

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

NRC PUBLIC DOCUMENT ROOM

In the matter of)
)
New York State Electric and Gas Co.)
and Long Island Lighting Co.)
New Haven 1 and 2)

Docket No. STN 50-596 and 597



SUPPLEMENT TO PETITION TO INTERVENE

CONTENTIONS BY ECOLOGY ACTION OF OSWEGO

Contention 1

Applicant (and NRC Staff analysis) has failed to demonstrate that the two co-applicants (NYSEG and LILCO) and/or the N.Y.S. Power Pool need the power to meet growth in total energy use and/or peak demand. Applicant's projections are erroneous because:

(1) Applicant's total energy use and peak demand predictions fail to adequately consider:

a. impact of mandatory and voluntary electricity conservation efforts in the residential, commercial, and industrial sectors (e.g., redesign of refrigeration systems, improved building design, more efficient industrial processes, etc.);

b. impact of substitution of alternate fuels by the residential, commercial, and industrial sector (e.g., wood stoves, small scale solar panels, small-scale wind mills, co-generation, etc.);

c. impact of changes in rate structure under consideration in N.Y.S.;

(2) Applicant's forecast methodologies are inadequate: they have proved unreliable in the past, producing forecasts which have been consistently too high;

(3) Applicant's projections are based on an incomplete and/or inaccurate data base. Examples include: current appliance and machine efficiency and potential for improvement in applicant efficiencies, saturation of alternate energy forms for individual customer use and potential for increase (e.g., wood stoves, solar panels, etc.), contribution to peak load by different customer classes, electricity conservation potential by different customer classes, quantification of past and present conservation efforts, and population changes (e.g., immigration and emigration rates, birth rates, etc.).

(4) NYSEG's projections are far above those for other N.Y.S. utilities: they have failed to provide sufficient evidence that this discrepancy is based on real economic/demographic differences, rather than on poor forecasting methodology.

Contention 2

Applicant (and NRC Staff analysis) has inadequately considered alternatives to the proposed nuclear and coal plants, and statements concerning alternatives feasible in the early 1990's in the ER contradict the information released on April 1, 1979, in the N.Y. Power Pool's filing under Art. III, Section 5-112 (see in particular volume 3, ch. 2). (Co-applicants are members of this Power Pool.) The Applicant has incorrectly dismissed the following alternatives:

(1) large scale wind machines on Lake Ontario for supply of power of NYSEG, and on the Atlantic Ocean for supply of power to LILCO;

(2) "Tornado" building; concept for large and small scale wind machines;

(3) burning of garbage in conjunction with coal in either small scale plants or large scale plants;

(4) hydroelectric power;

(5) small scale wind mills and small scale solar panels;

(6) fluidized bed combustion;

(7) fuel cells

(8) coal liquefaction;

(9) thermal gradients between "waste" heat discharge from existing power plants and existing heat sink;

(10) wave power;

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(9)

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(11) conservation of energy techniques, ranging from voluntary to mandatory measures, and from small scale to large scale efforts. (For examples of feasible conservation techniques refer to existing literature in the area.) Applicants should prepare a detailed study of conservation potential in their service territory.

(12) supplying power, if needed, by purchase of power from other utilities within the United States and Canada.

Contention 3

The Applicant has failed to provide the NRC with an adequate assessment, discussion, and decisions regarding alternative fuel sources because the Applicant is biased toward large scale generation. Numerous technologies are rejected (e.g., fuel cells, hydro-electric, wind, biomass, etc.) on the basis that they could not provide the total 2500 MW capacity in the year of need. In fact, load growth does not grow in 2500 MW units, and it is incorrect to dismiss small-scale generation alternatives for that reason.

Contention 4

The Applicant's site selection process (and NRC Staff analysis) is inadequate and the discussion in Section 9 of the ER is not sufficiently complete for proper development of appropriate alternatives as required by the National Environmental Policy Act of 1969. The Applicant's site selection process:

(1) was biased in favor of large-scale generation and failed to search for numerous small sites near load centers (e.g., eight sites with potential for one 300 MW plant, sixteen sites with potential for one 150 MW plant, etc.), (see section 9.2.2.1, part 2);

(2) gave undue consideration in its identification of recommended sites to low population density by attributing too much benefit to low population considerations (see Figure 9.2-10 for example);

(3) the consideration of population in identification of sites constitutes impermissible discrimination against persons living in low population areas by restricting siting of nuclear power plants to such areas. Such discrimination results because of the additional risk imposed on residents of low population areas to the hazardous consequences of exposure to accidental release of radioactive fission products;

(4) was biased toward finding new virgin sites rather than utilizing existing spoiled unfilled sites (see N.Y. Power Pool long range planning reports for description of numerous unfilled sites with existing power plants).

Contention 5

The Applicant's site screening process (and NRC staff analysis) to identify candidate sites was not adequate enough to uncover existence of sensitive features on and near the proposed site prior to spending large sums of money to study the site. These sensitive features include such things as: the existence of the New Haven Elementary School (1.2 miles west, downwind, of the site), the Mexico Elementary School, the Fravor Road School, Boces, and the Mexico Junior-Senior High School all within 4 miles of the site, and a total of 35 schools within 15 miles of the site; special wildlife use areas (e.g., famous Derby Hill), flyway for huge numbers of birds (including endangered species), Butterfly and Catfish Creek; Nestle's Chocolate factory which uses locally produced milk; etc. These and other sensitive features must clearly lead to the rejection of the proposed site.

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Contention 6

The Applicant (and NRC Staff analysis) has not adequately considered the adverse impacts on existing health facilities and services (e.g., hospitals, medical personnel and equipment) within 50 miles of the proposed primary site (e.g., New Haven, Mexico and other towns, Oswego and other cities) during construction and operation of the plants

(Contention 6 cont.)

The Applicant has:

- (1) underassessed the adverse impact on existing facilities and services of the increased work force and their families during normal construction activities;
- (2) failed to adequately consider the impacts on the facilities and services if an accident not involving radiation exposure should occur (e.g., scaffolding of cooling tower collapses, resulting in numerous injuries);
- (3) failed to adequately consider impacts on the facilities and services of an accident (excluding class 9) involving radiation to plant workers during operation of the plant;
- (4) failed to adequately consider the impact on the facilities and services of an accident (excluding class 9) involving radiation releases beyond the site boundary.

Contention 7

The Applicant (and NRC Staff analysis) has failed to provide adequate assurance that it can finance construction and operation of the proposed plants as required by Part 50, Appendix C. In fact, there is evidence that one co-applicant is not a serious co-applicant, one reason being its inability to finance the project (see Ecology Action, Case 80008, Motion for Dismissal, March 20, 1979, and Interlocutory Appeal to Commission on Denial of Motion for Dismissal, April 26, 1979).

Contention 8

The Applicant (and NRC Staff analysis) has inadequately assessed the adverse effects of the extensive high voltage (765 KV) transmission required from the New Haven site to load centers on:

- (1) the biological health and stress of humans, animals, and plants (wildlife and agriculture), living, working, crossing, and/or playing in its vicinity, due to its electric and magnetic fields and ozone production;
- (2) the psychological health of humans living, working, or playing in its vicinity (caused for example by noise, TV and radio disruption, etc.);
- (3) the greater number of communities and individuals impacted by its construction and operation in comparison to the smaller number impacted if the power source were located adjacent to load centers;
- (4) ratepayers who will bear increased economic costs due to loss of electricity from the long distance transmission required because more than enough power is already generated in the area for the existing nearby load centers.

Contention 9

The Applicant (and NRC Staff analysis) has underestimated the decrease in reliability of transmission because of:

- (1) the long distance of the primary site to load centers;
- (2) the huge transmission requirements already needed for existing plants and those under construction (NM#1, NM#2, Fitzpatrick #1, Oswego # 1-6), and the possibility of "bottled-up" power and system instability due to large amounts of power generated in one area;
- (3) the increased potential for large blackouts in N.Y.S. if human error, terrorism, or "acts of god" disrupt sections of the transmission grid, due to the huge percentage of power for N.Y.S. generated in this area:

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Contention 10

The Applicant's decision process (and NRC Staff analysis) concerning site and fuel mode was incorrectly biased by Applicant's desire to make money for itself and its stock holders rather than to meet and/or reduce demand in the cheapest, safest, and most environmentally compatible fashion.

Contention 11

The Applicant's decision (and NRC Staff analysis) concerning primary fuel mode was prematurely made, and biased subsequent analyses considering alternative fuel modes.

Contention 12

The Applicant (and NRC Staff analysis) has inaccurately assessed the adverse impact of the proposed plants on recreation within a 20 mile area of the site. The Applicant has

(1) inaccurately assessed the level of present recreation and projected increases are too low;

(2) failed to analyze the adverse impact on the surrounding communities from the financial impact on the recreation industry should an accident (less than Class 9) occur;

(3) failed to analyze the adverse psychological impact on potential users of recreation areas of past and future "Browns Ferry" incidents and "3 Mile Island" accidents, and the resultant adverse financial impact on the recreation industry when people avoid recreation areas near nuclear plants (e.g., the numerous people who have still not returned to the 3 Mile Island area, and the even more numerous people who will now avoid the area);

(4) failed to analyze the magnitude of the adverse aesthetic impact of the proposed facilities on recreational sports such as: birding (e.g., at the renowned Derby Hill), watching sunsets over Lake Ontario, particularly from the eastern shores of Lake Ontario, e.g., Selkirk Shores State Park (their beauty is similar to those of Acapulco), hiking, horsebackriding, swimming, boating, camping, picnicking, cross country skiing, fishing, snowmobiling, motorcycling, etc.

Contention 13

The Applicant (and NRC Staff analysis) has underestimated the impact of the combined continuous thermal aqueous discharge from the Oswego units #1-6, NM#1, NM#2, and Fitzpatrick #1 on fish, benthic, and algae population and its impact on reliable cooling water (e.g., recent algae bloom screen clogging incident at Nine Mile Point). In addition, Applicant (and NRC Staff analysis) has underestimated the impact of interaction between the operation of the intake and discharge structures (ER section 5).

Contention 14

The Applicant (and NRC Staff analysis) has underestimated the adverse impact of the proposed cooling towers on:

(1) aesthetic impact on local residents and people using the area for recreation purposes;

(2) hazards of chemicals released into the atmosphere and lake on terrestrial and aquatic ecology and agriculture;

(3) hazards of the intermixing of the Oswego #1-6 oil fired (over 2000 MW) unit's atmospheric plume and the atmospheric plume of the proposed cooling tower (e.g., acid rain on agriculture, homes, Tug Hill and Adirondacks region);

(4) increased icing and snow fall in the surrounding snowbelt areas.

Contention 15

The Applicant (and NRC Staff analysis) has failed to provide reasonable and economic uses for "waste" heat from the proposed nuclear or coal plants (e.g., aqua-culture, growth of forests for wood production, co-generation, etc.).

Contention 16

The Applicant (and NRC Staff analysis) has failed to propose an adequate radiation monitoring program during plant operation because:

- (1) there are an insufficient number of monitors at various distances from the proposed site;
- (2) the radiation monitoring system does not ensure that releases from manmade sources of radiation such as releases from the NM#1 and Fitzpatrick #1 plants will not inflate background radiation estimates, thus resulting in an underestimation of the proposed New Haven releases;
- (3) the radiation monitoring system will not adequately sort out the source (Nine Mile Point site vs. New Haven site) associated with the releases.

Contention 17

The Applicant (and NRC Staff analysis) has failed to estimate the radiation doses received by residents along the truck routes for shipments offsite of low, medium, and high level waste, and has thus failed to assess the magnitude of the resulting health effects.

Contention 18

The Applicant (and NRC Staff analysis) has underestimated the adverse health effects (including genetic effects) of the proposed nuclear plants on the surrounding human population due to normal operation of the plant, and will not be able to adequately determine the health effects given the proposed monitoring system.

Contention 19

The Applicant (and NRC Staff analysis) has underestimated the adverse health effects (including genetic effects) of the proposed nuclear plants on the surrounding human population due to releases during accidents (less than class 9), and will not be able to adequately determine the health effects given the proposed monitoring system.

Contention 20

The Applicant's (and NRC Staff analysis) monitoring program for determining health effects and bioaccumulation factors used in determining concentration of radioactive isotopes in wild animals (land and water), domestic animals, dairy and beef cattle (agriculture), and humans (including mother's milk) has failed to be of sufficient magnitude to assess the magnitude of the impact of the proposed nuclear plants.

Contention 21

The Applicant (and NRC Staff analysis) has failed to accurately assess the incremental health risk to the surrounding population (within 30 miles) due to the addition of the fourth and fifth nuclear plant due to normal radiation releases and those resulting from an incident or accident (less than class 9).

Contention 22

The Applicant (and NRC Staff analysis) has underassessed the potential risk of a serious accident (less than class 9) at the proposed nuclear plants, and has thus underestimated the resulting health effects of the proposed plants.

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Contention 23

The Applicant (and NRC Staff analysis) has failed to assess the economic, social, and environmental and health consequences of a class 9 accident.

Contention 24

The Applicant (and NRC Staff analysis) has failed to estimate the probability of a class 9 accident due to:

- (1) human error;
- (2) design error;
- (3) construction error;
- (4) quality assurance error;
- (5) sabotage

(6) interaction among the above mentioned factors, and has thus underestimated the economic, social, environmental and health effects of the proposed nuclear plants.

Contention 25

The Applicant (and NRC Staff analysis) has failed to estimate the probability of a less than class 9 accident due to:

- (1) human error;
- (2) design error;
- (3) construction error;
- (4) quality assurance error;
- (5) sabotage

(6) interaction among the above mentioned factors, and has thus underestimated the economic, social, environmental effects of the proposed nuclear plants.

Contention 26

The Applicant (and NRC Staff analysis), by failing to assess the probability and consequences of a class 9 accident has underestimated the impacts mentioned in Contentions 6, 12, 19, 21, 22, and 25.

Contention 27

The Applicant (and NRC Staff analysis) has failed to:

(1) determine the feasibility of developing an adequate emergency plan and evacuation plan in both the rural, urban, and recreation areas within 30 miles of the site;

(2) determine the feasibility of developing an adequate emergency plan and evacuation plan for the institutional population within 15 miles of the proposed site (29,996, see Table 2.1-32), including the 9,383 (see same Table) people concentrated at the State University of New York College at Oswego;

(3) determine the cost of developing an adequate emergency plan and evacuation plan for the utility, state, and local governmental agencies.

Contention 28

The Applicant (and NRC Staff analysis) has failed to:

(1) determine the cost of a core meltdown (partial or complete) which shuts down the proposed nuclear plants after a few month or years of operation (e.g., 3 months as in 3 Mile Island;

(2) develop a financial plan to deal with a premature shutdown of the proposed nuclear plants due to legal, safety, or accident related events at the New Haven plants, the Nine Mile Point site, or at any nuclear plant in the world.

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Contention 29

The Applicant (and NRC Staff analysis) has failed to outline procedures to be employed to avoid computer program errors in design of the nuclear plants (e.g., see cause of shutdown of five nuclear reactors including Fitzpatrick #1).

Contention 30

The Applicant has failed to determine the cost of all changes in design, construction practices, employee training practices, operating procedures, etc., it will be required to make as a consequence of the 3 Mile Island accident.

Contention 31

The Applicant has failed to demonstrate that it can find qualified people to operate the plant, especially considering it has no current nuclear plant with trained personnel to draw upon.

Contention 32

The Applicant has failed to assess the increased risk and increased radiation exposure from a low and medium level nuclear waste incinerator constructed on or near the site to handle wastes from the proposed New Haven nuclear plants. (This contention will be withdrawn if the Applicant submits legal documents assuring it will never construct such a facility.) To avoid incremental decision making, the Applicant's intention must be determined now.

Contention 33

The Applicant has failed to accurately assess the increased risk to the surrounding population of storing spent fuel on the site. This must be done for several realistic scenarios including assumptions for shipments offsite every 5, 10, 15, 20, 25, 30, 35, and 40 years.

Contention 34

The Applicant has failed to assess the economic impact of corrosion, cracking, and denting problems experienced at other plants on the design and operation of its proposed nuclear plants.

Contention 35

The Applicant's cost/benefit analysis (and NRC Staff analysis) is in error because it has substantially underestimated the cost of electricity produced by the proposed nuclear plants. Applicant's cost calculations are erroneous because it is based on inaccurate assessments of:

- (1) the cost of decommissioning (too low);
- (2) fuel and operating costs for the lifetime of the nuclear plant (too low);
- (3) the life expectancy of the plant (too high);
- (4) its assumed capacity factor (69%) (too high);
- (5) the cost of replacement power when plants are not operating (has not been included in the total cost);
- (6) the capital costs (too low);
- (7) the escalation factor for capital costs (too low);
- (8) the cost of borrowing money to build nuclear plants (too low);
- (9) the cost of transmitting electricity (too low);
- (10) the insurance rates (too low);
- (11) the cost of guarding the plants against sabotage (too low);
- (12) the cost of the on-site emergency plan (too low);
- (13) the costs of onsite spent fuel storage (too low);
- (14) the cost of disposal of nuclear waste (too low).

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Contention 36

The Applicant has failed to analyze or has underestimated the following costs which must be included in the final cost/benefit determination. These costs are:

(1) the health care costs to the surrounding population of the adverse effects on health due to routine and accidental radiation release from the plants;

(2) the social, psychological, and economic cost to the surrounding population of significantly upgrading due to the addition of two nuclear plants of the offsite emergency plan and evacuation plan as regards required facilities (e.g., Coast guard, hospitals, schools, etc.) and services (e.g., local and state police, fire, civil defense and preparedness, ambulance, etc.);

(3) the decreased land values around the site (especially since 3 Mile Island);

(4) the possibility of decreased expansion of industrial growth in the county due to existence of five nuclear plants, thus diminishing job opportunities and the tax base;

(5) the department or failure to expand of existing industry to escape risks of nuclear power (e.g., Nestle's Chocolate, Miller Brewery, Schlitz brewery, Alcan, etc.) thus diminishing the tax base and job opportunities;

(6) the increased cost of electricity which will be paid by co-applicant's rate payers as a consequence of the plant being built;

(7) the economic, social, and ecological costs on the Oswego County area of two decommissioned nuclear plants (e.g., loss of tax base, land loss, existence of huge guarded fence, etc.);

(8) the total number of immediate and latent human deaths and illnesses caused by all phases of the nuclear fuel cycle for the entire life of the radioactive substances produced;

(9) the unavailability of nuclear fuel after 5, 10, 15, 20, 25, 30 or 35 years of operation;

(10) the incremental economic, social, environmental, and health impact due to the incremental threat to the area in wartime, because of the increase from three to five nuclear plants in the area.

Contention 37

The Applicant has failed to accurately assess numerous costs of the proposed nuclear plants (see Contentions 35 and 36), and thus its oil substitution argument is false.

Contention 38

The Applicant's (and NRC Staff analysis) seismic analysis underestimates the potential for a large earthquake in the New Haven area during the lifetime of the proposed nuclear plants.

Contention 39

The Applicant (and NRC Staff analysis) has failed to completely analyze the effects of a loss of coolant accident, particularly with respect to the impact of hydrogen generation.

Contention 40

The Applicant (and NRC Staff analysis) has failed to assess and include in the cost analysis, the increased cost of selecting the nuclear reactor type and manufacturer more than 14 years (probably closer to 20-25 years if ever), prior to operation of the nuclear plants (e.g., due to design changes, penalties from supplier due to delays, cancellation of the order, modification in the order, changes in the supplier, etc.).

Note: At the advice of the NRC Staff's attorneys, we have included in the above contentions that the NRC staff's analysis is either inaccurate, incomplete, etc., even though there has been no NRC Staff analysis issued to date. We understand that inclusion of this statement will not jeopardize or influence the contentions in any way.

Submitted by,

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May 11, 1979

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All parties

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