

UNITED STATES OF AMERICA
ATOMIC ENERGY COMMISSION

In the matter of
TOLEDO EDISON CO. and
CLEVELAND ELECTRIC
ILLUMINATING CO.

(Davis-Besse Nuclear
Power Station

12-5-70

Docket No. 50-346

AMENDED PETITION FOR INTERVENTION

The Coalition for Safe Nuclear Power, on its own behalf and on behalf of its members, supporting individuals and organizations, others similarly situated, and the public, hereby petitions the Atomic Energy Commission for leave to intervene in this matter, pursuant to the Commission's Regulations, and in particular, 10 CFR Sec. 2.714.



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A. Identification of Petitioner.

Petitioner is a non-profit association of persons, corporations, groups and associations formed partially for the purpose of this intervention and consisting of, among others, the following:

1. Citizens for Clean Air and Water, Inc.
an environmental group of approximately 400 citizens in the Greater Cleveland Area.
2. United Auto Workers, Cleveland Region
a labor organization representing 50 locals and approximately 55,000 members.
3. Area Councils Association
a group of numerous neighborhood associations in the Greater Cleveland Area representing approximately 20,000 members.
4. Ohio Division of the Isaac Walton League of America, Inc.
5. Consumers League of Ohio
representing 250 members and organizations.
6. Southwest Action Group on Environment (SAGE)
a citizens' organization in Berea, Ohio.
7. Living In a Finer Environment (LIFE)
an organization of students at Bowling Green University.
8. Campaign Against Violence to the Environment (CAVE)
an organization of students and faculty at Bowling Green University.
9. Project Survival
an organization of students at Case Western Reserve University.
10. Committee Opposed to the Pollution of an Environment (COPE)
an organization of students at Cleveland State University.
11. Lake County Citizens Organisation for Clean Air
Lake County, Ohio,

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12. Citizens Opposed to Pollution
Fairport Harbor, Ohio.
13. Citizens for a Safe Environment
Mentor, Ohio.
14. David Gittler, M.D.
Berea, Ohio.
15. Irwin I. Oster, Ph.D.
Professor of Biology and Radiation Genetics,
Bowling Green University, Ohio.
16. Mrs. Helen D. McCue,
Mother, housewife and Chairwoman of
Mothers March on Pollution
North Olmstead, Ohio.
17. Mrs. Karro Kums,
Coordinator of the Academic Council on Environmental
Problems,
Shaker Heights, Ohio.
18. Eugene V. Ferrin, M.D.
Shaker Heights, Ohio.
19. Paul Olynyk, Ph.D.
Professor of Chemistry
Cleveland State University.
20. Samuel Gross, M.D.
Shaker Heights, Ohio.
21. Amasa B. Ford, M.D.
Chagrin Falls, Ohio.
22. Rev. Earl H. Cunningham, Ph.D.
Cleveland, Ohio.
23. George Kuidtz,
Chagrin Falls, Ohio.

In addition, Petitioner includes among its membership persons who reside, own property, work, do business, pay taxes, engage in recreation, in, or visit, the Lake Erie Area, in the immediate vicinity of or within a radius of

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150 miles to the proposed Davis-Besse Nuclear Power Station. Many of Petitioner's membership are customers, and some may be stockholders, of the applicant utilities. Petitioner's membership also includes or may in the future include organizations representing conservation, scientific, academic, sportsmen's, fishermen's, recreational, civic and environmental interests, with a total membership of thousands of people. Petitioner also asserts herein the interests of all other persons similarly situated and of the public in general.

B. Special Interests of Petitioner.

1. The member individuals and organizations of Petitioner have by their past activities and conduct exhibited and now assert a special interest in the protection of the natural resources of the Lake Erie Area and in the conservational, recreational, economic, aesthetic and community impact of nuclear power plant development in the Lake Erie Area and are first and foremost concerned that such nuclear power plants not be built or operated where to do so would be inimical to the health and safety of the public.
2. Petitioner, its members and the public have a personal right to live in and enjoy an environment free from improvident destruction, pollution, or unnecessary radiation, and they have a right to the ownership, use and enjoyment of property free from unnecessary invasion or impairment.
3. All members of the Coalition are interested in the dissemination of information and stimulation of public awareness and involvement in the study of nuclear power. Proceeding from this

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educational base, this petitioner is also pledged and committed to prevent the unsafe and unbridled use of nuclear power particularly when such use does not result from the most efficient accommodation between all available power sources and man and his environment. This petitioner has analyzed and studied, to the extent information has been made available, the proposed Davis-Besse Plant, and is concerned, as set forth in more specific detail below, that the construction and operation of the plant will result in an unsafe and inefficient exercise of the use of atomic energy, will create deleterious and adverse effects which can be avoided, and will result in irretrievable and irreversible commitments of natural and other resources which, considering all of the alternatives and circumstances, including the alleged need for electrical power, would not be advantageous.

4. In addition to its educational and other goals and interests described above, the Coalition is concerned not only with nuclear and radiological safety but also about the siting of a nuclear power plant in a manner which is contrary to reason, logic, the criteria promulgated by the Atomic Energy Commission and the standards of the National Environmental Policy Act.
5. The Coalition's interests will be adversely affected by the issuance of a construction permit for the Davis-Besse Plant as well as the construction of the Proposed Plant because, as

more fully set forth below, the construction of the Davis-Besse Plant will proliferate nuclear power, with all its consequent and attendant dangers, at a time when insufficient information is available to attest to the complete safety of the operation of a nuclear power plant. This lack of information, essentially ignored by utilities and the Atomic Energy Commission, and resulting in a position not necessarily in the public interest or consistent with the protection of the public health and safety, also concerns the Coalition in that nuclear power is being promoted pursuant to insufficient and non-current safety and engineering data, outdated, narrow, incomplete and inadequate standards and criteria concerning radiation releases, and a significant if not total lack of understanding and accommodation to man and his environment.

6. The Coalition is further concerned, as more specifically set forth below, that the life styles, occupations, and investments, both emotional and financial of all members of the Coalition will be threatened by the construction and operation of the proposed plants at Fort Clinton.
7. In addition to the Coalition's concern over the growth and development of the economic and business communities of the greater metropolitan Toledo, Fort Clinton, Cleveland area, the members of the Coalition are also concerned because they live geographically close enough to the proposed Davis-Besse

Plant to be seriously and adversely affected by the radioactive and gaseous effluents which are planned to be emitted from the Davis-Besse Plant during its normal operation. The Coalition is therefore concerned about the possibility or probability of harm and danger to its members as a result of not only unsafe operation of the Proposed Plant but the normal operation of the Proposed Plant as presently defined.

8. The Coalition is concerned that the lifestyles of its members, in a complicated and self-contained metropolitan area, will be drastically changed, adversely, as a result of the Proposed Plant at the proposed site, without such citizens having a voice in the resolution of the controversy.
9. The Coalition members are consumers of food and agricultural products and rely to a large extent upon the natural resources, including sources of drinking water, which lie within the geographic area which would be adversely affected by effluents from the Proposed Plant.
10. Many of the organizational members of the Coalition are affiliated with national bodies, each having many chapters or units, with members residing in states other than Ohio, whose health and life styles will or could be adversely affected. These persons will be affected not only by the consequences of unsafe operation of the Davis-Besse Plant, but also by the fact that wastes and effluents generated by and emitted from the Proposed

Plant are to be transmitted and shipped from the Davis-Besse Plant to other parts of the country. Moreover, in normal operation of the plant, such wastes and effluents will also be emitted generally into the ecosystem; and, by virtue of the forces of nature, such wastes will be transmitted to all parts of the country directly and indirectly through products of all kinds which are produced in whole or in part in the Toledo, Port Clinton, Cleveland area.

11. The Coalition is also concerned with the continuation of quality fishing, swimming, boating and other aquatic usage of Lake Erie, and the effect thereon of radiological and thermal wastes and other effluents from the Proposed Plant.
12. Petitioner is concerned with the preservation and restoration of environmental quality in the State of Ohio and elsewhere, and in order to protect the interests of its members and organization members, wishes to assert those interests with respect to nuclear safety, radiological protection and the many broad environmental questions which must be considered and resolved under legislation such as the National Environmental Policy Act. All of its members' interests, both financial and non-financial, will be adversely affected by issuance of a construction permit and/or the construction of the Proposed Plant.

13. Among the members of the Coalition are students coming from all parts of the State of Ohio as well as surrounding states. Many of these students intend to make their home and professional life in the State of Ohio and other states which are, because of the movement of wind, water and other natural resources, in the area of potential effect from the proposed Davis-Besse Plant. These students have an interest in social justice and law and order through established systems. Because of some of the national positions taken by the Atomic Energy Commission and public utilities, with respect to state and local environmental enactments as well as the National Environmental Policy Act, these students wish to demonstrate to the people of the United States and Ohio, particularly the young activist community, that environmental protection can be achieved through established administrative and legal channels. Accordingly, such students, through membership in the Coalition seek to intervene to make it plain that large financial or ingrained government interests may not violate any law without being called to account.
14. Based upon the interests and concerns of the various of the organizations and individuals identified herein, one or more of the direct interests of each of them will be adversely affected by the issuance of a construction permit in Docket No. 50-346. These interests and how they may be affected are as set forth in specific detail above.

C. Mutual Interests with Power Companies.

The applicant power companies, in recognition of their obligation to meet the increasing demands for electric power in the Lake Erie Area have carefully planned the Davis-Besse Nuclear Power Station over an extended period of time. Petitioner recognizes that their planning was necessarily guided by the then known safety standards and that to date there has been no serious question raised as to the willingness of these two power companies to meet such standards. However, during the lengthy planning period required and taken by these power companies, additional scientific investigation and inquiry has raised serious and legitimate challenges to the safety standards used in the planning of the proposed facility and under which it is to be constructed and operated. Petitioner contends that such standards will not continue for long to be acceptable particularly for a plant to be located so close to and between densely populated urban areas. It is therefore in the best interests of the power companies, as well as the general public served by them, that the construction permit be denied at least until such time as safety standards can be established and built into the plans for this power station that are clearly adequate to stand the test of the extended period of time involved in the useful life of such a facility.

It seems obvious that a substantial delay in the construction of this nuclear power station will upset the long range planning timetable of these two power companies to supply their customers with power. This may very well result in people having less electric power than a perfectly convenient style of life would require. But this is far better than permitting the

construction of a power station which could substantially contribute to the destruction of the environment.

This very difficult choice may well be between short range trouble with air conditioners in periods of peak power demands or long range damage to the environment forcing us to live in shelters with air conditioned comfort as the only way to be comfortable at all.

With the sometimes conflicting demands of the public for power and safety, this situation requires governmental action by this Commission to make the necessary accommodation between these demands; the safety of the public including the preservation of a healthful environment is necessarily the paramount consideration.

D. The Public Interest Will Be Served by Petitioner's Intervention in the Proceeding.

Great concern regarding the advent of nuclear power in the Lake Erie Area has been voiced in the area's newspapers. For example, the Cleveland Plain Dealer has published a series of articles written by William D. McCann reporting the wide public concern over the safety of the proposed facility. The Cleveland Press, in articles written by Betty Klaric, has conscientiously reported on the health, and safety implications of the proposed facility. The Sun newspapers have likewise reported the growing concern over the dangers of the proposed facility.

The concern of these major newspapers regarding the proposed facility is part of a general rising national concern over radiation hazards, radiation protection standards, and the thermal pollution caused by nuclear power plants.

The public consciousness in Ohio and throughout the United States over questions of environmental quality has, in recent months, been heightened by the enactment of the National Environmental Policy Act of 1969. The rising tide of public concern over the impact of nuclear power plants on the environment was manifested in the hearings before the Joint Committee on Atomic Energy, 91st Congress, 1st Session, on "Environmental Effects of Producing Electric Power, Part 1", which were held on October 28, 29, 30 and 31; November 4, 5, 6, and 7, 1969. Part 2 of these hearings resumed in 1970.

In the press release, No. 624, issued on December 22, 1969, by the office of the Joint Committee on Atomic Energy, Chairman Hollifield stated that the public hearings during the week of January 26, 1970 were a continuation of the Joint Committee's study of the environmental effects resulting from the siting and operation of nuclear, hydrological and fossil fueled electric power plants, and that the final record which would result from these hearings will constitute an up-to-date compendium of all effluents from electric power plants.

The purpose of the public hearing on the instant application is to determine whether or not the construction and operation of the proposed facility will cause undue risk to the public health and safety or damage to the environment or biosphere.

Petitioner's intervention and participation will aid this determination by making the proceeding on the application an adversary proceeding in which the applicants' evidence and the regulatory staff's position can be

tested by cross-examination, and in which independent evidence and legal argument can be presented by the intervenor on the factual and legal issues.

The granting of full intervenor status in a contested proceeding will enable the Petitioner to articulate the public interest and concern over issues relating to health, safety and the environment, and will create a forum in which members of the scientific community (with views contrary to those of the applicant or regulatory staff) may be brought into the proceeding to testify as expert witnesses on the issues which must be tested by the AEC.

It is in the public interest that there be in this proceeding a full airing and presentation of the latest scientific data, findings and conclusions regarding the subject matter of the proceeding, and that the Commission seek out all evidence bearing on the issues and call as its own scientific witnesses even those whose views may be opposed to the findings of the staff and the scientists relied upon by applicant.

II.

PETITIONER'S CONTENTIONS

A. General Environmental Effects.

The Petitioner contends that the total environmental impact of the proposed facility will be detrimental to its and the public's interest and to the Lake Erie Area.

15. Petitioners are concerned that there is presently insufficient knowledge or experience with pressurized boiling water nuclear reactors of the size and type of the proposed Davis-Besse Plant to justify anything other than the most conservative approach to the siting of such reactor. A conservative, prudent approach to the siting of such reactor would dictate that it be built in an isolated area, away from concentrated population and underground, in order to lessen the risks to the health and safety of the public until such time as reactors of this size have gained proven operating reliability and many years of safe operation. In view of the lack of such experience, petitioners contend that the siting of this reactor at the proposed location constitutes a danger to the people of the surrounding communities and represents a serious breach of the Atomic Energy Commission's own guidelines on the siting of large nuclear reactors.
16. The analysis by the Applicant and the Atomic Energy Commission Regulatory Staff of the Maximum Hypothetical Accident ("MHA")

that can be assumed to occur for the Davis-Besse reactor is inadequate and insufficient in at least the following respects:

(a) The MEA set forth in the Davis-Besse Preliminary Safety Analysis Report ("PSAR") assumes that the emergency core cooling system is of a size and capacity sufficient to prevent an uncontrolled meltdown of the majority of the nuclear fuel; petitioner contends that there is no such reasonable assurance that the emergency core cooling system can function as quickly as necessary or with the reliability that is demanded if such meltdown is to be avoided.

(b) The MEA set forth in the Davis-Besse PSAR does not even approach the true maximum hypothetical accident that can be assumed for one of these reactors; namely, a meltdown of the entire fuel core, with subsequent breaching of the containment due to penetration of the melted fuel and subsequent interaction with groundwater, releasing radioactivity in quantities many orders of magnitude above the releases set forth in the PSAR.

(c) The MEA set forth in the Davis-Besse PSAR fails to consider the generation of large quantities of hydrogen gas within the containment after a loss-of-coolant accident, and means for avoidance of a subsequent explosion that would rupture the containment and release large quantities of radioactivity into the environment in an uncontrolled manner.

(d) The MEA set forth in the Davis-Besse PSAR fails to take into

consideration the synergistic, and counter-productive effects of various systems used to control the release of iodine, and petitioner contends that there is no assurance that iodine levels can be reduced to meet the requirements of 10 C.F.R. 100.

17. The components and engineering of safeguards of the Davis-Besse Plant will be exposed to radiation that will lead to deterioration of these components, and there is no assurance that the integrity of these components or their systems will be maintained over the expected life of the Proposed Plant. Petitioner questions whether Applicant has provided adequate procedures for inspection and replacement of these critical components.
18. Petitioner questions whether the quality control and quality assurance procedures and programs described in the PSAR are adequate, complete and acceptable to assure that the Davis-Besse Plant will be built in conformance with the design as set forth in the PSAR, thus calling into question whether the Plant can meet criteria that assure the health and safety of the public.
19. Petitioner questions whether emergency plans and procedures have been adequately developed or conceived either with respect to an accident which would require immediate evacuation of the entire town of Port Clinton or with respect to evacuation of population areas other than Port Clinton and contained within the greater metropolitan Toledo to Cleveland area. In light of the availability of sophisticated medical treatment with respect to radiation

injuries, petitioner questions whether Applicant has made adequate provisions for either facilities or personnel to treat radiation injuries or radiation-chemical injuries which would result from a maximum hypothetical accident or any other lesser accident.

20. The occurrence of an accident or the discharge of radioactive effluents and heat into Lake Erie, nearby streams, underground water table, and the atmosphere, during the operation of the facility, would endanger the health, safety, lives and property of the public who reside, work, visit or engage in recreational activities in the vicinity of, or area affected by the facility.
21. In view of the prevailing physical characteristics of the site, including prevailing meteorological and hydrological conditions in the area, the operation of the proposed facility by itself, or in combination with other power facilities in the Lake Erie Area presently in operation, under construction, or planned, may create extensive fog and inversions and other atmospheric and environmental conditions hazardous to the enormous number of aircraft which overfly the area, fly a holding pattern, take off, or land, in its various airports, and detrimental to the health, safety and activities of the public, including Petitioner's members. Another consequence of inversions and fogging would be the spreading out, over a large area, of any radioactive gases released from the Davis-Besse facility, under normal and abnormal operation.

22. In view of the prevailing littoral drift, the proposed project will cause serious erosion of the Lake Erie shoreline and damage to shorefront property owned by Petitioner's members and other members of the public.

B Technical Qualifications:
23. Petitioner is concerned about the technical qualifications of Applicant Cleveland Electric Illuminating Company.

24. C.E.I. has had no experience at all with respect to the design, construction and operation of nuclear power plants of the size and type of Davis-Besse.

25. C.E.I. has had a recent history of being unable adequately to handle coal dust and fly ash emissions at its Avon Lake, Ohio generating plants. Records of hearings before the Planning Commission of Avon Lake, Ohio, contain many statements and admissions by its executives and management indicating that human error and miscalculation on the part of its employees have been the cause of coal dust and fly ash fall out in the Avon Lake area. In light of C.E.I.'s performance at its Avon Lake Plant, Petitioner is concerned that if C.E.I. allows similar human error and miscalculation to occur during its operation of Davis-Besse Plant, the effects upon the members of the Coalition and all residents of the area could be catastrophic.

C. Standards For Protection Against Radiation.

26. The Standards For Protection Against Radiation currently in force, 10 C.F.R. Part 20, are inadequate, illegal and in contravention of the Atomic Energy Act. Accordingly, any radioactive emissions

to be discharged in any form from Davis-Besse are different than what would be permissible by virtue of valid radiation standards promulgated pursuant to the obligations of the Atomic Energy Commission under the Atomic Energy Act.

27. Some of the inherent deficiencies which result in the radiation standards being illegal are:

- (a) The Standards do not take into account radiation doses which the public may receive from sources other than a particular licensee of the Commission and with respect to this Applicant, no procedure has been followed or proposed to abate the illegality of the Standards;
- (b) The Standards do not adequately take into account accumulations of emissions of radioactivity which may be present as a result of continued emissions of radioactivity with respect to a licensee and with respect to this Applicant, no procedure has been followed or proposed to abate the illegality of the Standards;
- (c) The Standards do not adequately provide for differences in toleration of radiation in different human beings in given differing locations and with respect to this Applicant, no procedure has been followed or proposed to abate the illegality of the Standards; and
- (d) The Standards do not adequately provide for a tracing of emissions of radioactivity through all pathways by which such

radioactivity may be transmitted to the population in a given area, as well as which may be transmitted to each pathway in the ecosystem in a given geographical area and with respect to this Applicant, no procedure has been followed or proposed to abate the illegality of the Standards.

28. The Standards for Protection Against Radiation are based upon outmoded, outdated scientific information, most of which is more than fifteen years old. Despite the fact that the Atomic Energy Commission has in recent years been provided with updated information concerning radiation danger, including increasing projections of genetic diseases, and despite the fact that in 1969 the Secretary of the Department of Health, Education and Welfare called upon the Atomic Energy Commission to review and revise its radiation standards, the Commission has not seen fit to do so and instead is continuing to license and attempt to license plants based upon illegal standards.
29. Assuming the legality of the radiation standards, petitioners contend that it is illegal to issue a construction permit looking toward operation of Davis-Besse which would permit the Davis-Besse Plant the option of operating at 100 percent of the current radiation standards when all of the projections, as well as public statements, made by Applicants attempt to show that the Plant's operation will not exceed more than approximately 5 percent of the radiation standards.

30. The Applicant has not analyzed nor considered what design changes it may have to make if prior to completion of construction of the Proposed Plant the radiation standards are declared illegal or are revised and Applicant must revise downward its projected liquid and gaseous radioactive emissions to as much as zero. Moreover, Applicant has neither considered nor analyzed what changes it would make in the Proposed Plant, if constructed, and thereafter the radiation standards were revised or declared illegal so that Applicant would not be legally permitted to discharge any radioactivity in any form from the Proposed Plant.
31. Considering the state of the art and the inherent dangers resulting from any radioactive releases, petitioners contend that Applicant is required, under the Atomic Energy Act, to design a plant which contains a radioactive waste system which prevents any radioactivity in any form from being emitted into the environment.
32. Applicant has neither considered nor analyzed the effects on the public of radiation which might be transported from the plant site to various parts of the United States in the event that such occurrences as accidents or labor strikes prevent the normal operation of such transportation as contemplated in the proposed transportation procedure.

33. The Proposed Plant is designed to emit radiation which would exceed maximum permissible concentration levels in the current radiation standards, even if legal, if one considers the reconcentration factor of certain radionuclides, such as, for example, Cesium-137 or Strontium-90. No procedures by the Applicant have been undertaken to account for and abate this reconcentration phenomena regarding many of the radionuclides to be emitted from the Proposed Plant in normal operation.
34. Neither the Applicant nor apparently the Atomic Energy Commission radiation standards take into account dangerous illnesses or injuries, if any, which will occur from radioactive effluents reaching man and combined in whole or in part with chemical effluents.
35. Petitioner questions whether the design of Applicant's radiation monitoring system is sufficient and complete adequately to monitor radiation both in normal operation of the Proposed Plant as well as during those moments after a maximum hypothetical accident or as a result of sabotage.

D. Environmental Considerations.

36. The petitioner contends that the construction and operation of the proposed Davis-Besse Nuclear Power Station will be inimical to the health and safety of the public, and that the proposed facility cannot be constructed and operated at such location without undue risk to the health and safety of the

public for the following reasons:

(a) Population Density of Site Area.

The proposed facility is located near the dense population centers of Detroit, Toledo, Sandusky and Cleveland and explosive population growth is anticipated for the Lake Erie Area.

If an accident occurred at the proposed nuclear plant appropriate and effective arrangements could not be made to control traffic on the highways and railroads to protect the public health and safety and to permit ready removal and evacuation of people by land, sea, or air, from the project area and nearby population centers.

Furthermore, the transportation of radioactive wastes from the proposed facility to their ultimate burial ground would necessitate passing through the highly congested transportation network and population centers and would present a hazard to public health and safety; and in the transportation of such wastes by water, any accident would be catastrophic to the waters of Lake Erie and to the people of the Lake's bordering territories, the States of Ohio, New York, Pennsylvania and Michigan and the Dominion of Canada.

(b) Contiguous Restricted Areas.

Petitioner contends that the proximity of the proposed

facility to restricted areas used for ordnance testing and aircraft training missions constitutes a unique and critical hazard to the reactor area in that the nuclear reactor is exposed to the danger of aircraft crashes and to the hazard of being shelled by ordnance testing. Use of the contiguous restricted areas is determined by a large number of separate agencies including the Department of Defense, the Navy, the Air Force, the Army Corps of Engineers, the Federal Aeronautics Administration, state and local bodies and at least one private corporation, TRW, which is testing ordnance under a Defense Department Contract. The ordnance being tested includes artillery piercing shells tested over Lake Erie which may be capable of penetration of 26 inches of reinforced concrete. The boundaries of the restricted areas are in dispute and the restricted area proposed by the Corps of Engineers actually includes the reactor site itself.

(c) Biological Effects of Ionizing Radiation and Radiological Hazards to the Public.

Present information about the radionuclides produced in nuclear power plants and discharged into the biosphere is insufficient to justify the risks attending the construction and operation of the proposed facility.

Applicants have not demonstrated that no biological damage to any of the population of the Lake Erie Area will

result from the radiation emitted by the proposed plant.

Applicants have failed to show that the radiation dose levels permitted by 10 CFR 20 are reasonable and safe as applied to the Lake Erie Area and that the benefits to the Lake Erie Area from the proposed facility justify the risk of biological damage caused by radiation to be emitted therefrom, or that there will be any benefits that cannot be had without such risk, by other means.

The Petitioner contends that:

- (1) The results of scientific research demonstrate a dose-effect relationship between radiation and cancer or leukemia induction in man, and that respectable scientific and medical authorities recommend a reduction in the Federal Radiation Council guidelines for radiation exposure to the population at large;
- (2) The radiation protection standards prescribed by 10 CFR 20 will permit the Davis-Besse plant to expose the public to dangerous levels of radiation which could cause a 10 percent increase in birth defects, a 10 percent increase in cancer and leukemia, and a general increase in many major diseases including cardiovascular disease, schizophrenia and other genetically related diseases as well as metabolic diseases such as diabetes. In addition to the foregoing, the proposed plant will be permitted to expose the workers in said

plant to levels of radiation 10 times and in some cases 50 times the levels permitted for the general public. As a consequence, the medical risks to the workers will be increased proportionately over those risks born by the general public.

(d) Radiological, Thermal, and Other Effects on Fish and Wildlife

Pursuant to Public Law 91-190, 91st Congress S. 1075, January 1, 1970 (The National Environmental Policy Act of 1969), the ARC has jurisdiction of, and is under a statutory mandate to consider, any adverse environmental effects, including thermal discharge, which may result from a proposed nuclear power plant.

Petitioner's members use Lake Erie in the vicinity of, or in areas affected by, the proposed facility, for boating, fishing, hunting, bathing, and other recreational purposes.

Lake Erie supports important commercial and sport fisheries and extensive waterfowl use. Fishing, waterfowl use and hunting occur in the general area of the project.

The Petitioner is concerned with the preservation of the ecology of Lake Erie, its marine and plant life, their aquatic habitat and supporting eco-systems, and in preserving the usefulness of the marine environment of Lake Erie for recreational and other beneficial purposes.

The effect of sewage discharge produces a significant increase in the nutrient content of the waters of Lake Erie.

The proposed facility will pour billions of gallons of heated water into Lake Erie, thus creating a heat dump. This will speed up its eutrophication, create synergistic action on absorption of radionuclides, destroy it as a suitable habitat for its recreational and commercial fisheries, and in general change its entire ecology.

The Petitioner contends that the discharge of radioactive effluents and heat into Lake Erie and the atmosphere in the operation of the proposed facility may adversely affect marine and plant life in the Lake Erie Area and detract from the recreational utilization of the area; that the effects of the proposed project on the local ecology have not yet been sufficiently studied and determined; that the necessary environmental qualitative and quantitative studies of bottom biota, plankton crustacea, fish, temperature, bottom composition and water chemistry have not yet been made in sufficient depth; that it is not possible at this time to determine what environmental radioactivity would result from the operation of the proposed facility.

The Petitioner also believes that the radio-sensitivity of fish and wildlife organisms is poorly understood; that there is lack of knowledge as to the effect of the process

whereby radioisotopes of many elements become concentrated and stored by organisms that substitute these for chemically similar elements for their normal metabolic activities, and that transfers of radioactive substances from one organism to another through the food chain may result in radiation hazards to fish and wildlife and the food and organisms on which they depend.

Accordingly, the Petitioner believes that it is not possible at this time to determine whether the design of construction of the proposed facility would safeguard fish and wildlife organisms and aquatic biota from undue strain of radiation exposure, and that it is not possible to determine whether the metabolic activities of the important fish and wildlife resources in the project area will not be adversely affected by the waste elements contained in the effluent from the proposed plant, or whether concentration of radioactivity harmful to fish and wildlife is occurring.

Petitioner believes the applicants have not demonstrated that the proposed facility can comply with the applicable federal and state water quality standards criteria governing thermal discharge and pollution control acts, and have not shown that the discharge from the plant, either alone or in combination with other substances or wastes, will not be injurious to fishlife and aquatic biota or impair the waters

for any other best usage.

Petitioner believes that a construction permit should not be issued to the applicants because of the possible adverse effects of thermal discharges and other potential hazards to fish and wildlife, aquatic biota, their habitat and supporting eco-systems. The discharge of large volumes of heated water into Lake Erie not only may be detrimental to fish directly, but also may affect these resources indirectly through ecological changes, particularly on the food organisms on which the fish depend.

The cooling water intake poses a potential hazard to fish resources and, in particular, to significant numbers of fish and small aquatic crustaceans, which are basic food items. Fish eggs, larvae and other plankton are killed in their passage through the plant. Such destruction cuts down the food supply for larger fish.

(e) The Risks to the Public Health and Safety Far Outweigh the Benefits

Petitioner contends that the benefits claimed for nuclear power have not been realized; that reliability of larger reactors has still to be demonstrated; that costs far exceed estimates; that no nuclear power station has demonstrated that it is competitive in cost with conventional electric power stations, and that nuclear power plants are not clean, safe

er reliable, insofar as the Lake Erie Area is concerned.

E. Atomic Energy Commission.

36. Petitioner contends that it is unrealistic to hold a hearing for a construction license at a time when the final design has not undergone necessary research and development testing to enable adequate evidence to be introduced as to reliability and assurance. The Preliminary Safety Analysis Report required by the Commission's Rules is in and of itself an insufficient document adequately to determine whether or not the issuance of a construction permit will discharge the Commission's obligations under the Atomic Energy Act and particularly its obligation to protect the health, safety and welfare of the public. The Applicant should be required prior to the initiation of a hearing to submit to the Atomic Energy Commission for review not only the PSAR but also, in addition, all other information used, relied upon or referred to in connection with the drafting of such an application.
37. The Atomic Energy Commission is not presently qualified to conduct adequately the necessary on-site compliance inspections which must be done during the course of construction of the Proposed Plant in order to assure that even minimum standards will be met. This is because the Region of the Compliance Staff having jurisdiction over the Proposed Plant is inadequately staffed and is unable to make more than a paper review of the

construction as it proceeds. Such a review is tantamount to no review at all since it places the responsibility for candor too heavily upon participants who are economically concerned with the building and erection of the Proposed Plant.

38. It is impossible to determine whether or not the highest and best accommodation between the Proposed Plant and man's environment has been made unless and until a complete environmental study has been made which in turn depends upon the final design of the Proposed Plant. Since both the Commission and the Applicant agree that they are in no such position, the starting of a hearing at this juncture of incompleteness can only result in the utility being faced with major issues raised against the Proposed Plant only after Applicant has invested millions of dollars in its construction and erection. Such a procedure is neither fair to the utility nor fair to the taxpayers and electricity users who will pay the major cost of the Proposed Plant's construction, as well as the Atomic Energy Commission's activities in connection with such construction.
39. Under the Atomic Energy Act, standards for the construction and operation of a nuclear power plant denominated "experimental" are less stringent than those denominated as "commercial" reactors. Since there can be no serious question that the Davis-Besse Plant falls in the category of "commercial," the

Atomic Energy Commission has avoided classifying them as non-experimental in order to aid the utilities in building reactors at less stringent standards.

40. Despite the existence of Part 100 C.F.R. and TID 14844, the Commission is apparently about to approve the location of the Proposed Plant in contravention of the criteria set forth in its own regulations.
41. Because of the Atomic Energy Commission's nationwide objective of promoting nuclear plants, it has not, in the area of licensing of nuclear reactors, adequately discharged its obligations under the Atomic Energy Act and other federal legislation. The Commission has failed to be objective and failed to consider the possibility that its promotion objectives are inconsistent with its regulatory objectives. The Commission has not satisfied a legal accommodation of these inconsistencies regarding this proceeding since even in the opening sentences of the Commission's Appendices D of April and June 1970, the Commission excused its lack of specificity by suggesting that such vagueness is acceptable because of a "growing need for electrical power throughout the United States."
42. The Commission has failed to require Applicant and the nuclear industry in general to move forward with all deliberate speed in realistic research and development and other testing

necessary to the safe and efficient operation of nuclear plants, considering not only safety but environmental questions, but instead has used its power and efforts to proceed with the licensing for the construction and operation of nuclear plants despite acknowledged lack of experience in all of these areas.

III.

RESERVATIONS

Petitioner has prepared this Amended Petition with unavoidable dearth of time, financial assistance and experienced legal advisors and staff. The Atomic Safety and Licensing Board, therefore, should be mindful of this fact in the consideration of what issues are contested herein. In determining which issues to place before the Atomic Safety and Licensing Board, petitioner has not had the benefit of time, funds, and expertise to the extent of the Applicants, and has not had sufficient time to thoroughly examine and evaluate Applicant's documents and plans so as to set forth all possible objections that it might have. Petitioner, therefore, reserves the right to raise objections to the following items during the course of the hearing even though not specifically set forth herein:

1. Whether the Atomic Energy Commission's obligations under the National Environmental Policy Act ("NEPA"), as well as under the Commission's interpretation of NEPA by virtue of its Appendix D promulgated in April of 1970, have been validly implemented in this proceeding.
2. Whether the Commission has required an analysis and the Applicant has analyzed alternative available sites whether above ground or under ground for construction of the proposed Davis-Besse Plant.
3. Whether the Commission has, pursuant to the obligations of NEPA, solicited comments from all federal, state and local agencies whose interests could be affected by or whose special expertise should be used regarding the construction licensing of the Proposed Plant.

4. Whether any comments which may have been received from such agencies were implemented or considered in connection with either the Applicant's proposed design or the Regulatory Staff's evaluation of the Applicant's proposed design.

5. Whether there has been an analysis and discussion of the effect which the proposed Davis-Besse Plant will have upon the growth and development of the Toledo, Port Clinton, Cleveland area, all other communities in the area. Whether regional or state planning agencies have been consulted regarding the creation of the Proposed Plant. Whether there has been consideration of what adverse impact, if any, the Proposed Plant will have upon the future growth and development of these municipalities and their geographic parts.

6. Whether the Commission has proceeded upon the assumption, erroneous or not, that the promotion of generation of electricity by nuclear power is paramount to all other considerations, and, if so, whether there has been a valid analysis of the various of the alternatives to using nuclear sources of generating electricity, and further, whether there has been any consideration given by the Atomic Energy Commission and utilities, such as Applicant, which support it realistically to investigate and develop alternate and new sources of energy which raise no or a minimum of environmental problems.

7. Whether Applicant's Environmental Report is adequate with respect to radioactive wastes, thermal effects, water supply, monitoring systems, chemical wastes and the problems involved in expanding the generation

of electricity or steam from the Proposed Plant or expanding in close proximity to the Proposed Plant additional industrial users of steam energy.

8. Whether consideration or analysis has been made regarding the serious issue that if, because of the imposition of the Proposed Plant, many residents of the surrounding communities decide to leave and other persons, not wanting to live near the Proposed Plant, do not move to them, resulting in a continuing decrease in population and depreciation of land values.

9. Whether consideration has been given, even assuming the need for electricity, as to whether the land and other resources to be eliminated by virtue of the proposed construction should be used for a higher and better use or purpose, considering all the needs of these communities.

10. Whether there has been an analysis or consideration of an alternative plant site.

11. Whether there has been an analysis of what effect, if any, the Proposed Plant will have on the recreational activities currently enjoyed in the Lake Erie Region extending from east of Cleveland to the Sandusky Bay area, such as sport fishing, water skiing, hunting, hiking, camping, swimming and boating.

12. Whether the Commission has in connection with these proceedings, implemented the Federal Water Pollution Control Act and its amendments, including the Water Quality Improvement Act of 1970.

13. Whether the operation of the Davis-Besse Plant will further depreciate and degrade the water quality of Lake Erie at a time when there has been much public concern and official statements over the degenerating

condition of Lake Erie, and the international consequences of a "dead" lake. Whether in light of such wide-spread concern and comment, the imposition of the Davis-Besse Plant and its cooling tower, adequate analysis or consideration under NEPA has been given.

14. Whether peculiar atmospheric conditions prevail in the Greater Lake Erie Area which may cause evaporation and fogging problems and other atmospheric effects as a result of the daily operation of the Proposed Plant's cooling tower.

15. Whether the Applicant or the Commission has analyzed what effect, if any, the proposed Davis-Besse Plant with all its attendant problems, including radiation and other dangers, will have upon the growth of industries in metropolitan areas surrounding it including but not limited to the possible preference of persons throughout the United States not to buy products which are produced, manufactured or grown around or near the Proposed Plant, thereby causing an economic effect on such industries resulting in long range unemployment and ultimate destruction of present population centers.

IV.

CONCLUSION AND REQUEST
FOR RELIEF

Based upon the foregoing, petitioner respectfully requests that it be permitted to intervene as a party in these proceedings and that upon its intervention the construction license now requested by the Applicant be denied in accordance with this Petition.

Respectfully submitted,

Evelyn Stebbins
Coalition for Safe Nuclear Power

By Evelyn Stebbins
Chairman

Dated: December 5, 1970

CERTIFICATION

I certify that copies of this Amended Petition to Intervene have been personally delivered to Thomas F. Engelhardt of the Regulatory Staff of the Atomic Energy Commission and to Donald Heuser, Counsel for Cleveland Electric Illuminating Company on Monday, December 7, 1970, with sufficient copies for Co-counsel of the Applicants:

Russell Z. Baron
Russell Z. Baron
Attorney for Petitioners

