P U B L I C H E A R I N G

before

SENATE ENERGY AND ENVIRONMENT COMMITTEE

on

SENATE NO. 1407

(The State Energy Facilities Agency Act)

SENATE NO. 1494

(The Nuclear Reassessment Act)

SENATE NO. 1721

(An Act to Control the Siting of Nuclear Power Plants)

VOLUME II

Held:
April 5, 1977
City Hall
Atlantic City
New Jersey

MEMBERS OF COMMITTEE PRESENT:

Senator John F. Russo (Chairman)
Senator Joseph L. McGahn
Senator Frank J. Dodd

I N D E X

VOLUME II

Testimony Submitted to the Senate Committee on Energy and Environment

level, is subjecting the process by which vital decisions are made to burdensome procedures and regulations which hobble our ability as a society to react quickly to changing conditions. We have spun such a web of red tape, mandatory procedures and opportunities for delay, that we are now beginning to find it necessary to create still more mechanisms to circumvent the problems caused by previous mechanisms.

S-1407 can be considered such a "counter-mechanism". Its intent is laudible because New Jersey's energy supply situation these past few years makes it clear that the complex, costly and time-consuming process for siting major energy facilities needs to be streamlined. We live in a world rife with international tensions -- conflicts over ideological goals. This nation has found it can be subject to abrupt economic sanctions. New Jersey and the nation today are far from achieving energy self sufficiency. We are vulnerable. Moreover, we haven't the luxury of limitless time to arrive at basic decisions. (It must be borne in mind that major energy facilities also entail long years of lead time after the permit decisions are made before people begin to enjoy the benefits of their output).

We wish it were possible to support S-1407 because this measure recognizes the problem -- the need for a "counter mechanism". But as the bill presently stands we are unable to do so.

For one thing, we do not see how it can live up to its promise of "one-stop" energy facility siting when, in one place (Paragraph 30, page 16) it says that its procedures shall by-pass

those of every other state, county and municipal agency yet, in another (Paragraph 35 on page 18), it calls for adherence to all provisions of the "Coastal Area Facility Review" act; the Wetlands act and the Flood Plain law. If this latter paragraph holds, the only level in the permit-granting process S-1407 would serve to supercede is the municipal level. Federal and interstate agency requirements, of course, must still be complied with in full. It appears hardly worth the effort to set up another bureaucracy at the state level for such a seemingly limited achievement -- particularly in view of the fact that, in 1975, the legislature passed a complete revision of the Municipal Land Use Law (Chapt. 291, P.L. 1975). That measure modernized all municipal land use control functions -- including site plan approvals and appeals.

We also note that the definitions of S-1407 are quite vague. It appears to us, for instance, that a retail gasoline service station would, under the bill's definition, be considered an "energy facility" and thus subject to the act. These definitions need considerable clarification and refinement. And we feel it should not be left to the agency to define thresholds of facility size, etc., for coverage by the act.

We also feel that more attention must be given to the structure of the State Energy Facility Agency itself. There are no qualifications set forth for the six gubernatorial appointees to the commission. And administrative staff people, without reference to their qualifications, are permitted to attend and participate in agency meetings in lieu of the state officials named in the bill.

Given the complex and technical nature of the deliberations expected of this proposed agency, the bill would leave vital matters in the hands of persons having no specified qualifications. We think it is unsound to require the energy-providing industries to prepare and submit costly and detailed immediate and long range plans for decisions by an agency comprised of persons who may have no background for such responsibilities.

We hope, however, that the mere existence of this bill -- which underscores the need for such a "red tape cutting" agency -- will generate more awareness among legislators of the problems being created by the present degree of dependency upon the device of administrative rules and regulations.

Creating bureaus and agencies to counter the efforts of other bureaus and agencies is, from the taxpayers' standpoint, counter-productive and wasteful of the taxpayers' resources.

We turn now to the two other bills which are the subject of this hearing -- S-1494 and S-1721 (which is a companion to S-1407).

Both of these bills would restrict or curtail the use of nuclear-fueled energy at a time when no other significant, environmentally acceptable and readily available fuel appears in sight.

If the people of New Jersey are to avoid suffering more hardship and privation; if we are to avoid experiencing further job losses and an erosion of our economy -- with resultant costs to government and taxpayers, some fundamentals of our present energy situation will have to be given broader recognition.

For the near-term future at least, only two basic energy sources other than nuclear are available for the generation of electric power in New Jersey -- fuel oil and coal. Natural gas is being phased out nationally for power generation because it is too valuable for other purposes -- and because it is in short supply. The technologies for the so-called "exotic" energy sources -- solar, tidal, wind, geo-thermal, etc. -- are widely recognized as being generations away from anything but small, supplemental applications.

Since the Arab petroleum embargo, fuel oil has been subjuect to uncertainties of supply continuity. They make our dependence upon oil undersirable and potentially risky although it is currently New Jersey's primary fuel for the generation of electricity.

Coal has been deemed environmentally unacceptable -- at least with presently-available technology. But more importantly, its use has been largely phased out by New Jersey utilities and its large scale re-utilization -- in the near-term at least -- is highly doubtful. The coal mining industry itself has been extensively curtailed as the result of environmental requirements both in air pollution and, in some areas, in surface mining. Moreover, the supporting transportation industry to move coal to markets -- the coal region railroads, coal handling equipment, terminals, etc. -- have been drastically reduced as the use of coal declined in recent years. To recreate such facilities now would entail vast amounts of capital -- and years of lead time. Such a prospect presently appears unlikely even though coal is our nation's most

plentiful energy resource and there is renewed public interest in its use. It is generally conceded that, to lick the twin problems of coal's distributional logistics and its impact upon air quality, a whole new technology will be needed. Nothing of this sort is ready for the task as yet and the near-term outlook does not appear particularly promising.

That leaves us nuclear power -- a source which we already depend upon for some 24% of New Jersey's electrical energy needs. We understand that New Jersey's utilities have for some years based their plans for meeting our future energy needs largely upon the increasing use of nuclear fuel. The plants which now serve us are a part of that planning process which spans many years on a step-by-step basis from preliminary planning and licensing to actual construction and operation. Many years of lead time are required within this integrated process for the development of each plant. Interruption of this process should prove costly and lead to highly upsetting social and economic consequences.

In view of the fact that there does not appear to be any alternate source of fuel that is (a) dependable as to supply continuity, (b) environmentally acceptable and (c) logistically feasible to utilize, the proposals contained in S-1494 and S-1721 -- which would delay, if not halt for all time, the use of nuclear energy -- seem quite unwise. We foresee such a development leading to frequent outages of power with enormously disruptive effects upon society -- even upon human health.

Because blackouts have been experienced only rarely and

briefly in New Jersey to day, we offer as an addendum to this statement an excerpt reproduced (with permission) from a publication entitled "Outlook for Energy in the United States to 1985" issued in 1972 by the Energy Economics Division of The Chase Manhattan Bank, New York City.

We commend to your attention this quoted excerpt from the forward of that publication.

In the light of New Jersey's upsetting energy shortage experiences of 1973-74 and 1976-77; in the light of our current seriously high level of dependency upon imported petroleum and the world's unstable and unpredictable political condition, and in the light of our nation's inability to return very quickly to use of our predominent energy resource -- coal, can New Jersey afford to place such restrictions and curtailments upon the use of nuclear energy upon which we already depend for nearly one-fourth of our electric power needs?

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77/37
April 1, 1977

ADDENDUM: "Anyone who doubts the importance of energy should try to imagine what conditions would be like without it. With no energy, the nation's economy would come to a standstill. There would be no production of raw materials, no industrial activity, no manufacturing, and no

commercial enterprise. If none of the primary sources of energy were available, it would be impossible to generate electricity. And the countless needs for electricity everywhere could not be accommodated.

"Because there would be virtually no agricultural activity without energy, very little food could be produced. And the food could not be cooked even if it were available. Lacking energy, homes and all other buildings could not be heated -- or cooled.

"Except for walking, there would be virtually no means of transportation without energy -- not even bicycles could be manufactured. Private automobiles, aircraft, trains, trucks, buses, ships, and rapid transit systems would all be halted. Neither people nor freight would be able to move.

"Most of the activities of government could not be carried out if there were no energy. Schools, churches, hospitals, doctors, and dentists could not function effectively. And most communication would cease. Radio and television sets could not be operated and programs could not be transmitted. Newspapers,

magazines, and books could not be printed -- there would be no paper, no ink, no power to operate the presses, and no means of delivery. Mail service would be almost nonexistent.

"Without energy, the nation would be virtually defenseless. The vast defense system that has been created at enormous cost would be rendered largely ineffective if its operations were limited by a lack of fuel or if necessary support activities were halted for the same reason. . . .

"Although a total lack of energy is not a realistic prospect for the United States, there is an actual and growing potential for an inadequate supply. And a lasting shortage or even a temporarily interrupted supply can have a devastating impact upon the nation's economy, its standard of living, and its defense posture."

("Outlook for Energy in the United States to 1985" -- Chase Manhattan Bank, New York, June 1972).

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New Jersey Conservation Foundation
300 Mendham Road
Morristown NJ 07960
201-539-7540

April 8, 1977

The Honorable John F. Russo, Chairman
Senate Committee on Energy and Environment
488 Madison Avenue
Toms River, New Jersey 08753

Re: Testimony on S-1407, S-1494, S-1721

Dear Chairman Russo:

Attached is the New Jersey Conservation Foundation's testimony on the above three bills being considered by your Committee. A sudden illness prevented me from delivering the testimony at the hearings as scheduled. In brief we oppose S-1407 and fully support S-1494 and would like to see the desirable aspects of S-1721 incorporated in S-1494 and S-1494 incorporated in a much revised energy facility siting bill. We support energy facility siting legislation but feel that S-1407 would set back 10 years the progress that New Jersey has attained in cleaning up its environment.

Thank you for the opportunity to present this testimony.

Sincerely,

Darryl F. Caputo
Assistant Director

DFC:js
Enclosure

CC: David Mattek
Alene S. Ammond
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Statement Delivered Before the Senate Committee on Energy and Environment on S-1494, S-1721, S-1407 at Atlantic City, Atlantic County

Mr. Chairman:

I am Darryl F. Caputo, assistant director of the New Jersey Conservation Foundation, a private non-profit foundation concerned with open space acquisition and preserving environmental quality throughout the state.

Public policy decisions on energy matters, including nuclear facilities, are among the most important decisions facing New Jersey today. Legislative action is needed if the state is to cope rationally with and plan for the energy needs of the future. However, such action must reflect that which is most desirable for the state's environment and the health of its citizens. The two are inseparable, and the state's evolving energy policy as reflected in S-1407, S-1721 and S-1494 must echo this reality.

Although we support the concept of a state energy facility agency to plan and regulate the location of energy and related facilities, we oppose S-1407, and the "State Energy Facility Agency Act," as presently drafted. We also oppose S-1721. However, we support S-1494, the "Nuclear Reassessment Act." We feel that the three bills could be reworked and combined to produce an energy package which is in the best interests of the state's environment and citizens. Our critique and recommendations on the bills follow.

S-1407 - State Energy Facility Agency Act

This bill establishes a State Energy Facility Agency (SEFA) and gives it virtually absolute power to regulate all energy and allied facilities and industry in the state. It allows the agency to override local decisions on energy facilities; to override present state environmental standards and regulations; to acquire riparian lands, public parks and open spaces for industrial sites, and to supersede all other state decisions regarding energy facility and industrial siting in the state.

In essence, this agency would be the first, last and sole decision-maker on almost every type of industrial facility in the state, a situation not in the best interests of the state's environment or its citizens. Few if any environmental protection assurances are built into the bill. The enactment of this bill could signal an uninterrupted green light for industry in the state at the risk of obliterating the progress which has been made at great cost over the past two decades toward cleaning up our environment. Specifically we oppose the following:

1. SEFA's authority to have conclusive jurisdiction on all questions of air, water, radiation and other state environmental standards. We feel that the agency will not have the expertise necessary to make informed decisions on environmental standards. The present state standards have evolved over a long period of time and in response to a public demand for a cleaner environment. Improperly used, SEFA's authority could waive these standards. Such action would have a devastating effect on the state's environment.

The concept of one-stop shopping for environmental permits is desirable. However, the agency should function as a clearinghouse for state permits instead of having sole authority to make permit decisions. Under a clearinghouse procedure, the agency would receive a single permit application, distribute it to the various agencies for review, coordinate the reviews, collect all approvals and issue a single permit to the applicant.

2. SEFA's authority to override local decisions. We feel that the agency should review only facilities which have been approved at the local level, with the exception of facilities which are of statewide significance. Regulations defining "statewide significance" should be formulated and placed before the public at hearings. Approval from a majority of the Legislature should be required before the agency could approve a facility of statewide significance over a local disapproval.

3. Inclusion of energy-related industries in the bill. As defined, energy-related industries would include almost the whole spectrum of industrial development. The provisions of the bill should be restricted to dealing with energy and energy-related facilities.

4. The composition of the agency. Six members of the agency are to be appointed by the governor. No mention is given as to the segment of the population they should represent; thus, it is conceivable that all or a majority of the six could be from the industrial sector. Such a composition would definitely bias the agency toward industry. We recommend that none of the six members be associated with or have a financial interest in any energy facility or industry subject to regulation under the bill. In addition, we recommend that public interest groups be represented in the agency.

5. The agency's authority to acquire public parks and open spaces and designate riparian lands for energy facility sites. Public open spaces are acquired with public money for open space purposes. Existing release mechanisms are available. To utilize public open spaces for energy facility sites without going through existing mechanisms would be contrary to the law and the public interest. The use of riparian lands for energy facility sites, circumventing the state Natural Resource Council, would violate the public trust doctrine.

6. Environmental impact statements prepared pursuant to Section 27. The impact statements should be prepared prior to the required public hearings rather than afterwards.

In addition to the above, we offer the following recommendations:

1. Creation of an environmental trust fund, similar to that included in Maryland's Power Plant Siting Act. The fund could be created by placing an environmental surcharge per unit of energy generated within the state, to be paid by the company generating the energy. The surcharge could be placed on electricity, synthetic fuels and refined petroleum products. Revenues could be used for conducting baseline ecological studies, preparing environmental impact statements on specific sites and facilities and for research and development of alternative technologies such as solar energy and cogeneration.

In addition, the fund could be used to provide low or zero-interest loans for home insulation or solar heating systems. Also, a portion of the fund should be made available to provide assistance to individuals or organizations desiring to provide input at the public hearings dealing with energy sites and facilities.

2. Establishment of a windfall tax to be applied on the sale of property designated by the agency as a suitable energy facility site. In most cases, the designation of an area as a suitable site by the agency will result in increased value of the property and a windfall profit for its owner. If the state makes the decision which leads to the windfall profit, the state should be entitled to a portion of that profit. The revenues generated should be placed in a fund to be used to compensate municipalities adjacent to the site for secondary impacts resulting from construction of the energy facilities.

3. Combine the functions of the State Energy Office and the State Energy Facility Agency. One agency should be responsible for all planning and regulatory activities associated with energy and energy facilities.

4. Designate a third party responsible for preparing the environmental impact statements required pursuant to Section 27, possibly the Department of Environmental Protection. If the agency prepares the impact statements, it may be in the position of having to defend the results.

5. Change in the gross receipts tax. Presently, the municipality in which an energy facility is sited receives the tax benefits even though the adverse impacts of that facility may spill over into adjacent communities. A change in the gross receipts tax should be made to give adjacent communities affected by the facility some of the tax benefits.

The Foundation feels that the bill as drafted is more nearly an economic development act than an energy facilities siting act. Substantial changes, as outlined above, would be necessary before we can support it.

S-1494 - Nuclear Reassessment Act

We support this bill. It is imperative that the questions of nuclear waste disposal, effectiveness of safety systems, full liability for accidents and desirability of nuclear energy generation from health, environmental and economic aspects be fully investigated and satisfactorily answered prior to construction of any future nuclear facilities.

The bill establishes a study commission and an advisory group for the purpose of making the above determinations. We recommend that adequate funds be made available to the study commission so that it can hire or retain on a fulltime or consulting basis nationally recognized experts as members of the advisory group. The task of this group is as difficult as it is important, and the study commission should have the benefit of advice from the best experts available.

In addition to the above questions, the study commission should also investigate the need for effectiveness and economic feasibility of undergrounding and berm containment of nuclear reactors; the existence of a technology for construction and operation of nuclear fuel-rod reprocessing plants, and the desirability of reprocessing nuclear wastes as required under S-1721.

Finally, we recommend that the studies be submitted to the legislature for approval by a majority of both houses prior to lifting the moratorium on construction of nuclear power plants.

Thank you for the opportunity to present this testimony.

IEEE

POWER ENGINEERING SOCIETY

Please address reply to:

North Jersey Chapter
of
The Institute of Electrical and Electronics Engineers, Inc.

Testimony in Support of Nuclear Power
at the
Nuclear Legislative Hearings
April 5, 1977 in Atlantic City, New Jersey

The position of our organization is very definitely for Nuclear Power.

We hereby submit the attached testimony in support of nuclear power to be read into the record at the public hearing of the Senate Energy and Environmental Committee on Senate bills "S-1494, the Nuclear Reassessment Act" and "S-1721" on April 5, 1977.

We appreciate the opportunity to make this supporting statement before you.

Anne M. Giedlinski

Anne M. Giedlinski
Chairperson, North Jersey Chapter
Power Engineering Society - I.E.E.E.

bc

IEEE POWER ENGINEERING SOCIETY

Please address reply to:

North Jersey Chapter
of
The Institute of Electrical and Electronics Engineers, Inc.

Hearing Testimoney, April 5, 1977
at Public Hearing
on Nuclear Legislation on Senate Bills "S-1494" and "S-1721"
Senate Energy and Environmental Committee

The Executive Committee of the North Jersey Power Engineering Society Chapter of the Institute of Electrical and Electronics Engineers, Inc. proclaims its position of fully supporting the vigorous development of nuclear electric power in New Jersey.

The shortage of energy which New Jersey, as well as, the rest of this country faces in the future can be alleviated only by developing to the fullest extent all of the energy options. Opponents of nuclear power have led some of the public into believing that a plan for conservation in the near term and the hope of successful development of new and unproven resources in the long term is a viable solution to the energy problem. This reasoning lulls some into believing that it is unnecessary for the United States to employ the vast energy resources contained in coal and uranium--resources which can provide the bulk of our energy needs for hundreds of years. There are no other sources known today which have this potential.

Our use of these coal and uranium resources will allow time to develope the potential in options such as nuclear fusion and solar energy. Nuclear fusion is still in the early experimental stages and its success is not guaranteed. Solar energy can be used only in low-level heating applications today, and it will be many years before it can be used as a convenient, large-scale energy source to produce electricity.

The United States has a critical energy problem today. In a few short years it will face a situation of disastrous proportions if all possible energy options are not vigorously pursued. Nuclear energy, at its present highly--advanced state of development, is the cleanest, safest, and least expensive option. Satisfactory techniques exist today for radioactive material handling and waste disposal, and even these are being improved rapidly in the continuing advance of technological improvements. Nuclear power is a proven resource. It is ready to satisfy a large portion of the energy demand certain to be evoked by any viable U.S. economy.

Other countries have recognized nuclear power's great advantages, as evidenced by the fact that their commitments for nuclear generation during 1974 increased approximately 35% as a result of the Arab oil embargo, while those in the United States increased only 9% during the same period. Furthermore, during 1975, the net new U.S. commitments for additional nuclear power plants were zero. It would be sheer folly for the United States to abandon nuclear power. If we follow this path, the U.S. will experience social and economic disruptions of a magnitude never before experienced.

Holding these beliefs, the Executive Committee of the North Jersey Power Engineering Society Chapter of the Institute of Electrical and Electronics Engineers, Inc. urges all interested and responsible individuals and organizations to take actions to ensure that in addition to developing other energy sources, the rapid and orderly development of nuclear electric power be stimulated.

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TESTIMONY GIVEN TO THE NEW JERSEY SENATE ENERGY AND ENVIRONMENT COMMITTEE

Public hearing in Atlantic City, N.J.

April 5, 1977

Subject: N. J. Senate Bills on Nuclear Power
S 1407, S 1721, & S 1494

1. S 1407: The State Energy Facility Act

The Paramus Environmental Council opposes S 1407 for the following reasons.

The Bill arbitrarily creates a new agency, The State Energy Facility Agency. Instead of extending the effectiveness of the State Energy Office, which has been kept ineffectual (perhaps for deliberate reprehensible reasons), creating another agency will further fragment the state's energy problems. Even worse, the new agency would be a full fledged authority with the power to dictate the seizure of property and the power to ram through decisions which blatantly ignore considerations other than schemes to proliferate nuclear parks or to proliferate undesirable centralized energy parks. The statement of intentions of the Bill specifically omit options which deserve absolutely first priority from an environmental and economic (economic to taxpaying consumer, not necessarily economic to the recipient of a fat nuclear boondoggle) standpoint.

Specifically, the statement of intentions has the following offensive items.

* Page 2, paragraph a. dedicates the new agency to the proposition that centralized energy parks must be expedited. This subject has already been examined. It has been found that a decentralized supply of energy which is closer to the end user makes more sense, since it permits the implementation of cogeneration techniques which cut the cost of energy in half, compared to a centralized supply which is much more wasteful.

And, there is no mention whatsoever of the use of solar energy, the conversion of solid wastes into energy, or the mandatory implementation of other energy saving methods.

Why are centralized parks being pushed? And, why are better, approaches not even mentioned?

* Page 2, paragraph c. says that the long range plans required should be made available for public "comment".

  The word "comment" should be changed to "binding referendum". Utilities, like PSE&G Co. have proven themselves to be arrogantly indifferent to the desires of the public. When the citizens of Atlantic County voted overwhelmingly against the floating nuclear plants schemed for the coast of Atlantic City, PSE&G Co. merely increased the intensity of highly fraudulent advertising, and to add injury to this insult they stuck consumers of electricity and gas for the cost of this fraudulent advertising.

* Page 2, paragraph f. says that an environmental review of planned facilities must be"expedited". The word "expedited" should be changed to "regulated with the input of public interest research groups, the consent of elected public watch dogs, and the wishes of the affected regions being given full representation".

* Page 2, paragraph h. calls for an on-going program of study. This paragraph should add the phrase "which includes representation from elected public watch dogs and review by public interest research groups."

* Page 3, paragraph 3c. defines "Commencement of construction" as any clearing of land,... . The way this is written, all a utility would need to do would be to chop down a few trees as a ploy to evade regulation. This trick has been used before. The paragraph should be revised to mean substantial action.

* Page 3, paragraph 3d. defines "Energy Facility". It does not mention total energy systems, solar energy, solid waste conversion facilities, cogenerative systems. By leaving out these vital facilities, by definition, an energy plan for N.J. would be living up to the letter of this law if the plan omitted such considerations. This is reprehensible!

* Page 4,paragraph 4b defines the structure of the Agency. No public watch dogs are included members presiding over the agency. The Agency should include a bona fide watch dog, and it must include representatives who have a background in serving the public interest. The members of the Agency should be payed so that qualified public spirited citizens would be able to afford serving this Agency. Further, there must be no conflict of interest whatsoever for any members of this Agency.

* Page 6, paragraph 12i empowers the agency to perform studies. But the ability to conduct studies is easily thwarted

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* if access to essential data is deliberately withheld. A prime example of this is concerned with the question of how much energy does nuclear power really contribute? Eminent analyists like Dr. E.J. Hoffman have determined that the net yield of nuclear fission is less than 5%. That means that for every 100 kwhrs of nuclear electricity produced, 95 kwhrs of ordinary conventional energy must first be consumed. The Energy Research and Development Administration has not disproved his findings. Instead, they simply issued a discourse on net energy yield that is chock full of obvious distortions.

Refer to the final environmental statement for floating nuclear plants NRC report NUREG-0056 starting on page 12-71 of volume two. Here, the NRC states, in figure 12.10.1 (page 12-76) that the net energy yield is 94.44%, not 5% as Hoffman estimates.

However, to arrive at this incredible 94.44% yield they IGNORE THE RELATIVE EFFICIENCIES OF EQUIPMENT. This introduces a whopping bias in their favor, because the thermal efficiency of a nuclear plant is abysmally low compared with alternate sources. Most of the energy produced by a nuclear plant goes right into thermal pollution.

Also, they state that nuclear plants operate at 80% capacity, instead of the actual 55% performance which is typical.

So, after they come up with an incredible 94.44% net yield, they finally conclude that the net yield of nuclear power is comparable to that of coal power. But, the efficiency of coal plants greatly exceed the efficiency of nuclear plants, and the capacity factor also greatly exceeds the factor obtainable from nukes. Furthermore, when all factors are considered, the net yield of coal plants is generally less than 30%.

Bear in mind that coal does not consume enormous amounts of electricity as is required in the sophisticated enrichment of uranium. Neither must expended coal be reprocessed, at expenseof further consumption of energy. And, coal plants do not need to be entombed. And yet the nuclear establishment has the unmitigated gall to boast of a 94.44% yield.

Dr. Hoffman has attempted to obtain more facts on net energy yield, but he has encountered stiff political opposition. Why? Why doesn't ERDA want independent net energy yield studies to be made?

Huge amounts of electricity have been consumed to produce nuclear power. A quiet report by the AEC (now ERDA) admitted that by 1972, 116 billion kwhrs of electricity was consumed to enrich nuclear fuel, but only 164 billion kwhrs of nuclear electricity was produced in the U.S.A. by then. This was

only a small fraction of the total energy consumed to keep nuclear power going (only 46%, using their own figure 12.10.2 in the mentioned floating nuke report). I'll send you a copy of the mentioned reports if you wish (including Dr. Hoffman's).

But, net yield analyses depend greatly on the gross yield performance of a fuel. Everyone knows, for example, how many miles they get out of a gallon of gasolene in their car. But what is the gross yield of a nuclear power plant? What is the amount of energy the reactor will produce for each ton of uranium (without recycling)?

ERDA officials refuse to officially disclose the gross yield of nuclear power. This was proven when the Louisianna Attorney General asked a mining engineer Mr. Morgan Gurdon Huntington (Woodfield Road, Galesville, Maryland 20765) to appear in a hearing on behalf of the State of Louisianna in May,1975.

The ERDA expert witness (under oath) repeated previous sworn testimony given by the AEC in 1970. He swore that each ton of uranium will deliver an average of 32 million kwhr. When Huntington reminded the witness that the AEC's own data indicated one plant produced less than 8.6 million kwhrs per ton over a 10 year period, and other plants have delivered only about 6, the ERDA witness repudiated his own testimony. He admitted that no nuclear plant did as well as 32

Then, Huntington attempted to determine what does a nuclear plant deliver? His written inquiries have been refused. So, after nearly two years, official certified performance has been withheld.

Huntington since learned that a new study of net energy balances by the Federal Energy Administration would omit the actual records of nuclear plants. This hasn't stopped nuclear promoters from bragging that the gross yield is 72 (not 32, 8.6, or 6 as in actual cases).

NOW, UNLESS THIS NEW AGENCY HAS THE POWER OF SUBPOENA, AND USES IT TO OBTAIN LONG WITHHELD DATA, it cannot contribute one iota to intelligent long range planning. In fact, because of net yield considerations, the very mission of this new agency, which is obviously to built nuclear parks may well make us less energy independent than ever before.

* Page 7, paragraph 13e is too restrictive. The paragraph should require that utilities must estimate the degree to which decentralized options such as solar energy and conservation can meet future energy needs. Utilities have tended to overate future requirements, and underate the ability to meet those needs with anything but nuclear energy.

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* Paragraph 13 omits the requirement that there must be a complete tally of all federal and state subsidies, both direct and indirect, for considering the true cost of every energy option.

Characteristically, PSE&G & Co. has proliferated highly misleading advertisements concerning the true cost of the nuclear option. In order to achieve the millions of dollars in savings to consumers from nuclear power, it has first been necessary to spend many billions of dollars in federal subsidies. No assessment of energy options can be intelligently resolved unless all the costs, including future costs associated with nuclear wastes are considered.

Also, a tally of the effect of employment ought to be included. Of all the energy options, nuclear power is the least labor intensive, and the most capital intensive. This means, it will provide fewer jobs than any other option and will drive up utility rates, which are based on a fixed percentage of capital costs.

* Paragraph 14a. gets the Department of Environmental Protection to select sites for plants. They should review selected sites. Otherwise, their review of a site is precluded by the fact that they selected the site in the first place.

* Paragraph 15b. should add that a comprehensive summary must include a feed-in of alternative decentralized energy sources.

* Paragraph 16 should stipulate that an environmental impact statement should be made available to the public before hearings of the Statewide Energy Facilities Plan. Up to $100,000 should be provided to municipalities and public interest groups to allow participation in the hearings by hiring expert witnesses. Also, the hearings should involve cross examination of witnesses. All of these important items are woefully missing from the Bill.

* Paragraph 21, page 12, line 5, gives the power of eminent domain to the Agency. There is no statement that the property which would be acquired by the Agency must be appraised by at least 3 indemdent real estate appraisers. Such a provision has been found necessary to prevent the arrogant eviction of citizens from their property with unfairly low payments for such property.

There is a serious question as to why the Agency must acquire land in the first place? Why cant utilities buy the land in the first place, instead of having the Agency buy (or steal) the land, just to sell it to the utility. In the absence of safeguards against abuse of power, it appears as though the introduction of this eminent domain power of the agency is done deliberately, with the intention of forcing unequitable policies.

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* Paragraph 22c, page 14, omits the important prerequisite that the environmental acceptability of the plan for a site must be established.

* The penalty for violation of rules is set at only $10,000. This miniscule amount is inappropriately small.

2. S 1721 A Supplement to THE STATE ENERGY FACILITY ACT

This Bill is introduced as a supplement to S 1407. The pair of Bills (1721, and 1407) is designed to replace a more stringent Bill S 1494, the Nuclear Reassessment Act.

Obviously, the plan is to degut serious provisions in S 1494 which are long overdue.

The fact is that after all the years during which nuclear power has been developed, still, not a single full full scale test of an emergency system has been performed.

The main thing that keeps a nuclear plant safe is its cooling system. If there is a cooling system failure, an enormous build-up of temperature will occur in the heart of the reactor. A typical reactor attempts to contain more radioactivity than 1000 Hiroshima A bombs. A meltdown could cause an explosive (chemical or steam explosion) of all that radioactivity to the environment.

Every nuclear plant has a safety system. So, it should be easy enough for thousands of replicated full scale tests to have been made under actual performance conditions, for the emergency cooling core system. Where are those thousands of tests?

Small scale tests have been performed and many of these tests were failures. Yet, the nuclear establishment continues to rely on small scale tests and computer simulation.

Being in responsible charge of a testing laboratory I know that if you want real data, perform a real test. If you want a simulation of the truth, do a simulated test or a small scale test.

The persistence of the nuclear industry in relying on computer simulation of complex phenomenae as opposed to the full scale product testing of the aircraft and other industries is one of the weakest links in nuclear reactor safety.

The seriousness of several problems was never suspected until tests were made of small scale models. Meanwhile, untested systems continue to be installed.

paramus environmental council p.o. box 12 paramus, n.j. 07652

It is important to ask WHY have utilities refused to conduct full scale tests of the emergency cooling core system?

It is likewise important to ask WHY did the utility lobby threaten to shut down every nuclear plant in the country unless Congress extended the Price Anderson Act? This bill fixes it so that if a catastrophe occurs the liability of the utility will be limited to only a tiny fraction of potential losses.

Furthermore, a revision was made to the Price Anderson Act which gives a utility a break in the insurance if a SECOND ACCIDENT happens at a facility. This proved how much confidence they really have in their conspicuously untested ~~equipment.~~ emergency cooling core systems.

Bill S1494 attempted to deal with above questions with soul-searching responsibility.

Obviously, the utilities did not like to face up to their responsibilities, which is by definition an irresponsible attitude.

Bill S1721 is unacceptable unless it insists that all the energy enterprises associated with nuclear power must assume full responsibility and full liability for any abnormal occurance in operation including the transportation of radioactive materials or wastes. Also, these recipient of nuclear subsidies must bear the full costs of nuclear power, because if nuclear power is so economical as they boast then not a single penny of continued subsidy is necessary.

They must also assume the full cost for protecting all facilities and all transports against acts of sabotage and terrorism. This large cost should not be underwritten by our Department of Defense, for it becomes just another hidden subsidy.

Bill S 1721 is unacceptable unless it puts back all the provisions which were ignominiously removed from S1494.

Respectfully,

Sidney J. Goodman, P.E.

Sidney J. Goodman, P.E., M.S.M.E.
President
Paramus Environmental Council

available information and review to date, there is reasonable assurance that the proposed site is a suitable location for a nuclear power reactor of the general size and type proposed from the standpoint of radiological health and safety considerations under the Act and rules and regulations promulgated by the Commission pursuant thereto.

(3)(i) The Director of Nuclear Reactor Regulation may authorize an applicant for a construction permit for a nuclear power reactor subject to the provisions of §51.5(a)** of this chapter to conduct, in addition to the activities described in paragraph (e)(1) of this section, the installation of structural foundations, including any necessary subsurface preparation, for structures, systems and components which are subject to the provisions of Appendix B. 39 FR 14506

(ii) Such an authorization, which may be combined with the authorization described in paragraph (e)(1) of this section, or may be granted at a later time, shall be granted only after the presiding officer in the proceeding on the construction permit application has, in addition to making the findings and determinations required by paragraph (e)(2) of this section, determined that there are no unresolved safety issues relating to the additional activities that may be authorized pursuant to this paragraph that would constitute good cause for withholding authorization.

(4) Any activities undertaken pursuant to an authorization granted under this paragraph shall be entirely at the risk of the applicant and, except as to matters determined under paragraphs (e)(2) and (e)(3)(ii), the grant of the authorization shall have no bearing on the issuance of a construction permit with respect to the requirements of the Act, and rules, regulations, or orders promulgated pursuant thereto.

§ 50.11 Exceptions and exemptions from licensing requirements.

Nothing in this part shall be deemed to require a license for:

(a) The manufacture, production, or acquisition by the Department of Defense of any utilization facility authorized pursuant to section 91 of the Act, or the use of such facility by the Department of Defense or by a person under contract with and for the account of the Department of Defense; 40 FR 8774

(b) Except to the extent that Administration facilities of the types subject to licensing pursuant to section 202 of the Energy Reorganization Act of 1974* are involved,

(1)(i) The processing, fabrication or refining of special nuclear material or the separation of special nuclear material, or the separation of special nuclear material from other substances by a prime contractor of the Administration under a prime contract for:

(A) The performance of work for the Administration at a United States government-owned or controlled site;

(B) Research in, or development, manufacture, storage, testing or transportation of, atomic weapons or components thereof; or

(C) The use or operation of a production or utilization facility in a United States owned vehicle or vessel; or

(ii) By a prime contractor or subcontractor of the Commission or the Administration under a prime contract or subcontract when the Commission determines that the exemption of the prime contractor or subcontractor is authorized by law; and that, under the terms of the contract or subcontract, there is adequate assurance that the work thereunder can be accomplished without undue risk to the public health and safety;

(2)(i) The construction or operation of a production or utilization facility for the Administration at a United States government-owned or controlled site, including the transportation of the production or utilization facility to or from such site and the performance of contract services during temporary interruptions of such transportation; or the construction or operation of a production or utilization facility for the Administration in the performance of research in or development, manufacture, storage, testing, or transportation of, atomic weapons or components thereof; or the use or operation of a production or utilization facility for the Administration in a United States government-owned vehicle or vessel: Provided, that such activities are conducted by a prime contractor of the Administration under a prime contract with the Administration; 40 FR 8774

(ii) The construction or operation of a production or utilization facility by a prime contractor or subcontractor of the Commission or the Administration under his prime contract or subcontract when the Commission determines that the exemption of the prime contractor or subcontractor is authorized by law; and that, under the terms of the contract or subcontract, there is adequate assurance that the work thereunder can be accomplished without undue risk to the public health and safety.

(c) The transportation or possession of any production or utilization facility by a common or contract carrier or warehousemen in the regular course of carriage for another or storage incident thereto.

§ 50.12 Specific exemptions.

(a) The Commission may, upon application by any interested person or upon its own initiative, grant such exemptions from the requirements of the regulations in this part as it determines are authorized by law and will not endanger life or property or the common defense and security and are otherwise in the public interest. 37 FR 5745

(b) Any person may request an exemption permitting the conduct of activities prior to the issuance of a construction permit prohibited by §50.10. The Commission may grant such an exemption upon considering and balancing the following factors: 40 FR 8774

(1) Whether conduct of the proposed activities will give rise to a significant adverse impact on the environment and the nature and extent of such impact, if any;

(2) Whether redress of any adverse environment impact from conduct of the proposed activities can reasonably be effected should such redress be necessary;

(3) Whether conduct of the proposed activities would foreclose subsequent adoption of alternatives; and

(4) The effect of delay in conducting such activities on the public interest, including the power needs to be used by the proposed facility, the availability of alternative sources, if any, to meet those needs on a timely basis and delay costs to the applicant and to consumers.

Issuance of such an exemption shall not be deemed to constitute a commitment to issue a construction permit. During the period of any exemption granted pursuant to this paragraph (b), any activities conducted shall be carried out in such a manner as will minimize or reduce their environmental impact.

§ 50.13 Attacks and destructive acts by enemies of the United States; and defense activities. 32 FR 13445

An applicant for a license to construct and operate a production or utilization facility, or for an amendment to such license, is not required to provide for design features or other measures for the specific purpose of protection against the effects of (a) attacks and destructive acts, including sabotage, directed against the facility by an enemy of the United States, whether a foreign government or other person, or (b) use or deployment of weapons incident to U.S. defense activities.

CLASSIFICATION AND DESCRIPTION OF LICENSES

§ 50.20 *Two classes of licenses.* Licenses will be issued to named persons applying to the Commission therefor, and will be either class 104 or class 103.

§ 50.21 Class 104 licenses; for medical therapy and research and development facilities. 21 FR 355

A class 104 license will be issued, to an applicant who qualifies, for any one or more of the following: to transfer or receive in interstate commerce, manufacture, produce, transfer, acquire, possess, use, import, or export under the terms of an agreement for cooperation:

(a) A utilization facility for use in medical therapy, or

(b) (1) A production or utilization facility the construction or operation of which was licensed pursuant to subsection 104b of the Act prior to Decem-

*The Administration facilities identified in section 202 are:

(1) Demonstration Liquid Metal Fast Breeder reactors when operated as part of the power generation facilities of an electric utility system, or when operated in any other manner for the purpose of demonstrating the suitability for commercial application of such a reactor.

(2) Other demonstration nuclear reactors, except those in existence on January 19, 1975, when operated as part of the power generation facilities of an electric utility system, or when operated in any other manner for the purpose of demonstrating the suitability for commercial application of such a reactor.

** Amended 39 FR 26279.

REF NRC RULES TITLE 10 CHAPTER I CODE OF FEDERAL REGULATIONS - ENERGY

REC'VD FROM NRC 3/10/77

UNITED STATES
NUCLEAR REGULATORY COMMISSION
OFFICE OF PUBLIC AFFAIRS
WASHINGTON, D.C. 20555

No. 77-8
Contact: Carl Gustin
Tel. 301/492-7771

FOR IMMEDIATE RELEASE
(Mailed - January 21, 1977)

NRC DENIES PETITION FOR EMERGENCY SAFEGUARDS;
UPGRADING UNDERWAY; FURTHER MEASURES PLANNED

The Nuclear Regulatory Commission today denied a petition from the Natural Resources Defense Council calling either for emergency measures to protect strategic quantities of plutonium and high enriched uranium against groups of up to 15 armed assailants or revocation of licenses.

The Commission said that a systematic increase in protection of such materials has been in progress for nearly a year at the 13 fuel cycle facilities subject to NRC physical protection requirements and major additional actions will be proposed shortly. Most of these materials are fabricated into fuel for the nuclear Navy.

Since the filing of the petition, the transport of the government-owned portion of this nuclear material--more than 90% of the total--has been taken over by the Energy Research and Development Administration (ERDA) which ships it in specially designed secure vans convoyed by armed guards.

Today's action does not involve nuclear power stations; the Commission, in a pending rulemaking, is considering additional safeguards measures at power plants.

The NRDC petition initially was denied in March 1976 by the Director of the NRC's Office of Nuclear Material Safety and Safeguards. The NRDC then requested that the Commission review that action.

The Commission's Memorandum and Order said that "...what the staff review indicated as necessary to remedy the shortcoming revealed in fuel cycle facility safeguards was a systematic and integrated increase in safeguards protection implemented on an expedited, but not emergency, basis. Such an orderly enhancement of safeguards effectiveness has indeed been in progress since March, and we have recently directed implementation of additional measures at a limited number of facilities...In contrast, the emergency measures proposed

by petitioners would have required our taking action in the absence of the results of the staff's careful, though expeditious, review of the situation..."

Over the past year, improvements have been made at all fuel cycle facilities to assure protection against hypothetical threats by at least three well-armed, highly motivated, well-trained attackers actively aided by a facility employee in any position, including that of guard. The Commission considers protection against insider participation in an attack a vitally important element of its protective program. These improvements followed a series of on-site assessments at each facility by NRC staff teams including visits by a specially constituted NRC-ERDA task force. Follow-up assessments have been made to assure that the improvements have been carried out.

WHAT IF 4) ATTACK.

The improvements already made include: additional guards; greater capabilities for communicating offsite in an emergency; improved capabilities of alarm systems; better search and surveillance procedures; formalized procedures for support from local law enforcement agencies; and strengthened controls over access to nuclear materials.

Similar assessments and upgrading of transportation safeguards also have taken place. Upgrading was accomplished by increasing the number and training of escort guards and the installation of a backup communications capability. Additional measures in the transportation area will be implemented shortly. Four companies are now authorized to transport strategic quantities of plutonium and high enriched uranium.

While noting that the available evidence, including communications from cognizant Federal agencies, does not indicate that an attack on licensees is likely, the Commission said such an attack cannot be wholly discounted and prudence dictates that protection should be increased. In this regard, the Commission has decided to conduct a rulemaking, details of which will be announced shortly, to establish, through public proceedings, upgraded interim safeguards requirements and proposed longer term upgrading actions.

The objective of the forthcoming rulemaking is to consider additional safeguards measures to counter the hypothetical threats of internal conspiracies among licensee employees and determined violent assaults which would be more severe than those postulated in evaluating the adequacy of current safeguards.

The Commission's Memorandum and Order states that proposed interim actions to be considered in the rulemaking include:

(1) increasing the capability of weapons supplied to guards; (2) improving guard training; (3) requiring strategic special nuclear materials (SSNM) licensees to employ additional safeguards measures, as the staff determines necessary at each facility or for each transport company, to defend against an external threat having the capability of a determined assault more severe than that currently postulated; (4) a security clearance program for employees with access to SSNM; and (5) other measures which may, for the interim, be utilized to increase protection against internal threats of theft or diversion of SSNM.

#

(Note to Editors: Attached is a list of licensees authorized to possess strategic quantities of special nuclear materials and a list of authorized transport companies. Strategic quantities are defined as (a) two kilograms of plutonium, or (b) five kilograms of uranium enriched to more than 20% in the U-235 isotope. These quantities are established at a level judged to be substantially less than that required for the manufacture of nuclear explosives.)

UNITED STATES
ATOMIC ENERGY COMMISSION
WASHINGTON, D.C. 20545

AUG 6 1973

Honorable Clifford P. Case
United States Senate

Dear Senator Case:

This is in response to your July 12, 1973, referral of a letter to the editor of The Sunday Record from Sidney J. Goodman. Mr. Goodman's letter appeared in The Sunday Record of May 27, 1973. Mr. Goodman expressed concern about the consumption of electric power by AEC.

The large amounts of electric energy consumed by the Atomic Energy Commission in the past were primarily used to power the Government's three large gaseous diffusion plants. These plants produced uranium enriched in the isotope U-235 to meet weapons needs. It was not until about FY 1966 that any significant amount of electric power was directed to the production of slightly enriched uranium for nuclear power fuel. That portion of the energy and fuel material produced therefrom has been supplied on a full cost recovery basis to both foreign and domestic nuclear power plants which have in turn produced electric energy for general use. Since FY 1966, electrical energy used to satisfy national defense requirements has decreased to a level which is currently insignificant in comparison with that used to produce nuclear fuel.

Electric energy produced by domestic nuclear power plants exceeded electric energy used by the AEC enriching plants for such fuel production as of the end of 1971. This crossover date is advanced to about the end of 1969 when nuclear electricity production from foreign power plants using U.S. fuel is included. The statistics in billions of electrical kilowatthours are as follows:

Data Through End of Indicated Calendar Year	Cumulative Electric Energy Used by Enrichment Plant to Produce Nuclear Fuel	Cumulative Electric Energy Generated by Nuclear Power Plants Using U.S. Enriched Uranium		
		Domestic Plants	Foreign Plants	Total
1967	33	8	5	13
1968	48	22	11	33
1969	61	38	22	60
1970	73	61	42	103
1971	91	100	69	169
1972	116	164	93	257
	↑	↑	↑	↑

NEW JERSEY CHAPTER
SOCIETY OF INDUSTRIAL REALTORS
OF THE
NATIONAL ASSOCIATION OF REALTORS ®

46 PARSONAGE ROAD, EDISON, N. J. 08817
P. O. BOX 2098,
TELEPHONE: (201) 494-5616

To The

New Jersey Energy and Environment Committee

In Reference to

Senate Bills S-1494, S-1721

By

Peter Hanson, Past President
New Jersey Chapter, Society of
Industrial Realtors

April 5, 1977

This is one case where the social and economic interest of the State would be far better served by reliance on established federal agencies such as the NRC to provide the necessary safety reviews of the nuclear industry.

On this basis we respectfully urge that the Committee withdraw Senate Bills 1494 and 1721.

PH: taw

My name is Peter Hanson. I am past President of the New Jersey Chapter of the Society of Industrial Realtors and a resident of New Jersey.

The Society of Industrial Realtors is an organization of professional realtors engaged in the sale, transfer, and development of industrial properties. A considerable portion of industrial expansion and relocation that takes place within New Jersey is a direct result of the activities of our members. Without an adequate supply of electrical energy this activity can not exist.

We strongly urge that Senate Bills S1494 and S-1721 be withdrawn. Both proposals involve decision making on the part of the legislature in technologically complex areas, which more properly should be made on a national basis.

Specifically, expecting the legislature to reach decisions on issues involving the disposal of high-level nuclear waste, fuel reprocessing, and undergrounding a nuclear plant, for example, would undoubtedly result in massive delays in the licensing process. These delays in turn could only lead to higher costs of energy and shortages.

In this State, with our massive unemployment, it would seem our focus should be directed toward the necessary steps to avoid energy shortages and reducing the cost disadvantage of electric energy rather than compounding these problems.

If the practical result of these bills is a moratorium on the construction of new nuclear plants, a derating of existing plants or some combination thereof the impact on the economy of this State would be intolerable.

New Jersey Society of Professional Engineers

Headquarters Office
KENNETH G. STANLEY, *Executive Director*
495 West State Street, Trenton, N.J. 08618
Phone 609-392-2855

March 28, 1977

N. J. Senate Energy & Environment Committee

Nuclear Legislative Hearings
City Hall
Atlantic City, New Jersey
April 5, 1977

Att. Mr. David Mattek

APR 11 1977

Gentlemen:

The New Jersey Society of Professional Engineers (NJSPE) as well as the National Society of Professional Engineers (NSPE) have expressed their opinions for an orderly, logical and factual approach to the myriad of problems and concerns facing the citizens of our state and our nation today.

Statements supporting the need for providing clean, safe and economic electric energy with nuclear power were presented at the public hearing on offshore nuclear power plants in Atlantic City, New Jersey on March 29, 1976 and at the Senior Conference on Energy in North Wildwood on May 16-18, 1976. A resolution by NJSPE was also submitted to the New Jersey Legislature in May 1976. (Copies attached). These documents emphasize that an adequate supply of electricity is necessary to provide energy for supporting the continued growth and economic stability of New Jersey.

The NJSPE is dedicated to providing the professional guidance for the benefit of all the citizens of New Jersey. A well informed and co-operative citizenry is necessary to keep our state and country strong and free.

We, hereby submit the attached position papers in support of nuclear power for New Jersey into the hearing testimony taken by the Senate Hearing Committee on Senate Bill S1494, the"Nuclear Reassessment Act" and Senate Bill S1721, a supplement to "An act establishing the State Energy Facility Agency..." presently pending as Senate Bill 1407. Both of these bills, in our opinion, will have the practical effect

New Jersey Society of Professional Engineers

March 28, 1977

(2)

of outlawing the construction of future nuclear electric generating facilities in New Jersey as well as derating of those nuclear plants which are presently operating. We urge the vigorous development of nuclear power for New Jersey and the cessation of legislation which deters the orderly, safe and expeditous energy supply for New Jersey.

We hope that your conclusions will result in a favorable position for nuclear power and appreciate the opportunity to submit our statements to you.

Very truly yours,

Ernest L. Huse

Ernest L. Huse, P. E.

President

Attachments (3)

ELH/gjs

NEW JERSEY SOCIETY OF PROFESSIONAL ENGINEERS
TASK FORCE II ON ENVIRONMENTAL MANAGEMENT
HEARING TESTIMONY, MARCH 29, 1976 ON OFF-
SHORE POWER SYSTEMS APPLICATIONS TO BUILD
FLOATING NUCLEAR POWER PLANTS
USNRC DOCKET NO STN 50.437

The New Jersey Society of Professional Engineers (NJSPE Task Force II on Environmental Management was organized to study and recommend actions which would provide a professional position on the needs of the State of New Jersey to ensure the best balance of economic and healthful life for its citizens. Development of energy supply systems, particularly nuclear power, are absolutely necessary if the economic well being of New Jersey, the United States and the world are to be improved. It is the only practical source of clean, safe, and economic electric power available to us in New Jersey.

The National Society of Professional Engineers' (NSPE) President, Harry Bovay, P.E. at a press conference in Albuquerque during NSPE's 1975-76 winter meeting declared that "the energy question, perhaps the most important single issue of the decade, with vast social, economic and international consequences, is being decided on political grounds". President Bovay further stated that "the key to a balanced, responsive energy program is increased use of nuclear power". He urged that a national energy policy include use of the nation's current resources to buy time for engineers and scientists to perfect the technology for utilization of other energy sources, such as sun, ocean tides, and wind and clean use of code.

Our National Policy of energy independence demands that reliance on foreign oil imports be reduced, if not eliminated. Environmental standards have limited the increased use of coal in our State and the only practical alternatives available are uranium and foreign imported oil.

Nuclear power has had an excellent safety record in the U.S. for the past 20 years. There have been been no fatalities or injuries to the public by any of the current operating plants. Furthermore, there has not been any insurance claims in that regard. New plants have increased safety and operating requirements which further reduce the probability of any nuclear accidents which would result in harming the public.

Placing nuclear units out in the ocean is a unique concept which offers a realistic and practical solution to the waste heat released from these plants. Furthermore, the availability of suitable sites for land based plants is very limited. The disruption of local areas would be minimal and the supply of electric power for New Jersey would provide our State with the potential of supporting continued growth and economic stability.

Nuclear power is the only proven resource for satisfying the large portion of energy which will be necessary to maintain any viable New Jersey economy. The NJSPE Task Force on Environmental Management proclaims its full support of vigorous development of nuclear power and particularly the concept of an offshore nuclear power plant.

We therefore urge the Atomic Safety and Licensing Board to rule favorably on the Offshore Power Systems Application.

GJS:mds

New Jersey Society of Professional Engineers

May 12, 1976

The National Alliance for Senior Citizens
Allen Drive and Sea Spray Court
North Wildwood, New Jersey 08260

SENIOR CONFERENCE ON ENERGY
NORTH WILDWOOD, NEW JERSEY
MAY 16-18, 1976

Gentlemen:

The New Jersey Society of Professional Engineers (NJSPE) as well as the National Society of Professional Engineers (NSPE) has expressed their opinions for an orderly, logical and factual approach to the myriad of problems and concerns facing the citizens of our state and our nation today.

A statement supporting the need for providing clean, safe, and economic electric energy with nuclear power was presented at the public hearing in Atlantic City on March 29, 1976. (Copy attached).

Subsequent to the public hearing, a resolution was passed at a N.J.S.P.E. meeting on April 23, 1976. (Copy attached). Both of these documents emphasize that an adequate supply of electricity is necessary to provide energy for supporting continued growth and economic stability for New Jersey.

The N.J.S.P.E. is dedicated to providing the professional guidance for the benefit of the citizens of New Jersey. A well informed and cooperative citizenry is necessary to keep our state and country strong and free.

We, hereby submit the attached position papers in support of nuclear power into the hearing testimony taken by the National Alliance for Senior Citizens' Senior Conference on Energy. We hope that your conclusions will also result in a favorable position for nuclear power and appreciate the opportunity to submit our statement to you.

Very truly yours,

Wallace R. Grant

W. R. Grant, P.E.
President

WRG:mds

RESOLUTION BY NJSPE ON NUCLEAR POWER

Petition the New Jersey Legislature to support the need for nuclear power for assuring adequate supply of electric energy to provide an economic environment for its citizens as well as a healthy and non-polluting source of energy.

WHEREAS, The NJSPE has organized a task group on environmental management to professional position on the needs of New Jersey to ensure the best balance of economic and healthful life for its citizens, and

WHEREAS, The National Society President has declared that the energy question is perhaps the most important single issue of the decade, and

WHEREAS, Our national policy of energy independence demands that reliance on foreign oil imports be reduced, if not eliminated, and

WHEREAS, Environmental standards have limited the increased use of coal in our State with the only current practical alternatives being foreighn oil and uranium, and

WHEREAS, Nuclear power has had an excellent safety record in the U.S. for the past twenty (20) years, and

WHEREAS, New plants with increased safety and operating requirements should further reduce the possibility of nuclear accidents which would result in harming the public,and

WHEREAS, Placing nuclear units out in the ocean is a unique concept which offers a realistic and practical solution to the waste heat released from these plants, and

WHEREAS, Availability of suitable land sites are very limited and floating plants would create minimal local disruption , now, therefore, be it

RESOLVED, That the NJSPE support he need for additional electric power to provide energy for supporting continued growth and stability, be it further

RESOLVED, That NJSPE proclaim its full support of vigorous development of nuclear power and particularly the concept of an offshore nuclear plant, be it further

RESOLVED, That this Resolution be forwarded to the N.J. Legislature for action in establishing appropriate contacts with appropriate agencies of the State.

NEW JERSEY INDUSTRIAL DEVELOPMENT ASSOCIATION

NEW JERSEY INDUSTRIAL DEVELOPMENT ASSOCIATION

TESTIMONY BEFORE

NEW JERSEY SENATE ENERGY & ENVIRONMENT COMMITTEE

on

SENATE BILLS 1494, 1721, 1407

ATLANTIC CITY, NEW JERSEY

John H. Maddocks, President
New Jersey Industrial Development Association
17 Winters Street
Oakland, New Jersey 07436
April 5, 1977

I am John H. Maddocks, President of the New Jersey Industrial Development Association.

The New Jersey Industrial Development Association is a non-profit development organization with a membership of over 100 individuals or organizations. Members include professional industrial developers from state, county and municipal economic development departments, as well as individuals representing economic development departments of utilities, railroads, banks and financial institutions. The purpose of this Association is to promote sound balanced job creating development within the State of New Jersey. The Association and its members attempt to retain New Jersey's existing industrial customers and attract new and expanding industries.

This, in recent years, has not been an easy task. The poor condition of our national economy is significantly magnified within the State of New Jersey. The litany of plant closings and relocations out of New Jersey is long. Employment within the Rubber & Plastic industry has declined by 35% since 1969. Employment in the Electrical equipment industry has declined by over 25% since 1969.

The Primary Metals industry has experienced an employment decline of 31% since 1969 and the Stone & Glass Industry has declined in employment by over 17% since 1969, and with the current natural gas shortage is expected to accelerate its employment decline even more rapidly in coming years. Overall, New Jersey has experienced a loss of over 170,000 manufacturing jobs since 1969.

Although we recognize that there are many factors which influence the curtailment of operations, relocation of operations and attraction of new business into various geographical areas, it has become exceedingly apparent that the availability and cost of energy is one of the major factors influencing these decisions. New Jersey simply cannot maintain its current economic infrastructure nor remain competitive for the attraction of industrial facilities unless the State can provide an adequate and resonably priced supply of energy.

New Jersey Industrial Development Association believes that the construction and operation of nuclear power plants should be encouraged as the method for generating New Jersey's future electric needs.

We say this with a great amount of conviction because if one looks at the alternatives available, it becomes obvious that our major worry should be what we would do if we would not have nuclear power in this State. Increased reliance on coal fired plants which will further pollute our air and waters are not an acceptable alternative according to our State Department of Environmental Protection.

Continued reliance on foreign imported oil for the manufacture of electricity places our entire economy in jeopardy should another oil embargo take place.

Although conservation is a noble goal, it at best promises only a small savings in overall electric demand. Mandatory or enforced conservation is going to be difficult if not impossible from a political, consumer, and enforcement standpoint.

Our membership is of the opinion that when all the alternatives are considered in a cost benefit analysis it becomes apparent that the practical choice in this State must be nuclear. Granted there are risks involved but those risks are less than the alternate risks of relying on increased coal or Foreign imported oil.

We feel that those who have advocated zero risk are deluding the public, because there is risk in every action we take. The most dangerous action we take in the United States is getting into our automobiles every day of our lives. The risks involved in nuclear power are less than any other risks in society we accept everyday.

We believe that the enactment of Senate Bill 1494, which in effect places a moratorium on the construction of nuclear plants within New Jersey, is not in the best interests of the citizens or businesses of the State. It is our understanding of the proposed legislation that the conditions imposed by it will not only prohibit new construction but greatly impact the completion and operation of nuclear plants now operating or nearing completion. We fail to understand why it is necessary to compound, now and especially into the future, the energy problems that are already so severe within New Jersey.

With regard to Senate Bills 1407 and 1721, purportedly to establish a siting agency that would expeditiously plan, review, and approve the siting of major energy facilities, our Association would like to be in the position to support. Unfortunately, in our opinion,

these bills will accomplish exactly the opposite.

The provisions of S-1407 appear to add yeat another level of approval to the permit processing procedure. Senate 1721 will further compound the siting problems by imposing not only unreasonable restrictions on the proposed State Energy Facility Agency, but the requirement of findings over which the proposed State Agency has little or no control. The further referring of its findings to the State Legislature only seems to continually compound the entire process.

Our membership has requested that I comment further on a subject that continues to be of serious concern to them and is related to the content of these three bills. It appears that a significant number of our legislative and administrative actions within New Jersey over the past five or so years take the direction of going too far, too fast, without sufficient concern over the consequences of our actions. I say this in the context of our desire to pioneer in the protection of our environment of our citizens. This is unquestionably a noble goal. However, we seem to attempt to accomplish it with a vengeance Our Wetlands Act, over which we place our Coastal Protection Laws; our air and water pollution codes, some of the most stringent in the

Nation; our Flood Plains Laws, the impact just now beginning to be realized by our citizens, the recent Cancer Control Commission hearings and now these three (3) bills. We certainly are rushing to be the first State to impose the most stringent controls, New Jersey I.D.A. only hopes that the total environment of the State will be available to enjoy their benefits.

In conclusion, we would like to point out the recommendations contained in the recently released Report of Governor Byrne's Economic Recovery Commission, we quote "The Commission believes that in ordet to achieve both short and long term economic and environmental improvements for the residents of New Jersey it is absolutely essential that all major sources of energy available to the State be developed with delay."

"We recommend that, through the encouragement and leadership of State Government, all available and practical energy resources be expeditiously developed with the consideration of maximizing the benefits of these resources to the people of New Jersey." "Specifically, the Commission recommends (a) ---, (b) the establishment of a program whereby the State will cooperate in and assist in qualifying sites for major energy and energy related facilities in a manner which is

environmentally and economically suitable, including the classification and endorsement of sites according to their acceptability for various types of utilization and the creation of a "site bank" for future use by critical industries; (c) the passage of legislation that will facilitate the construction of nuclear electric generating facilities."

Thank you for the opportunity to present our views on this most important issue.

Testimony
before the
New Jersey State Senate
Committee on Energy and Environment
on
New Jersey Legislative Bills
S1407, S1494, S1721
re
ENERGY FACILITY SITING

David L. Morell, Ph.D.
Princeton University
Center for Environmental Studies

April 5, 1977 - Atlantic City

I am David Morell, Research Political Scientist at Princeton University's Center for Environmental Studies. I am pleased to respond to the Committee's invitation to testify on proposed legislation regarding energy facility siting in New Jersey. At the Center for Environmental Studies we have been conducting research on this subject for the past two years, and thus appreciate some of the complexities involved from the political, environmental and socio-economic viewpoints.

The sponsors of the legislation under consideration today are to be commended for addressing, in a comprehensive manner, the thorny but crucial siting dilemma. I hope that my comments today will assist the legislature in its search for the best possible legislation for New Jersey, a highly energy intensive state. Such state initiative can be an important step in breaking the cycle of private action and government reaction where ad hoc decisions are made in a policy vacuum. Three of our research studies in particular relate to the proposed legislation: one, a study of energy facility siting legislation in the eleven states of the Northeast from Maine through Maryland; the second, a study of governmental capabilities to make OCS-related energy facility siting decisions in New Jersey; and the third, a study of a hypothetical cluster of nuclear power plants for Ocean County.

S1407 - State Energy Facility Agency (SEFA)

The following comments relate primarily to S1407, which would establish a State Energy Facility Agency (SEFA) in the Department of Treasury. In creating a central state authority for energy facility siting, New Jersey would join the ranks of approximately half the states in the nation which by 1976 had comprehensive energy facility siting laws. An indication of the recent acceptance of central state siting authority is evidenced by the fact that in 1972 only five states had such laws.

Locus of SEFA

On the question of the locus of SEFA, it is instructive to note for comparison the organizational responses of other states. The landmark Maryland siting law grants administration of its power plant siting program to the Department of Natural Resources, the equivalent of New Jersey's Department of Environmental Protection. Maryland's law, however, gives final site approval authority to its Public Service Commission, based on the environmental department's recommendations. A state siting agency proposed in Pennsylvania would also grant authority to its Department of Environmental Resources to issue energy facility construction certificates. A similar proposal to create an Energy Facilities Planning Commission in the Department of Environmental Protection is contained in New Jersey bill A1525, with membership composed of heads of state agencies.

Although several states have created entirely new agencies such as SEFA, there is merit in using an existing department with an environmental research mechanism, as long as the siting agency represents an interdisciplinary membership. Another consideration would be to tie SEFA to a newly constituted State Energy Office or, at the very least, place the Director of the Energy Office on an equal footing with other departments as a member of SEFA.

Although the issue of the State Energy Office has unfortunately become a political hot potato, this office should not be kept in limbo but must be a vital part of state energy policy planning.

The general thrust of these recommendations is to consolidate energy planning rather than scatter it throughout state government. The obvious analogy is the recent move by the Carter Administration to bring together energy planning in a single Department of Energy. Perhaps the time has arrived for New Jersey to consider a similar move.

SEFA and State Initiative

Far more fundamental than the location of SEFA are the powers and authority to be given this new agency. A basic criterion for judging the strength and effectiveness of such legislation is the degree to which it permits government to shed its reactive role and grasp the initiative in making basic judgments, such as the need and most desirable locations for energy facilities. This is essential since such facilities have regional impacts akin to the impact of highways and sewage systems. All three can stimulate development - in areas where it may not be desirable - and thereby strain the environment and infrastructure. The legislation addresses these issues by having SEFA conduct projections of future demands and alternate sources of energy, rather than relying solely on such data from private utility companies. SEFA would thus have the opportunity to predicate energy demand projections on a vigorous state plan for energy conservation and for use of alternate sources, such as cogeneration, obviating the need for a number of energy facilities. A test of SEFA's authority in this regard will be the extent to which, if necessary, it will be able to alter the long range plans of the utilities in order to incorporate the new conservation ethic and, when desirable, foster use of decentralized alternate energy forms. Perhaps the legislation should be revised to reflect these factors.

Energy "Parks": Concept and Terminology

As now written, SEFA's primary thrust might appear to be to expedite large centralized facilities in "energy parks". Such clustered energy facilities may not in themselves be objectionable. Princeton's study of a hypothetical nuclear energy center in Ocean County questioned such a concept on a very large scale - 20 clustered reactors - but found merit in the concept in general on a smaller scale as an alternative to dispersed siting with its multiplied infrastructure strains. If a large number of energy facilities are indeed to be located in a small, densely-populated state like New Jersey, clustered siting may be preferable to locating the same number of plants at dispersed locations throughout the state. As we recommend in our report to DEP on an OCS onshore facility siting strategy:

"several specific steps must be taken by the state:

(1) Ensure clustered siting of supply and service bases and of processing complexes;

(2) Ensure that any impacts on the beaches and barrier islands are restricted to an absolute minimum.

(3) Minimize the number of separate pipeline landfall locations.

(4) Enforce buffer zones around carefully sited inland clusters."*

The basic issue in choosing between energy centers and dispersed siting, and between centralized and decentralized power in general, is one of balance. The decision processes established must effect an equilibrium between siting efficiency, jurisdictional equity, and political participation. We need to be certain that SEFA will provide the proper mechanism to allow this state to decide its own energy destiny, rather than permitting determination by various other forces which do not have responsibility for public health and socio-economic well-being. Diversity and balance of energy modes and the

*David Morell (with others), Governmental Capabilities to Make Energy Facility Siting Decisions in New Jersey (Princeton University, Center for Environmental Studies, Report No. 48, March 1977 (Preliminary report).

ability to accommodate energy innovation, rather than adherence to stereotyped solutions, will be a critical test of state energy policy. If SEFA is constituted to incorporate such flexible strategies, it will be more than a convenience one-stop agency to expedite construction.

I must register an objection to use of the term "energy parks" throughout this proposed statute. These facilities may indeed be necessary for society, but the term "park" connotes a bucolic environment hardly likely to characterize such a facility. May I suggest that the statute be amended to include the term "energy clusters" or "energy centers" instead of "energy parks".

Buffer Zones

The provision for buffer zones around major energy facilities, including energy clusters, is deeply needed, and you are to be encouraged in pushing for inclusion of this concept in the bill. My research on Nuclear Energy Centers has focused on the importance of using a buffer zone to keep such facilities "at arm's length" from the society which they are designed to serve. In addition, my present research on the situation of residential development in the immediate vicinity of the Oyster Creek nuclear power plant in Ocean County illustrates the need for effective buffer zones -- enforced by the state -- even around single energy facilities. In the absence of an effective buffer zone, the number of residential dwellings within four miles of this plant tripled in the period from 1965, when it was first approved by the Atomic Energy Commission, and 1976; going from 3,162 houses to 9,507. This shows what can happen if the state does not act to prevent growth in the immediate vicinity of energy facilities.

Composition of SEFA

One means of fostering a broad strategy for energy facility siting lies in the composition of SEFA. As proposed, the legislation mandates an interdisciplinary approach in its designation of five state agency heads. However, the designation of six appointees from the general public is left open. To avoid an overweighting of any interests in their siting agencies, several states clearly define the affiliation of appointed members. For example, the five appointees from the general public in Connecticut's Power Facilities Evaluation Council include:

> "at least two experienced in the field of ecology, and not more than one who has affiliation, past or present, with any utility or governmental utility regulatory agency, or with any person owning, operating, controlling, or presently contracting with respect to a facility."

New York state's Board on Electric Generation Siting and the Environment includes an "ad hoc" representative who is a resident of the political jurisdiction in which the facility is proposed. In addition, New York does not allow any member of its siting board to hold any official relationship to, or securities of, any utility corporation operating in the state, nor may appointees have been directors, officers or employees of such utilities.

Although SEFA's general public members would be appointed with the advice and consent of the Senate, perhaps assuring some measure of balance, it would be prudent to build into the law a more positive means of guaranteed "public interest" input. This is especially important because, as written, S1407 does not incorporate public hearings prior to construction of a facility but only calls for such comment prior to site selection.

Public Participation inSEFA Decisions

Beyond making SEFA's public composition more explicit, the law should be amended to assure public hearings prior to the critical construction phase. In the Princeton study of siting laws in the Northeast, it is readily apparent

that most of these states show great deference to the public hearing process (as does 1407, but for site selection only). Maine and New Hampshire have pre-hearing conferences open to the public; Maine's Attorney General acts as Counsel for the public in the siting process. Maryland provides a People's Counsel in its siting procedure. Massachusetts has formulated procedures for public hearings at each step taken under its siting act, including: Long-range forecasts of energy needs, notice of intention to construct, petitions for a Certificate of Environmental Impact and Public Need, and application for a certificate under the National Pollution Discharge Elimination System of the Federal Water Pollution Control Act of 1972. New York, whose siting law is particularly meticulous in allowing broad public input, compensates local governments for obtaining expert advice and testimony in the hearing process. An innovative feature is provided whereby the applicant must make available $25,000 for this purpose, of which the unspent portion is returned.

Funding of SEFA

One of the most innovative features of Maryland's unique power plant siting law is its establishment of an Environmental Trust Fund and Research Program to carry out essentially the same functions listed in section 12 of the SEFA bill. Support for the fund comes from a surcharge which cannot exceed 0.3 mills per kilowatt-hour generated. Thus, those who use the most electricity pay a larger share into the fund. Each year the surcharge is set at a level necessary to support thesiting program. A rate of 0.22 mills per kilowatt hour was established in 1976, providing a 1977 budget of $7,136,573. This budget level allows a state staff of nine professionals, four secretaries, and a contractural structure involving approximately 150 scientists. In an intensive study of this law, including a visit with Maryland state officials, we learned that evaluation of an individual energy site cost close to one million dollars.

The funding provision in the SEFA law of $250,000 pales when compared to the resources available to Maryland's siting program. The Director of Maryland's siting program feels it operates easily, and attributes this success primarily to the program's unique funding and adequate budget which allow it to obtain "the best available talent in Maryland". Broad public support seems to exist for the program, and there has been no perceptible citizen objection to the monthly surcharge used to operate it.

The advantage of such a fund as opposed to reliance on fees alone is obvious in the substantial resources available to the state to carry out environmental impact studies and an intensive research program. Utilities in Maryland reportedly feel that the siting program has operated in their interest, as well as in the environmental interest, and that confrontation over siting has been minimized under the state's program.

Like the SEFA proposal, other states charge fees to companies who apply for permits. In Massachusetts this fee schedule is clearly defined in its siting law and is designed to cover most costs of operating the program, although this does not appear to include the ambitious research program in Maryland or envisioned for New Jersey in S1407. Filing fees in Massachusetts for Certificates of Environmental Impact and Public Need may not exceed $25,000 long-range forecast fees for power plant facilities may not exceed $400,000, with each applicant being assessed a proportionate amount in relation to total kilowatt-hour sales within the state; a maximum of $125,000 may be required from gas companies based on their proportion of gas revenues within the state. For a notice of intention to construct oil facilities, a maximum of $400,000 may be charged, based on expected capital investment.

Tax Structure

Because this legislation features a provision for energy clusters, no discussion of this subject can pass without mention of the state tax structure which permits large financial benefits to accrue to individual municipalities for energy facilities in their midst. Even single energy facilities can have regional impact affecting the environment, infrastructure and socio-economic conditions in several surrounding municipalities which do not share at all in the tax benefits. Energy clusters would compound this inequity.

If clustered siting strategies are followed, a close look must be taken at the allocation of revenues from the gross receipts and franchise taxes, and of traditional property tax payments from energy facilities owned by private corporations rather than regulated utilities. The cluster, by definition, concentrates these facilities in a few municipalities. Tax revenues must be allocated more broadly if the clustered siting concept is to be accepted by the public at large.

Should the state adopt a clustered siting strategy -- as proposed in S1407 and in some of my own research -- provisions for tax sharing across municipal boundaries become far more critical. Without new tax legislation -- however controversial this may be in today's political environment -- the imbalance between costs and benefits will be far greater. New Jersey has an operating example of tax sharing from new development across municipal boundaries. This is already done in 14 municipalities under the purview of the Hackensack Meadowlands Development Commission. This example could comprise the basis for developing state legislation for municipal tax sharing from new energy facilities elsewhere in New Jersey.

Environmental Standards

The implications of many other specific aspects of S1407 must be scrutinized more closely, particularly its predication on federal rather than state environmental laws; the challenge it poses to the primacy of laws like CAFRA, Wetlands, Flood Plain and Riparian protection; its approval time frames (for example, allowing only 60 days for SEFA to publish an environmental evaluation of sites -- where Maryland allows six months); and so on. Since others are expected to address at least some of these issues more fully, I will not pursue them further at this time.

State vs. Local Authority

For my remaining time, I would prefer to discuss the power and authority of SEFA especially in relation to municipal and county governments. As conceived, SEFA's powers appear to be as strong as any granted to state governments in energy facility siting anywhere in the country. For example, several state siting agencies have no local override at all, and others share their powers equally with other state agencies. For example, in Maryland the Public Service Commission can veto the recommendations of the power plant siting administrator, thus presreving a measure of check and balance.

In contrast, SEFA, as proposed, would be completely autonomous. In order to gain acceptance and achieve its valuable goal of state initiative, amendments to the SEFA proposal should be considered to grant other levels of government a greater role in the siting decision-making process. County planners appear to be doing most of the planning related to energy facility siting. Yet the land use authority required to implement these plans resides either with the municipalities or with the state. Coordination of county planning with subsequent state or local decisions emerges as a critical gap in the present situation. One alternative might be to devise a method to increase the counties'

authority to implement their own siting plans, at least for defined energy facilities. This would recognize the "greater than local" significance of these energy facilities without interjecting total state primacy into the siting process. County decisions thus would reduce the influence of local parochialism over pursuit of tax ratables.

I am concerned about the degree to which SEFA would have total authority over approval or denial of proposed energy facilities, over-riding the authority of all other state agencies and of county and municipal governments. Obviously the intent of this "one stop permitting" is to ensure timely, efficient regulatory action on all energy facilities. Such organizational efficiency is a laudatory goal; but equity, legitimacy and political participation are also important issues which we neglect in any political process only at our long-term peril.

In particular, I would encourage this committee to reassess the concept of over-riding all roles for county and municipal governments in energy facility siting. In my opinion, a balanced siting process could be devised which would combine efficiency, equity and participation, accomplishing the same objectives which you have in mind for SEFA without risking the alienation of people who feel they have lost control over their own local destiny to faceless bureaucrats in Trenton. Moreover, I suspect that providing such a balanced approach to siting approval in the bill would ease passage of this controversial legislation, an objective not to be ignored.

The process I have in mind would proceed as follows. SEFA would complete its Statewide Energy Facilities Plan as in the bill at present. When companies were ready to construct their new facilities, either at locations included in the plan, or not, their construction proposals would be submitted for initial review to the appropriate local government in that area (under

present New Jersey law, the municipality; a shift to the county level for energy facilities would seem preferable). This would give the local government -- and its citizens -- the right of first refusal for an energy facility proposed within their boundaries, thereby enhancing the degree of meaningful public participation in this decision and expanding the overall legitimacy of the siting process. Specific time deadlines could be established so that the locality would reach its decision without undue delay.

If the proposed energy facility were located at a site or "energy park" previously approved by SEFA, local approval could be followed rapidly by state approval. SEFA, along with other state agencies, would simply have to determine that this facility at that location met appropriate environmental standards.

If the local government chose to reject the proposed energy facility, for whatever reason, a balanced siting process would allow for state over-ride of this local decision, on the basis that the facility was of statewide significance. However, it might be preferable to restrict use of this positive authority to the legislature rather than to SEFA. This would help ensure use of an open, participant political process in reaching this important decision, thereby providing local residents with full access to a decision which would affect them so directly. Frequently the public hearings process of executive branch agencies is woefully inadequate in this regard. Again a time deadline could be imposed for state action. An alternative approach to involving the legislature directly is to allow SEFA to over-ride local rejections of proposed sites, but only in those locations stipulated in the statewide SEFA plan (which is approved by the legislature).

This concept rejects the idea of a local veto for energy facilities, because parochialism cannot be left unchallenged. At the same time, it rejects a total pre-emptory state over-ride, giving local governments a genuine initial role in the siting process and limiting state positive authority so that it will be used only in cases of true statewide significance. Efficiency, equity and participation can be combined, and doing so will enhance passage of this legislation and create a more legitimate siting process.

S-1494 and S-1721: Nuclear Reassessment

The slowing or halting of nuclear power development in New Jersey must be seen in the context of a total state energy strategy. If this strategy includes vigorous pursuit of energy conservation and use of alternate sources of energy such as cogeneration, coal and solar (as I believe it should), then the need for nuclear facilities will diminish dramatically. Conservation -- energy efficiency, not energy abstinence -- is still our best energy producer.

With broad application it will afford us time to develop alternate sources, negating the pressure to commit our destinies to a nuclear economy. Since the 1973-74 oil embargo, many energy conservation bills have languished in legislative committees. What is needed here is the energy and sense of urgency to push them through to passage.

Both S1494 and S1721, based on similar measures in California, have merit and are deserving of support. It is incongruous, however, that at the same time the state legislature is considering the slowing of nuclear development (S1494 specifically provides for nuclear power plant cut backs to 60% of generating capacity initially), approvals have been granted for three new such facilities -- Forked River in Ocean County (one reactor) and Hope Creek in Salem County (two reactors). The two floating nuclear plants (Atlantic Generating Station) remain a live proposal. The need for these facilities was determined prior to current thinking on conservation and alternate sources, and a reassessment of their necessity and desirability definitely is in order.

A principal objective of S1494 is a waiver of the Price-Anderson Act limiting the financial liability of utility companies for nuclear accidents. A court decision last week (March 31) struck down Price-Anderson as an unconstitutional deprivation of property without due process of law and throws this issue open again. This comes at a time when rising construction costs, unreliable operation and a diminished demand for electricity already have caused cancellation of quite a number of nuclear plant projects.

The expression of concern about nuclear power embodied in these bills, particularly centering on radioactive waste disposal, is echoed in many other states in the nation. In early 1976, at least 28 states were considering

some type of law to curtail nuclear power. In Rhode Island and Vermont, for example, state law grants to the legislatures final approval or denial authority for nuclear power plant construction.

These concerns about nuclear energy illustrate several basic questions facing most states, including New Jersey: To what extent will they become dependent on nuclear energy? To what degree is this dependence acceptable? How can we begin to implement viable alternatives? And, can a state control its own destiny in this regard?

Federal Preemption and State Legislation

Federal preemptive authority in the area of energy facility siting differs vastly from one fuel type to another. It is overwhelming in nuclear energy and natural gas, almost non-existent in oil and coal. The proposed SEFA bill does not reflect these distinctions. I assume, therefore, that SEFA is to exercise state authority over all these energy forms, facing the issue of federal pre-emption squarely and accepting a court challenge if necessary. My own research indicates that the state's riparian statutes provide a strong basis for challenging federal authority even in the area of nuclear energy, where the Atomic Energy Act tends to override even traditional state authority over land use.

The federal preemption issue must be sidestepped on occasion if the public at large is to have any hope of meaningful participation in the energy debate, including siting questions. The California referendum item last year -- Proposition 15 -- was almost unintelligible, because its sponsors were attempting to avoid federal preemption. And their choice of language surely cost them many votes. In contrast, the Atlantic County Freeholders

chose to use simple language in the November 1974 referendum item:

> "Do you want a floating nuclear power plant located in the Atlantic Ocean off the coast of Atlantic County?"

Faced with responding to a clear question rather than to verbose confusion, these people voted "No" by a 2:1 margin. I encourage your use of such language in these various energy siting bills, especially those related to nuclear energy.

Conclusions

Addressing the overall subject of energy facility siting, we must conclude that development of a state strategy is imperative. This strategy must set out the state's objectives as the basis for implementation of coordinated regulatory actions. Until these goals are made clear, government decision-makers, representatives of the energy companies and members of the general public cannot avoid confusion and uncertainty. In such a situation, otherwise avoidable impacts of undesirable facility siting cannot be escaped.

Development of this state siting strategy requires forceful political leadership, to date notable by its absence in this state. Perhaps all gubernatorial candidates, from both major political parties, can be urged to articulate their views of a preferred state strategy to cope with siting impacts, particularly addressing themselves to the nuclear issue. Each candidate should be asked to state the objectives to be sought and the overall state approach to the energy challenges. Their comments on state override authority v. a balanced siting process would be particularly useful. These are all fundamentally political issues, and the political process is the best forum for such goals to emerge.

STATEMENT

of the

COUNCIL ON ENERGY
New Jersey Business & Industry Association

to the

NEW JERSEY SENATE ENERGY AND ENVIRONMENT COMMITTEE

on

"Nuclear Power and Energy Facility Siting" (Senate Bills 1407, 1494, 1721)

April 5, 1977

Senator Russo, members of the Senate Energy and Environment Committee, my name is David Lloyd. I am here today to present the views of the Council on Energy of the New Jersey Business and Industry Association. The Council is concerned with the energy available to supply the industry and commerce of our State. We welcome the opportunity to present our views on behalf of the 13,000 member companies of NJBIA.

Let me open by quoting from a recent analysis of New Jersey's appeal to business.[1]

> "New Jersey's competitive position for industry requires attention. In the last seven years, New Jersey has lost over 20% of its factory jobs. The State currently accounts for 3.9% of the nation's manufacturing jobs, compared to 4.5% in 1970.
>
> The question facing the State is: 'How shall we attract the business investment needed to CREATE NEW JOBS?'
>
> The answer lies in identifying areas of weakness and areas of strength as perceived by the business decision makers who determine where the new jobs-producing facility will be located, or where existing facilities will be expanded." . . . . . .

Higher energy costs - a competitive weakness - will result in fewer jobs! The three bills before you, in our opinion, will unnecessarily raise the cost of electrical energy. And they will serve to aggravate New Jersey's unemployment problem by hurting not

[1] "A Summary Report: A Program to Strengthen New Jersey's Competitive Position for Business and Industry." The Fantus Company

helping, the economic environment.

The Energy Council is concerned with all forms of energy available to New Jersey business and industry. This winter, we have suffered from shortages of natural gas; our workers suffered with us -- some 50,000 were laid-off at one time or another. Everyone is paying much more for oil. We are keenly aware that it is imported from countries who raise the price to suit their economies, not ours. Coal, once simple to use, is surrounded by rigorous environmental constraints.

Which of these raw forms of energy will the electric utility convert to electricity in the future? Coal may be one answer if we can finally meet our strict environmental codes at a reasonable price. But certainly, we can and do make electricity from nuclear energy. Currently, almost 1/4 of New Jersey's electricity is generated by nuclear plants; in the future, a greater percentage will be nuclear powered. In our opinion, nuclear powered electricity is a strength for New Jersey. We believe its presence will help encourage business to invest here, and to provide jobs for our people.

The premise of Senate Bill S-1494, as we understand it, is that substantial questions remain in the minds of many people concerning the safety and reliability of nuclear power plants. We trust that people will continue to question and to assure themselves that nuclear power is both safe and reliable. We also trust the judgement of some 40 million people in seven states - Arizona, Colorado, Montana, Oregon, Ohio, Washington and California - who considered the questions, and who voted to go forward with nuclear power.

Many of the issues raised here were raised in those seven states. They are national issues, explored by agencies of Federal and State Governments, with extensive coverage by television, radio, newspapers and magazines. After all this exposure of the questions concerning nuclear power, the people through their governments, are determined to proceed. If S-1494 passes, however, New Jersey's approach will be "delay and derate" - hardly an economic stimulant.

S-1721 starts with the same premise - the public's questions - and calls for certain stringent conditions before any nuclear power generating plant is permitted to use New Jersey land. Our own question is "would these stringent conditions benefit the public or would they only hamper the development of future energy supplies?"

The statement accompanying the bill says that S-1721 is modeled after legislation passed in California. Their experience to date has been that the bill is nearly impossible to administer! We suggest that this bill be held pending further review of California'a experience.

Senate Bill 1407 reflects a concept deserving of our support, the "single location permit process....." It sounds like a business-like approach, and in principle could offer help to industry. But the Energy Council is not convinced that this legislation will work.

The bill would create a new agency; it does not eliminate or reduce the involvement of State government agencies now affecting energy policy, such as the Department of Environmental Protection. Thus, this new state agency would be an additional regulatory hurdle for energy producers;

the hoped-for business-like approach will have become just another business obstacle.

The New Jersey Business and Industry Association believes that all potential sources of energy, for both industry and the home, must be developed and made available to New Jersey. Having suffered some of the ill effects of the "energy crisis," we cannot ignore it. We understand that international politics - which we can't control - and federal policies limit our energy options. It is difficult to see why we should impose further limits of our own.

S-1407 should be geared to assist energy suppliers in their efforts to provide economical energy to our factories, businesses and homes. Its provisions should be tied to our economic needs and expectations and to our future development plans. We submit that instead of helping, it will be seen as only making the existing process even more cumbersome.

We respectfully submit that the public interest and more specifically the interests of the 13,000 businesses of the New Jersey Business and Industry Association are not served by the bills before you. Thank you for this opportunity to present our views.

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TESTIMONY
before
SENATE ENERGY AND ENVIRONMENT COMMITTEE
on
on SENATE 1407

Members of the New Jersey Petroleum Council have reviewed provisions of Senate Bill 1407, "The State Energy Facility Agency Act," and have found this measure to be of significant importance to the state's petroleum industry and its future energy supply outlook.

Although the bill has laudable objectives, we believe that a law of this type as proposed would be counter-productive and should not be enacted.

As a basic objection, we feel the legislation proposed fails to recognize the regional aspects of energy development and of interstate commerce considerations. Because energy development is regional or national in scope, it is inappropriate to undertake this planning on a state basis.

Among our more specific objections, we do not believe a 25-year Energy Facilities Plan requirement is either practical or meaningful. At the present time petroleum companies find it virtually impossible to plan forward on facilities for a period longer than five years. Even that period is difficult because of governmental and other uncertainties. Under the planning dynamics of the petroleum industry, a refinery, mine, exploratory program, petrochemical complex, etc., cannot be realistically targeted without knowing market conditions, construction costs, raw material availability, regulatory requirements, and so forth.

The detailing of future plans also poses problems of confidentiality and trade secrets. The revealing of plans to outside sources would be anti-competitive in nature. It would restrict the flexibility necessary to make proper business decisions.

Since much of the state's interest in energy facility siting apparently stems from the possibility of offshore energy production, it also should be noted that companies in the energy business find it impossible as of now to know their requirements themselves, let alone tell them to others. First it must be determined what the size of offshore discoveries may be, where they will be located and where and by what method they can be brought ashore. Until these facts are known, which could be years in the future, a planning scenario is clearly impractical.

We also strongly object to the concept of establishing "Energy Parks" wherein energy facilities would be clustered. This concept would be erroneous in the case of refineries and other facilities which require easy access to water and to their own existing distribution systems. The state by requiring such clustering of energy facilities would be putting all its eggs into one basket. It would be wiser to seek dispersion of such facilities for better security, local acceptance and other reasons.

There are other objections, as well:

The definition in the bill of "energy-related industry" could very easily be interpreted to include almost any firm or company which

does business with the oil industry. Does this mean that a trucking company, for example, that did not identify itself as an "energy-related industry" is precluded from doing business with the oil industry, or if it does do business with the oil industry, is it in violation of the law? Can the law be interpreted to mean that every business which does business with energy companies must submit long-range plans?

In general, we of the petroleum industry do not feel that the adoption of S-1407 would be helpful in expediting action to improve the state's energy picture. If anything we believe the creation of a new agency would add to bureaucratic red tape, rather than lessen it. We suggest that the bill be set aside pending review of a Federal energy policy which is expected to be announced in the near future. We also suggest that a more sensible action for now would be the establishment of tighter time limits for approval of energy permits. Recently the state has required permit answers within 90 days for other than energy industries. Extending such a limit to energy facilities would be extremely helpful.

Thank you for your consideration of these comments. We stand ready to assist the Committee in its attempt to improve the permit approval process for construction of energy facilities. Such a step would be clearly in the public interest.

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SUBJECT : STATEMENT RE: S-1721/S-1494

TO : CHAIRMAN, SENATE ENERGY AND ENVIRONMENTAL COMMITTEE, STATE OF NEW JERSEY, TRENTON, NEW JERSEY

FROM : PAUL PULITZER

DATED : APRIL 5, 1977

AT : PUBLIC HEARING (NUCLEAR POWER LEGISLATION) ON S-1721/S-1494 AT ATLANTIC CITY, NEW JERSEY

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1. My name is Paul Pulitzer. A citizen of the United States of America and a resident of the State of New Jersey, I am the Director of the Office of Public Information and Affairs of the American Society for Environmental Education and my organization's accredited delegate to the United Nations Organization in general and to the United Nations Environment Programme in particular.

1A. I am submitting this statement as a concerned citizen and resident of the State of New Jersey, who is unalterably opposed to the so-called "NUCLEAR REASSESSMENT ACT" as written and implacably opposed to its obvious intent on the grounds that, its passage into law, would enhance neither a practical solution to our state's energy crisis, the preservation and protection of our human environment, nor the uplifting of our quality of life.

1B. In submitting my statement, I owe no allegiance of any kind to any vested interest, whether organizational, corporate, or otherwise, and I am offering it solely in the best interests, welfare, and se - curity of the State of New Jersey and its residents.

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2. Because the motivation behind my personal statement in the important matter under discussion at this public hearing today may be subjected to question by those opposed to any compromise on the question of environmental purism, it merits explanation.

Ever since I attended the United Nations Conference on the Human Environment held in Stockholm, Sweden, several years ago, I have been an advocate of the principles and recommendations adopted by the delegates to this international meeting of concerned governments and subsequently endorsed by the world's family of nations, including our own country whose government subscribed to a commitment of $100,000,000 to help underwrite the cost of establishing the United Nations Environment Programme. These principles and recommendations incorporated the concept of maintaining an equal balance between the world's need for economic stability and its need for a liveable human environment in order to assure domestic stability and tranquility. Of course, the advocates of environmental purism refused to accept or to abide by these principles and recommendations and, as a result of the lobbying efforts of this vigorous minority here, in the United States, our government, with good intentions, adopted measures to bring environmental pollution under control that proved inimical to our economic best interests, while impacting significant progress in improving the state of the human environment. As a matter of fact, despite the millions of dollars spent so far in our efforts to improve the quality of life in America, and in spite of the new technologies developed to expedite abatement processes, the air we breathe, the water we drink, and the food we eat can still kill us.

In the presidential message of transmission to the Congress affixed to the "Seventh Annual Report of the Council on Environmental Quality (1976)", for example, former President, Gerald R. Ford, wrote: "..... Since the adoption of the National Environmental Policy Act (1969), Americans have made measurable progress in safeguarding, nurturing, and redeeming our natural heritage. Many other countries have joined in recognizing that misuse and irresponsible exploitation of the globe threatens the well-being of humanity. Yet, progress has been neither even nor universal...."

A study of the contents of this governmental report, which was prepared under the chairmanship of Russell W. Peterson, reveals that, for the first time, the failure of imbalanced, cost-benefitless environmentalism is admitted and as follows: "We have not yet attained", the report concludes, "the primary standards in many regions and the energy shortage and the recession have increased the concern that we are attempting to do too much too fast....." I submit that S-1721/S-1494 is perpetuating this error in practical judgment.

The root cause of our failure to achieve significant progress in improving the state of our human environment, I believe, is the kind of environmental radicalism which distorts the truth with suppositions to stimulate a climate of unreasonable fear in order to impose its will upon the majority through the "Politics of Ecology". This is wrong. This is self-defeating from an environmental point of view and it is against our best interests, welfare, and security. This, then, is the sole reason why I have been motivated to make this statement and in the hope that, what I

have to say about the matter being discussed today, will receive equal consideration with opinions in opposition.

3. Before proceeding, however, permit me to make it crystal clear that I lay no claim to being either an environmental scientist or academician, an atomic scientist or physicist, or a qualified expert on nuclear power plant operations. I do, however, lay claim to being able to read coherent English and to digest the substance of what I read and that, like most of the concerned people appearing at this public hearing today and like most of those expressing their personal opinions for the record, I, too, have read, studied, and digested a great deal of the vast amount of information published on the pros and cons of the super-sensitive, nuclear power plant issue. In this endeavor, I have tried to relate what I had been able to learn to the best interests, welfare, and security of our country and to the best interests, welfare, and security of the State of New Jersey. To be sure, I did, indeed, include the Atlantic City area in this learning experience.

4. Obviously ignoring the fact that public health and safety has already been endangered by the fallout from environmental contamination not attributable to nuclear power plant operations, the organized opposition to the employment of such facilities, as one of several ways and means available to help resolve the energy crisis for the short-term and to help achieve energy independence for the long-term, has repeatedly voiced what appears to be on the surface credible, and thus acceptable, reasons for their militant position and these arguments are a matter of public record. On the other hand, the

advocates of nuclear power plants, including such facilities as the proposed Atlantic Generating Station, have also registered their opinions. And, these, too, are a matter of public record. Consequently, to repeat these for-and-against arguments would be a wasteful exercise in rhetorical redundancy. Particularly, in view of the fact that, for each and every pro-nuclear opinion there is an anti-nuclear rebuttal and vice-versa. Unfortunately, this has created a situation whereby the nuclear power plant issue at this point in time remains in a smoldering state of stalemate, while the burning question of a critical shortage in energy has yet to be hosed down to defuse the socio-economic and environmental pressures exerted upon those of us who can least afford such luxuries - which includes most of the residents of the State of New Jersey and the vast majority of the American people. I submit that this intolerable state of affairs represents a dis-service to the best interests, welfare, and security of our state and of our nation as a whole.

5. I further suggest that, while their expressed concern for public health and safety may be commendable, those who are organized in militant oppo - sition to nuclear power plant operations here, in the State of New Jersey in general and anywhere in the vicinity of Atlantic City in particular, have based their arguments upon suppositions of catastrophic disasters and not upon hard evidence substantiating such claims. And, I also submit that those, who advocate the utilization of nuclear power plants, have based their rebuttals upon hard evidence attributable to the past performance records of existing facilities, including references to incidences of so-called "accidents" in some installations.

6. What I consider to be a remarkable phenomenon, indeed, is the fact that, while those who are adamantly opposed to the utilization of nuclear power plants, most of whom have never had any practical experience in such operations and most of whom have no academic credentials as nuclear physicists or scientists, have enjoyed more than a fair hearing in the press, over the radio, and on TV, the advocates of nuclear power plants, most of whom do qualify as experts in their fields, have yet to enjoy the same privilege. In view of the high stakes being jeopardized by this kind of censorship, I find it not unreasonable to believe that such tactics are not only unfair, but a miscarriage of justice. I further suggest that, judging by the contents of S-1721/S-1494, this one-sided approach is being extended in the sense that the so-called Nuclear Reassessment Act presumes to underwrite the arguments of the anti-nuclear elements while placing the pro-nuclear advocates upon the defensive. It is not unreasonable to believe, therefore, that S-1721/S-1494, while professing to be concerned with public health and safety, has been deliberately designed to attain a specific objective, regardless of arguments to the contrary. Personally, I find this strategy objectionable and unacceptable.

7. Whether we like it or not, we must admit that, from an environmental protection and humanitarian point of view, we Americans and Jerseyans, as well as all of the other peoples inhabiting our planet, would have much less to worry about today had we not opted to research, develop, and blueprint the introduction of the Nuclear Age on the stages of Nagasaki and Hiroshima. We not only applauded these deadly orchestrations, but were an enthusiastic party to them and most of us, at that time, accepted the idea of living with what we created. From a balanced, cost-

benefit point of view, therefore, our present concern for the public interest dictates that, because we are responsible for the emergence of nuclear technology and its subsequent profitable exportation abroad, and have more or less accepted the calculated risk of employing it for national defense and for the generation of electrical power, at least up to the present date, we have no other recourse, under the present circumstances of an economic-energy emergency in our country, but to honor and to live with the awesome responsibilities we have assumed. It is far too late now to risk banning that which we have created and on the questionable grounds that it now poses a lethal threat to planetary and human survival. Particularly, in view of the fact that we no longer possess the exclusive franchise for the nuclear technology we had developed and employed to end World War II and those nations, to whom we sold franchises to afterwards, are not about to invite national suicide or bankruptcy by refraining from utilizing it for defensive, aggressive, or peaceful purposes because of sincere concern for the state of the human environment. Under these lamentable conditions, we simply cannot afford to unilaterally outlaw the utilization of our own nuclear capabilities either by state fiat or by national policy.

8. I suggest that S-1721/S-1494, as well as the people supporting this bill, expect to assure public health and safety by demanding guarantees of a safe energy conversion process on a large scale. But, this expectation does not take into consideration the fact that there is no such thing as a fail-safe source of energy and that there cannot be such assurances until and unless

we research and develop more exotic alternatives to present-day technological capabilities. Because such research and development will require a great deal of time and vast amounts of money, which happen to be commodities in very short supply today, it stands to reason that, for the short-term, we are stuck with the absolute need to increase the domestic production of oil, petroleum products, natural gas, coal, and electricity produced by nuclear power. This increase, of course, must be accomplished under effective environmental con - trols.

Energy, in essence, is the capacity for doing work and, as long as man is fallible, there is always the possibility that it will do the wrong kind of work. To ask for or demand absolutely safe energy and to expect such assurances by means of legislation, therefore, is much the same thing as asking for or demanding that energy be generated by incombustible fuel. In this sense, I believe, S-1721/S-1494 is demanding the absolutely impossible and it is not unreasonable to assume that its authors are aware of this impossibility.

9. I do not claim, however, that nuclear power is fail-safe. But, I do suggest that, based upon the past performance records of operating nuclear power plants, nuclear power is safer, either from an environmental point of view or otherwise, than any other form of large-scale energy conversion yet invented. I also submit that these nuclear power plants around the country have been operating under the most rigid safety controls imaginable and that, in fact, these controls exceed in rigidity any of the controls imposed upon other sources of energy. I further submit that, while it is true that accidents have occurred

in some facilities, it is also true that the built-in safety systems worked, widespread publicity to the contrary not withstanding.

10. At this point in my statement, I would like to refer to several suppositions repeatedly voiced every time the nuclear power plant issue surfaces as a matter of debate, and by individuals fearful of nuclear power.

Some people really believe, or have been led to believe, that a nuclear power plant can explode like an atom bomb. The truth of the matter is that such an explosion is physically impossible with the type of uranium used to fuel reactors.

Other people really believe, or have been led to believe, that living anywhere near a nuclear power plant exposes them to lethal radiation. The truth of the matter is that every one of us is exposed daily to more radiation from sources other than nuclear power plants and that, of the total amount of radiation we are exposed to daily or periodically, that attributable to nuclear power plants is by far the least. For example: from natural background radiation sources, we are exposed to 35 millirems a year from cosmic rays; 5 millirems from the air we breathe; 34 millirems from building materials used in our homes; 25 millirems from the food we eat; and 11 millirems from the ground. From man-made sources of radiation, we are exposed to 5 millirems every time we take a coast-to-coast jet flight; $\frac{1}{4}$ millirem from color television; 50 millirems from only one chest x-ray; and, from living within a 50-mile radius of a nuclear power plant, we are exposed to about 0.01 millirems a year, which is so small as to be irrevelent.

I suggest that, in view of the irrefutable facts mentioned, it would be far more constructive, from an environmental point of view in particular, if those of us, who profess to be so concerned over the state of the human environment, and who profess to be so concerned over public health and safety, would devote some of the time dissipated by anti-nuclear power activism to other areas of far greater danger to public health and safety than nuclear power plants and such as the contamination of the air we breathe, the water we drink, and the food we eat by sources other than nuclear. I submit that it was astonishing, indeed, to witness the prevailing quietude when, as a direct result of nuclear testing in Red China, some of the lethal fallout therefrom paid a visit to our shores and to our land, contaminating en - route our air, our water, and our soil.

11. I submit that, perhaps, the senatorial authors of S-1721/1494, who merit applause for their sincere concern for public health and safety, were unduly influenced in their prior deliberations over methodology by the suppositions promulgated as positive facts by the opponents of nuclear power plants and, consequently, did not take into serious consideration the counter-arguments posed by the other side to the question. I further submit that, perhaps, the said senatorial authors of S-1721/S-1494 remain unaware of what was said at the recent Second Annual Energy and Conservation Conference and Exposition and which is as follows:

1. New Jersey and other industrialized states will experience crippling shortages of electricity by the early 1980s unless new nuclear or coal power plants are built soon.

2. Projected energy shortages will lead to increased unemployment, inflation, social instability, and major economic disruptions that will threaten the institutions of freedom and set the state for totalitarianism.

3. The Carter Administration's plan to scrap the nuclear fast breeder reactor program could result in dire social and economic consequences for the United States.

4. If the federal government does not support the nuclear efforts, we could start seeing electrical shortages by 1979 or 1980.

5. France and other countries, with no fuel resources, will develop the breeder reactor, which produces more nuclear fuel than it consumes in the process of generating electricity and the United States may be making a grave mistake by scaling down nuclear power at a time when the benefits are just beginning to be felt.

6. New Jersey's energy needs will increase 40% by 1990 and action must be taken now to ensure the state's economy is not weakened by constant energy shortages. The natural gas crisis of January and February (1977) resulted in 50,000 layoffs throughout the state, and a loss of $15,000,000 in wages, revenues, and unemployment benefits.

For the reasons mentioned, I further suggest that, because S-1721/S-1494 does not reflect any concern whatsoever with the opinions of experts, it was designed to favor the anti-nuclear elements only. And, because

such prejudice is obvious in the slant and contents of the Nuclear Re - assessment Act proposed, it is suggested that its authors withdraw it for further consideration. Moreover, I suggest that, if this public hearing is supposed to be meaningful in any way, the total input should be considered as the basis for such additional consideration, and not just that segment of it that endorses S-1721/S-1494 as it now stands.

12. I suggest that, as far as the nuclear power plant issue may be con - cerned, a great deal of bias exists in favor of the suppositions voiced by those who oppose the employment of nuclear power as a means to an end. However, I do admit that this is understandable in view of the fact that, whether factual or otherwise, the charges of the anti-nuclearists attract almost instantaneous publicity, while the rebuttals of the pro-nuclearists are either ignored, ridiculed, or simply brushed aside. How this unfairness shapes up in actual practice, is not too difficult to illustrate.

13. Those who are militantly opposed to nuclear power plants assert that their allegations enjoy the endorsement of many scientists and, to some degree, this claim is true. However, a close study of the qualifications of these many scientists reveals that most of them are not nuclear physicists or scientists and that few, if any, of them ever had any practical experience in nuclear power operations. Yet, what these "many scientists" had to say about the dangers of nuclear power plants, has been reported nationwide under banner headlines.

On the other side of the coin, those who advocate the employment of nuclear power plants also claim to have endorsements from thousands of scientists and engineers, many of them pre-eminent in the field of nu - clear physics and the like. For example: in February, 1975, thirty-three outstanding scientists signed a statement in support of nuclear energy, among them such Nobel Prize winners in physics as Dr. Alvarez; Dr. Bardeen; Dr. Bethe; Dr. Block; Dr. Purcell; Dr. Rabi; and Dr. Wigner, all of whom have had practical experience with nuclear power plant operations and some of them, like Dr. Bethe and Dr. Wigner, for example, are among the original developers of nuclear reactors. Nevertheless, the voice of these experts has been buried under a blanket of silence.

The following have also endorsed nuclear power: the American Nuclear Society; the 18,000-member Power Engineering Society; the 170,000-member Institute of Electrical and Electronics Engineers; the 69,000-member Society of Professional Engineers; the 39,000-member American Institute of Chemical Engineers; the 3,400-member Health Physics Society; and many other professional organizations. Nevertheless, the voice of these groups has been buried under a blanket of silence.

On the second anniversary of the Arab oil embargo, for example, 25,000 scientists and engineers signed a "Declaration of Energy Independence" urging increased use of nuclear power and coal and presented their petition in the White House in 1975. Nevertheless, the voice of these experts has been buried under a blanket of silence.

14. I submit that those who advocate the utilization of nuclear power, including those among them who possess impeccable credentials as experts in the field of nucleonics, have been treated with arrogance and with unconscionable disrespect by those who have no expertise at all in this area. I further submit that, those who have no expertise in the field of nucleonics or nuclear energy, have compounded their arrogance and unconscionable disrespect by charging the knowledgeable with a conflict of interest and demanding that such experts should disqualify themselves for two reasons: 1) - the matter is not a technical issue, but a moral one; and 2) - the experts have a career at stake, therefore their judgment is clouded with monetary interest. This kind of attitude is not only asinine, but positively ridiculous. It also exemplifies why it is that the nuclear power plant issue continues to remain as a stalemated debate detrimental to the best interests of the nation as a whole. Therefore, it is not unreasonable to assume that, what we Americans have to fear is not nuclear power plants per se, but a tyranny of a minority.

15. I submit that the root cause, or the nitty-gritty, of what the debate over the nuclear power plant issue is all about has been completely overlooked in the heat of battle. The root cause, or nitty-gritty, of course, is economic stability fueled by a free-flow of sufficient low-cost energy to meet increasing demands. Now, what this boils down to is this: either we stop fooling around and unplug the bottleneck, or we will certainly have much worse to worry about than public health and safety or nuclear power plants.

16. Because energy shortages has led to and will lead to even more unemployment, inflation, social instability, and major economic disruptions that will threaten the institutions of freedom and set the stage for possible totalitarianism, unless we do something constructive about the problem now, I submit that, along with other possible solutions and available alternatives, including forced-conservation, we must accept the calculated risk of utilizing nuclear power as only one of the ways and means to help check and reduce our increasing dependency upon high-cost imports from unreliable sources abroad .....a dependency, by the way, that is undermining our national best interests, welfare, and security through drainage of our economic substance, the ignition and sustainance of double-digit inflation, and the kindling of widespread unemployment. Of course, some of those who are opposed to nuclear power at all costs, continue to act up as if they could not care less what happens to the rest of the country and all of the American people, just as long as they can have their own way. It is not unreasonable to assume, therefore, that such selfishness cannot be equated with sincere concern for the state of the human environment or for public health and safety.

17. I further suggest that our capabilities to cope with the problem of environmental degradation are dependent upon and inter-related with the state of our national and state economy and that, as both of these economies are presently unstable because of the gap between domestic supply of energy and demand, there is no more urgent problem confronting the nation, as well as all New Jerseyans, than finding immediate ways and means to resolve the energy crisis without adversely impacting what is already a contaminated human environment. In my opinion, one of these ways and means is the employment of nuclear power for the short-term.

18. I submit that the senatorial authors of S-1721/S-1494 were either unaware of or deliberately ignored the contribution made by nuclear power plants in New Jersey during the year 1976, judging by the one-sided approach reflected by the contents of their proposal. Last year, for example, 24% of the electricity consumed in the State of New Jersey was produced by nuclear power. This production rate reduced oil consumption by more than 790,000,000 gallons; saved 38% of the total residual oil consumed during previous years; and saved $204,800,000, which, otherwise, would have been siphoned out of the state's economy. Yet, in spite of this promising achievement, and even though an increase in nuclear power production capabilities would either double or triple savings, S-1721/S-1494 has been proposed which, while purporting to be an act designed to guarantee the safety of nuclear power plants on behalf of public health and safety, in reality provides for an immediate moratorium on nuclear power plant construction and, within one year after enactment into law, provides for the de-rating of already existing facilities. I consider the thinking behind this inexplicable under the circumstances and suggest that it seems to reflect the efforts of a vigorous minority to impose their will upon the majority without regard to the costs involved, and, perhaps, for reasons not really connected with public health and safety.

19. In effect, I suggest that the so-called "Nuclear Reassessment Act" imposes an immediate moratorium upon the construction of nuclear power facilities in the State of New Jersey for four years unless five conditions are met. These five conditions are as follows:

1. That the legal owners of nuclear fission power plants can guarantee that those suffering personal injury, property damage, or other economic loss as a result of the escape or diversion of radioactivity from their plants will be fully compensated.

This condition demands adequate insurance coverage, but does not spell out what guideline is to be used to determine what is "adequate" or what can be considered "fully compensated". Price-Anderson coverage amounts to $560,000,000, which is considered adequate. But, if the Rasmussen Report definition of "maximum feasible losses" is to be used as a guideline for the determination of adequate compensation, compliance with this condition would be impossible and for the simple reason that insurance coverage in the amount of $14-billion would be required, which is an amount no underwriter, or consortium of underwriters, would ever agree to endorse. Be this as it may, however, I am left with the impression that this condition was inserted into S-1721/S-1494 with the aforethought, on the part of the authors of the Nuclear Reassessment Act, that it would be impossible to meet it. If this is so, I suggest that, perhaps, the senatorial authors did not take into serious consideration some realities of the Nuclear Age we are all living through today. Some of these are as follows:

A. In the event of radioactive fallout from nuclear testings or nuclear accidents abroad, or anywhere in the United States, should contaminate Atlantic City, for example, what guarantees of compensation are there? If none, and there is none, how come no demand for such guarantees are made upon the federal government?

B. In the event of an accident aboard one of our own nuclear-powered, naval vessels off the coast of Atlantic City, for example, what guarantees of compensation are there? Or, let us assume that one of our atom bomb-carrying SAC planes should crash somewhere in Atlantic County, what guarantees of compensation are there?

C. In the event our international relationships should erupt into a thermonuclear holocaust, or if we should be victimized by a thermo-nuclear first-strike, for example, what guarantees of compensation are there?

D. In spite of the many hundreds of millions of dollars spent, since 1970, to bring pollution under control, and despite all of the crash programs implemented to achieve it, the air we breathe, the water we drink, and the food we eat can still kill us. How come, then, that the same people who are so concerned with public health and safety that they are demanding guarantees of compensation in the event they may be harmed in any way by imagined radioactive fallout from a nuclear power plant accident have refrained from asking for compensation for human contamination attributable to air, water, and food?

I therefore cannot help suggesting that, if this condition is to be considered valid and fair, equal demand for compensation should be made upon our state and federal governments in the event our health and well-being should be impaired by pollutants generated by any and all sources of contamination.

2. That nuclear power generation is proven to be the best means of meeting future energy demands.

I submit that the matter under discussion has no bearing whatsoever on "best means" or on "meeting future energy demands". It has not been claimed at all that nuclear power generation is the "best means of meeting future energy demands", but that, in combination with other readily available sources of domestic supply, it could help to bridge the gap between domestic supply and demand for the short-term, while helping to provide the kind of economic stability and time needed to research and develop other alternatives for the long-term. In short, the energy crisis is today and not awaited tomorrow. So is the economic emergency caused by it and which demands action right now, even if calculated risks must be assumed.

Because there has been so much ballyhoo about Solar Energy lately as the "best means of meeting future energy demands", I believe that, at this point in my statement, something about this exotic alternative should be clarified. First of all, it cannot be denied that solar energy is the wave of the future, but it is equally true that it is going to take time before it will be ready for widespread commercial use at reasonable cost to the consumer. Secondly, it must be understood and appreciated that, when we are talking about solar energy we are talking about heating, and that, when we are talking about nuclear power, we are talking about electricity. Thirdly, it must be understood and appreciated that electricity cannot be generated by solar energy alone. Fourthly, it must be understood and appreciated that, last year (1976), only 1% of the electricity generated by nuclear power in the State of New Jersey was used for heating homes, factories, or public buildings. And, last but not least, it must be understood and appreciated that nuclear power plants produced 10% of our nationwide energy needs last year (electricity) and that, if more are built, this percentage could approximate about 25%.

3. That evacuation plans in the event of an accident or threatened accident are deemed sufficient to protect life and public order.

I believe that evacuation plans should not be the sole responsibility of the "legal owners of nuclear fission power plants". Such plans should be formulated, blueprinted, and implemented when necessary by a consortium of local Civil Defense authorities, the utilities involved, local police and fire department officials, local hospital and first aid units, national guard units, and, of course, state and federal Civil Defense agencies. But, again, the following question begs to be asked: what evacuation plans, if any, have been prepared for instantaneous implementation, either by municipal, county, state, or

federal authorities in the event of a catastrophe attributable to natural or other causes than nuclear? And, if there may be such evacuation plans, do they also guarantee to protect life and public order? Do they provide for compen - sation? To the best of my knowledge and belief, there are none and this is confirmed by the following item:

During a recent interview, Dr. Eugene P. Wigner of Princeton University, a Nobel Prize winning physicist and one of the fathers of the nuclear reactor, had this to say about the state of our national Civil Defense system:

"We have no definite plans for evacuating our cities in response to a Russian evacuation. We have no - what I call - counter-evacuation plans that are valid. In the present situation, the population loss the Russian missiles could inflict is about 45%. If we had an evacuation plan, or as I call it, a counter-plan, this 45% would be reduced to about 11% at a ridiculously low cost - a couple of dollars per person. If we had a good shelter system similar to that which the Chinese can afford, the loss would be 5½%, which is quite similar to the 4% which we could inflict to the Russians. So that would be a real defense."

Now, then, I submit that one cannot help wondering how the authors of S-1721/S-1494 can reconcile their demand for evacuation plans in the event of an accident at a nuclear power plant with their failure to demand the same from our state and federal governments?

4. That the safety systems built into nuclear facilities are demonstrated to be effective.

In all fairness to the senatorial authors of this condition, I cannot see how it can be met short of building a new plant and then trying to blow it up or trying to orchestrate an accident. I submit that the only way this condition can be met is if the past performance records of existing plants are acceptable for determination and which would prove, beyond a shadow of a doubt that, despite some accidents that were sensationalized in the press, over the radio, and on TV at the time, the built-in series of safety systems worked. Moreover, the past performance records should prove that, during more than a 20-year period, over 54 nuclear power plants in operation, with over 1,000 reactor years of experience, have yet to suffer reactor-related casualties. In addition, the records should show that, contrary to what may be repeatedly alleged, it has yet to be proven that nuclear power facilities are hazardous to the state of the human environment or that they contribute towards environmental degradation.

5. That radioactive wastes from such plants can be safely transported, stored, and disposed of.

This, again, poses a tricky condition. When even trucks transporting coffee beans seem to be hijacked with impunity, how can anyone pre-determine the fail-safe transportation of radioactive wastes? I suggest, however, that would-be hijackers would have to think twice before tackling radioactive wastes unless they were properly prepared for and expert in handling it. Perhaps, this may explain why it is that, so far, no hijackings have occurred. But, in considering this condition, the following points should be kept in mind: 1) - we can rest assured that federal authorities are well aware of the absolute need to safeguard the truck-transport of radioactive wastes and have, accordingly, intensified security measures while en-route and have, in addition, saw to it that plant security procedures were improved; 2) - last year (1976), to safeguard the transportation of radioactive wastes to federal repositories, the Energy Research and Development Administration built and field-tested the world's most secure truck. This tank-like vehicle is terrorist proof, accident proof, and designed to safely transport uranium, plutonium, and nuclear wastes.

As to the safe storage and disposal of radioactive wastes, a great deal has been said, argued, and published about this thorny aspect of the nuclear power plant issue, both pro and con. So much so, in fact, that the problem has been blown up way out of sensible proportion, and the debate over it accelerated to the point where reason no longer prevails. Because of this, permit me to cover this point with the words of Dr. Petr Beckmann, a former fellow of the Czechoslovakia Academy of Sciences and now connected with the University of Colorado:

"Waste disposal, so often touted as a bogey by the anti-nuclear crusaders, is in fact one of the prime reasons why nuclear power is very much preferable to coal-fired power," Dr. Beckmann wrote, "If all of the US power capacity were nuclear, the total amount of wastes per person per year would amount to one aspirin tablet, and that can easily be disposed of deep in the earth, where it came from in the first place (for Mother Nature keeps 30 - trillion cancer doses of radioactivity in random places under the US). On the other hand, the amount of wastes generated per person per year by coal-fired plants amounts to 320 pounds of ash and other poisons, of which as much as 10% is spewed into the atmosphere, causing thousands of deaths by cancer, and by heart, lung, and other diseases. The poisons produced by nuclear plants will be with us for centuries; but the poisons produced by fossil - burning plants will be with us forever.....

"The much used rhetoric about wastes remaining 'radioactive for thousands of years', while perfectly true, is quite misleading and largely meaningless....Within 10 years, more than 99.9% of the original radioactivity of the wastes disappears by decay, and the majority of the waste products then has a halflife of 30 years. In 1,000 years, the wastes are less radioactive than pitchblende, which contains 60% uranium....

"Apart from a number of highly exotic proposals, which are quite unnecessary, the simplest and evidently most satisfactory is to bury the wastes deep underground, where the chance of them ever being reached by ground water is minimal. The obvious place are salt formations, partly because the salt is evidence that no water has ever been there for at least the last two hundred million years, partly because salt formations are self-sealing in the event of an earthquake. Is it thinkable to make nuclear waste disposable safer than than that?.....

"Yes, it is. British scientists have developed a method of sealing wastes into a highly durable glass, making them fireproof, waterproof, and earthquake proof for many centuries. A similar method of sealing nuclear wastes into glass was announced at the American Chemical Society's Centennial Conference in New York City in April, 1976."

Because "the yes it is - no it ain't" dialogue would even find fault with Dr. Beckmann's opinion of radioactive waste disposal methodology, I am inclined to submit for consideration what the Nuclear Regulatory Commission has said about this subject matter.

According to the NRC, a nuclear power plant produces about a 4-foot cube of waste annually, or equivalent to the size of two garbage cans. These cubes are then transported to and stored in federal repositories in solidified form.

During the first 10 years of storage, over 90% of the radioactivity from these cubes is dissipated and, within 300 years, almost all attributable radioactivity is gone.

These hard truths, of course, contradict Reason Number 5 of the fifteen reasons given by the Friends of the Earth why voters should vote against nuclear power plants in the California Referendum and which reads as follows:

"Nuclear facilities store enormous inventoris of radioactive waste materials. These must stay infallibly isolated from living things for geological- or rather theological - periods up to a hundred million years or so. We have no idea how to guarantee such long-term storage and no idea whether it can be done at all. Proposed ways to shorten the required time have proved impracticable. Recent research suggests that even tiny escapes of such materials as plutonium, neptunium, and americium may be patient and clever enough to reconcentrate themselves greatly in some biological systems, thus defeating their original dilution. What little we know about how these materials behave in the environment is far from reassuring."

The majority of the voters in the State of California, who voted in the California Referendum, of course, opted in favor of utilizing nuclear power to produce electricity and in spite of the "scare tactics" used to induce them to vote differently. But, regardless, the main point being made here, I hope, is that, if radioactive wastes are stored in federal depositories, and not by the utilities involved, it is up to the federal government to satisfy this condition and not the legal owners of nuclear power plants.

20. President Carter is scheduled to reveal his long-awaited, comprehensive energy policy on April 20. From all indications, it is not unreasonable to assume that the nuclear power aspects of his proposal will reflect the findings of the recently released, Ford Foundation-Mitre Corporation study, entitled: "Nuclear Power Issues and Choices". This study recommends major changes in the nuclear policy of the United States, including an indefinite postponement of plutonium reprocessing and the end of the crash program to build a commercial breeder reactor. The panel, in making this negative recommendation on plutonium and on the nation's major nuclear energy research project, stated that it had concluded that THE MOST SERIOUS RISK ASSOCIATED WITH NUCLEAR POWER WAS THAT IT WOULD HELP AN INCREASING NUMBER OF NATIONS ARM THEMSELVES WITH ATOMIC WEAPONS. If this is the final judgment of the experts involved in this study, it can also be argued that the stated reasons for drafting S-1721/S-1494 are no longer applicable and, in fact, are ir - relevent to the issue.

21. In a recent letter to Congressman Tom Harkin (D-Iowa), it was reported, President Carter wrote that "this Administration generally considers nuclear power a low-priority energy source and views the liquid metal fast breeder reactor as a potential security risk." However, James R. Schlesinger, who is President Carter's new Energy Czar, said on March 25, 1977, that, while the Carter Administration was opposed to the development of plutonium fuel systems for nuclear power reactors, it would go along with the construction of additional conventional uranium-fueled reactors. On the basis of these signals, then, it is not unreasonable to predict that President Carter will not call for a ban on nuclear power plants and will indicate that the generation of electricity by conventional facilities is here to stay. Consequently,

if S-1721/S-1494 should ever be passed into law here in the State of New Jersey, we will witness the incredible spectacle of our state, which is one of the most heavily industrialized and densely populated states in the entire United States, going it alone in defiance of federal policy, while other states, with less demands for electrical energy, will be busily constructing new nuclear power plant facilities with the blessing of the federal government.

22. A final example of how the "Politics of Energy" has aided and abetted the confusion existing over the nuclear power plant issue, is how an overlooked reality actually rebutted the findings and recommendations of the recent Ford Foundation-Mitre Corporation report mentioned previously.

According to two officials of the Electric Power Research Institute at Palo Alto, California, for more than four years, in the 1960s, a breeder nuclear-fuel recycling system, in which the fuel remained so radioactive that terrorists could not have stolen it, operated un-noticed in the State of Idaho. Moreover, these officials stated, their Experimental Breeder Reactor II, dissolved spent fuel from nuclear reactors completely!

23. Because of the nature of previous public hearings held in Atlantic City, it is not unreasonable to assume that the real, but undeclared, objective of S-1721/S-1494 is to block the construction of the floating, Atlantic Generating Station off the coast of Atlantic City proposed by the Public Service Electric and Gas Company, Jersey Central Power & Light Company, and the Atlantic Electric Company, and under the assumption that such a facility

would adversely effect the rehabilitation of Atlantic City expected through legalized, casino gambling. Of course, the examples of Reno and Las Vegas, Nevada, bears irrefutable witness to the fact that such fears are unjustified.

24. In conclusion, I submit that, what appears to me to be an inexplicable incongruity in S-1721/S-1494, and strictly from an environmental point of view, is how the senatorial authors of the Nuclear Reassessment Act can reconcile their expressed concern for public health and safety with their acceptance of casino gambling, which has contaminated more people with moral pollution than all of the nuclear power plants in the world combined have ever afflicted with radioactive contamination.

Respectfully yours,

Paul Pulitzer

ACTION NEW JERSEY ALLIANCE FOR ACTION

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NEW JERSEY ALLIANCE

FOR

ACTION

ELLIS S. VIESER, MANAGER DIRECTOR

TO THE

NEW JERSEY SENATE ENERGY AND ENVIRONMENT

COMMITTEE

April 5, 1977

The New Jersey Alliance for Action (AFA) is a conglomerate of sixty (60) labor, business and professional organizations whose main function is to create jobs and restore the economic base of the State of New Jersey.

The three (3) bills under consideration are of great concern to the Alliance. The passage of any one of them could ultimately lead to energy shortages and undobtedly would result in higher energy costs. This in turn would have a drastic effect on the New Jersey economy which is already suffering from a continuing exodus of industry and a high unemployment rate.

In the case of S-1407, the one stop siting bill, the concept is laudable. It truly would be beneficial to the development of energy related facilities to see the process of licensing and construction expedited.

In this particular bill, however, there seems to be considerable potential for substantial additional delay.

To streamline the process, a greater focus should be placed on trying to environmentally qualify and predesignate acceptable energy-related sites in advance of construction. This would then lead to fewer ultimate rejections of construction applications and could eliminate the need to exhaustively study alternate sites for an energy proposal.

Regarding Senate bills 1721 and 1494, we feel strongly that they are measures that are unnecessary in order to adequately protect the public health and safety of the citizens of this State.

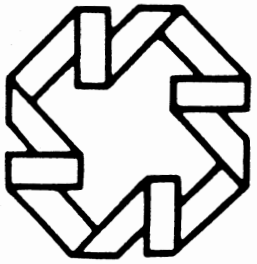
In contrast to many other recent technological developments ranging from aerosol cans and pesticides to the SST, nuclear power was subjected to extensive safety and environmental evalution before its commercial introduction twenty (20) years ago, and is probably already the most carefully scrutinized regulated technology in the United States today.

To add another layer of review by a legislature not really prepared to rule on technologically complex issues, like disposal of radioactive waste and reprocessing of spent fuel, seems unnecessary.

Since 24% of New Jersey output is already provided by nuclear power and much more is contemplated by 1990, we are concerned about the potential impact of these bills.

At the very least, it would seem construction of new nuclear plants would be delayed. It is possible that existing plants could be shut down. This would in turn lead to ultimate electric power shortages and higher energy prices. When we consider this State already has among the highest electric rates in the nation, it seems foolish to embark on a course that undoubtedly will increase the cost disadvantage of doing business in this State.

For these reasons we respectfully urge that both S-1494 and S-1721 be withdrawn.



naiop

National Association of Industrial and Office Parks

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STATEMENT OF THE

NATIONAL ASSOCIATION OF INDUSTRIAL & OFFICE PARKS

BY

FRANK VISCEGLIA

TO

NEW JERSEY SENATE COMMITTEE ON

ENERGY AND ENVIRONMENT

APRIL 5, 1977

My name is Frank Visceglia, I am President of the National Association of Industrial & Office Parks, and I would like to thank the Commission for the opportunity to appear before it not only as a New Jersey resident and businessman, but also representing an organization that has been and continues to be vitally concerned about the development of our Country's energy resources.

The membership of the National Association of Industrial & Office Parks includes the major developers of industrial, commercial, and office facilities throughout the United States; as well as associate members from related fields such as: banking and insurance, utilities, and real estate. The Association's largest and most active region is here in the New Jersey area.

I would now like to express, very briefly, my own and the Association's reasons for appearing before this Commission. Let me start by saying that we know first-hand the results of shortages: the unavailability of natural gas, the recent crisis within the petroleum industry, the shortages of steel and wood related products, and on and on. These shortages all affect our

ability to do business. However, these are basically material or product shortages; there are others that are equally important. There are the shortages in essential services that result from excessive delays in obtaining approvals for construction or operation of service facilities. This not only applies to electric generating facilities but to sewerage treatment plants, road construction, and so on.

Of all of the shortages that will have an impact on our business, the shortage of electric energy will be the most severe. I might add, also, that the impact on our development business is an impact that is reflected throughout the entire economy of the area. We are constructing industrial parks and office complexes that are absorbing the expansion of the economy and workforce.

We are also not unaware of the overall economic conditions within New Jersey. New Jersey's unemployment rate is over 11% continuing to be well above the national average. We are also aware that New Jersey has lost over 180,000 manufacturing jobs since 1969. It is simply not encouraging to think of what will

happen to the people of New Jersey should they be faced with a severe shortage of electrical energy.

It is obvious that there will be a continuing need for additional electricity in our society, not only for continued economic growth and future jobs, but to help clean up the environment as well. Most people do not realize that just about everything suggested to help clean up the environment requires more electricity; new and improved sewerage treatment systems, mass transit, recycling, water purification. In addition, more than half of all newly patented pollution control devices run on electricity. It is estimated that in the near future about 10 per cent of all electricity used in the country will be for cleaning up pollution or stopping it from happening in the first place.

Since it is essential that more electricity will be needed in the future, it becomes a question of which is the best way to provide it. Since oil and natural gas are very limited and coal has decided adverse environmental impact, it would appear that uranium is the logical choice to help meet

future energy needs. This would also help to conserve our resources of oil and natural gas for other uses.

We are testifying here today because we are strongly opposed to the two nuclear bills under consideration known as S-1494 and S-1721. We feel that these two bills will have the practical effect of ruling out nuclear energy as a viable option in the State of New Jersey. They would not only make it practically impossible to get future nuclear generating stations on line but would also derate existing plants which are presently operational to the point where they would no longer be economic to operate.

It is well known and documented by a number of federal studies that a nuclear plant represents less overall risk to the public in operation than the operation of a coal plant.

Perhaps the following facts about nuclear energy in the State of New Jersey in 1976 will cause you to realize the implications in the above legislation:

1. Nuclear energy provided 24% of the total electric needs in the State of New Jersey in 1976.

2. If that mount of energy had to be produced by oil-fired plants (such as would be the case if existing nuclear plants were derated per S-1494), it would require 790,000,000 gallons of fuel oil.

3. In other words, the use of nuclear energy in the State of New Jersey actually saved 790,000,000 gallons of oil or approximately 38% of the total residual oil used in New Jersey last year.

4. The cost of that replacement oil would be $200,000,000 more than the cost of nuclear, and consumers, your constituents would foot the bill.

Operating statistics from the 60 nuclear plants in operation nationally in 1976 indicate they had an overall cost advantage of 18% over equivalent size coal plants. The cost projection for 1985 indicates nuclear plants will have a 23% overall cost advantage over equivalent size coal plants.

What this all means is that the only hope the consumer has of holding down the cost of future electricity lies with nuclear energy generating stations.

Legislation such as you proposed will have the opposite effect of drastically increasing the cost of electricity to consumers who are your constituents. The passage of these bills will guarantee the penalization of your constituents to the tune of millions of dollars a year. Consequently, the National Association of Industrial and Office Parks is on record as being opposed to the anti-nuclear bills known as S-1494 and S-1721. They are extremely detrimental to the best interst of the State of New Jersey and to its energy consumers. Consequently, we urge that these bills should not be released from Committee.

Thank You.

National Alliance
of
Senior Citizens

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The National Alliance of Senior Citizens

Policy Position

ON

Nuclear Energy

...a rational review

Presented by:

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The National Alliance of Senior Citizens is pleased to send to the State of New Jersey the results of the 1976 National Senior Conference on Energy as they pertained to the subject of Nuclear Energy.

This policy position paper is the product of many hours of deliberation among senior persons at the Conference and in assessing the testimony presented there.

Not only was the National Alliance of Senior Citizens a participant in this event, it also included representatives from environmental groups, business and the public sector.

The Conference was held in North Wildwood, New Jersey on May 16-18, 1976 as the Older Americans Month Bicentennial event of the National Alliance of Senior Citizens. The topic of energy was selected due to its terrible impact upon the nation and particularly on the elderly when in short supply.

While there were participants from nearly every state, the overwhelming majority of the more than 400 persons attending the event were from New Jersey. We are therefore proud to be present to present the work achieved from that most productive meeting.

It is our hope that each person with a decision to make of such importance as the future of nuclear energy in the State of New Jersey will take the time to review this statement with the critical inspection required for such a momentous determination.

The seniors in our society have too long been denied their rightful place in our society as those whose sage advice, earned from years of experience, would be followed, or at the very least, heard.

Thank you for providing us with the opportunity to present this viewpoint.

Nuclear Energy...America's Most Promising Energy Future.

The Select Panel on Nuclear Energy of the 1976 National Invitational Senior Conference on Energy was characterized by widespread contributions from senior citizens and from participating organizations representing government, environmental, business and public interests.

Also adding significantly to the nuclear energy discussions were the addresses by two prominent Members of the United States House of Representatives, Hon. James R. Mann, (D, SC) and William M. Ketchum, (R, CA).

Throughout the hearing, there was consensus that nuclear energy must play a major role in our future production of electricity. The rapid rise in price and diminution of supplies of petroleum, the shortages of natural gas and the serious environmental drawbacks from total dependence on coal leave nuclear as the primary alternative source for the future.

Among these vital questions explored in the nuclear energy panel were safety, waste disposition, regulation, fuel supplies and plant location.

Within the safety discussion, the excellent record of the industry was not questioned. Considerable interest was voiced as to future probabilities with projections ranging from "infinitessimal" to"probable" in the case of a major accident. Responsible voices from all points on the opinion spectrum were raised, but consensus was definitely that the record is reflective of industry concern and dedication to safety as well as regulation by the agencies of government. Such an attitude will assure maximum safe performance in the coming nuclear generation.

It is important to note several safety considerations which were expressed, and must be understood for public acceptance of the realities of nuclear power as well as the need for it. No less an nuclear expert than Dr. Edward Teller contends the obvious that there is no such creation as a fool-proof system, thus requiring never ending efforts to add new levels of "infallibility"

to the present "perfect" system.

This means we must move with deliberate speed to produce nuclear energy with a complementary drive toward commensurate safety means.

Two witnesses offered excellent analogies of the nuclear safety debate which often includes an offhand and absurd reference to the nuclear weapon, which, of course has absolutely nothing to do with peaceful atomic use development. The first stated, "I wonder what would have happened to electricity if the electric chair had preceeded the socially accepted uses?" The second was sounded many times as various individuals suggested the current automobile fatality and casualty figures while wondering if people would now accept a return to horse and buggy transportation?

The constant regulatory vigil by government of the nuclear industry is unequaled in our history, and for obvious reasons, this brand of regulatory action must continue as a highest priority charge of government. Industry does not balk at monitoring, the business-to-regulator cooperation having most successful and mutually rewarding by the lack of harmful accidents.

Waste disposition was shown to be a question which has been effectively resolved by the salt deposit storage program. A true source of valid concern, the worrisome waste problem has been a highly visible drawback to massive nuclear development.

The current stock of nuclear waste would fill only a small room, and is not growing rapidly even though more and more nuclear plants are being completed each year. (There are currently 58 in operation, 69 under various stages of construction, 90 on order and 11 solid prospective orders for a total of 228 plants in the United States with only 450 total worldwide.)

The waste disposition process glassified radioactive wastes to an inert state, encases the product in welded, stainless steel cannisters and buries them in geologically stable salt formations more than 1,000 feet underground. These salt deposits have been stable for 200 million years, and will

be stable for 200 million years more leaving the opportunity for radioactive re-introduction into the above ground environment near zero. Even with the worst possible circumstances, the level would not exceed naturally occurring radiation in our environment.

The single major concern over full nuclear implementation is the availability of adequate fuel sources to sustain as many nuclear plants as the future requires. There are no problems for the current operational plants and those either under construction or planned, (228 total), but assurances are needed to guarantee the effectiveness of the new breeder generation reactors in bright as they are successfully operating in France and the Soviet Union as well as in one plant in the United States. Breeder technology must be fully developed for resupply to other nuclear plants.

The relative cost to the consumer of nuclear generated energy has been much less than fossil fuel energy, and should continue to be much more cost effective into the foreseeable future due to the huge increases in the price of crude oil. The future years will doubtlessly bring a dwindling of nuclear fuel supplies as uranium, and therefore, an increase in the price of imported uranium may be expected to raise the price of nuclear generated energy, but would likely not exceed the cost of oil fired plants due to continued oil price rises and the volume of fuel consumed in the oil plants.

Energy self-sufficiency requires nuclear as the primary alternative source to fossil fuels. Energy prices in America have long been under-inflated as a direct result of our great resource abundance, but cheap energy days are truly gone forever, and we must now secure long range reliability, rejecting "easy" short-term solutions, which will only further impair our position when the hard realities are finally addressed.

A concerted nuclear developmental program requires the exploration of a number of defferent configurations to provide environmentally sound plants consonant with the varying preferences of each impacted community.

In our host state, New Jersey, the identified need for new nuclear siting has been accomplished by the careful planning and locating of a floating plant in the off-shore area of the Atlantic Ocean. This design offers many advantages for under-sea life over the present lack of fish habitat in the area by creating an artificial barrier reef in which this life will flourish.

In keeping with the tone of the conference stressing conservation, supply and environmental protection, the conference strongly supports locating major thermal energy consuming industries in close proximity to nuclear plants. By forming a symbiotic relationship, the needs of both are served.

The wasted thermal energy from the nuclear plant would become the thermal energy consumed by industries requiring high temperatures for product manufacture. This integrated developmental pattern resolves the thermal problem for the environment, and conserves the additional energy otherwise required to produce the high heats for the industrial use.

A false issue has provided an unhappy lack of such cooperative endeavors, and must be put into its proper perspective. The issue is radiation from nuclear plants, and it is false because by regulation, these plants emit virtually no radiation, the actual amount being less than 1/12th of that of the earth itself, and far less than most other naturally occuring radiations. Workers in neighboring plants would experience only normal exposure just as they would from naturally induced radiation.

Both Congressman Mann and Congressman Ketchum called for continued development of nuclear energy. They joined in cautioning the Conference of the dangers to our nation from succumbing to the scare tactics of those who irresponsibly call for a halt to nuclear development.

Responsible environmental and consumer voices were raised in favor of assuring safety and population protection and were persuasive in their calls for eternal vigilance to potential dangers.

With these sage voices advocating their very real need for close monitoring and intense safety cautions, there was a full realization that America must continue to develop her nuclear potential to provide future generations with energy supplies and make a smooth transition from fossil to alternative energy sources.

The conference rejected any moratorium imposition for it would cause a grave delay in our progressive drive toward less dependence on world political conditions and greater reliability in our domestic production of safe, clean and more economical energy.

We must preserve our petroleum and gas resources for other uses, and for the coming generations to the greatest extent possible, and nuclear development offers us the most feasible and least environmentally damaging direction for this lasting determination.

Nuclear Energy is our great hope for the future of our nation as a world leader.

A STATEMENT BEFORE THE

NEW JERSEY SENATE ENERGY

AND ENVIRONMENT COMMITTEE

BY

RICHARD M. WILSON
SENIOR VICE PRESIDENT
ATLANTIC ELECTRIC
APRIL 5th, 1977

CONCERNING:

S-1407 - State Energy Facility Agency Act

S-1494 - Nuclear Reassessment Act

S-1721 - Supplement to S-1407

I am Richard M. Wilson, Senior Vice President of tne Atlantic City Electric Company, which provides electric service to a million people in our 2,700 square-mile service area here in Southern New Jersey.

We welcome the opportunity to comment on Bills S-1407, S-1494 and S-1721. For not only will these bills, as proposed, have a significant impact on our ability to provide adequate electric service; they will also have an impact on the cost of that service, which must ultimately be borne by the consumer.And these consumers tell us every day that electricity is expensive enough.

First, I would like to comment on S-1407, the bill providing for an energy facility siting agency. My remarks here are limited to our evaluation of the bill's impact on the electric utility industry. We will not attempt to evaluate the bill's impact on other energy or energy related facilities, as we do not feel fully qualified to do so.

We at Atlantic Electric are fully aware of the frustrating, time-consuming and costly delays now involved in siting electric energy facilities, and we have had considerable exasperating experience in this area. We also appreciate the bill's sponsors' recognition of these problems and their desire to produce a solution.

As we understand it, the purpose of S-1407 is to establish what is commonly referred to as a "one stop siting agency." We would be delighted with a one stop siting agency, if indeed such an agency could be clearly established. However, we have serious reservations that this bill, as proposed, would produce the desired goal. Instead, it could very well result in simply establishing yet another step for siting approval, and merely add more frustration and delay. This appears to be the experience in some other states that have similar siting laws.

With this bill as proposed, there will undoubtedly be conflict with the requirements of the various Federal agencies, such as the NRC, EPA, FEA, Corps of Engineers, and whatever other agencies may be established in Washington.

Further, any power plant will require a water supply, and much of the water supply in New Jersey is under the jurisdiction of the Delaware River Basin Commission. Here is another area of conflict.

In addition, there appears to us to be conflict within the bill itself. One section of the bill states that the judgment of the Facility Agency shall be conclusive on all questions. Yet another section appears to preserve the provisions of the Wetlands Act and the Coastal Area Review Act, and the authority of the agency that enforces those provisions.

The bill requires the submission of plans for electric energy facilities, including demand forecasts and detailed studies justifying the need for such facilities to the Facility Agency. The agency, after public hearings, can approve or reject

such plans. We consider this to be a usurping of the powers of the Board of Public Utility Commissioners. The statutory responsibility for assuring safe and adequate electric service is still left with that Commission.

We contend that the Public Utility Commission is the most qualified agency to make determinations as to the need of electric energy facilities in New Jersey, and such authority should reside in that Commission. The Public Utility Commission is staffed and equipped to do this and, in fact, is conducting extensive and exhaustive investigations in this area right now.

Investigations into the need for electric energy facilities by yet another agency is a costly and redundant duplication of effort which will only add more frustration, confusion, and excessive cost. This cost, I repeat, must ultimately be borne by the consumer.

In consideration of the limited time available, I have commented on only a few of the provisions of this bill which we find unworkable or unnecessary.

As I mentioned earlier, we would welcome a workable siting bill that would provide a solution to energy facility siting problems. But in our judgment, S-1407 is not a workable bill. It will not produce a solution. Instead, it has abundant potential for creating further problems.

We do not recommend this bill.

I would now like to comment on S-1494 and S-1721 together, for they are similar, and the consequences of enacting either of them will produce similarly drastic results.

At the outset, I must state unequivocally that Atlantic Electric recommends against the passage of these bills.

Indeed, we respectfully suggest that these bills be labeled "The New Jersey Power Shortage and Unemployment Enhancement Act".

I do not intend to be facetious by this remark. We are seriously concerned that the bills' sponsors have not adequately considered the real consequences should these bills become law.

Now we understand, of course, that these bills are proposed in response to the concern about nuclear power plant safety among certain members of the public. To a rather large degree, this has become an emotional issue, and emotional issues are difficult to deal with. But in the real world, we need to look beyond emotions and examine the facts.

The facts are that the Federal Government has established the Nuclear Regulatory Commission and charged it with the responsibility for nuclear safety. In meeting this responsibility, the NRC conducts the most intensive, the most exhaustive and, in our opinion, the most effective investigations into safety. These safety investigations are more intensive, more exhaustive, and more effective than any investigations conducted by any agency on any other facility or project.

The effectiveness of the NRC's activity is evidenced by the record. I believe it has already been mentioned here that in the United States, we have have over 220 reactor years of operation without any adverse effect on the public.

The bills appear to show that the State desires a voice in determination of nuclear power plant safety in New Jersey. But the State already has a voice in the exhaustive NRC proceedings. Among other things, State agencies such as the Department of Environmental Protection and the Department of Law and Public Safety receive environmental impact statements from the NRC for their review and comment. Also, State agencies and public groups can, and usually do, participate in the NRC hearings.

S-1494 proposes yet another safety evaluation, this time by the State of New Jersey. This would be another time-consuming, redundant duplication of effort. And if it is to be done properly, it will be extremely costly. The State of California has recently enacted similar legislation. I suggest you contact them and learn first hand of the problems they are encountering.

These bills essentially mandate a moratorium on nuclear power in the State of New Jersey. S-1494 imposes a moratorium which would be lifted after four years if a finding is made that five conditions are met.

The condition requiring a full-scale demonstration of the emergency core cooling system, is, if not impossible, certainly not feasible for a variety of good reasons.

One of the conditions is full insurance liability. Here we have a conflict with Federal law. I will not attempt to argue the subject of Federal preemption now. It is both a matter of fact and a matter of law, and if it is to be argued (as it surely will), that argument will take place in another forum.

Therefore, one year after the enactment of this bill, we will have a 40% reduction in Atlantic Electric's existing nuclear capacity in New Jersey, and a 10% reduction each year thereafter. The bill demands this if the insurance condition is not met by then. We would also have similar capacity reductions in 80 megawatts of nuclear capacity scheduled for service in 1979. Furthermore, the construction of units scheduled for service in 1984 and 1986 would cease.

In 1975, 16% of our electric energy requirements were supplied by nuclear power from the State of Pennsylvania. This year an additional 10% would be supplied from New Jersey at the Salem Station. Our plans call for providing 41% of our energy requirements from nuclear sources by 1986. We are convinced that of the available viable options for the generation of electric energy, nuclear power is not only the most economical but also the best choice with respect to health and safety. A moratorium could eliminate all except that which flows from Pennsylvania.

Not only would there be a moratorium on our plans for future capacity additions, there would also be a reduction in our existing capacity. Yet, we are faced with a requirement to serve additional loads. We could try to turn to alternate sources to supply these needs. But given Federal restrictions on oil

burning, and proposed limitations on the use of combustion turbines, we have very little confidence in our ability to provide the required replacement capacity from those sources within the time frame involved.

It follows, then, that if you pass these bills, you may have indeed legislated a power shortage in New Jersey.

Inasmuch as these hearings are being held here in Atlantic City, I think it is appropriate for me to comment on the possible impact of a nuclear moratorium in Atlantic City.

The recent passage of the casino gambling referendum gave us all great hope and optimism for the future of Atlantic City. We at Atlantic Electric share in that hope and optimism, and I know these feelings are shared by one or more of the sponsors of these bills. In fact, one of them played a key role in generating our high hopes, and is active in pursuing them.

The hope and optimism is not based on casino gambling alone, but rather on the establishment of new hotels, restaurants, and other facilities. We look forward to restoring the greatness of our City and the realization of its full potential.

But the new hotels, the new restaurants, and the new facilities - the very future of Atlantic City - will require additional amounts of electric power. We at Atlantic City Electric Company are prepared to provide that power. However, if there is to be a moratorium on nuclear facilities and if we are forced to turn to other sources, although we will do our very best, I can give no assurance that we will be able to provide that additional electric power when required to meet Atlantic City's needs. Our feelings of hope and optimism may be changed to ones of anxiety and pessimism.

I suggested earlier that these bills be labeled "The New Jersey Power Shortage and Unemployment Enhancement Act." If we are unable to meet power requirements because of a nuclear moratorium, the people of Atlantic City may

well lable these bills the "Anti-Casino Gambling Act."

Our thanks to the Committee for the opportunity to appear here today. We can fully understand that the Committee has a sincere desire for assurance with respect to the health and safety aspects of the electric energy options available to us. We also believe that the Committee is equally concerned about a continued adequate supply of electric energy for the economic health and welfare of the citizens of this State. We do not believe these two issues are resolved by the imposition of a moratorium.

LEADERSHIP FOUNDATION, INC.

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STATEMENT FOR NUCLEAR HEARINGS
AT ATLANTIC CITY HALL ON
APRIL 5, 1977

LEADERSHIP Foundation is a nonprofit - taxexempt organization. It has no affiliation with any political party or group. It has no axe to grind. We are partisan only to the truth. Our members can be "tagged" only as women who will be recognized as knowing what is going on in this Country of ours and particularly in our great State of New Jersey.

LEADERSHIP'S main objective is to get American women to join together in a campaign for truth and good Government. Our strength is in union and awareness. This awareness is gained through knowledge and information supplied in our publications, communications and our Information, Research, Reference and Book Division Centers. Our pledge is to work toward the elimination of mis-information; and to ferret out the little-known facts which sometimes are issues of great importance to us all.

The ENERGY ISSUE with its far reaching complications, its frustrations, and what appears to be the unnecessary meddling in its progress from Organizations and peoples with only their own interrests in mind, is such an Issue as we speak OF NOW.

Responsible Organizations all recognize the severity of the Energy Shortages we now face in every area of our Country, and we are threatened with greater shortages this coming winter, to say nothing of the laying off of thousands of workers and the subsequent deprivation to their Families.

LEADERSHIP Foundation feels this is no time to bicker over inconsequential problems - and is therefore bitterly opposed to the two Bills now before the Legislature in Trenton, namely S-1494 and S-1721 because they severely inhibit the development of Nuclear Electric Generating Facilities in the State of New Jersey.

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We need to develope all Energy Sources, Coal, Oil, Natural Gas, Nuclear, and Solar - in order to survive in these next 25 years. It would therefor seem not only unwise, but actually stupid and extremely short sighted to harness the developement of any of these Sources - assuming that each and every one of them is developed with the proper safety precautions. Leadership Foundation has already taken a stand in favor of Nuclear Energy, since the State of New Jersey is so densely populated and heavily industrialized, it is extremely difficult to meet the Clean Air Act Amendments of 1970. It is only the nuclear alternative that can provide the future electricity needed without befouling New Jersey's already substandard air quality.

Eleanor Day Winmill