while it cools. It is estimated that 1 to 2 acres of pond surface area are needed per megawatt of electrical output.

The long term solution to this problem is through research and development to improve the efficiency of power plant operations as a means of achieving a more complete conversion of the heat into electric energy and reducing the output of waste heat. Development of magnetohydrodynamics, combined steam and gas turbine cycles, and similar processes have considerable potential for reducing the amount of heat wasted per unit of power produced.

²⁰ *Considerations, supra* note 4 at 44.

3. *Radioactive wastes from nuclear power.*—The fissioning of uranium or plutonium atoms in a nuclear power reactor produces large quantities of radioactive materials. In routine operations, most of the radioactive wastes of a nuclear power plant are confined and shipped from the plant from time to time. However, contemporary nuclear power plants also emit small quantities of radioactive wastes to the environment.²¹

These materials may reach the environment in one of two ways. Radioactive gases are collected and routinely vented to the outside air, usually from a tall stack or from a blower atop the power plant. Other radioactive wastes are routinely collected during power plant operations. A small residual of these may remain in plant waste waters after these have been filtered and in other ways treated to remove the greatest part of them. The waste water is mixed in with cooling water leaving the plant.

Radiation from these wastes may produce noticeable biological effects, depending on the amount and nature of the waste and the conditions of exposure. Very large exposures to such radiation from unusual concentrations or releases of such wastes may cause injury or death. The exposures that produce these effects are well-known and the nature of the effects are established. Acute exposure is unlikely to result from the routine operation of a nuclear power plant, except for an accident which might rupture the reactor and disperse its radioactive material to the surroundings.

Recently, concern has been focused on the genetic effects of prolonged exposure to very small quantities of radioactive wastes which may amount to less than normal background radiation.

Although the radioactive wastes routinely discharged from a nuclear power plant usually are well below limits specified by the Atomic Energy Commission, some scientists have argued that these small amounts, if continuously emitted for long periods of time, may find their way into biological food chains and water supplies, with theoretically possible adverse health consequences.

Another way in which radioactive materials produced during the generation of nuclear power could escape into the environment is through accidental release during transportation, storage, and reprocessing of used fuel. After nuclear fuel has been in a power plant for a year or more, the used fuel is carried by rail or truck in special containers to a fuel reprocessing plant.

What to do with these intensely radioactive wastes from the fuel reprocessing step has always been a troublesome question. The AEC recently proposed storage in solid form at abandoned salt mines in Kansas, but it has since announced plans to store wastes above ground in special containers. At the moment, there is no accepted method for high level radioactive waste disposal. In fact, the word "disposal" is a misnomer, for these wastes cannot be released to the environment, rather they must be stored and managed under perpetual surveillance.

The authority for the control of radioactive wastes from nuclear power plants is vested with the Atomic Energy Commission and involves participation from the Environmental Protection Agency.

²¹ The yardstick for "small" is determined by standards for emissions set by the Atomic Energy Commission. In principle, the amounts routinely released to the environment are supposed to be so small that collecting them is unnecessary from a human health standpoint.

The AEC takes a two-fold approach. First, a nuclear power plant or a nuclear fuel reprocessing plant must obtain a construction permit to build the plant, following which it must obtain an operating permit to put the completed plant into operation. The AEC review prior to issuing such permits considers the proposed measures for controlling the discharge of radioactive wastes, both during routine operation and in case of an accident.

The AEC's regulations establish specific limits for the emission of radioactive materials from nuclear power plants. These regulations were established from guidelines originally established by the Federal Radiation Counsel (FRC) and adopted by EPA when it absorbed FRC in 1970. The AEC currently is conducting hearings on the general validity and suitability of its emission standards.

The Environmental Protection Agency role at the licensing stage involves review and comment upon environmental impact statements written pursuant to the National Environmental Policy Act of 1969. EPA may also analyze an applicant's nuclear safety analyses and independently advise State and local authorities of its nuclear safety requirements. After a plant is in operation, EPA makes surveys of radioactive materials in the local environment.

Even though there are dangers from both accidental and low-level radiation releases, the safety record of the AEC is a good one. As Commissioner Ramey pointed out at the April 28, 1972 hearings of the Senate Commerce Committee:

The AEC regulatory review is very thorough, as it should be. In fact, I know of no other technology, new or old, that is afforded anywhere near such a painstaking governmental review. The value of these reviews is borne out by the remarkable safety record of the nuclear industry, with no accidents resulting in serious injury or loss of life by the public from a licensed nuclear power plant.^{21a}

4. *Landscape impacts.*—The general influence of power plants on landscape values can be divided into two forms: (1) physical modifications of the site; and (2) aesthetic impacts.

The land required for electric power generating facilities depend upon several factors including the type of facility, generating capacity, location considerations (rural, urban), needs for fuel storage and handling, methods for disposing of waste products, and exclusion areas for nuclear plants. Hydroelectric facilities require the largest amount of land.

The Office of Science and Technology estimated the land requirements for a fossil fuel and nuclear 3,000 MW station built in a rural or less populated area would be as follows.²²

Plant fuel	Land required (acres)	Remarks
Coal.....	900-1200	Assumes outside coal storage and ash disposal.
Nuclear.....	200-400	
Gas.....	100-200	Assumes pipeline delivery and modest outside storage tanks.
Oil.....	150-350	Assumes on-site fuel storage.

The largest area is required for coal storage to protect against interruptions in coal delivery. As the OST report observed:

^{21a} Statement of James T. Ramey, Commissioner, Atomic Energy Commission before the Senate Committee on Commerce, Washington, D.C., May 15, 1972, p. 6.

²² *Considerations*, *supra* note 4 at 11. These figures do not include the acreage needed for cooling systems.

The trend for coal storage is away from large storage in the powerhouse to dependence upon yard live storage. The capacity of the inactive coal-storage area is based on an estimate of the reliability of delivery. Space requirements may vary between 45 to 120 days' burn of the total plant capacity.²³

Coal ash requires large land areas for disposal, the amount to be disposed varying from 10–15 percent of the coal burned. The composition and volume of the ash depends on the fuel quality and the type of equipment utilized. The 3,000 Mw plant cited previously would require 300 to 400 acres to store ash piled to an average depth of 25 feet.²⁴

Cooling systems, and especially cooling ponds, also involve considerable space. Mechanical draft towers (a form of wet tower) require more land than do the natural draft type. Typical natural draft towers for very large units could be 300 feet in diameter at the base and would be spaced 450 feet apart. Some towers may be as high as a 30-story building. Cooling ponds require even larger land areas. A 1,000 MW plant could require 1,000 to 2,000 acres of land. Therefore, their use is restricted to areas where land prices are low. In addition, they are generally restricted to areas of low humidity where effective cooling can take place.

Land consumption is a factor in the provision of transmission lines. The typical transmission right-of-way can be as wide as 142 feet; in the future, it has been projected that transmission lines will require up to 200 foot right-of-ways.

Measures available to ease the aesthetic impact of power plant development include comprehensive land use planning, and state and local zoning regulation. In addition, design standards, creative architectural treatment and landscaping can reduce the impact of power plants, right-of-way development, and transmission access roads. Some certifying agencies require plans for aesthetic control to accompany the license application. The FPC, in the licensing of hydroelectric facilities, now requires the applicant to submit plans for the provision of recreation facilities and enhancement of fish and wildlife resources.

E. Federal power plant siting legislation

The following is a brief, simplified outline of Federal laws and regulations relating to the siting of power plants.

1. *National Environmental Policy Act*.—With the enactment of the National Environmental Policy Act²⁵ (NEPA) in 1969, Congress responded to the need for enunciating a comprehensive policy and developing new organizing concepts to deal with environmental problems. The Act had three major purposes: first, it made clear that there is a governmental mandate and responsibility for the environment; second, it established the Council on Environmental Quality in the Executive Office of the President to assist in formulating appropriate follow-up procedures for full agency compliances with the new policy mandate; and, third, the Act provided for administrative procedures which require all Federal agencies to prepare an "environmental impact statement" on proposed Federal actions which sig-

²³ *Id.*

²⁴ Assuming a 35-year life for the plant and an average operating time of 50 percent per year. Moreover, if throw-away systems of sulfur oxide emission control are instituted, the solid waste problem would be compounded.

²⁵ 42 U.S.C. 4321 *et. seq.* All U.S. Code citations are from the 1970 edition.

nificantly affect the human environment. Section 102 outlined the factors to be considered in these impact statements as follows:²⁶

- (1) The environmental impact of the proposed action,
- (2) Any adverse environmental effects which cannot be avoided should the proposal be implemented,
- (3) Alternatives to the proposed action,
- (4) The relationship between local short-term uses of man's environment and the maintenance and enhancement of long-term productivity, and
- (5) Any irreversible and irretrievable commitments of resources which would be involved in the proposed action should be implemented.

The licensing of nuclear power plants by the Atomic Energy Commission and of hydroelectric plants by the Federal Power Commission are considered "major Federal actions" which require statement preparation.²⁷ Although the Council on Environmental Quality has promulgated general guidelines on the processing of impact statements, considerable legal controversy has arisen over the implementing procedures subsequently issued to guide the handling of statements by individual agencies.

For example, in the *Calvert Cliffs*²⁸ case, the D.C. Court of Appeals admonished the AEC for its failure to actively investigate the full environmental impact of a proposed nuclear power plant through a comprehensive weighing of the environmental costs and benefits. In another case involving the sale of offshore oil leases,²⁹ the court held that a thorough discussion of reasonable alternatives to the proposed sale of leases was necessary even though the agency lacked the power to adopt or put into effect such alternatives. In the *Green County* case,³⁰ the court ruled that the procedure followed by the Federal Power Commission of relying on the applicant for a license to prepare the environmental impact statement was inconsistent with agency obligations under provisions of NEPA.

2. *Water quality legislation.*—The Federal Water Pollution Control Act³¹ directs the Administrator of the Environmental Protection Agency (EPA) to develop programs for reducing and eliminating pollution in interstate waters with the cooperation of State and Federal agencies. The Act requires water quality standards and a plan for enforcement to be developed by the States and submitted to EPA for approval. Since power plants may raise the temperature of interstate water, water quality standards are applicable to the construction and operation of power plants.

Under Section 21(b) of the Water Quality Improvement Act of 1971, any applicant for a Federal license or permit covering an activity which "may result in any discharge into the navigable waters . . . shall provide the licensing or permitting agency with a certification from the State in which the discharge originates . . . that such activity will be conducted in a manner which will not violate applicable water quality standards."³² Thus, most fossil-fueled and nuclear

²⁶ 42 U.S.C. 4332.

²⁷ Agency guidelines for implementing NEPA are as follows: Atomic Energy Commission, regulatory activities, 36 F. R. 18071 (September 9, 1971) and for non-regulatory activities, 36 F. R. 13233 (July 16, 1971); Federal Power Commission, 35 F. R. 18958 (December 15, 1970), 36 F. R. 7332, and 36 F. R. 22738.

²⁸ *Calvert Cliffs' Coordinating Committee v. AEC*, 449 F. 2d 1109 (D. C. Cir., 1971).

²⁹ *Natural Resources Defense Council v. Morton*, — F. 2d — (D. C. Cir. 1972).

³⁰ *Green County Planning Board v. FPC*. — F. 2d — (2nd Cir., 1972).

³¹ 33 U.S.C. 1151-1175.

³² 33 U.S.C. 1171(b)(1).

plants would require a 21(b) certificate from the appropriate state agency.

Sections 13 and 10 of the Rivers and Harbors Act of 1899 are also relevant to power plant siting. Section 13,³³ which is called "The Refuse Act," prohibits the discharge of refuse matter of any kind into navigable waters without a permit from the Corps of Engineers; Section 10³⁴ requires a permit to dredge or fill unless authorized by the Corps.

Executive Order 11574³⁵ was issued on December 23, 1970, to clarify the apparent overlapping provisions of NEPA, the Water Quality Improvement Act and the Refuse Act. Under this order the Corps is responsible for issuing discharge permits (under the Refuse Act), in consultation with other agencies. The Environmental Protection Agency makes a determination as to the compliance with water quality standards and the Corps issues a permit where the certification prescribed by Section 21(b) has been fulfilled.

However, a major unresolved controversy centers around the necessity of following the environmental impact process (as required by Sec. 102 of NEPA) in the issuance of permits under the Refuse Act and E.O. 11574. The Corps had held that it was not required to write an environmental impact statement as part of the permit process. By contrast, a recent court decision, *Kalur v. Resor*³⁶ held that the Corps must indeed prepare an environmental impact statement in carrying out this program.

3. *Air quality legislation.*—The Environmental Protection Agency has the authority of issuing air quality criteria which form the basis for the establishment of national ambient air quality standards. Each state is required to submit implementation plans to EPA for the enforcement of primary and secondary standards in air quality control regions within its jurisdiction. State plans must insure that existing and future facilities, including power plants, will be located, equipped and designed to avoid violation of air quality standards.

The Clean Air Act Amendments of 1970³⁷ also applied performance standards for new stationary sources of air pollution. These standards prescribe that the best available technology be utilized, taking cost into account; performance standards may differ depending on the classes, types and sizes in the category of new emission sources. Thus, power plants, and especially new facilities, will be subject to performance standards.

4. *Federal Power Act.*—The Federal Power Commission licenses the construction and operation of hydroelectric projects (including pumped storage facilities) on navigable waters; regulates the rates and other aspects of interstate wholesale transactions in electric power; and prescribes and enforces a uniform system of accounts for regulated electric utilities.³⁸ The FPC is empowered to divide the Nation into regional districts for voluntary interconnection and coordination of facilities for generation, transmission and sale of electricity.

³³ 33 U.S.C. 407.

³⁴ 33 U.S.C. 403.

³⁵ 33 U.S.C. 407nt.

³⁶ *Kalur v. Resor*, 335 F. Supp. 1 (D.C. 1971).

³⁷ 42 U.S.C. 1857 *et. seq.*

³⁸ 16 U.S.C. 791-825.

While the FPC does not have direct jurisdiction over the licensing of fossil-fueled or nuclear power plants, it does have jurisdiction over the siting of new hydroelectric facilities. In addition, the FPC has control over transmission lines and can order the interconnection of facilities under certain circumstances.

5 *Atomic Energy Commission* —The Atomic Energy Commission issues licenses for the construction and operation of nuclear power plants and supporting industrial facilities such as fuel fabrication and reprocessing plants. A construction permit is examined by the AEC and the Commission's Advisory Committee on Reactor Safeguards; this review is followed by a mandatory public hearing before an Atomic Safety and Licensing Board. An operating license is applied for when the plant is ready to load. No mandatory public hearing is required for the issuance of an operating license. However, interveners can and have requested hearings before the licensing boards. In the *Quad Cities* case,³⁹ the Court held that a final environmental impact statement (i.e., NEPA statement) was required before the AEC could authorize even low-powered, interim operation of a nuclear power plant.

The *Quad Cities* case and the need for added generating capacity were primarily responsible for the passage of amendments to the Atomic Energy Act in June, 1972. This legislation, P.L. 92-307, allowed the AEC to issue temporary operating licenses for nuclear power reactors pending final action by the Commission on an application. Several conditions were attached to the issuance of such a license, including the preparation of a final environmental impact statement. This last requirement was not required, however, for applications filed prior to September 9, 1971, provided the Commission satisfy the applicable requirements of NEPA before the issuance of any temporary operating license under this section. The major impact of this legislation is to speed up the power plant siting process in order to meet increasing electricity demand.

The criteria and guidelines set forth by the AEC for power plant site evaluation pertain to both plant design and site characteristics; these include seismology, meteorology, geology and hydrology. The applicant is required to identify the following for construction permits:⁴⁰

(1) An *exclusion area* within which the "licensee must have the authority to determine all activities including exclusion or removal of personnel and property from the area."

(2) A *low population zone* in which the "total number of residents and the population density are small enough [so that] measures could be taken in their behalf in the event of a serious accident."

(3) A *population center distance* which is the "distance from the reactor to the nearest boundary of a densely populated center containing more than about 25,000 residents."

The Atomic Energy Commission also imposes regulations on the maximum concentrations and amounts of radioactive gases released into the atmosphere and radioactive effluents into the water. These regulations are derived from the FRC guidelines adopted by the Environmental Protection Agency. (See 10 C.F.R. 20, 1970.)

The *Calvert Cliffs* case generally expanded the scope of the AEC's review process for construction and operating permits. First, it required the AEC to make an independent evaluation and balancing

³⁹ *Izaak Walton League v. Schlesinger*, 337 F. Supp. 287. (D.D.C. 1971)

⁴⁰ 10 C.F.R. 100.

of the possible environmental effects of the power plant. This was required even though other Federal and State agencies may have certified that the proposed plant met their environmental standards. The court also held that a review of environmental matters by the Atomic Safety and Licensing Board was required for nuclear power plants being built at the time the National Environmental Policy Act became law.

6. *Fish and Wildlife Coordination Act*.—The Fish and Wildlife Coordination Act is applicable to most, if not all, power plants. The Act states that whenever the waters of any stream or other body of water are impounded or diverted for any purpose under a Federal license or permit, the licensing agency “first shall consult with the United States Fish and Wildlife Service” and the State conservation agency.⁴¹ The reports received from these agencies shall be a part of any report prepared by the licensing agency. The impoundment, diversion or other project is to be constructed “with a view to the conservation of wildlife resources by preventing loss of and damage to such resources as well as providing for the development and improvement thereof in connection with such water-resource development.”⁴²

7. *Other requirements*.—In addition to the statutory requirements discussed above, most utilities will undertake discussions or come into contact with a number of Federal agencies in the process of siting any generating facility. For example, any utility crossing or affecting recreation, Indian, or other public lands would have to consult with any of several agencies of the Department of the Interior. Advice and recommendations would have to be solicited from the U.S. Geological Survey on geological considerations; from the National Oceanic and Atmospheric Administration, Department of Commerce on meteorology and seismology; from the Corps of Engineers on coastal effects; and a large number of other Federal agencies.

F. State and local regulation of powerplant siting

State and local government agencies currently exercise a wide spectrum of controls over the siting of electricity generation facilities and the location and routing of transmission lines. According to the Federal Power Commission, more than 40 States require some sort of authorization for new power plants, but the character and scope of the reviews carried out for approval of sites varies considerably. The Office of Science and Technology's report on *Electric Power and the Environment* summarized the State activities in power plant siting in the following manner:

In 29 states, the utility commission requires the issuance of certificates before plant and transmission line construction can commence. In only 19 of these states do the commissions consider the impact of the proposed facility on environmental factors. While advice on the environmental factors and views of other state agencies are made available to the state commissions, in only a few instances are they required to obtain or abide by such views when deciding the case.

The increasing emphasis on the quality of environment is reflected in the fact that utilities in 30 states must obtain separate authorization from state agencies other than the regulatory commissions. Such other agencies for the most part have jurisdiction over air, water and radioactive pollution controls, as well as water rights and usage.

Only 11 states coordinate the interests of all state agencies in power plant siting matters. In five instances, the state regulatory commission is responsible for such coordination.

⁴¹ 16 U.S.C. 662.

⁴² *Id.*

In addition to state agencies, in 11 states the local governing bodies require that authorization be obtained before power plants and transmission lines can be constructed. Of course, this does not include the routine kinds of building permits, licenses for use of streets and highways which are universally required.⁴³

The overwhelming complexity and diverse nature of State laws on power plant siting is exemplified in Table 8 where a summary of State laws by the Office of Science and Technology is presented. The table indicates the major factors which State authorities examine in their consideration of thermal electric plant siting. The types of factors and the way in which they are reviewed varies remarkable. North Carolina, Texas, Georgia and Hawaii, for example, do not use any of the factors indicated in the table in their reviews. Other states use all of these factors and more.

⁴³ *Electric Power and the Environment*, *supra* note 2 at 11.

TABLE 8.—STATE JURISDICTION IN THERMAL ELECTRIC PLANT SITING

State	Permit, license or certificate granted by utility commission	Factors formally considered by utility commission or other State agency				
		Air pollution	Appearance of plant	Location and appearance of transmission lines	Air navigation	Fish and wildlife
Alabama	Yes	Health department	No	No		Conservation department.
Alaska	No					
Arizona	No					
Arkansas	Yes	Other	No	No	Other	Other.
California	Yes	Yes	Yes	Yes	Yes	Yes.
Colorado	Usually not ¹	Health	No	No	No	No.
Connecticut	No	Air pollution control	(²)	(²)	Aeronautics ²	Fish and game. ³
Delaware	Yes	Other	Yes	Yes	Other	Other.
District of Columbia	Yes	Public health	No	Zoning	FAA	Interior.
Florida	No	Air and water pollution control.				Air and water pollution control.
Georgia	No					
Hawaii	No. ³					
Idaho	(⁴)					
Illinois	Yes	Air pollution control	Yes	Yes	Aeronautics	Yes.
Indiana	No. ³	Other				Other.
Iowa	No	Nuisance law		Yes		Conservation.
Kansas	Yes	No	No	Yes	Yes	Fish and game.
Kentucky	Yes	Health	No	Yes	Aeronautics	Fish and wildlife.
Louisiana	No				Public works	Wildlife and fisheries.
Maine	No	Water and air environmental improvement.	Soil-water conservation	Aeronautics and planning	Aeronautics	Fisheries and water and air environmental improvement control.
Maryland	Yes	Health	Yes	Yes	Aviation	Game and fish.
Massachusetts	No ⁶	do			Aeronautics	Fish and game.
Michigan	No	Air pollution control				
Minnesota	No					

TABLE 8.—STATE JURISDICTION IN THERMAL ELECTRIC PLANT SITING—Continued

State	Permit, license or certificate granted by utility commission	Factors formally considered by utility commission or other State agency				
		Air pollution	Appearance of plant	Location and appearance of transmission lines	Air navigation	Fish and wildlife
Mississippi	Yes	Yes	Yes	Yes	No	Yes.
Missouri	Yes	Air conservation	No	Yes	No	Conservation.
Montana	No	Air pollution council			Aeronautics	Fish, game, and water pollution.
Nebraska						
Nevada	Yes	Other	No	No	Other	Other.
New Hampshire	No	Health		On eminent domain	Aeronautics	Fish and game.
New Jersey	No ⁷					
New Mexico	Yes	Yes	Yes	No	Aviation	Do.
New York	No					
North Carolina						
North Dakota	No					Health.
Ohio	No					
Oklahoma	No					
Oregon	No	Health		On condemnation	Aeronautics	Wildlife and conservation.
Pennsylvania	Yes ⁹	Air pollution control	No	Yes ⁹	do	Fish and game.
Rhode Island	Yes	Other	Other	Yes	Other	Do.
South Carolina	No	Pollution control				Other.
South Dakota	No					Pollution control.
Tennessee	Yes	No	No	Yes	Aeronautics	Game and fish.
Texas						
Utah	No ¹⁰	Yes	Yes	Yes	No	Yes.
Vermont	No					
Virginia	Yes	Air pollution control	No	No	Aeronautics	Fisheries and game.
Washington	No	Air pollution control and health.	Parks and recreation	Water resources	do	Do.
West Virginia	Yes	Air pollution control	No	No	No	Yes.
Wisconsin	Yes	Natural resources ¹¹	(11)	(11)	Transportation ¹¹	(11).
Wyoming	Yes	Yes	No	Location	Yes	Yes.

Factors formally considered by utility commission or other State agency—Continued

State	Recreation	Reliability	Water (thermal) pollution	Safety	Public hearings on siting applications	Agency coordinating powerplant siting
Alabama	No	Yes	Water improvement		Yes	None.
Alaska					No	Do.
Arizona					No	Do.
Arkansas	No	No	Other	No	Yes	Public service commission.
California	Yes	Yes	Yes	Yes	Yes	Public utilities commission.
Colorado	No	Yes	Health	No	No ¹	None.
Connecticut	Park and forest ²	(²)	Health ²	(²)	No	Do.
Delaware		Yes	Other	Yes	No	Public service commission.
District of Columbia	Interior	Yes	Public health sanitary engineer.	Yes	No	District of Columbia government.
Florida	Air and water pollution control.		Air and water pollution control.	Industrial	No	None.
Georgia					No	Do.
Hawaii					No	Do.
Idaho	Yes	Yes	Yes	Yes	Yes	
Illinois	Other	Yes	Other		No	Commerce Commission.
Indiana	Riverfront improvement	Yes	Natural resources pollution control.		No	None.
Iowa					No	Do.
Kansas		Yes	Water resources	Yes	Yes	Corporation commission.
Kentucky	Parks	Yes	Health	Yes	Yes	None.
Louisiana			Public works		No	Do.
Maine	Water and air environmental improvement control, fisheries, and parks.		Water and air environmental improvement control and fisheries.	Health and welfare.	No	Do.
Maryland	Forest and parks				Yes	Public service commission.
Massachusetts	Conservation	Yes	Water resources	Yes	No ⁶	None.
Michigan						
Minnesota					No	None.
Mississippi	No	Yes	Air and water pollution	Yes	Yes	Public service commission.
Missouri	Outdoor recreation	Yes	Water pollution	Yes	Yes	Do.
Montana	Indirectly	Yes	do	Yes	No	None.
Nebraska						
Nevada	Other	Yes	Other	Yes	No	Public service commission.
New Hampshire	Resources and economic development.	Yes	Water pollution		No	None.
New Jersey					No	Do.
New Mexico	Park and recreation	Yes	Fish and game	Yes	Yes	Public service commission.
New York					No	(⁸).

See footnotes at end of table.

TABLE 8. STATE JURISDICTION IN THERMAL ELECTRIC PLANT SITING—Continued

State	Factors formally considered by utility commission or other State agency—Continued				Public hearings on siting applications	Agency coordinating powerplant siting
	Recreation	Reliability	Water (thermal) pollution	Safety		
North Carolina						
North Dakota	Health		Health		No	None.
Ohio						
Ohio						Do.
Oklahoma	Industrial development and parks.			Public safety	No	Do.
Oregon	Highway		Health	Labor, health, and workman's compensation.	No	Do.
Pennsylvania	Forests and waters	Yes ⁹	do.	Yes ⁹	Yes ⁹	Do.
Rhode Island	Other	Yes	Other	Other	Yes	Division of public utilities.
South Carolina	Pollution control		Pollution control		No	None.
South Dakota					No	Do.
Tennessee	Conservation	Yes	Public Health	Yes	Yes	Public service commission.
Texas						
Utah	Yes	Yes	Yes	Yes	No	Do.
Vermont			Water resources		No	None.
Virginia	Conservation and economic development	Yes	Water control	Labor and industry	No	Do.
Washington	Parks and recreation	Public service.	Water pollution control and fisheries.	Health, labor, and industry	No	Do.
West Virginia	No	Yes	No	Labor	Yes	Do.
Wisconsin	Natural resources ¹¹	Yes	Natural resources ¹¹	Yes	Yes	Public service commission.
Wyoming	Yes	Yes	Yes	Yes	Yes	Do.

¹ Most new plants are legally exempt from obtaining a certificate.

² Public utilities commission deals with but does not formally consider.

³ Various specific approvals may be required for zoning and construction elements.

⁴ The only electric generating plants built in Idaho have been hydroelectric plants subject to FPC regulations, so no precedence has been set for thermal plants.

⁵ Some control exercised through approval of financing.

⁶ If zoning exemptions required, all factors given formal consideration, otherwise not formally considered.

⁷ Control exercised when eminent domain or new financing required.

⁸ Hudson River Valley Commission in certain instances.

⁹ Certificate of necessity required for zoning variance or eminent domain exercised.

¹⁰ Public service commission may order that a certificate be issued.

¹¹ Considered but not necessarily made the subject of a public hearing.

Note: For brevity, titles such as commission, department, and council are left out of the body of the table.

Source: Office of Science and Technology Considerations Affecting Steam Power Plant Site Selection: Government Printing Office, 1968, pp 81-82.

The nature of State laws and reviews has changed significantly since this table was compiled in 1967-1968. Recent environmental legislation at both the State and Federal level has required more intensive reviews of the environmental impacts associated with power plants.

Nor does the above discussion fully reflect the current activity by a number of states in the area of power plant siting. Beginning with the State of Washington in 1970, a number of states have enacted comprehensive legislation to improve the power plant siting process. In Washington, a Thermal Power Plant Site Evaluation Council was created to consider individually each site application. In Maryland, the Department of Natural Resources has been given authority to approve sites and facilities, as well as the power to purchase future sites. In both states, adequate financing has been assured through a filing fee (Washington) and an energy tax (Maryland). Other States have also passed comprehensive legislation, including Oregon, and Connecticut. Other States are controlling the siting of power plants and transmission under planning laws developed for the purpose or land use regulation; these include Delaware, Florida, and Maine.

As the Honorable Gordon Macdonald, Member, Council on Environmental Quality, noted at the Committee's May 15, 1972, hearings in Washington, D.C.:

In other states, the response to the need for expedited treatment of applications by utilities wishing to construct needed facilities, and the countervailing pressures for more public participation in the review process, have resulted in administrative and legislative changes which are less comprehensive but nonetheless significant steps forward. These include Alabama, California, New Mexico, New York and Texas. Many other states including Illinois, Minnesota, Pennsylvania and Virginia have under consideration in their state legislatures or by special study groups comprehensive power plant siting legislation.⁴⁴

Even with these new initiatives to improve the power plant siting evaluations, there are still many laws, regulations, reviews, and other requirements facing a utility siting a new plant. For example, a representative of the Duke Power Company testified at the House hearings last year that "... during the 1965-1970 period, licenses, permits, contracts, agreements or understandings were obtained from 67 separate and distinct entities of government."⁴⁵

Their list included such Federal agencies as the Federal Power Commission, Corps of Engineers, Fish and Wildlife Service, Southeastern Power Administration, U.S. Geological Survey, Federal Aviation Authority and twenty-two other Federal agencies. The list of state agencies included the Highway Commission, Utility Commission, pollution control authorities, and conservation agencies; in all, twenty-five separate agencies were consulted. Finally, Duke Power consulted with two county governments, fourteen town or city governments in two states, fire systems, civil defense authorities, water districts and health officials.

G. Relationship to other legislation

Finally, it is important to note that the power plant siting proposals now before the Committee on Commerce are directly related to the

⁴⁴ Statement of Honorable Gordon J. F. MacDonald, Member, Council on Environmental Quality before the Senate Committee on Commerce, Washington, D.C., May 15, 1972, p. 7.

⁴⁵ *House Hearings*, *supra* note 8 at 689.

land use planning and coastal zone management bills being considered by other Committees in Congress.

A fundamental issue to be resolved in certifying new power generating facilities is the balancing of power needs and sound land development. One of the most important problems in this area was singled out by Chairman Nassikas at the Senate Interior Committee hearings on land use planning:⁴⁶

* * * One of the most basic and troublesome problems involved in connection with the siting of powerplants or of any other large scale industrial activity; that problem is how to set up functioning democratic institutions of government at the State level which can draw upon the State's basic Constitutional authority to plan and to make land use decisions which will enable society to meet its growing material needs without causing damage to public resources and without flaunting the accumulated lessons which we have gained from the emerging science of ecology. Setting the stage for the creation of new institutions and rechanneling of State powers over land use decisionmaking is needed now, because the demands which Americans are making on their once ample land resources are growing at an ever increasing rate.

Several bills have been introduced in the 92nd Congress to establish a national land use policy (S. 632, S. 992, and H.R. 7211). These bills have been referred to the Interior Committees. While these proposals do differ in some respects, they have a number of similar objectives:

They encourage the States, which have the police power and the basic Constitutional authority for planning and management of non-Federal lands, to take the initiative in developing land use programs for activities of more than local significance;

They provide Federal assistance to the States for the staffing, data gathering and analysis, and planning which are necessary prerequisites for coherent decisionmaking;

They encourage or require State land use controls to implement State land use programs;

They contemplate a higher measure of coordination and compliance of Federal action with approved State land use programs; and

They introduce Federal review of the States' land use efforts as a condition to further grants.

Measures to improve the management of coastal zones (S. 3507 and H.R. 14146) are also relevant to power plant siting legislation. Coastal areas have provided sites for generating facilities in the past; in addition, proposals to locate off-shore generating facilities make the careful appraisal of this legislation important.

⁴⁶ U.S., Congress, Senate, Committee on Interior and Insular Affairs, *National Land Use Policy: Background Papers on Past and Pending Legislation and the Roles of the Executive Branch, Congress, and the States in Land Use Policy and Planning*, Committee Print, 92nd Cong., 2nd Sess., April, 1972, p. 33.

III. SUMMARY OF THE HEARINGS

During the months of April, May and June, 1972, testimony was received from over 20 witnesses on the power plant siting bills pending before the Senate Committee on Commerce.⁴⁷ Additional communications were received from many other sources.

The desirability of improving the present power plant siting process has been studied by many diverse interest groups including government, industry, environmentalists and trade associations. This summary of the Committee's hearing records illustrates the breadth of attention devoted to this important subject and also highlights some of the salient issues on which there is considerable depth of interest group opinion.

A recurring theme in the testimony was the inadequacy of existing power plant siting procedures. Delays in the delivery of new generating capacity and the need for additional power were both discussed. Most witnesses expressed the need for a "one stop, full stop" site approval system. Under this concept, all reviews and licenses would be obtained at one level at which adequate consideration of environmental factors would be included. In addition, the needs of long-range planning for the addition of future electric generating capacity were discussed. Several witnesses expressed the view that the planning process could be improved by greater public participation. Improving the judicial review of siting decisions was another topic addressed by several witnesses.

The comments of the witnesses on these and related issues are highlighted below.

A. Existing powerplant siting process

The Honorable John W. Larson, Assistant Secretary of the Interior for Program Policy, opened the initial Committee hearing by describing the present regulatory system:

The existing governmental regulatory mechanism for the siting, design, construction, and operation of power plants is a fragmented, uncoordinated, and incomplete process, with the exception of several states such as Washington, which have recently developed coordinated informal arrangements or enacted pioneering legislation.

Today many electric utilities are having serious problems meeting their peak demands because of rapid growth in demand, manufacturing delays, labor disputes, equipment breakdowns, fuel shortages, environmental issues, and, in some cases poor planning. In addition, electric utilities are faced with a staggering array of Federal, State and local land use and environmental regulations.

The number of plants experiencing delays in construction or operation was detailed by Mr. Shearon Harris, Chairman of the Edison Electric Institute:

Recently, we completed a survey of scheduling for steam electric generating units of 300 MW and above for the years 1969-1974 . . . Our current study

⁴⁷ The full texts of S. 1684, S. 1915 and S. 3631 are presented in Appendix B.

covered 242 generating units, of which 181 are fossil fuel plants and 61 are nuclear. At present, 67 of these plants, or about 27 percent of the total, are 7 months or more behind schedule. The reasons for these delays vary and, in most cases, there are multiple causes. Overall, the most frequent reason for delay in bringing generating units into operation on schedule is late delivery of major equipment. Faulty installation or equipment component failure is named next most frequently. Shortages of construction labor are third. Regulatory difficulties or environmental challenges are among the reasons given for delays of three nuclear plants in 1969, of three nuclear plants in 1970, of two nuclear plants in 1971, of 10 nuclear plants in 1972, of eight nuclear plants scheduled for 1973, of eight nuclear plants and three fossil-fired plants scheduled for 1974.

While environmental review processes have not accounted for a majority of the delays in constructing power plants to date they may account for more delays in the future. J. Frederick Weinhold, speaking for the Office of Science Technology, cautioned that this increase in environmentally-related delays will create an urgent need for the passage of power plant siting legislation:

In light of these events during the past year the question of whether we need powerplant siting legislation is no longer an issue of whether there should be a Federal program of environmental reviews for major electric power facilities. The question now is whether new legislation is required to assure that all of the mandated environmental reviews are conducted in a comprehensive manner early enough in the planning and construction process to minimize financial risk and unnecessary delays. The National Environmental Policy Act requirements already impose a new layer of environmental reviews for virtually all powerplants, fossil fuel and nuclear. The issue before you today is whether we make environmental analysis part of an integrated, rational process which can provide timely decisions or whether we let the system continue to drift.

B. Electricity and the environment

Several witnesses discussed the critical relationship between electric power supply and environmental goals. Proponents of each, it was felt must be willing to compromise so that an effective approach to development could be instituted. Gordon J. F. Macdonald, of the Council on Environmental Quality, for example, observed:

We have concluded that the powerplant siting issue comes down to one basic question—are the electric utilities and those placing a priority on maintaining environmental quality willing to make a trade-off? The trade-off I am talking about is essentially quite simple. The utilities must be willing to provide for longer-term advance notice and greater participation in decisions on power supply planning, plant siting, and plant design. In return they get a simplified coordination review process and timely approval of construction and design proposals. The environmentalists must be willing to limit their last minute efforts to stop or delay the construction or operation of power facilities by appealing to any one of the myriad of agencies which presently must give their approvals. In return they get earlier comment on siting proposals and a genuine opportunity to be heard and to affect decisions.

C. Administration's powerplant siting proposal

Assistant Secretary Larson focused on the Administration's powerplant siting proposal. The bill was the outgrowth of two studies⁴⁸ undertaken by the Office of Science and Technology. The basic conclusions of these studies were that: (1) new institutional arrangements were needed to review bulk power facilities to balance power supply and environmental needs; (2) a longer leadtime and greater public participation were needed in the planning of power facilities; and (3)

⁴⁸ *Considerations*, *supra* note 4, and *Electric Power and the Environment*, *supra* note 2.

a greater research and development program was needed to lessen the environmental impact of power production.

According to Mr. Larson, the Administration's power plant siting bill was based on several basic factors including planning, one-stop reviews, state control and adequate staffing at the Federal level:

The Administration's power plant siting bill is based on several basic precepts. We believe that the electric utilities should continue to shoulder the primary responsibility for planning the expansion of bulk power supply service, but they must share this responsibility with public agencies who must review and approve these plans to assure that environmental values are protected.

Adequate time is needed in the planning and decision process to insure that all factors are openly considered, that necessary power and environmental studies can be performed prior to site investments, and that there is public participation and trust in the process . . .

The review and decision process should be as orderly as possible. This includes essentially a one-stop process at the State level, with conclusive decisions, and as close as is possible to a one-stop process at the Federal level.

We believe that the States are best suited for deciding where power plants should be sited. They have the necessary constitutional authority in regard to land use decisions; they are responsible for enforcing environmental quality standards for air and water; and they have certain regulatory powers over public utilities. . . .

The certifying agency must be organized and staffed to provide a balanced consideration of power needs and environmental values. The President's desire to achieve that balance at the Federal level resulted in his decision to designate the proposed Department of Natural Resources, and in the interim the Department of the Interior, as the certifying agency. Accordingly, within the Department of the Interior this function will be placed with the Department's planning, review, and coordination components under my direction, rather than to align the function with either the natural resource development or environmental protection and enhancement components of the Department.

D. Legislative standard for certification authority

The Chairman of the Federal Power Commission, John N. Nassikas, called for legislative standards for the exercise of certification authority. In his view, the best test of effectiveness of power plant siting legislation is the comprehensive use of resources:

The legislative standard for the exercise of certification authority is important. We believe that it should test site utilization against alternate sites and uses, and should require the matching of available technology with available fuels, air, land and water resources, all with due regard for specific legal requirements controlling the environment. The certification test which we favor is the comprehensive use of resources test . . . By this test, Congress would be recognizing electric power needs and environmental values as determinants of co-equal status to be balanced and resolved in the certification process.

It is essentially an adaptation of the Congressionally prescribed standard for the licensing or certification of hydroelectric facilities under Part I of the Federal Power Act. As such, it comprehends the inter-disciplinary, integrated types of analyses which the Congress has more recently specified in the National Environmental Policy Act of 1969.

E. Federal versus State implementation

Most witnesses testifying before the Committee approved of a dual system of power plant siting which would take advantage of the strengths of both State and Federal agencies. This pluralistic approach was viewed by many witnesses as the most workable solution to the Federal/State separation of powers.

The Federal role involves two responsibilities—improving administration and encouraging State actions. According to the Chairman of the Edison Electric Institute, Mr. Shearon Harris, the strength of

Federal legislation lies in its capacity to improve the administration of statutes applicable to the electric power industry:

It may be that some form of Federal legislation would be helpful in cases where the problems cannot be fully resolved at the State level, where the decision-making process at the Federal level needs to be expedited, or to speed up judicial review . . .

* * * * *

We submit that any Federal legislation should be directed at expediting the process of resolving environmental questions so that electric power facilities can be expeditiously planned and constructed in a manner that properly takes environmental considerations into account . . .

On encouragement of State actions, Mr. Macdonald pointed out:

While we are pleased with the progress made by the States, this is not to say that there is any less need for Federal action on the problem. We need to encourage other States to move quickly. Furthermore, we need to do something soon about consolidating existing Federal reviews into a single system compatible with State reviews. Finally, we believe that Federal legislation should be useful in establishing an overall framework for State legislation, particularly as it relates to the relationship between long-range planning activities and the current responsibilities of the Federal Power Commission.

At the April hearings held in Hanford, Washington, several witnesses contended that Federal power plant legislation was not necessary in light of the successful implementation of State legislation in this area. Howard C. Elmore, Manager, Public Utility District No. 1 of Chelan County, for example, felt that Federal legislation was only needed when more than one Federal license or permit was required:

. . . At the outset, I wish to state our basic position with regard to this particular legislation and any other Federal legislation in the field of power plant siting.

At the present time, we believe that fossil-fired thermal generating facilities can be constructed in Oregon and Washington without requiring any Federal licenses or permits. Environmental considerations are being met in both States through their respective siting statutes. We therefore see no need for the enactment of S. 1684 or any other Federal legislation blanketing all new power plants in all States, when the problem to be solved in our region is limited to those thermal plants for which Federal licenses or permits are required from more than one Federal agency.

We accordingly recommend strongly that Federal power plant siting legislation be considered as being applicable only to those situations in which more than one Federal license or permit is required.

Mr. Henry G. Curtis, General Manager, Northwest Public Power Association, testified at the Hanford hearings that the most important consideration was not who implemented the legislation, but whether any action was taken at all:

In Section 2(d) and Section 7(a) the bill [S. 1684] would authorize and empower certifying agencies to take actions which expedite the necessary programs of supplying electricity to the people of this Nation. But in neither of these sections does it *direct* these agencies to act. Although the bill does provide that an electric entity may petition the Federal certifying agency for action in the event that a State certifying agency does not act, there still is no requirement that even the Federal agency must finally act. Failure by any certifying agency to act expeditiously can result only in disastrous delays in bringing needed power facilities into service.

F. One-stop siting

Under the proposal for a "one-stop" site certification system, a utility would come to one agency empowered to resolve all the issues pertaining to the siting of power plants.

In his testimony, Mr. Nassikas agreed that "one-stop" siting was necessary, but he stressed that "governmental accountability" was also needed:

Power plant siting and certification, if it is to be effective, must carry with it governmental accountability. This means resolution of questions within a forum having a single political accountability, either to State government or to Federal Government. Furthermore, that forum, however constituted, must be empowered and able to render final judgments conclusive of all electric power resource and environmental matters, subject only to judicial review as may be authorized by the certification statute. Duplicate proceedings and layered approvals by various agencies of government must be eliminated.

William H. Rodgers, Jr., Professor of Law at the University of Washington, supported the "one-stop" concept but cautioned the Committee on the issue of overriding State standards and letting the executive branch formulate the Federal certifying agency:

In my opinion, a "one-stop" decision maker is eminently sensible if it means a procedural mechanism for bringing about an integrated and prompt resolution of all issues pertaining to the siting of a power plant. It's a bad idea if it means an excuse for neutralizing parties most likely to cause difficulties for an industry determined to build wherever it pleases with minimal concessions to the integrity of the environment. For this reason, I applaud the language in S. 1684 obligating the certifying body to insist upon compliance with Federal standards but deplore the invitation to override State standards (§ 7(a)).

. . . I think the Congress should decide who is to be the Federal certifying body instead of leaving it up to the President . . . My own inclination would be to create a conglomerate made up of [the Federal Power Commission, the Atomic Energy Commission and the Department of the Interior], along with a member of the Environmental Protection Agency and the Council on Environmental Quality.

Not every witness was optimistic about the success of a "one-stop" site certification system. Herbert B. Cohn, representing the American Electric Power Service Corporation, testified that so many complex issues were involved in siting that it will not be possible to obtain all final determinations in a one-stop process:

A certification proceeding will necessarily involve numerous complex issues—some of which will be in direct conflict with one another—strongly held views, the presence of many different parties, the need for due process and at least some form of judicial review. . . .

In this context and with the experience we have had to date in proceedings involving some of these issues, it becomes crystal-clear that, with rare exceptions, it will not be possible to obtain final determinations in such proceedings in any less than several years and that delays of five years or more are likely to be the rule rather than the exception.

The nearest thing we have had to such proceedings are the hydroelectric licensing cases under Part I of the Federal Power Act. These proceedings provide some further insight on what we can expect in certification proceedings designed to resolve conflicts between power supply and the environment.

Perhaps the best known of these cases involves the application to FPC for a license to build a hydroelectric project at High Mountain Sheep where there has, thus far, been a delay of fifteen years.

G. Long-range planning

Another issue which received considerable discussion during the hearings was the role of long-range planning in resolving the electricity/environment conflict.

Mr. Weinhold, of the Office of Science and Technology, viewed long-range planning as a means of resolving "tough questions" and providing a forum for bringing these questions out into the open:

. . . The open long range planning and early site approval should really be viewed as advance steps taken by the certifying agencies to assure a solid background for the final approval step. Hopefully, during these early steps many of the really tough questions will be brought out into the open and settled well in advance of certification. As proposed in S. 1684 these steps do not involve final decisions but, administered by the State certifying agency and coupled to the certification process, they should be most useful.

General agreement on the need for long-range planning was received from many other witnesses. There was, however, considerable disagreement about the specifics of instituting such planning. Professor Rodgers, for example, felt that the "long-range planning anticipated to be the work of the reliability councils should be open to inputs from Federal agencies, such as the FPC, AEC and EPA . . ." Other witnesses felt that the major planning role should be the responsibility of the utilities and not governmental bodies. Mr. Weinhold, for example, stated that, under the provisions of S. 1684, the planning "would be done by the utilities on a regional basis with public participation" because "the ultimate responsibility for planning and constructing needed facilities must lie with those institutions public and private that are responsible for providing electric power."

Mr. Cohn, while he felt long-range planning to be helpful, stated that it is important to understand that planning has its limitations and is not a panacea for resolving every power supply/environment conflict:

In the first place, long-range planning is possible only within limits. No utility can decide today . . . the most sensible size and type of generating unit on which to begin construction five to ten years from now . . .

Secondly, it is not at all unusual for wholly unforeseen demands to be imposed on a utility which require immediate construction of power supply facilities and which could not have been factored into advance planning . . .

Thirdly, the concept that early publication of plans, debate and discussion will resolve conflicts in time to avoid delaying construction of essential facilities rests upon an as yet untested assumption and, in my view, involves an element of wishful thinking . . .

Fourth, those who advance long-range planning as a complete solution appear not to have a full understanding of the practical problems raised—particularly for a conventional fossil fuel plant . . .

H. Citizen participation in siting decisions

A number of witnesses expressed a need for greater citizen participation in power plant siting decisions. Charles A. Ehren, Jr., Executive Director, Special Committee on Electric Power and the Environment of the Association of the Bar of New York, suggested that most proceedings for power plant licenses have ended in controversy "because,

at the present time, there is substantially no open, *public agency* decision-making at the earlier stages" of the siting process:

All the major bills to my knowledge presently before your Committee suffer from that focus on the licensing or certification proceeding as the primary incident of public agency decision-making.

If one examines the existing regulatory scheme, it becomes clear that, by far, the largest number of publicly-important decisions in this area are either made by the utility industry or initiated by the industry and carried forward far enough before public agency review so that the decisional options of responsible public agencies are quite limited.

* * * * *

It seems to me a practical reality that the extent of possible public participation in decision-making is quite dependent upon the extent to which the process is a public agency responsibility. To that extent, there can be imposed rules and regulations for such participation, there usually will be a record, and, for those and other reasons, fairness to all interested parties can be monitored . . . Where decision-making is entirely an industry matter, however, it is most difficult to mandate "public participation." Again, I refer to the projection of future national and regional construction needs, the determination of size, type, and design of facilities, and the initial site-location decisions. How can a utility be required by law to consult with "the public"? With *which* public? How intensively? How early in the process—in board of directors' deliberations?

Professor Rodgers testified that decision-making process instituted by the legislation should not be a "tail-end" process, with the public consulted only at a late stage:

It makes little sense to open up the decision-making only at the tail-end of the process, such as the deliberations of the Washington State Thermal Power Plant Siting Council or even short-term impact statements under the National Environmental Policy Act, without also bringing some light to bear on the crucial earlier decisions. Mr. Chairman, your commendable proposal to bring public accountability and direction into the process of our energy research and development is a promise of open deliberations on power plant "siting" decisions to take place forty, fifty and one hundred years hence . . .

Acceptance of the proposition that we should look ahead and think about what we're doing means we must decide about usage—who gets how much of an ever more precious energy resource. Wholly apart from the issue of no-growth or slower growth is the issue of what kind of growth.

I. Decreasing the demand for electricity

One solution to the problems facing the electric industry which has been put forward on several occasions is to decrease the demand for power. Michael McCloskey, Executive Director of the Sierra Club, suggested that the growth rate of electric consumption could be controlled without adversely affecting economic development:

A doubling time of every 10 years in power production cannot be sustained for very long. At this rate impossible conflicts will abound within a few decades, and in 200 years all of the country would be covered with power plants, even if we used 1000-megawatt plants.

The end of this spiral is in sight, and public policy should aim at bringing these growth rates under control so that only logical and acceptable patterns of growth and change will occur.

* * * * *

Slowing our growth rates in power production does not necessarily imply any reduction in our standard of living, nor denying our poor people a chance to have the energy necessary for a better life, nor will it impede pollution control programs.

It has been discovered, for instance, that while citizens of New Zealand and the United Kingdom have similar capita gross national products, citizens of New Zealand use only half as much power per capita.

One study for the National Science Foundation has suggested that we could use only 62 percent as much power as we did in 1968 and still maintain a comparable standard of living through doing a better job of conserving energy.

APPENDIX A

SELECTED HEARINGS AND LEGAL COMMENTARY ON POWERPLANT SITING

Following is a selected listing of recent hearings and legal commentary on power plant siting issues, problems and proposed legislation. The hearings have been organized under three headings: (1) Power Plant Siting; (2) Land Planning; and (3) Coastal Zone Management. The legal articles are arranged in alphabetical order by author.

HEARINGS

Powerplant siting

- U.S. Congress. Joint Committee on Atomic Energy. Subcommittee on Legislation. *AEC Licensing Procedure and Related Legislation*. Hearings. 92nd Cong., 1st Sess. Parts 1-4. Washington, U.S. Government Printing Office, 1971.
- U.S. Congress. Senate. Committee on Interior and Insular Affairs. *Calvert Cliffs Court Decision*. Hearings. 92nd Cong., 1st Sess. Parts 1 and 2. Washington, U.S. Government Printing Office, 1971.
- U.S. Congress. Senate. Committee on the Judiciary. Subcommittee on Administrative Practice and Procedures. *Electric Power Reliability*. Hearings. 91st Cong., 2nd Sess. Washington, U.S. Government Printing Office, 1970.
- U.S. Congress. House. Committee on Interstate and Foreign Commerce. Subcommittee on Communications and Power. *Electric Power Reliability—1969-1970*. Hearings. 91st Cong., 1st and 2nd Sess. Washington, U.S. Government Printing Office, 1970.
- U.S. Congress. Senate. Committee on Commerce. Subcommittee on Energy, Natural Resources and the Environment. *Federal Power Commission Oversight*. Hearings. 91st Cong., 2nd Sess. Washington, U.S. Government Printing Office, 1970.
- U.S. Congress. Senate. Committee on Government Operations. Subcommittee on Intergovernmental Relations. *Intergovernmental Coordination of Power Development and Environmental Protection Act*. Hearings. 91st Cong., 2nd Sess. Washington, U.S. Government Printing Office, 1970.
- U.S. Congress. House. Committee on Merchant Marine and Fisheries. Subcommittee on Fisheries and Wildlife Conservation. *Interim Nuclear Licensing*. Hearings. 92nd Cong., 2nd Sess. Washington, U.S. Government Printing Office, 1972.
- U.S. Congress. Joint Committee on Atomic Energy. *H.R. 13731 and H.R. 13732, To Amend the Atomic Energy Act of 1954 Regarding the Licensing of Nuclear Facilities*. Hearings. 92nd Cong., 2nd Sess. Washington, U.S. Government Printing Office, 1972. Parts 1 and 2.
- U.S. Congress. Senate. Committee on Interior and Insular Affairs. *Problems of Electric Power Production in the Southwest*. Hearings. 92nd Cong., 2nd Sess., Parts 1-6. Washington, U.S. Government Printing Office, 1971.

Land planning

- U.S. Congress. Senate. Committee on Banking, Housing and Urban Affairs. Subcommittee on Housing and Urban Affairs. *Land-Use, Planning and Management Programs*. Hearings. 92nd Congress, 1st Sess. Washington, U.S. Government Printing Office, 1971.
- U.S. Congress. Senate. Committee on Interior and Insular Affairs. *National Land Use Policy*. Hearings. 92nd Cong., 1st Sess. Washington, U.S. Government Printing Office, 1971.
- U.S. Congress. House. Committee on Interior and Insular Affairs. Subcommittee on the Environment. *National Land Use Planning*. Hearings. 92nd Cong., 1st Sess. Washington, U.S. Government Printing Office, 1971.

Coastal zone management

U.S. Congress. Senate. Committee on Commerce. Subcommittee on Oceans and Atmosphere. *Coastal Zone Management*. Hearings. 92nd Cong., 1st Sess. on S. 582, S. 632, S. 638 and S. 992. Washington, U.S. Government Printing Office, 1971.

U.S. Congress. Senate. Committee on Government Operations. Subcommittee on Executive Reorganization and Government Research. *Preserving the Future of Long Island Sound*. Hearings. 92nd Cong., 1st Sess. Washington, U.S. Government Printing Office, 1971.

U.S. Congress. Senate. Committee on Interior and Insular Affairs. Subcommittee on Minerals, Materials and Fuels. *Marine Sanctuaries in California*. Hearings. 92nd Cong., 1st Sess. Washington, U.S. Government Printing Office, 1971.

LEGAL COMMENTARY

Bergen, G.S.P. Some Thoughts on Power Supply and the Environment. 26 *Record* 677 (1971).

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Note. Legal Conservation—Thermal Pollution from a Nuclear Power Plant. 47 *Journal of Urban Law* 895 (1969-1970).

Note. Legal Setting of Nuclear Powerplant Siting Decisions: A New York State Controversy. 57 *Cornell Law Review* 80 (1971).

Note. Public Utilities: Division of Territories in the Electric Power Industry. 1970 *Law and Social Order* 76 (1970).

Note. Thermal Discharges: A Legal Problem. 38 *Tennessee Law Review* 369 (1971).

Note. Thermal Electric Power and Water Pollution: A Siting Approach. 46 *Indiana Law Journal* 61 (1970).

Ramey, J. T., Planning for Environmental Protection in the Siting of Nuclear and Fossil Powered Plants. 12 *Atomic Energy Law Journal* 59 (1970).

Rodgers, W., Siting Power Plants in Washington State, 47 *Washington Law Review* 9 (1971).

Smith, T. T., Electricity and the Environment—the Generating Plant Siting Problem. 26 *Business Lawyer* 169 (1970).

Stone, L. B., Power Siting: A Challenge to the Legal Process. 36 *Albany Law Review* 1 (1971).

Symposium: The Location of Electricity-Generating Facilities. Introduction; J. L. McCarthy. Siting Power Plants in Washington State; William H. Rodgers, Jr. Power and the Environment: A Statutory Approach to Electric Facility Siting; Henry E. Lippek. 47 *Washington Law Review* 1 (1971).

Trowbridge, G. F., Environmental Issues in Reactor Licensing. 12 *Atomic Energy Law Journal* 251 (1970).

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APPENDIX B

THE POWERPLANT SITING PROPOSALS

[From the Congressional Record, Apr. 29, 1971]

By Mr. Magnuson (for himself and Mr. Cotton) (by request):

S. 1684. A bill to assure protection of environmental values while facilitating construction of needed electric power supply facilities, and for other purposes. Referred to the Committee on Commerce.

Mr. MAGNUSON. Mr. President, I introduced, by request, the administration's bill to assure protection of environmental values while facilitating construction of needed electric power supply facilities and for other purposes. This legislation was part of the program announced in the President's environmental message on February 8, 1971, and was transmitted to the Congress by Dr. Edward David, the Director of the Office of Science and Technology on February 10.

The proposed legislation deals with a most crucial problem confronting the Nation today and in the years ahead—finding practical solution to the frequently conflicting demands for environmental protection and for electric power. Both of these demands are essential in their own right but increasingly we find more and more examples of conflict and impasse which fail to serve either purpose. When environmental groups succeed in stopping or delaying an individual powerplant or transmission line, their victory in the court room may be hollow since it is frequently too late to select alternate sites and the only result is to impair the reliability of electric power supply. On the other hand, when the utilities brush aside the concerns of the environmentalists, the air, water, and the landscape may suffer irreparable damage. In either case, the public loses through power shortages, unnecessarily higher rates, environmental degradation, and the uncertainty of the whole process.

The public and the Nation as a whole can no longer tolerate this form of brinksmanship choosing between brownouts on one hand and pollution on the other. I have not yet had an opportunity to evaluate every implication of the administration's bill, but it is clear that legislation is required in this area to insure that these decisions are reached by open long-range planning and administrative processes where workable compromises can be found to meet both of these important needs. If we do not take such a step now, future brownouts could lead, fairly or unfairly, to public repudiation of some of our recently enacted environmental protection measures to the detriment of us all.

Powerplant siting and adequacy of power supply are not new subjects to the Congress. Numerous bills have been introduced in Congress during the past 2 or 3 years dealing with various aspects of the question in a variety of ways and the Commerce Committee has conducted hearings on several aspects of the problem.

Some of the individual States have taken the initiative in developing legislation and new institutions in this area. I am especially proud to note the leadership role that the State of Washington has played in this respect. It has recently enacted a thermal powerplant siting act establishing a thermal powerplant evaluation council which provides the type of decisionmaking body which the administration's bill apparently contemplates for all States and regions of the Nation.

The administration bill I have been asked to introduce would expand this type of decisionmaking body at the State, regional, or Federal level to all new powerplants or transmission lines. These decision-making bodies would be involved in the long-range planning and preconstruction review of such facilities.

I am impressed by the fact that the administration's bill is the result of an extensive interagency study effort sponsored by the President's Office of Science and Technology, headed by the extremely able S. David Freeman, in which all of the Federal agencies concerned with electric power and the environment participated. It is also of interest that the study was made in cooperation with concerned State and local officials, industry and conservation groups. The results of this study were published last fall as a report entitled "Electric Power and the Environment." This report provides the documentation for the legislation I am introducing today. The Commerce Committee expects to give this legislation the early attention it deserves.

I ask unanimous consent that the text of the bill and the letter from the Director of the Office of Science and Technology, together with the Conclusions and Recommendations from "Electric Power and the Environment," be printed in the Record.

There being no objection, the bill and material were ordered to be printed in the Record, as follows:

[S. 1684, 92d Cong., first sess.]

A BILL To assure protection of environmental values while facilitating construction of needed electric power supply facilities, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. This Act may be cited as the "Powerplant Siting Act of 1971."

SEC. 2. The Congress, in furtherance of the national environmental policy as set forth in the National Environmental Policy Act of 1969 (83 Stat. 852), and the national electric energy policy as set forth in section 202(a) of the Federal Power Act (16 U.S.C. 824a(a)), hereby finds and declares the national public interest in the environment, the interest of interstate commerce, the interest of public and private investors in electric utility facilities, and the interest of consumers of electric energy require—

(a) that bulk power supply facilities adequate to the Nation's need for a reliable electric power supply be constructed upon a timely basis, and in a manner consonant with the preservation of important environmental values and wise comprehensive use of the Nation's air, land, and water resources for all beneficial purposes, public and private;

(b) that in order to avoid undue delays in the construction of needed bulk power supply facilities and to provide for full and timely consideration of environmental consequences well in advance of such construction, all of the Nation's electric entities should be required to engage in adequate long-range planning, and that certifying bodies be established for the preconstruction review of bulk power supply facility sites and all related bulk power supply facilities;

(c) that the siting of bulk powerplants and high-voltage transmission lines be treated as a significant aspect of land use planning in which all environmental, economic, and technical issues with respect to a bulk power supply at the State or regional level should be resolved in an integrated fashion;

(d) that Federal, regional, and State governmental authorities be authorized and empowered to act expeditiously in coordinating reviews to assure protection of environmental values and certifying the construction, operation, or maintenance of bulk power supply facilities, all to the end of assuring for the Nation an adequate and reliable supply of electric power through a balanced and comprehensive use of the Nation's air, land, and water resources for all beneficial purposes, public and private;

(e) that a mechanism be established to provide Federal guidelines for the functioning of these certification procedures by State, regional, or Federal certifying agencies;

(f) that long-range planning be carried out through the electric reliability councils voluntarily established on regional and national bases and open to all systems comprising the various component parts of the electric utility industry, investor owned, publicly owned and cooperatively owned, and by participation of these councils in the work of the Federal Power Commission under section 202(a) of the Federal Power Act (16 U.S.C. 824a(a)); and

(g) that a program be undertaken by the Federal Government to assist in the developing of new approaches or methods of locating or grouping bulk power supply facilities within particular geographic areas, at surface or subsurface levels, or in conjunction with the location of physical facilities used in other types of energy, transportation, or communications services which may be available to the general public through public or private suppliers.

SEC. 3. As used in this Act—

(a) "electric entity" means any individual or corporation which owns or operates bulk power supply facilities, or plans to own or operate such facilities, however organized or owned, whether investor owned, publicly owned, or cooperatively owned, including a "State" or a "municipality" as defined in sections 3(6) and 3(7) of the Federal Power Act (16 U.S.C. 796), but not the United States or an agency, authority, or instrumentality thereof, or any corporation which directly or indirectly is wholly owned by the United States, its agencies, authorities, or instrumentalities;

(b) "Federal electric entity" means the United States, an agency, authority, or instrumentality thereof, or any corporation which directly or indirectly is wholly owned by the United States, its agencies, authorities, or instrumentalities, which owns or operates bulk power supply facilities or plans to own or operate such facilities;

(c) "bulk power supply facilities" means electric generating equipment and associated facilities designed for, or capable of, operation at a capacity of three hundred thousand kilowatts or more, or any sizable additions thereto as defined by the appropriate certifying body, or electric transmission lines and associated

facilities designed for, or capable of, operation at a nominal voltage of two hundred and thirty kilovolts or more, between phase conductors for alternating current or between poles for direct current, or any sizable additions thereto as defined by the appropriate certifying body, except that any facilities subject to licensing pursuant to part I of the Federal Power Act (16 U.S.C. 792-823), shall not be subject to the provisions of sections 6 and 8(c) of this Act;

(d) "Federal certifying agency" means such Federal agency, agencies, or department as may be designated by the President;

(e) "State or regional certifying body" means the State or regional agency, authority, or other entity authorized and empowered to carry out the responsibilities provided for in this Act within the State or States affected;

(f) "regional" means the governments of two or more States; and

(g) "commencement of construction" means any clearing of the land, excavation, or other substantial action that would adversely affect the natural environment of the site or route but does not include changes desirable for the temporary use of the land for public recreational uses, necessary borings to determine foundation conditions, or other preconstruction monitoring to establish background information related to the suitability of the site or to the protection of environmental values.

SEC. 4. (a) Each electric entity and Federal electric entity shall prepare annually its long-range plans for bulk power supply facilities pursuant to guidelines established by the Federal Power Commission within ninety days after enactment hereof, upon the advice of interested State and Federal agencies. These plans may be part of a single regional plan and shall—

(1) describe the general location, size, and type of all bulk power supply facilities to be owned or operated by such entity and whose construction is projected to commence during the ensuing ten years or during such longer period, but not to exceed a total of fifteen years, as the Federal certifying agency may determine to be necessary, together with an identification of all existing facilities to be removed from utility service during such period or upon completion of construction of such bulk power supply facilities;

(2) identify the location of tentative sites for the construction of future powerplants as defined in section 3(c), including an inventory of sites for all plants on which construction is to be commenced in the succeeding five years, and the general location of the routes of transmission lines as defined in section 3(c), and indicate the relationship of the planned sites, routes, and facilities thereon to environmental values and describe how potential adverse effects on such values will be avoided or minimized;

(3) reflect and describe such entity's efforts to coordinate the bulk power supply facility plans identified therein with those of the other entities so as to provide a coordinated regional plan for meeting the electric power needs of the region;

(4) reflect and describe such entity's efforts to involve environmental protection and land use planning agencies in their planning

process so as to identify and minimize environmental problems at the earliest possible stage in the planning process; and

(5) supply such additional information as the Federal certifying agency, upon the advice of interested State and Federal agencies, may from time to time prescribe to carry out the purposes of this Act.

(b) Each electric entity and the Federal electric entity, shall give initial public notice of its plans referred to in subsection (a), by filing annually a copy of such plans together with its projections of demand for electricity that the facilities would meet with the appropriate Federal, regional, or State certifying agency, with the Federal Power Commission and the Environmental Protection Agency, and with such other affected Federal, State, regional and local governmental authorities, and citizens' environmental protection and resource planning groups requesting such plans.

SEC. 5. (a) The several States, within twenty-four months from the date of enactment hereof, may designate or establish a decisionmaking body at the State or regional level, which may be an existing or newly created body, for the certification of sites and related bulk power supply facilities of any electric entity. These State or regional certifying bodies shall be designated or established and administered in accordance with the requirements of this Act and in accordance with the guidelines to be prepared and published, pursuant to section 9 hereof, which guidelines may be revised from time to time. Each State or regional certifying body shall provide for participation in its decisionmaking processes by environmental protection, natural resource, and planning components of the State government or governments involved, and provide for participation also by components of such governments having responsibility with respect to provision of electric power service. Such body may also provide for participation by members of the public

(b) The Governor of each State which designates or establishes such a decisionmaking body and procedures, either as a State or regional entity, shall notify the Federal certifying agency of that fact, and thereupon the Federal certifying agency, if it finds such authorities and procedures to be in accord with the requirements of this Act, including the guidelines published pursuant to section 9 hereof, shall issue a certificate of qualification of procedure with respect to each such State, which certificate shall be revoked by the Federal certifying agency if the State or regional certifying body fails to abide by said requirements and guidelines, but unless revoked, shall constitute conclusive evidence of its authority to exercise the provisions of section 6 hereof, for such time period as the certificate remains effective.

(c) If, within twenty-four months from the date of enactment hereof, a decisionmaking body and procedures are not designated or established for the certification of sites and related bulk power supply facilities within one or more of the several States, and qualified in the manner as set forth in subsection (b), or if such certificate of qualification of procedure is later revoked, the Federal certifying agency shall have exclusive authority to issue a certificate of site and facility with respect to any bulk power supply facility of any electric entity within any said State or States applying Federal standards only. With respect to each such State the authority of the Federal certifying

agency shall continue until such State or States have qualified pursuant to subsection (b) hereof. Any proceedings for the certification of sites and bulk power facilities which are pending before the Federal certifying agency on the date of issuance of any certificate of qualification of procedure by the Federal certifying agency shall continue to be proceedings subject to the authority of the Federal certifying agency and shall require a Federal certificate before construction shall commence, except that the Federal certifying agency may in its discretion transfer such proceeding to the appropriate State or regional certifying body.

(d) The Federal certifying agency, prior to denying or revoking a certificate of qualification of procedure in respect to matters arising under subsection (b), shall consult with the Governor or Governors of State or States involved, informing each of the particular respects in which the State or regional certifying body's authorities or procedures fail to comply with the requirements of this Act, including the guidelines published pursuant to section 9 hereof, and shall afford each State affected a reasonable time to respond and to make appropriate changes.

(e) Any State dissatisfied with the action of the Federal certifying agency denying or revoking a certificate of qualification of procedure as referred to in subsection (b) may appeal to the United States court of appeals for the circuit in which such State is located, with service of the summons and notice of appeal at any place within the United States, and the court shall have jurisdiction to affirm the action of the agency, to set it aside in whole or in part, and for good cause shown, to remand the case to the agency for further deliberation: *Provided*, That any findings of fact of the Federal certifying agency supported by substantial evidence shall be conclusive: *And provided further*, That any judgment of the court shall be subject to review by the Supreme Court of the United States upon certiorari or certification as provided in section 1254 of title 28, United States Code. Upon the filing of an appeal, the clerk of the court of appeals shall forthwith transmit a copy of the notice to the Federal certifying agency, which agency thereupon shall file with the court the record upon which the appealed action was entered, as provided in section 2112 of title 28, United States Code. Upon the filing by the agency of the record, the jurisdiction of the court shall be exclusive.

SEC. 6. (a) Effective twenty-four months from the date of the enactment hereof, no electric entity shall commence to construct or begin operation of bulk power supply facilities within a State or States, unless it has obtained from each such State or States a certificate of site and facility with respect to those facilities, issued by each qualified State or regional certifying body and no Federal electric entity shall commence to construct or begin operation of bulk power supply facilities unless it has obtained from the Federal certifying agency a certificate of site and facility with respect to those facilities. If after twenty-four months from the date of enactment hereof, there is no qualified State or regional certifying body in one or more of the several States, no electric entity shall commence to construct or begin operation of bulk power supply facilities within said State or States unless there shall have been obtained from the Federal certifying agency such a certificate of site and facility with respect to such bulk power supply facilities to be constructed or operated within said State or

States by any such electric entity. Such facilities shall be constructed, operated, and maintained in accordance with the terms and conditions of the certificate. Applications for certificates for bulk power facilities already under construction on the effective date of this subsection shall be filed promptly with the appropriate certifying body, and certificates shall be granted for any application showing a sizable investment applicable only to the site which is the subject of the application on the effective date of this subsection, as defined by the appropriate certifying body, solely on a showing that all permits or licenses required when construction in fact commenced had been obtained. Operation of any bulk power facilities whose construction had commenced on or before the effective date of this subsection may commence prior to certification if a timely decision has not been made, subject to any reasonable actions or conditions that may be later required by the appropriate certifying body. No certificate is required for bulk power facilities already in operation on said effective date, but such certificates are required for sizable additions thereto as defined by the appropriate certifying body.

(b) All applications by any electric entity for a certificate of site and facility from a State or regional certifying body or Federal certifying agency or by a Federal electric entity from a Federal certifying agency shall be filed with the certifying body or agency not less than two years prior to the planned date of commencement of construction of the affected bulk power supply facilities and such plans may be subject to reasonable modification during the period of review. As a prerequisite to such filing, the electric entity or Federal electric entity shall have complied with the provisions of section 4 hereof; and with respect to powerplants and transmission line routes, except for good cause shown, shall have complied with the requirement that the site selected is from among those sites in the electric entity's or Federal electric entity's five-year inventory of sites approved by the relevant State, regional, or Federal certifying body pursuant to section 8(c) hereof and that it will utilize the general transmission line routes identified in the electric entity's or Federal electric entity's long-range plans.

(c) It is the intent of Congress that any State or regional certifying body or Federal certifying agency shall complete action on each application filed pursuant to the authority of this Act within the two-year period prior to construction as provided under the procedures of subsection (b). The guidelines published pursuant to section 9 hereof shall, to the maximum extent possible, facilitate the accomplishment of these objectives. For a period of forty-eight months from the date of enactment hereof, any of the provisions of section 6 may be waived by the certifying body or agency in respect to applications of electric entities and Federal electric entities for good cause shown. Compliance with the procedures of section 4 hereof in respect to planning and filing requirements shall constitute prima facie evidence of timely disclosure of construction plans in support of petitions for expeditious proceedings involving the bulk power supply facilities in all courts and administrative agencies of the United States and of the several States.

(d) The provisions of section 5 and subsection (a) of this section notwithstanding, any electric entity may petition the Federal certifying-

ing agency for a certificate of site and facility based upon the entity's showing to that agency of a failure of a State or regional certifying body or bodies to act upon a timely or conclusive basis with respect to any application of such electric entity for a State or regional certification; and that as a result thereof the public interest in an adequate and reliable regional bulk power supply imperatively and unavoidably requires a decision with respect to such certification. The Federal Power Commission shall prescribe by regulation the facts necessary to constitute the basis of such showing, giving due consideration to the effect upon adequacy and reliability of electric supply of the lack of timely, or of inconclusive, action by the State or States concerned. Such applications shall be referred to the Federal Power Commission, and if it makes a finding, upon the advice of the interested Federal agencies, that adequate and reliable regional bulk power supply will be materially impaired by reason of the fact that a State or States have failed to act upon a timely or conclusive basis, the Federal certifying agency shall, effective upon the date of such finding, have jurisdiction to act in these circumstances, removing from the State or States concerned any basis upon which to proceed further in respect of State or regional certification of the affected bulk power supply facilities. The Federal certifying agency shall accord priority to all petitions for certificates of site and facility filed under this subsection and shall resolve them in accordance with the provisions of section 7 but applying Federal standards only.

SEC. 7. (a) The State, regional, and Federal certifying bodies are hereby empowered and authorized, pursuant to section 6 hereof, to issue certificates of site and facility for bulk power supply facilities, if such bodies find, after having considered available alternatives, that the use of the site or route will not unduly impair important environmental values and will be reasonably necessary to meet electric power needs, or otherwise to deny such certificates if the applicant fails to conform with the requirements of the Act. The judgment of the Federal, State, or regional certifying body shall be conclusive on all questions of siting, land use, State air and water quality standards, public convenience and necessity, esthetics, and any other State or local requirements, but the certificates shall be granted only after the appropriate certifying body has ascertained that all applicable Federal standards, permits, or licenses have been satisfied or obtained. The certificates shall show acceptance thereof by the applicant and agreement to comply with the requirements of this Act including a showing of the applicant's action to meet the objectives of section 202(a) of the Federal Power Act (16 U.S.C. 824a(a)), regarding reliability and adequacy of electric service.

(b) In the consideration of applications for certificates of site and facility, the certifying agency shall assure full public review and adequate consideration of all environmental values, including the impact on adjacent States, and other relevant factors bearing on whether the objectives of this Act would be best served by the issuance of the certificate. In the issuance of such certificates the certifying agency may impose such reasonable terms and conditions as it deems necessary. Such certificates, when issued, shall be final and subject only to judicial review.

SEC. 8. Each State, regional, and Federal certifying agency is hereby empowered, authorized, and directed—

(a) To review and comment on the long-range plans prepared and filed pursuant to section 4 hereof and make the information contained therein readily available to the general public and interested governmental agencies.

(b) To compile and publish each year a description of the proposed powerplant sites and general locations of transmission line routes within its respective jurisdiction as identified in the long-range plans of the electric entities and Federal electric entities pursuant to section 4(a)(2), identifying the location of such sites and the approximate year when construction is expected to commence, and to make such information readily available to the general public, to each newspaper of daily or weekly circulation within the area affected by the proposed site, and to other interested Federal, State, and local agencies.

(c) To conduct mandatory public hearings with respect to any proposed powerplant sites identified five years in advance of construction and to decide whether or not any such sites should be approved for inclusion in the electric entity's five-year inventory of sites. The basis for such decision shall be whether or not construction of any plant at the proposed site would unduly impair important environmental values. It is contemplated that any such hearings on the site itself will be held promptly after the site is identified.

(d) Upon the receipt of an application for a certificate of site and facility pursuant to section 6 hereof, to publish a notice in each newspaper of daily or weekly circulation serving the affected area which describes the location of the facilities (powerplant and transmission lines) and other pertinent details concerning the facilities, and which provides the date of the public hearing thereon which shall be held prior to the issuance of the certificate of site and facility applied for.

(e) To require such information from electric entities and Federal electric entities as it deems necessary to accompany applications for certificates of site and facility and to assist in the conduct of hearings and any investigations or studies it may undertake.

(f) To conduct any studies or investigations which it deems necessary or appropriate to carry out the purposes of this Act.

(g) To issue such rules and regulations, after public notice and opportunity for comment, as may be required to carry out the provisions of this Act.

SEC. 9. The President, upon the advice of interested Federal agencies, and after public notice and opportunity for comment, shall publish the guidelines for Federal, regional, and State certifying bodies which guidelines may be revised periodically as needed and shall include—

(a) criteria for evaluating effects of proposed sites and facilities on environmental values;

(b) criteria for use in evaluating the relative environmental impacts of alternative sites;

(c) criteria for evaluating the projected needs for electric power;

(d) procedures to insure full public participation in the certification procedures through public notice and opportunity for public hearings, consultation with appropriate citizens' groups, rights of intervention and appeal from decisions of the certifying body and other safeguards;

(e) procedures with respect to the formation of regional certifying bodies;

(f) procedures to assure proper consideration of multistate impacts in certification proceedings; and

(g) requirements with respect to staffing and technical and professional competence of State and regional certifying bodies.

SEC. 10. An electric entity holding a certificate of site and facility as referred to in section 6, and which cannot acquire by contact, or is unable to agree with the individual, corporation, or other owner (other than the United States Government), of property as to compensation to be paid for the necessary rights-of-way or other property to construct, operate, and maintain the certified bulk power supply facilities, may acquire the same by the exercise of the right of eminent domain in the district court of the United States for the district in which such property may be located, or in the State courts. In any proceeding brought in the district court of the United States, the petitioner may file with the petition or at any time before judgment a declaration of taking in the manner and with the consequences provided by sections 258a, 258b, and 258d of title 40, United States Code, and the petitioner shall be subject to all of the provisions of said section which are applicable to the United States when it files a declaration of taking hereunder.

SEC. 11. (a) The consent of the Congress is hereby given to two or more States to negotiate and enter into agreements or compacts not in conflict with any law or treaty of the United States for cooperative effort and mutual assistance in certificating sites and related bulk power supply facilities of electric entities, for the enforcement of their respective laws thereon, and for the establishment of such authorities or agencies, joint or otherwise, as they may deem desirable for implementing such agreements or compacts. The right to alter, amend, or repeal this section is expressly reserved.

(b) It is the intent of Congress to encourage cooperation among the various State and regional certifying agencies in the planning of bulk power facilities and in their review of applications for certificates of site and facility including the establishment of cooperative procedures and joint actions by the several States, and also to encourage compacts between the States to coordinate and resolve environmental considerations which affect bulk power supply facilities.

SEC. 12. Each State or regional certifying body qualified pursuant to a certificate of qualification of procedure and the Federal certifying agency are hereby authorized to assess and collect fees, including filing fees, in a just and equitable manner from every electric entity and Federal electric entity operating within the jurisdiction of the legal authorities and procedures of said body, such assessment and collection to be in an amount not in excess of the cost of administration of the qualified body's certification program, including the cost of all necessary studies and the cost of personnel.

SEC. 13. The Federal certifying agency, in cooperation with other interested Federal agencies and the electric power industry, is authorized to develop a coordinated program of studies of new and evolving siting concepts relative to bulk power supply facilities in consultation with interested State, regional, and local governmental authorities and the electric entities. The Federal agencies shall make public the results of their studies.

SEC. 14. All departments and agencies of the Federal Government are authorized to cooperate with the State, regional and Federal certifying bodies so as to foster and fully effectuate the purposes of this Act. Those departments and agencies are authorized to make available to the various certifying bodies, staff experts, information and technical assistance upon request or as provided for in the guidelines published pursuant to section 9 hereof. Upon the request of one or more States for a study of the environmental considerations affecting bulk power supply in its or their region, or the regional impact of any specific proposed bulk power supply facility, appropriately directed to a Federal department or agency, said department or agency are authorized to undertake such study in cooperation with other interested Federal, State, and local agencies and make its findings available to all concerned.

SEC. 15. The orders or decisions of the Federal certifying agency pursuant to this Act shall be subject to review pursuant to the provisions of sections 701-706 of title 5, United States Code. The orders and decisions of the State or regional certifying agencies pursuant to this Act shall be subject to review pursuant to applicable State law.

SEC. 16. (a) The provisions of this Act shall in no way alter or affect the jurisdiction of the Council on Environmental Quality or the requirements of the National Environmental Policy Act of 1969 (83 Stat. 852), except that the detailed statements required by section 102(2)(c) thereof, where the certifying agency has followed a substantially comparable procedure, shall not be required for any Federal actions with respect to bulk power supply facilities which require a certificate of site and facility pursuant to section 6 of this Act;

(b) Nothing herein contained shall be construed to relieve any present or future requirement arising from any Federal law, which may be applicable to any natural person, artificial person, or interest of government, Federal or State, or to affect in any way the authority of the Atomic Energy Commission under the Atomic Energy Act of 1954, as amended, or the Federal Power Commission under the Federal Power Act of 1935, as amended.

SEC. 17. (a) Whoever—

(1) without first obtaining a certificate of site and facility, commences to construct a bulk power supply facility after twenty-four months after the date of enactment of this Act; or

(2) having first obtained a certificate of site and facility, constructs, operates, or maintains a bulk power supply facility other than in compliance with the certificate; or

(3) causes any of the aforementioned acts to occur; shall be liable to a civil penalty of not more than \$10,000 for each violation or for each day of a continuing violation. The penalty shall be recoverable in a civil suit brought by the Attorney General on behalf of the United States in the United States district court for the district in which the defendant is located or for the District of Columbia.

(b) Whoever knowingly and willfully violates subsection (a) shall be fined not more than \$1,000 for each violation or for each day of a continuing violation, or imprisoned for not more than one year, or both.

(c) In addition to any penalty provided in subsections (a) or (b), whenever the Federal certifying agency determines that a person is

violating or is about to violate any of the provisions of this section, the agency shall refer the matter to the Attorney General who may bring a civil action on behalf of the United States in the United States district court for the district in which the defendant is located or for the District of Columbia to enjoin the violation and to enforce the Act or an order or certificate issued hereunder, and upon a proper showing a permanent or preliminary injunction or temporary restraining order shall be granted without bond.

[From the Congressional Record, May 19, 1971]

S. 1915: FEDERAL STATE ELECTRIC POWER ENVIRONMENTAL PROTECTION ACT—INTRODUCED BY REQUEST OF NATIONAL ASSOCIATION OF REGULATORY UTILITY COMMISSIONERS

Our country is continuing to experience an exponential growth in the demand for energy. For the power demands expected in 1990, the electric industry alone faces installation of nearly one billion kilowatts of new generating capacity during the next two decades.

This expansion of generating capacity is roughly equal to quadrupling the Nation's present electric generating facilities. The 1990 plant will be three times that of the 1971 plant, producing nearly six trillion kilowatt hours.

The demand for electric power has been doubling about every 10 years.¹ Per capita consumption has recently been increasing about five times as fast as population,² while in the past 100 years the population has tripled but energy consumption has increased 15 times."³

By 1990, electric utilities must add 200,000 circuit miles of new bulk transmission facilities, with about half expected to be extra-high-voltage lines requiring rights-of-way of 200 feet or more. The land requirements for these facilities is impressive—more than 3 million acres, or 4,850 square miles, equal to a right-of-way two miles wide spanning the Nation from New York to Los Angeles.

It is not difficult to foresee how painful will be the reconciliation between utility transmission needs and the public desire for a visually pleasant and uncluttered environment.

The planning decisions relating to power plant siting and transmission line routing and right-of-way acquisitions are inextricably involved in the future reliability of bulk power supply. Reliability suffers when environmental factors cause indecision on the part of utility planners and, as a consequence, delay the start of construction of generating capacity and the completion of transmission facilities.

A particularly troublesome aspect of utility system planning is the present structure of environmental safeguards which require utility systems to obtain a whole array of licenses, permits, and approvals on the local and State levels, sometimes as many as 30 or more, before all legal restraints to plant construction can be removed. If environmental problems are to be cleared expeditiously and fairly to all concerned, a new procedure must be established to centralize and to simplify the acts of licensing and appeal through which the public exercises its

¹ *Report Draft, Interagency Power Plant Siting Study Group, Office of Science and Technology, I-5.*

² *Ibid.*

³ *U.S. Energy Policies—The End of An Era*, an address by S. David Freeman, Director, Energy Policy Staff, Office of Science and Technology, before the Northwest Public Power Association Nuclear Symposium, Seattle, Washington, November 13, 1970, page 5.

rights to a visually pleasant and a healthy environment and to do this without frustrating utility expansion programs.

In an effort to resolve these growing difficulties, a majority of the Federal Power Commission under the leadership of Chairman John N. Nassikas prepared legislation which was introduced on October 1, 1970, in the Ninety-first Congress as S. 4421, a bill proposing the Electric Power Environmental Policy Act of 1970. The Administration on February 10, 1971, forwarded to the Congress for introduction a similar bill entitled the "Power Plant Siting Act of 1971" which was intended to implement a part of the President's Environmental Program Message of February 8, 1971.

The letter of transmittal for the Administration's legislation stated that it "will provide the nation with a coordinated system of state, regional and federal certifying agencies to assure that all substantive environmental protection requirements are met before power plants and transmission lines can be built. It would also assure that if these environmental concerns are satisfied construction could proceed in a timely fashion to meet the nation's growing needs for electric power."

The Administration's letter further stated that the legislation included the following provisions:

"Requires the nation's electric utilities to engage in long-range planning and to prepare and publish general plans for their system expansion at least ten years in advance of construction.

"Provides that each state or region may establish a decision-making body that will review alternatives in order to assure that optimum sites for power plants and large transmission lines are selected, and will assure, prior to construction, that adequate environmental protection for features will be employed.

"Provides that if a state or region fails to establish such a decision-making body in accordance with federal guidelines, then the federal government would exercise the review and approval responsibility until such time as a decision-making body is established on a state or regional level.

"Requires that proposed power plant sites and general locations of transmission line routes be disclosed at least five years prior to construction and that public hearings on the plant sites be held at that time. Detailed applications for construction of power plants and transmission lines must be filed at least two years in advance and a public hearing held in which all interested persons can participate.

"Provides that the decision of the state or regional power plant siting body shall be conclusive on all matters of state or local law and thus consolidates the various approvals now required at the state and local level.

"Applies the foregoing requirements to all bulk power facilities regardless of ownership except that small plants and lower voltage transmission lines would be exempt."

A basic difference between the two proposals is that the FPC would be the primary "Federal certifying agency" under the FPC bill, and the President would designate the "Federal certifying agency" under the Administration's bill. The President has stated his intention to designate the proposed Department of Natural Resources. If this Department is not created, the President would probably designate the Department of the Interior or the Environmental Protection Agency as the certifying agency.

Although this legislation provides a role for State agencies, it nevertheless is not as meaningful as the role which would be afforded by the employment of the State joint board concept as reflected in the NARUC proposed Federal-State Electric Power Reliability and Scenic Conservation Act of 1969 which was introduced in the Ninety-first Congress [S. 1916 by Magnuson (D.-Wash.); H.R. 9429 by Friedel (D.-Md.)].

The joint board concept is also reflected in the draft bill proposing new electric power reliability legislation which was transmitted by Commissioner John Carver of the Federal Power Commission on June 15, 1970, to Chairman Warren G. Magnuson of the Senate Commerce Committee and Chairman Torbert H. Macdonald of the Subcommittee on Communications and Power of the House Committee on Interstate and Foreign Commerce.

Commissioner Carver, in his transmittal letter, said he was acting as an individual member of the FPC and not for the Commission.

He said the purpose of the bill is "to put a premium on the resolution of bottlenecks to construction." The main features of the bill are:

(1) Jurisdiction would be granted to the FPC to issue certificates of public convenience and necessity for EHV lines and fossil-fired power plants, but jurisdiction would have to be asked for by a regional reliability council; and

(2) The traditional process of an FPC examiner's decision and review by the Commission would not be used in reviewing applications for these facilities. Instead, review would be by a joint board made up of FPC and State representatives.

The proposed legislation set forth below is similar to the Administration's bill. The chief distinctions between the two are that:

(1) Under the proposed NARUC bill a State joint board for the power pool region involved would act as the "certifying agency" in the absence of a qualified "state or regional certifying agency", whereas under the Administration's bill a Federal agency would act as the "certifying agency" in such circumstances;

(2) Under the proposed NARUC bill the FPC would be the primary "Federal certifying agency" while under the Administration's bill this function would be performed by some other Federal agency; and

(3) Under the proposed NARUC bill the certifying agencies would not be bound by Federal guidelines of the nature proposed by section 9 of the Administration's bill.

The enactment of the proposed NARUC bill would afford immediate protection to the public in the preservation of environmental values with the decisions being made by officials close to the problems. The joint board concept would not override State authority, but would stimulate the exercise of that authority by inducing the legislatures, which have not yet done so, to enact appropriate enabling legislation.

The joint board concept proposed here is similar to the joint boards now provided for in Part II of the Interstate Commerce Act concerning the regulation of motor carriers. 49 U.S.C., Sec. 305. The joint board procedure has worked successfully in motor carrier regulation since 1935 and has significantly strengthened Federal-State relations. Accordingly, the joint board concept should be applied to the regulation of the electric industry under the terms of the following bill.

[S. 1915, 92d Cong., first sess.]

A BILL To strengthen Federal-State cooperation to assure protection of environmental values while facilitating construction of needed electric power supply facilities, and for other purposes

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. This Act may be cited as the "Federal-State Electric Power Environmental Protection Act".

SEC. 2. The Congress, in furtherance of the national environmental policy as set forth in the National Environmental Policy Act of 1969 (83 Stat. 852), and the national electric energy policy as set forth in section 202(a) of the Federal Power Act (16 U.S.C. 824a(a)), hereby finds and declares the national public interest in the environment, of interstate commerce, the interest of public and private investors in electric utility facilities, and the interest of consumers of electric energy require:

(a) That bulk power supply facilities adequate to the Nation's need for a reliable electric power supply be constructed upon a timely basis, and in a manner consonant with the preservation of important environmental values and wise comprehensive use of the Nation's air, land, and water resources for all beneficial purposes, public and private;

(b) That in order to avoid undue delays in the construction of needed bulk power supply facilities and to provide for full and timely consideration of environmental consequences well in advance of such construction, all of the Nation's electric entities should be required to engage in adequate long-range planning, and that certifying agencies be established for the preconstruction review of bulk power supply facility sites and all related bulk power supply facilities;

(c) That the siting of bulk powerplants and high-voltage transmission lines be treated as a significant aspect of land use planning in which all environmental, economic, and technical issues with respect to a bulk power supply project at the State or regional level should be resolved in an integrated fashion;

(d) That Federal, regional, and State governmental authorities be authorized and empowered to act expeditiously in coordinating reviews to assure protection of environmental values and certifying the construction, operation, or maintenance of bulk power supply facilities, all to the end of assuring for the Nation an adequate and reliable supply of electric power through a balanced and comprehensive use of the Nation's air, land, and water resources for all beneficial purposes, public and private;

(e) That long-range planning be carried out through the electric reliability councils voluntarily established on regional and national bases and open to all systems comprising the various component parts of the electric utility industry, investor owned, publicly owned, and cooperatively owned, and by participation of these councils in the work of the Federal Power Commission under section 202(a) of the Federal Power Act (16 U.S.C. 824a(a)); and

(f) That a program be undertaken by the Federal Government to assist in the development of new approaches or methods of locating or grouping bulk power supply facilities within particular geographic areas, at surface or subsurface levels, or in conjunction with the

location of physical facilities used in other types of energy, transportation, or communications services which may be available to the general public through public or private suppliers.

SEC. 3. As used in this Act:

(a) "Electric entity" means any individual or corporation which owns or operates bulk power supply facilities, or plans to own or operate such facilities, however organized or owned, whether investor owned, publicly owned, or cooperatively owned, including a "State" or a "municipality" as defined in section 3(6) and 3(7) of the Federal Power Act (16 U.S.C. 796), but not the United States or an agency, authority, or instrumentality thereof, or any corporation which directly or indirectly is wholly owned by the United States, its agencies, authorities, or instrumentalities;

(b) "Federal electric entity" means the United States, an agency, authority, or instrumentality thereof, or any corporation which directly or indirectly is wholly owned by the United States, its agencies, authorities, or instrumentalities, which owns or operates bulk power supply facilities or plans to own or operate such facilities;

(c) "Bulk power supply facilities" means electric generating equipment and associated facilities designed for, or capable of, operation at a capacity of three hundred thousand kilowatts or more, or any sizable additions thereto as defined by the appropriate certifying agency, or electric transmission lines and associated facilities designed for, or capable of, operation at a nominal voltage of two hundred and thirty kilovolts or more, between phase conductors for alternating current or between poles for direct current, or any sizable additions thereto as defined by the appropriate certifying agency, except that any facilities subject to licensing pursuant to part I of the Federal Power Act (16 U.S.C. 792-823) shall not be subject to the provisions of sections 6 and 8(c) of this Act;

(d) "Federal certifying agency" means the Federal Power Commission or the United States Atomic Energy Commission if designated by the Federal Power Commission with respect to nuclear facilities falling within the definition of bulk power supply facilities;

(e) "State or regional certifying agency" means the State or regional agency, authority or other entity authorized and empowered to carry out the responsibilities provided for in this Act within the State or States affected;

(f) "Regional" means the governments of two or more States;

(g) "State joint board" means a certifying agency authorized and empowered to carry out the responsibilities provided for in this Act within the State or States affected;

(h) "National organization of the State commissions" means the national organization of the State commissions referred to in sections 202(b) and 205(f) of the Interstate Commerce Act, as amended (49 U.S.C. 302(b), 305(g));

(i) "State commission" means the regulatory agency of the State having jurisdiction to regulate rates and charges for the sale of electric energy to consumers within the State, or if no such regulatory agency exists, the Governor of the State;

(j) "State commissioner" means a member of the regulatory agency of the State having jurisdiction to regulate rates and charges for the

sale of electric energy to consumers within the State, or if no such regulatory agency exists, the Governor of the State or his designee; and

(k) "Commencement of construction" means any clearing of the land, excavation, or other substantial action that would adversely affect the natural environment of the site or route but does not include changes desirable for the temporary use of the land for public recreational uses, necessary borings to determine foundation conditions or other preconstruction monitoring to establish background information related to the suitability of the site or to the protection of environmental values.

SEC. 4. (a) Each electric entity and Federal electric entity shall prepare annually its long-range plans for bulk power supply facilities pursuant to guidelines established by the Federal Power Commission within ninety days after enactment hereof, upon the advice of interested Federal and State agencies and the national organization of the State commissions. These plans may be part of a single regional plan and shall—

(1) describe the general location, size, and type of all bulk power supply facilities to be owned or operated by such entity and whose construction is projected to commence during the ensuing ten years, together with an identification of all existing facilities to be removed from utility service during such period or upon completion of construction of such bulk power supply facilities;

(2) identify the location of tentative sites for the construction of future powerplants as defined in section 3(c), including an inventory of sites for all plants on which construction is to be commenced in the succeeding five years, and the general location of the routes of transmission lines as defined in section 3(c), and indicate the relationship of the planned sites, routes, and facilities thereon to environmental values and describe how potential adverse effects on such values will be avoided or minimized;

(3) reflect and describe such entity's efforts to coordinate the bulk power supply facility plans identified therein with those of the other entities so as to provide a coordinated regional plan for meeting the electric power needs of the region;

(4) reflect and describe such entity's efforts to involve environmental protection and land use planning agencies in their planning process so as to identify and minimize environmental problems at the earliest possible stage in the planning process; and

(5) supply such additional information as the Federal certifying agency upon the advice of interested Federal and State agencies and the national organization of the State commissions may from time to time prescribe to carry out the purposes of this Act.

(b) Each electric entity and the Federal electric entity, shall give initial public notice of its plans referred to in subsection (a), by filing annually a copy of such plans, together with its projections of demand for electricity that the facilities would meet, with the appropriate certifying agency, with the Federal Power Commission and the Environmental Protection Agency, and with such other affected Federal, State, regional, and local governmental authorities, and citizens' environmental protection and resource planning groups requesting such plans.

SEC. 5. (a) The several States, within twenty-four months from the date of enactment hereof, may designate or establish a decisionmaking agency at the State or regional level, which may be an existing or newly created agency, for the certification of sites and related bulk power supply facilities of any electric entity. These State or regional certifying agencies shall be designated or established and administered in accordance with the requirements of this Act, and shall possess adequate staffs with technical and professional competence. Each State or regional certifying agency shall provide for participation in its decisionmaking processes by environmental protection, natural resource, and planning components of the State government or governments involved, and provide for participation also by components of such governments having responsibility with respect to provision of electric power service. Such agency may also provide for participation by members of the public.

(b) The Governor of each State which designates or establishes such a decisionmaking agency and procedures, either as a State or regional entity, shall notify the Federal certifying agency of that fact, and thereupon the Federal certifying agency, if it finds such authorities and procedures to be in accord with the requirements of this Act, shall issue a certificate of qualification of procedure with respect to each such State, which certificate shall be revoked by the Federal certifying agency if the State or regional certifying agency fails to abide by said requirements, but unless revoked, shall constitute conclusive evidence of its authority to exercise the provisions of section 6 hereof, for such period as the certificate remains effective.

(c) If, within twenty-four months from the date of enactment hereof, a decisionmaking agency and procedures are not designated or established for the certification of sites and related bulk power supply facilities within one or more of the several States, and qualified in the manner as set forth in subsection (b), or if such certificate of qualification of procedure is later revoked, the State joint board for the power pool area involved, as determined by the Federal Power Commission, shall have exclusive authority to issue a certificate of site and facility with respect to any bulk power supply facility of any electric entity within any said State or States. With respect to each such State the authority of such State joint board shall continue until such State or States have qualified pursuant to subsection (b) hereof. Any proceedings for the certification of sites and bulk power facilities which are pending before such State joint board on the date of issuance of any certificate of qualification of procedure by the Federal certifying agency shall continue to be proceedings subject to the authority of such State joint board and shall require its certificate before construction shall commence, except that the State joint board may in its discretion transfer such proceeding to the appropriate State or regional certifying agency.

(d) The Federal certifying agency, prior to denying or revoking a certificate of qualification of procedure in respect to matters arising under subsection (b), shall consult with the Governor or Governors of the State or States involved, informing each of the particular respects in which the State or regional certifying agency's authorities or procedures fail to comply with the requirements of this Act, and shall afford each State affected a reasonable time to respond and to make appropriate changes.

(e) Any State dissatisfied with the action of the Federal certifying agency denying or revoking a certificate of qualification of procedure as referred to in subsection (b) may appeal to the United States court of appeals for the circuit in which such State is located, with service of the summons and notice of appeal at any place within the United States, and the court shall have jurisdiction to affirm the action of the agency, to set it aside in whole or in part, and for good cause shown, to remand the case to the agency for further deliberation: *Provided*, That any judgment of the court be subject to review by the Supreme Court of the United States upon certiorari or certification as provided in section 1254 of title 28, United States Code. Upon the filing of an appeal, the clerk of the court of appeals shall forthwith transmit a copy of the notice to the Federal certifying agency, which agency thereupon shall file with the court the record upon which the appealed action was entered, as provided in section 2112 of title 28, United States Code. Upon the filing by the agency of the record, the jurisdiction of the court shall be exclusive.

(f) A State joint board, under the provisions of this Act, shall be composed solely of one State commissioner from each State, within all or part of the region, nominated by the State commission and appointed by the Federal Power Commission. Each State commission shall certify to the Federal Power Commission the name, title, and address of its nominee. A substitution of membership upon a board from any State may be made at any time by the nomination by the State commission of a successor and his appointment by the Federal Power Commission. If a State commission shall fail to nominate a member, in the original constitution of the board or to fill a vacancy therein, the board shall be constituted, or shall continue to function, without a member from such State until such time, if ever, as such a member shall be nominated and appointed as provided above. Each member of the board shall have one vote. The chairman of the board shall be elected by the members of the board and shall serve at their pleasure. All decisions of the board shall be by majority vote. The Federal Power Commission, if requested by the board, shall designate an examiner to advise with and assist the board in the handling of any proceedings before it. The Federal Power Commission, if requested by the board, shall provide the board from among the personnel and facilities of the Commission such staff and facilities as are necessary to carry out the functions of the board. In conducting hearings, each board shall be vested with the same rights, duties, powers, and jurisdiction as are vested in a hearing examiner when designated by the Commission to hold a hearing. The members of the joint board when administering the provisions of this Act shall be reimbursed by the Commission for their reasonable travel and subsistence expenses. A board shall meet from time to time as the chairman of the board shall direct by the giving of reasonable advance notice. A majority of the members of a board shall constitute a quorum.

SEC. 6. (a) Effective twenty-four months from the date of the enactment hereof, no electric entity shall commence to construct or begin operation of bulk power supply facilities within a State or States, unless it has obtained from each such State or States a certificate of site and facility with respect to those facilities, issued by each qualified State or regional certifying agency and no Federal electric entity shall

commence to construct or begin operation of bulk power supply facilities unless it has obtained from the Federal certifying agency a certificate of site and facility with respect to those facilities. If after twenty-four months from the date of enactment hereof, there is no qualified State or regional certifying agency in one or more of the several States, no electric entity shall commence to construct or begin operation of bulk power supply facilities within said State or States unless there shall have been obtained from the appropriate State joint board such a certificate of site and facility with respect to such bulk power supply facilities to be constructed or operated within said State or States by any such electric entity. Such facilities shall be constructed, operated, and maintained in accordance with the terms and conditions of the certificate. Applications for certificates for bulk power facilities already under construction on the effective date of this subsection shall be filed promptly with the appropriate certifying agency, and certificates shall be granted for any application showing a sizable investment applicable only to the site which is the subject of the application on the effective date of this subsection, as defined by the appropriate certifying agency, solely on a showing that all permits or licenses required when construction in fact commenced had been obtained. Operation of any bulk power facilities whose construction had commenced on or before the effective date of this subsection may commence prior to certification if a timely decision has not been made, subject to any reasonable actions or conditions that may be later required by the appropriate certifying body. No certificate is required for bulk power facilities already in operation on said effective date, but such certificates are required for sizable additions thereto as defined by the appropriate certifying body.

(b) All applications by any electric entity for a certificate of site and facility from a State or regional certifying agency or State joint board or by a Federal electric entity from a Federal certifying agency shall be filed with the certifying agency not less than one year prior to the planned date of commencement of construction of the affected bulk power supply facilities and such plans may be subject to reasonable modification during the period of review. As a prerequisite to such filing, the electric entity or Federal electric entity shall have complied with the provisions of section 4 hereof; and with respect to powerplants and transmission line routes, except for good cause shown, shall have complied with the requirement that the site selected is from among those sites in the electric entity's or Federal electric entity's five-year inventory of sites approved by the relevant agency pursuant to section 8(c) hereof and that it will utilize the general transmission line routes identified in the electric entity's or Federal electric entity's long-range plans.

(c) It is the intent of Congress that any certifying agency shall complete action on each application filed pursuant to the authority of this Act within the one-year period prior to construction as provided under the procedures of subsection (b). For a period of forty-eight months from the date of enactment hereof, any of the provisions of section 6 may be waived by the certifying agency in respect to filed applications of electric entities and Federal electric entities for good cause shown. Compliance with the procedures of section 4 hereof in respect to planning and filing requirements shall constitute prima

facie evidence of timely disclosure of construction plans in support of petitions for expeditious proceedings involving the bulk power supply facilities in all courts and administrative agencies of the United States and of the several States.

(d) The provisions of section 5 and subsection (a) of this section notwithstanding, any electric entity may petition the Federal certifying agency for a certificate of site and facility based upon the entity's showing to that agency of a failure of a State or regional certifying agency or agencies or a State joint board to act upon a timely or conclusive basis with respect to any application of such electric entity for a State or regional certification which has been on file for a period in excess of one year; and that as a result thereof the public interest in an adequate and reliable regional bulk power supply imperatively and unavoidably requires a decision with respect to such certification. The Federal Power Commission shall prescribe by regulation the facts necessary to constitute the basis of such showing, giving due consideration to the effect upon adequacy and reliability of electric supply of the lack of timely, or of inconclusive, action by the State or States concerned. Such applications shall be referred to the Federal Power Commission, and if it makes a finding, upon the advice of the interested Federal agencies, that adequate and reliable regional bulk power supply will be materially impaired by reason of the fact that a State or States have failed to act upon a timely or conclusive basis after the expiration of a period of one year from the date the application is filed, the Federal certifying agency shall, effective upon the date of such finding, have jurisdiction to act in these circumstances, removing from the State or States concerned any basis upon which to proceed further in respect of State, regional, or State joint board certification of the affected bulk power supply facilities. The Federal certifying agency shall accord priority to all petitions for certificates of site and facility filed under this subsection and shall resolve them in accordance with the provisions of section 7.

SEC. 7. (a) The certifying agencies are hereby empowered and authorized, pursuant to section 6 hereof, to issue certificates of site and facility for bulk power supply facilities, if such agencies find, after having considered available alternatives, that the use of the site or route will not unduly impair important environmental values and will be reasonably necessary to meet electric power needs, or otherwise to deny such certificates if the applicant fails to conform with the requirements of this Act. The judgment of the certifying agency shall be conclusive on all questions of siting, land use, State air and water quality standards, public convenience and necessity, esthetics, and any other State or local requirements but the certificates shall be granted only after the appropriate certifying agency has ascertained that all applicable Federal standards, permits, or licenses have been satisfied or obtained. The certificates shall show acceptance thereof by the applicant and agreement to comply with the requirements of this Act including a showing of the applicant's action to meet the objectives of section 202(a) of the Federal Power Act (16 U.S.C. 824a(a)), regarding reliability and adequacy of electric service.

(b) In the consideration of applications for certificates of site and facility, the certifying agency shall assure full public review and adequate consideration of all environmental values, including the impact

on adjacent States, and other relevant factors bearing on whether the objectives of this Act would be best served by the issuance of the certificate. In the issuance of such certificates the certifying agency may impose such reasonable terms and conditions as it deems necessary. Such certificates, when issued, shall be final and subject only to judicial review.

SEC. 8. Each certifying agency is hereby empowered, authorized, and directed—

(a) To review and comment on the long-range plans prepared and filed pursuant to section 4 hereof and make the information contained therein readily available to the general public and interested governmental agencies.

(b) To compile and publish each year a description of the proposed powerplant sites and general locations of transmission line routes within its respective jurisdiction as identified in the long range plans of the electric entities and Federal electric entities pursuant to section 4(a) (2), identifying the location of such sites and the approximate year when construction is expected to commence, and to make such information readily available to the general public, to each newspaper of daily or weekly circulation within the area affected by the proposed site, and to other interested Federal, State, and local agencies.

(c) To conduct public hearings with respect to any proposed powerplant sites identified five years in advance of construction and to decide whether or not any such sites should be approved for inclusion in the electric entity's five-year inventory of sites. The basis for such decision shall be whether or not construction of any plant at the proposed site would unduly impair important environmental values. It is contemplated that any such hearings on the site itself will be held promptly after the site is identified.

(d) Upon the receipt of an application for a certificate of site and facility pursuant to section 6 hereof, to publish a notice in each newspaper of daily or weekly circulation serving the affected area which describes the location of the facilities (powerplant and transmission lines) and other pertinent details concerning the facilities, and which provides the date of the public hearing thereon which shall be held prior to the issuance of the certificate of site and facility applied for.

(e) To require such information from electric entities and Federal electric entities as it deems necessary to accompany applications for certificates of site and facility and to assist in the conduct of hearings and any investigations or studies it may undertake.

(f) To conduct any studies or investigations which it deems necessary or appropriate to carry out the purposes of this Act.

(g) To issue such rules and regulations, after public notice and opportunity for comment, as may be required to carry out the provisions of this Act.

SEC. 9. An electric entity holding a certificate of site and facility as referred to in section 6, and which cannot acquire by contract, or is unable to agree with the individual, corporation, or other owner (other than the United States Government), of property as to compensation to be paid for the necessary rights-of-way or other property to construct, operate, and maintain the certified bulk power supply facilities, may acquire the same by the exercise of the right of eminent domain in the district court of the United States for the district in which such

property may be located, or in the State courts. In any proceeding brought in the district court of the United States, the petitioner may file with the petition or at any time before judgment a declaration of taking in the manner and with the consequences provided by sections 258a, 258b, and 258d of title 40, United States Code, and the petitioner shall be subject to all of the provisions of said section which are applicable to the United States when it files a declaration of taking hereunder.

SEC. 10. (a) The consent of the Congress is hereby given to two or more States to negotiate and enter into agreements or compacts not in conflict with any law or treaty of the United States for cooperative effort and mutual assistance in certificating sites and related bulk power supply facilities of electric entities, for the enforcement of their respective laws thereon, and for the establishment of such authorities or agencies, joint or otherwise, as they may deem desirable for implementing such agreements or compacts. The right to alter, amend, or repeal this section is expressly reserved.

(b) It is the intent of Congress to encourage cooperation among the various State and regional certifying agencies in the planning of bulk power facilities and in their review of applications for certificates of site and facility including the establishment of cooperative procedures and joint actions by the several States, and also to encourage compacts between the States to coordinate and resolve environmental considerations which affect bulk power supply facilities.

SEC. 11. Each State or regional certifying body qualified pursuant to a certificate of qualification of procedure, each State joint board, and the Federal certifying agency are hereby authorized to assess and collect fees, including filing fees, in a just and equitable manner from every electric entity and Federal electric entity operating within the jurisdiction of the legal authorities and procedures of said agency, such assessment and collection to be in an amount not in excess of the cost of administration of the qualified agency's certification program, including the cost of all necessary studies and the cost of personnel.

SEC. 12. The Federal certifying agency, in cooperation with other interested Federal agencies and the electric power industry, is authorized to develop a coordinated program of studies of new and evolving siting concepts relative to bulk power supply facilities in consultation with interested State, regional, and local governmental authorities, the national organization of the State commissions, and the electric entities. The Federal agencies shall make public the results of their studies.

SEC. 13. All departments and agencies of the Federal Government are authorized to cooperate with the certifying agencies so as to foster and fully effectuate the purposes of this Act. Those departments and agencies are authorized to make available to the various certifying agencies, staff experts, information and technical assistance upon request. Upon request of one or more States for a study of the environmental considerations affecting bulk power supply in its or their region, or the regional impact of any specific proposed bulk power supply facility, appropriately directed to a Federal department or agency, said department or agency is authorized to undertake such study in cooperation with other interested Federal, State, and local agencies and make its findings available to all concerned.

SEC. 14. The orders or decisions of the Federal certifying agency and of each State joint board pursuant to this Act shall be subject to

review pursuant to the provisions of sections 701-706 of title 5, United States Code. The orders and decisions of the State or regional certifying agencies pursuant to this Act shall be subject to review pursuant to applicable State law.

SEC. 16. (a) The provisions of this Act shall in no way alter or affect the jurisdiction of the Council on Environmental Quality or the requirements of the National Environmental Policy Act of 1969 (83 Stat. 852), except that the detailed statements required by section 102(2)(c) thereof, where the certifying agency has followed a substantially comparable procedure, shall not be required for any Federal actions with respect to bulk power supply facilities which require a certificate of site and facility pursuant to section 6 of this Act.

(b) Nothing herein contained shall be construed to relieve any present or future requirement arising from any Federal law, which may be applicable to any natural person, artificial person, or interest of government, Federal or State, or to affect in any way the authority of the Atomic Energy Commission under the Atomic Energy Act of 1954, as amended, or the Federal Power Commission under the Federal Power Act of 1935, as amended.

SEC. 17. (a) Whoever—

(1) without first obtaining a Certificate of Site and Facility, commences to construct a bulk power supply facility after twenty-four months after the date of enactment of this Act; or

(2) having first obtained a Certificate of Site and Facility, constructs, operates, or maintains a bulk power facility other than in compliance with the certificate; or

(3) causes any of the aforementioned acts to occur; shall be liable to a civil penalty of not more than \$10,000 for each violation or for each day of a continuing violation. The penalty shall be recoverable in a civil suit brought by the Attorney General on behalf of the United States in the United States district court for the district in which the defendant is located or for the District of Columbia.

(b) Whoever knowingly and willfully violates subsection (a) shall be fined not more than \$1,000 for each violation or for each day of a continuing violation, or imprisoned for not more than one year, or both.

(c) In addition to any penalty provided in subsection (a) or (b) whenever the Federal certifying agency determines that a person is violating or is about to violate any of the provisions of this section, the agency shall refer the matter to the Attorney General who may bring a civil action on behalf of the United States in the United States district court for the district in which the defendant is located or for the District of Columbia to enjoin the violation and to enforce the Act or an order or certificate issued hereunder, and upon a proper showing a permanent or preliminary injunction or temporary restraining order shall be granted without bond.

[From the Congressional Record, May 18, 1972]

By Mr. Hart:

S. 3631. A bill to promote commerce and assure protection of environmental values while facilitating construction of needed electric power supply facilities, and for other purposes. Referred to the Committee on Commerce.

POWERPLANT SITING ACT OF 1972

Mr. HART. Mr. President, I introduce for appropriate reference a bill to promote commerce and insure protection of environmental values while facilitating construction of needed electric power facilities.

One of the most urgent problems facing the Nation today is providing the necessary electric power in a way that is compatible with a sound program of environmental protection. The Nation's enormous demand for more electricity is matched only by the determination of many citizens to not have a powerplant in their backyard. In scores of communities across the Nation, residents have banded together to block the construction of generating facilities. The utilities, increasingly frustrated in their efforts to overcome such opposition, are now grimly awaiting the day when the lights do go out, confident that such an event will eventually demolish all further opposition. This collision course must be avoided.

Presently, many Federal, State, and local agencies require a utility to secure permits before the construction of a powerplant can commence. In many cases dozens of reviews are required. Various interest groups can take advantage of the utilities vulnerability by engaging in harassing and delaying actions before each of the agencies that require a permit. The result of this process too often creates emergency situations resulting in short-term actions that make little economic or environmental sense. All sides lose under this decisionmaking climate.

This problem has received extensive study by an interagency powerplant siting group composed of interested Federal agencies. This group produced in December 1968 a report entitled "Considerations Affecting Steam Powerplant Site Selections" and August 1970 it issued a second report called "Electric Power and the Environment" which forms the basis for the administration's powerplant siting bill. Many scholarly articles have been written and distinguished groups including the National Academy of Engineering and the Association of the Bar of the City of New York have examined the problem.

Both the Senate and the House Commerce Committees have held extensive hearings on the subject of powerplant siting. But after examining the record I have concluded that the existing proposals before the Senate are not sufficiently comprehensive to adequately balance power and environmental needs.

The legislation which I propose today would give the public a greater voice in the siting of powerplants and improve upon the administration's proposal. It is designed to insure public confidence in the site selection process and establish procedures for long-range planning, timely siting decisions, and smooth construction schedules.

This legislation requires open long-range planning. Not by existing voluntary regional reliability councils which are controlled exclusively by the utilities, but by officially constituted regional councils with representation from the Federal Power Commission, the Environmental Protection Agency, and one person designated by the Governor of each of the States in that power region. At Commerce Committee hearings on May 15, 1972, Mr. Alex Radin, general manager of the American Public Power Association, pointed out:

"The real question . . . is whether the long range planners, the real decisionmakers, the initiators, are going to be persons re-

sponsible primarily to stockholders, or whether they're going to be persons responsible to the electorate."

I believe this question should be answered by making these planners responsible to the public. Under my bill they would review plans submitted by utilities to coordinate and develop a long-term power plan for meeting the electric needs for the entire region while assuring minimum environmental impact.

In addition, this proposal would encourage a State or group of States to establish certifying agencies for bringing about an integrated and prompt resolution of all issues pertaining to the siting of major non-Federal power facilities. These certifying agencies would be composed of representatives from all State agencies that are currently required to review or approve powerplants under existing State laws. Agencies represented would include air and water pollution control boards, fish and game departments, planning agencies, utility commissions, and natural resource agencies. In addition the certifying agency may include members from the utilities and an equal number of persons representing citizens environmental protection and resource planning groups. These siting agencies would centralize and unify the decisionmaking process while still insuring that persons with expertise in all relevant areas would be charged with evaluating utility proposals. All interests would be assured a voice as well as a vote in the siting process. This balanced agency is designed to merit the confidence of the public and assure that needed powerplants are located in optimum sites.

This certifying agency would, with opportunity for public participation, review and comment upon the long-range plans prepared by the regional councils. After public hearings it would establish an inventory of sites 5 years in advance of need. It would evaluate, on the record, specific power facility construction plans 3 years prior to construction. If it issues a certificate to the applicant, that determination is binding upon all other State or local agencies. However, the certifying agency is required to insist that the applicant comply with all Federal, State, and local regulations and standards that apply to powerplants or transmission facilities.

I propose to establish a one-stop certification procedure at the State and local level and a procedural consolidation at the Federal level. Duplicative applications and reviews by dozens of agencies would be eliminated. But it would also establish a fair stop with adequate public input and full consideration of all relevant factors. Provision is made for the appointment of a counsel for the environment to represent the public interest in protection of the environment without precluding the appearance of other interested persons. In addition the certifying agency is directed to undertake independent studies to measure and evaluate the impacts of a given powerplant and determine those areas within its jurisdiction that are suitable or unsuitable for the construction and operation of power facilities.

In addition this proposal would require periodic review of all powerplants in operation. Since these facilities may last 40 years or longer, a single review prior to construction is not sufficient to insure its operation in the public interest over its entire lifetime. Therefore I have proposed that every 5 years all certified facilities be reviewed to determine whether or not it is practical and feasible to retrofit them

with the latest technological development in order to improve their safety or reduce their environmental impact.

Similar functions would be performed by a Federal certifying agency in the case of federally owned electric facilities. This agency would be composed of representatives from the Atomic Energy Commission, the Council on Environmental Quality, the Environmental Protection Agency, the Federal Power Commission, and the Department of the Interior. It would also promulgate guidelines for State certifying agencies and certify non-Federal power facilities if the State did not establish a qualifying agency.

In addition I have included provisions to guarantee that all utilities have access to transmission lines and power generating facilities on reasonable terms. Provision is made to insure that the antitrust laws continue to apply to the power industry. These provisions are designed to strengthen regional or national power pools so that generating and transmission facilities would be more likely to be constructed in the best locations.

Finally this proposal would not weaken or alter the authority of the Council on Environmental Quality and major Federal actions regarding powerplant siting would continue to be subject to the requirement of filing a section 102 statement under the National Environmental Policy Act to insure that there is adequate consideration of environmental values in the process.

In summary I propose this legislation to achieve a proper balance between national environmental and power supply needs. This bill would establish a rational mechanism to avoid the collision course between the utilities and the environmentalists and thereby insure that the public is adequately protected in this vital area.

I ask unanimous consent that the text of the bill be printed in the Record.

There being no objection, the bill was ordered to be printed in the Record, as follows:

[S. 3631, 92d Cong., second sess.]

A Bill To promote commerce and assure protection of environmental values while facilitating construction of needed electric power supply facilities, and for other purposes

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. This Act may be cited as the "Powerplant Siting Act of 1972".

SEC. 2. The Congress, in furtherance of the national environmental policy (as exemplified in the National Environmental Policy Act of 1969 (83 Stat. 852), and the national electric energy policy as set forth in section 202(a) of the Federal Power Act (16 U.S.C. 824a(a)), finds it to be in the public interest to provide that bulk power supply facilities be opportunely constructed in a manner consonant with the preservation of environmental values.

It is the ultimate purpose of this Act to assure for the Nation an adequate and reliable supply of electric power through a balanced and comprehensive use of the Nation's air, land, and water resources, taking into account all beneficial uses. Pursuant thereto, it is a purpose

of this Act to authorize and encourage Federal, regional, and State governmental authorities to act expeditiously to assure protection of environmental values in the location, construction, and operation of bulk power supply facilities.

For the purpose of protecting the public interest and the interests of all persons concerned with the environment, it is deemed desirable to provide for planning and certification of location, construction, and operation of bulk power supply facilities and to provide Federal guidelines for the functioning of these certification procedures by State, regional, and Federal certifying agencies.

It is further deemed desirable to inaugurate a Federal program to assist in the development of new power generation technology and methods of locating or grouping bulk power supply facilities designed to promote the conservation of power and reduction of the environmental damage associated with power generation.

SEC. 3. As used in this Act—

(a) "Regional council" means a body established in the power regions designated by the Federal Power Commission, and composed of one representative from each of the following: the Federal Power Commission, the Environmental Protection Agency, and one person appointed by the respective State Governor from each of the States within the designated power region; these regional councils shall have the responsibility and authority to fulfill the requirements of section 4;

(b) "electric entity" means any person (as defined in section 551 of title 5 of the United States Code) which owns or operates bulk power supply facilities, or plans to own or operate such facilities, however organized or owned, whether investor owned, publicly owned, or cooperatively owned, including a "State" or a "municipality" as defined in sections 3 (6) and 3 (7) of the Federal Power Act (16 U.S.C. 796), but not the United States or an agency, authority, or instrumentality thereof, or any corporation which directly or indirectly is wholly owned by the United States, its agencies, authorities, or instrumentalities;

(c) "Federal electric entity" means the United States, an agency, authority, or instrumentality thereof, or any corporation which directly or indirectly is wholly owned by the United States, its agencies, authorities, or instrumentalities, which owns or operates bulk power supply facilities or plans to own or operate such facilities;

(d) "bulk power supply facilities" means electric generating equipment and associated facilities designed for, or capable of, operation at a capacity of two hundred thousand kilowatts or more, or any sizable additions thereto as defined by the appropriate certifying body or agency, or electric transmission lines and associated facilities designed for, or capable of, operation at a nominal voltage of two hundred and thirty kilowatts or more, between phase conductors for alternating current or between poles for direct current, or any sizable additions thereto as defined by the appropriate certifying body or agency, except that any facilities subject to licensing pursuant to part I of the Federal Power Act (16 U.S.C. 792-823) shall not be subject to the provisions of sections 6 and 8(c) of this Act;

(e) "Federal certifying agency" means the Federal agency, authority, or other entity authorized and empowered to carry out the responsibilities provided for in this Act and constituted according to section 9 of this Act;

(f) "State or regional certifying body" means the State or regional agency, authority, or other entity authorized and empowered to carry out the responsibilities provided for in this Act within the State or States affected;

(g) "regional" means the governments of two or more States; and

(h) "commencement of construction" means any clearing of the land, excavation, or other substantial action that would adversely affect the natural environment of the site or route but does not include changes desirable for the temporary use of the land for public recreational uses, necessary borings to determine foundation conditions or other preconstruction monitoring to establish background information related to the suitability of the site or to the protection of environmental values.

SEC. 4. (a) Each electric entity shall submit its long-range plans to the appropriate regional councils. Each regional council shall consider these plans, and prepare annually its long-range plans for bulk power supply facilities pursuant to guidelines established by the Federal certifying agency within ninety days after enactment of this Act, upon the advice of interested State and Federal agencies and citizens environmental protection and resource planning groups. This regional plan shall—

(1) describe the general location, size, and type of all bulk power supply facilities to be owned or operated by each entity and whose construction is projected to commence during the ensuing fifteen years or during such longer period as the Federal certifying agency may determine to be necessary, together with an identification of all existing facilities to be removed from utility service during such period or upon completion of construction of such bulk power supply facilities;

(2) identify the location of tentative sites for the construction of future bulk power supply facilities, including an inventory of sites and a tentative application for all plants on which construction is to be commenced in the succeeding five years, including the location of the routes of any transmission lines described in section 3(d), and indicate the relationship of the planned sites, routes, and facilities thereon to environmental values and describe how potential adverse effects on such values will be avoided or minimized;

(3) reflect and describe the regional council's efforts to identify and promote new power generation technologies which will reduce the environmental damage associated with bulk power generation;

(4) identify the general location, size, and type of alternative bulk power supply facilities considered in the course of the development of regional plans and rejected as not then suitable or appropriate;

(5) reflect and describe the regional council's efforts to coordinate the bulk power supply facility plans identified therein with

those of the other entities so as to provide a coordinated regional plan for meeting the specific electric power needs of the region;

(6) reflect and describe the regional council's efforts to identify and minimize environmental problems at the earliest possible stage in the planning process; and

(7) supply such additional information as the Federal and State certifying agencies may from time to time prescribe to carry out the purposes of this Act.

(b) Each regional council shall give initial public notice of its plans referred to in subsection (a), by filing annually a copy of such plans together with its projections of the specific demand for electricity that the facilities would meet with the appropriate Federal, regional, or State certifying agency or body, with the Federal Power Commission, the Environmental Protection Agency, the Department of the Interior, and the Council on Environmental Quality, and with such other affected Federal, State, regional, and local governmental authorities, and citizens' environmental protection and resource planning groups requesting such plans and with affected electric entities.

(c) The Federal certifying agency shall review annually, in cooperation with other interested Federal and State departments and agencies, the long-range plans for bulk power supply facilities prepared in accordance with subsection (a) of this section, and shall on the basis of such plans prepare and publish a proposed national plan for bulk power supply facilities. The notice of publication shall provide not less than ninety days for comments by any person or agency on such proposed national plan. The Federal certifying agency may consult with any other persons or agencies, and may hold public hearings on all or part of the proposed national plan and shall make such revisions therein as he deems necessary to make it meet the objectives set forth in section 2(a) of this Act, adopt and publish such plan, and make copies of it available to each State, regional, and Federal certifying agency. Thereafter, such agency in discharging its functions under section 7 of this Act shall comply with such plan.

SEC. 5 (a) (1) Each State shall establish a decision-making body at the State or regional level for the certification of sites and related bulk power supply facilities of any electric entity. These State or regional certifying bodies shall be established and administered in accordance with the requirements of this Act. A State or regional certifying body shall include representatives of—

(A) each State agency which is required under State law to review and certify bulk power supply facilities and each principal State agency dealing with air pollution, water pollution, land use planning, public health, and fish and game; and

(B) electric entities and in equal numbers representatives of citizens' environmental protection and resource planning groups.

(2) The State or regional certifying body shall also include a representative of the local governmental unit or units in which proposed bulk power facilities are to be located. This representative is to be appointed by the chief executive of the local government unit involved. The member(s) so appointed shall sit with the certifying agency only at such times as the certifying agency considers the proposed site in the local government unit which he represents and such member shall serve until there has been a final determination on the proposed site.

(3) A regional certifying body shall be constituted in accordance with guidelines under section 9, which guidelines shall preserve the balance of representation as between groups designated in (B) of paragraph (1) above.

(4) Representatives of the electric entities and citizens groups referred to in paragraph (1) above shall be selected by the Governor of each State for staggered terms of four years.

(5) Each member of a State or regional certifying body shall have an equal voice and vote.

(b) Upon notification of the establishment of the State certifying agency, the Federal certifying agency, if it finds the State certifying agency and procedures to be in accord with the requirements of this Act, including the guidelines published pursuant to section 9 hereof, shall issue a certification of qualification of procedure with respect to each such State, which certificate shall be revoked by the Federal certifying agency if the State or regional certifying body fails to abide by said requirements and guidelines, but unless revoked, shall constitute conclusive evidence of its authority to exercise the provisions of section 6 of this Act, for such time period as the certificate remains effective.

(c) If, at any time after the date of enactment of this Act a decision-making body and procedures are not designated or established for the certification of sites and related bulk power supply facilities within one or more of the several States, and qualified in the manner as set forth in subsection (b), or if such certificate of qualification of procedure is later revoked, the Federal certifying agency shall have exclusive authority to issue a certificate of site and facility with respect to any bulk power supply facility of any electric entity within any said State or States applying both State and Federal standards. With respect to each such State the authority of the Federal certifying agency shall continue until such State or States have qualified pursuant to subsection (b) of this section. Any proceedings for the certification of sites and bulk power facilities which are pending before the Federal certifying agency on the date of issuance of any certificate of qualification or procedure by the Federal certifying agency shall continue to be proceedings subject to the authority of the Federal certifying agency and shall require a Federal certificate before construction may commence. Should a State not designate a certifying body and procedures as set forth in subsection (b), the Federal certification agency is required to consult with the appropriate regional council in making its certification decisions.

(d) The Federal certifying agency, prior to denying or revoking a certificate of qualification of procedure in respect to matters arising under subsection (b), shall consult with the Governor or Governors of the State or States involved, informing each of the particular respects in which the State or regional certifying body's authorities or procedures fail to comply with the requirements of this Act, including the guidelines published pursuant to section 9 hereof, and shall afford each State affected a reasonable time to respond and to make appropriate changes.

(e) Any State dissatisfied with the action of the Federal certifying agency denying or revoking a certificate of qualification of procedure as referred to in subsection (b) may appeal to the United States court

of appeals for the circuit in which such State is located, with service of the summons and notice of appeal at any place within the United States, and the court shall have jurisdiction to affirm the action of the agency, to set it aside in whole or in part, and for good cause shown, to remand the case to the agency for further deliberation: *Provided*, That any findings of fact of the Federal certifying agency supported by substantial evidence shall be conclusive: *And Provided further*, That any judgment of the court shall be subject to review by the Supreme Court of the United States upon certiorari or certification as provided in section 1254 of title 28, United States Code. Upon the filing of an appeal, the clerk of the court of appeals shall forthwith transmit a copy of the notice to the Federal certifying agency, which agency thereupon shall file with the court the record upon which the appealed action was entered, as provided in section 2112 of title 28, United States Code. Upon the filing by the agency of the record, the jurisdiction of the court shall be exclusive.

SEC. 6. (a) (1) Effective twelve months from the date of the enactment hereof, no electric entity shall commence to construct or begin operation of bulk power supply facilities within a State or States, unless it has obtained from each such State or States a certificate of site and facility with respect to those facilities, issued by each qualified State or regional certifying body (or from the Federal certifying agency as provided in paragraph (2)) and no Federal electric entity shall commence to construct or begin operation of bulk power supply facilities unless it has obtained from the Federal certifying agency a certificate of site and facility with respect to those facilities. In issuing certification for a Federal electric entity, the Federal certifying agency shall consult continuously throughout its decisionmaking process with such State or regional certifying bodies and regional councils within whose geographical area of jurisdiction said Federal electric entity lies or will lie, in order that ensuing certification will be consistent in promoting the sound environmental power supply and public interest objectives established at the State or regional level. If, at the time of application under subsection (b) for a certificate of site and facility, there is no qualified State or regional certifying body in one or more of the several States within which the electric entity proposes to construct a bulk power supply facility, then the electric entity may obtain from the Federal certifying agency a certificate of site and facility with respect to such bulk power supply facilities to be constructed or operated within said State or States by any such electric entity. Such facilities shall be constructed, operated, and maintained in accordance with the terms and conditions of the certificate. Applications for certificates for bulk power facilities already under construction on the effective date of this subsection shall be filed promptly with the appropriate certifying body, and certificates shall be granted for any application showing a sizable investment applicable only to the site which is the subject of the application on the effective date of this subsection, as defined by the appropriate certifying body, solely on a showing that all permits or licenses required when construction in fact commenced had been obtained. Operation of any bulk power facilities whose construction had commenced on or before the effective date of this subsection may commence prior to certification if a timely decision has not been made, subject to any reasonable actions or conditions

that may be later required by the appropriate certifying body. No certificate is required for bulk power facilities already in operation on said effective date, but such certificates are required for sizable additions thereto as defined by the appropriate certifying body.

(b) All applications by any electric entity for a certificate of site and facility from a State or regional certifying body or Federal certifying agency or by a Federal electric entity from a Federal certifying agency shall be filed three years prior to the planned date of commencement of construction of the affected bulk power supply facilities and such plans may be subject to necessary modification during the period of review; except that in the case of a bulk power supply facility the construction of which is planned to commence before three years after the date of enactment of this Act, such application shall be made as soon as practicable after such dated enactment. As a prerequisite to such filing, except for good cause shown, the electric entity or Federal electric entity shall have complied with the provisions of section 4 of this Act and the requirement that the site selected is from among those sites in the five-year inventory of approved sites and that it will utilize the general transmission line routes identified in the Regional council's long-range plans.

SEC. 7. (a) The State, regional, and Federal certifying bodies or agencies are hereby empowered and authorized, pursuant to section 6 hereof, to issue certificates of site and facility for bulk power supply facilities, if such bodies find, after having considered available alternatives, that the use of the site or route will not unduly impair important environmental values and will be reasonably necessary to meet electric power needs, or otherwise to deny such certificates if the applicant fails to conform with the requirements of this Act. The issuance of the certificate by the Federal, State, or regional certifying body shall be a binding determination that all applicable State or local standards and requirements concerning siting, land use, air and water quality standards, public convenience and necessity, esthetics, and or regional certifying body shall be a binding determination that all applicable State or local requirements have been or will be complied with, but shall not preclude judicial review pursuant to section 15 of this Act. Determinations of compliance with applicable Federal air and water quality standards shall be made by the duly authorized State, interstate, or Federal air and water pollution control agencies. Prior to issuance of a certificate of site and facility by the Federal, State, or regional certifying body, the State, interstate, or Federal agency having jurisdiction with respect to applicable water quality standards may furnish the certificate required under section 21(b) of the Federal Water Pollution Control Act.

(b) In the consideration of applications for certificates of site and facility, the certifying agency shall assure full public review and adequate consideration of all environmental values, including the impact on adjacent States, and other relevant factors bearing on whether the objectives of this Act would be best served by the issuance of the certificate. In the issuance of such certificates the certifying agency may impose such reasonable terms and conditions as it deems necessary. Such certificates, when issued, shall be final and subject only to judicial review.

(c) In issuing such certificates, the certifying agency shall comply with the national policy stated in section 138 of title 23, United States Code, and section 4(f) of the Department of Transportation Act, that special efforts should be made to preserve the natural beauty of the countryside and public park and recreation lands, wildlife and waterfowl refuges, and historic sites. No certificate shall be issued which requires the use of—

(A) any publicly owned land from a public park, recreation area, or wildlife or waterfowl refuge, or

(B) any land from a historic site,

if such park, recreation area, refuge, or historic site is of National, State, or local significance as determined by the Federal, State, or local officials having jurisdiction thereof, unless (i) there is no feasible and prudent alternative to the use of such land, and (ii) all possible planning is done to minimize harm to such park, recreational area, wildlife or waterfowl refuge, or historic site resulting from the use of such land for purposes of a bulk power facility.

SEC. 8. Each State, regional, and Federal certifying agency is hereby empowered, authorized, and directed—

(a) to review and comment on the long-range plans prepared and filed pursuant to section 4 of this Act and make the information contained therein readily available to the general public and interested governmental agencies;

(b) after public hearings, to designate areas within its jurisdiction that are suitable or unsuitable for use as sites for bulk power supply facilities;

(c) to compile and publish each year a description of the proposed powerplant sites and locations of transmission line routes within its respective jurisdiction as identified in the long-range plans of the regional councils pursuant to section 4(a)(2), identifying the location of such sites and the approximate year when construction is expected to commence, and to make such information readily available to the general public, to each newspaper of daily or weekly circulation within the area affected by the proposed site, and to other interested Federal, State, and local agencies;

(d) to conduct mandatory public hearings with respect to any proposed powerplant sites identified five years in advance of construction and to decide whether or not any such sites should be approved for inclusion in the regional council's five-year inventory of sites. The basis for such decision shall be whether or not construction of any plant at the proposed site would unduly impair important environmental values. It is contemplated that any such hearings on the site itself will be held promptly after the site is identified;

(e) upon the receipt of an application for a certification of site and facility pursuant to section 6 hereof to publish a notice in each newspaper of daily or weekly circulation serving the affected area which describes the location of the facilities (powerplant and transmission lines) and other pertinent details concerning the facilities, and which provides the date of the public hearing

thereon which shall be held prior to the issuance of the certificates of site and facility applied for;

(f) to require such information from the regional councils, the electric entities, and Federal electric entities as it deems necessary to accompany applications for certificates of site and facility and to assist in the conduct of hearings and any investigations or studies it may undertake;

(g) after receiving an application for a certificate of site and facility pursuant to section 6 hereof, to commission an independent consultant study to measure the consequences of proposed bulk power supply facilities on the environment for each application, and to conduct any other studies and investigations which it deems necessary or appropriate to carry out the purposes of this Act;

(h) after receiving an application for a certificate of site and facility pursuant to section 6 hereof, to notify the appropriate state or federal attorney general who shall appoint an assistant attorney general or a special assistant attorney general as counsel for the environment who shall be a member of the bar of the State where the bulk power supply facilities are proposed to be located; the counsel for the environment shall represent the public and its interest in protecting the quality of the environment for the duration of the certification proceedings: *Provided, however,* That this subsection shall not prevent any person from being heard or represented by counsel in accordance with other provisions of this Act.

(i) to monitor the operation of each certified bulk power supply facility and perform data-gathering functions necessary to determine whether the certified facility is operating in compliance with the issued certificate. This section does not relieve the Environmental Protection Agency or State environmental agencies of any responsibilities.

(j) to review the operation of each bulk power facility that it certified at five year intervals to determine if it is feasible and practical to amend the terms of the certificate of site and facility to require the retro-fitting of the latest practical technological devices to improve performance, reduce adverse environmental impacts or improve the health or safety aspects of these facilities.

(k) to issue such rules and regulations in accordance with title 5, section 553, of the United States Code or, in the case of State or regional bodies, in accordance with like provisions required by the Federal certifying agency under section 9(d) as a condition of certification under section 5(d), as may be required to carry out the provisions of this Act.

SEC. 9. The Federal certifying agency shall consist of the Chairman, Administrator, Secretary or his designate of the Atomic Energy Commission, Council on Environmental Quality, Environmental Protection Agency, Federal Power Commission, and the Department of the Interior. The representative of the Department of the Interior shall be chairman. The Federal certifying agency is authorized to appoint such officers and employees as may be necessary. This agency shall, upon the advice of all interested Federal and State agencies, and after public notice and opportunity for comment, publish guidelines

for Federal, regional, and State certifying bodies, which guidelines may be revised periodically as needed and shall include—

(a) criteria for evaluating effects of proposed sites and facilities on environmental values;

(b) criteria for use in evaluating the relative environmental impacts of alternative sites and technologies;

(c) criteria for evaluating the projected needs for electric power and its most efficient production;

(d) procedures to insure full participation in the certification procedures, including participation by the public, through public notice and opportunity for public hearings, consultation with appropriate citizens' groups, rights of intervention and appeal from decisions of the certifying body and other safeguards; such procedures shall include hearing and judicial review substantially equivalent to those provided under chapters 5 and 7, of title 5, United States Code;

(e) procedures with respect to the formation of regional certifying bodies;

(f) procedures to assure proper consideration of multistate impacts in certification proceedings; and

(g) requirements with respect to staffing and technical and professional competence of State and regional certifying bodies.

SEC. 10. An electric entity holding a certificate of site and facility as referred to in section 6, and which cannot acquire by contract, or is unable to agree with the individual, corporation, or other owner (other than the United States Government), of property as to compensation to be paid for the necessary rights-of-way or other property to construct, operate, and maintain the certified bulk power supply facilities, may acquire the same by the exercise of the right of eminent domain in the district of the United States for the district in which such property may be located, or in the State courts. In any proceeding brought in the district court of the United States, the petitioner may file with the petition or at any time before judgment a declaration of taking in the manner and with the consequences provided by sections 258a, 258b, and 258d of title 40, United States Code, and the petitioner shall be subject to all of the provisions of said section which are applicable to the United States when it files a declaration of taking hereunder.

SEC. 11. (a) The consent of the Congress is hereby given to two or more States to negotiate and enter into agreements or compacts not in conflict with any law or treaty of the United States for cooperative effort and mutual assistance in certifying sites and related bulk power supply facilities of electric entities, for the enforcement of their respective laws thereof, and for the establishment of such authorities or agencies, joint or otherwise, as they may deem desirable for implementing such agreements or compacts. The right to alter, amend, or repeal this section is expressly reserved.

(b) It is the intent of Congress to encourage cooperation among the various State and regional agencies in the planning of bulk power facilities and in their review of applications for certificates of site and facility including the establishment of cooperative procedures and joint actions by the several States, and also to encourage compacts

between the States to coordinate and resolve environmental considerations which effect bulk power supply facilities.

SEC. 12. Each State or regional certifying body qualified pursuant to a certificate of qualification of procedure and the Federal certifying agency are authorized to assess and collect reasonable fees, including filing fees, in a just and equitable manner from every electric entity and Federal electric entity operating within the jurisdiction of the legal authorities and procedures of said body, said assessment and collection to be in an amount not in excess of the reasonable cost of administration of the qualified body's certification program.

SEC. 13. (a) The Federal certifying agency, in cooperation with other interested Federal agencies, citizens' environmental protection and resource planning groups, and the electric power industry, is authorized to develop a coordinated program of studies of new and evolving siting concepts relative to bulk power supply facilities in consultation with interested State, regional, and local governmental authorities, the interested public, and the electric entities. The Federal agencies shall make public their studies.

(b) Each electric entity which owns or operates a bulk power facility shall make capacity available to all other electric entities on fair, reasonable, and nondiscriminatory terms. Capacity shall be made available on the basis of ownership in the facility, stock ownership, sales of power at cost from the facility, or any other basis which the Federal certifying agency determines to be fair, reasonable, and nondiscriminatory. Each electric entity proposing to construct, modify, or build a generation facility shall permit any other electric entity to enlarge the facility at its own expense, upon fair, reasonable, and nondiscriminatory terms. Upon application by any interested electric entity and after notice and opportunity for hearing the Federal certifying agency shall order compliance with this section.

(c) Each electric entity which owns or operates a transmission facility shall make capacity available to all other entities on fair, reasonable, and nondiscriminatory terms, including access by means of wheeling, displacement transactions or other exchanges. Each electric entity shall permit any other electric entity to enlarge and utilize transmission facilities, at its own expense and insofar as enlargement may be made consistent with adequacy of bulk power supply to meet local utility, regional and interregional needs, upon fair, reasonable, and nondiscriminatory terms. Upon application by any interested electric entity and after notice and opportunity for hearing the Federal certifying agency shall order compliance with this section.

(d) No action of any person, electric entity, State, regional, or Federal agency or body, pursuant to the provisions of this Act, shall relieve, exempt, or immunize any person or electric entity from the operation of the antitrust laws, including enforcement or intervention by the Attorney General of the United States or private actions brought before any court or regulatory agency.

SEC. 14. All departments and agencies of the Federal Government are authorized to cooperate with the State, regional, and Federal certifying bodies so as to foster and fully effectuate the purposes of this Act. Those departments and agencies are authorized to make available to the various certifying bodies staff experts, information, and technical assistance upon request. Upon the request of one or more States for a

study of the environmental considerations affecting bulk power supply in its or their region, or the regional impact of any specific proposed bulk power supply facility, appropriately directed to a Federal department or agency, said department or agency is authorized to undertake such study in cooperation with other interested Federal, State, and local agencies and make its findings available to all concerned.

SEC. 15. The orders or decisions of both the Federal and State certifying agencies pursuant to this Act shall be subject to review pursuant to the provisions of section 701-706 of title 5, United States Code, or, in the case of a State or regional body, in accordance with like provisions required by the Federal certifying agency under section 9(d) as a condition of certification of qualification under section 5(d): *Provided*, That an appeal is filed within sixty days of the date of the certifying agency's order or decision.

SEC. 16. (a) The provisions of this Act shall in no way alter or affect the jurisdiction of the Council on Environmental Quality or the requirements of the National Environmental Policy Act of 1969 (83 Stat. 852).

(b) Nothing herein contained shall be construed to relieve any present or future requirement arising from any Federal law, which may be applicable to any natural person, artificial person, or interest of government, Federal or State, or to affect in any way the authority or requirements of the Atomic Energy Act of 1954, as amended, the Federal Power Commission under the Federal Power Act of 1935, as amended, or the Securities and Exchange Commission under the Public Utility Holding Company Act of 1935.

SEC. 17. (a) Whoever—

(1) without first obtaining a certificate of site and facility, commences to construct a bulk power supply facility after twelve months after the date of enactment of this Act; or

(2) having first obtained a certificate of site and facility, constructs, operates, or maintains a bulk power supply facility other than in compliance with the certificate; or

(3) causes any of the aforementioned acts to occur;

shall be liable to a civil penalty of not more than \$10,000 for each violation or for each day of continuing violation. The penalty shall be recoverable in a civil suit brought by the Attorney General on behalf of the United States in the United States district court for the district in which the defendant is located or for the District of Columbia.

(b) Whoever knowingly and willfully violates subsection (a) shall be fined not more than \$1,000 for each violation for each day of a continuing violation, or imprisoned for not more than one year, or both.

(c) In addition to any penalty provided in subsections (a) or (b), whenever the Federal certifying agency determines that a person is violating or is about to violate any of the provisions of this section, the agency shall refer the matter to the Attorney General who may bring a civil action on behalf of the United States in the United States district court for the district in which the defendant is located or for the District of Columbia to enjoin the violation and to enforce the Act or an order or certificate issued hereunder, and upon a proper showing a permanent or preliminary injunction or temporary restraining order shall be granted without bond.

- (d) Any person may commence a civil action on his own behalf—
- (1) against any electric entity or Federal electric entity that is alleged to be in violation of any terms or conditions of the applicable certificate of site and facility, or
 - (2) against the State, regional, or Federal certifying agency where there is an alleged failure of the appropriate certifying agency to perform any act or duty under this Act which is not discretionary.

The district courts shall have jurisdiction without regard to the amount of the controversy or the citizenship of the parties to enforce such a certificate of site or facility, or to order the appropriate State, regional, or Federal certifying agency to perform such act or duty, as the case may be: *Provided, however,* That no action may be commenced under this subsection prior to sixty days after the plaintiff has given notice of the violation to the appropriate certifying agency and to the appropriate electric or Federal electric entity. Nothing in this section shall restrict any right which any person or class of persons may have under any statute or common law.

