

REVISED CONTENTIONS, TOWN OF GARDINER, NY RE STN 50-596, STN 50-597  
NEW HAVEN 1 AND 2

After consultation with Mr. Lewis of the NRC staff on June 14, 1979, we offer this revised set of contentions. Mr. Lewis recommended that we "narrow the issues and elaborate specific contentions". He discouraged contentions which were "general" in nature concerning threats of nuclear energy. He implied that these matters had already been decided by the Congress and the courts in favor of nuclear energy.

We must observe that new facts have come to light since the 1950s. Now the perceived threat of nuclear power deserves re-examination. It is evident to us, as a basic premise to the more specific contentions which follow, that nuclear power plants within 400 miles of Gardiner are a significant threat to the safety and health of our citizens. The burden lies with applicant to prove (and for NRC and PSC to test) that nuclear plants at New Haven, at Stuyvesant, or at any other alternate site are not a threat to the safety and health of citizens of Gardiner or any other community.

The list of specific contentions follow.

1. The Gardiner alternate site is inappropriate for any type of thermal electric generating plant because
  - a. it would seriously interfere with the wilderness ambiance of the Minnewaska State Park and the Mohonk Trust which overlook the entire northern Wallkill river valley containing the Gardiner site;
  - b. it is on the flight path and 10 miles from a major jetport (Stewart airport) destined to serve the New York metropolitan area, already serving as a freightport and charter passenger port and with runway lengthening in progress allowing service for the largest commercial and military planes - a plane crash into the reactor containment might result in a nuclear "incident" or similarly caused destruction of the cooling water pipeline and/or turbine(s) and/or cooling towers (secondary cooling system), or power distribution facilities would result in a nuclear incident or power blackout of a large region;
  - c. it contains freshwater wetlands protected by New York law;
  - d. a nuclear incident at a plant at the Gardiner site would threaten physical destruction to or radioisotope contamination of the Catskill aqueduct (surface) on the eastern border of the site serving nearly 40 % (storage of 140 billion gallons) of the freshwater needs of over 10 million people in Orange, Westchester, Bronx, New York, Queens, Kings, Richmond, and Nassau counties and for which there is no alternate;
  - e. it is in a narrow valley (about 10 miles between Marlboro and Shawangunk ranges with site closer to latter) where subsidence inversions occur almost daily which would temporarily trap gaseous fission products and isotopic contaminants such as tritium regularly exposing the local population to significantly increased concentrations of isotopes and associated radiation and also would temporarily prevent dispersal of the cooling tower water droplet plume causing greatly increased local precipitation;
  - f. said water droplet plume would shade and also change precipitation patterns adversely affecting the area in the immediate vicinity of the plant (see e) as well as regions to the east and



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north of the site in the Towns of Gardiner, Plattekill, New Paltz, Lloyd, Esopus, and Marlborough and possibly in Dutchess County as well among the principal apple and wine producing areas of New York State;

g. the plant would require all cooling water (about 100 million gallons per day would be consumed - more would be pumped) from the Hudson river 10 miles horizontally and 350 ft. uphill using at least - minimum - 0.2 % of planned electric capacity (or enough electric energy to serve the entire needs of a population of 32,000 - the city of Poughkeepsie, assuming average daily demand of 125 kwh per person per day);

h. (added because of NRC requested removal of 'amongst other reasons') the consumptive use of 100 million gallons per day of Hudson river water has not been integrated by applicant or by any government agency with other existing or planned consumptive uses of Hudson river freshwater above the salt front including power plants & water supplies such as Roseton and the 5 plants planned by Consolidated Edison at Red Hook and the Greene County Nuclear facility and Stuyvesant and the Quarry site (PASNY-planned) and Lloyd and Athens and Delmar, Hudson river tap, City of Poughkeepsie, village of Highland, Chelsea Pumping Station and others with the result that piecemeal, unintegrated planning of consumption of finite fresh water supply could result in severe environmental and socioeconomic consequences;

i. (added because of NRC requested removal of "amongst other reasons") the evaporation of 300 million gallons per day of Hudson river water will disperse an unknown but significant amount of polychlorinated biphenyls into the atmosphere (for a report of toxicity and carcinogenicity of PCBs see Ann. N.Y. Acad. Sci. in press - symposium held New York City 6/15 - 6/23/78 and for atmospheric dispersal from water the symposium of NYDEC "PCBs in the Hudson River, Colonie, NY 6/11 - 6/12/79) and subject terrestrial plants and animals (including man) to this toxic carcinogen which causes a wide variety of diseases ranging from chloracne to impotence and including cancers and which accumulates to high levels over time in long-lived organisms;

j. (added because NRC requested removal of "amongst other reasons") the four 575 ft. natural draft cooling towers would be the largest structures between midtown Manhattan and Empire State Plaza in Albany and would be easily visible from all over the northern Wallkill valley and from the Marlboro and Shawangunk mountains (see c.) on the clear days we presently have though the cooling towers plumes might reduce the proportion of clear days (see e.);

k. (added because NRC requested removal of "amongst other reasons") The reactor containments, auxiliary buildings, cooling towers, rail and highway facilities would make the plant look like a large industrial facility which would be out of place and aesthetically displeasing in the agricultural areas surrounding the site;

- l. (added because NRC requested removal of "amongst other things")  
The current liquid fuel crisis/predicted to continue - and get worse - it won't be possible to tap a 'native' skilled work force able to find gasoline to commute to Gardiner from as far away as Westchester County or New Jersey, or the Capitol District, and the construction force will have to live locally thus putting great pressure on Gardiner and surrounding towns to provide services for the temporary influx of workers which would wreak havoc with local taxes, particularly for schools which would have to be built, and subject us to the "boom and bust" cycle (when construction is complete) characteristic of large energy projects;
- m. (added because NRC requested removal of "amongst other things")  
There are no health care facilities within 10 miles of the proposed site and emergency health care facilities in the Mid-Hudson region are inadequate for the needs of affected plant construction or operating personnel in case of an accident (such as cooling tower collapse as in West Virginia in 1978 or an 'incident' less than class 9 involving radiation or direct injury to plant workers);
- n. (added because NRC requests removal of "amongst other things")  
A major industry in southern Ulster County, recreation and tourism, would be adversely affected by the presence of a nuclear plant and much more so immediately and for a protracted period following any 'incident';
- o. (added because NRC requested removal of "amongst other things")  
There are 3 schools totalling about 2300 students within 5 miles of the Gardiner site (the evacuation zone for Three Mile Island 2 'incident' 3/28/79), 14 within 10 miles of the site, with approx. 18,000 students and about 35 with approx. 50,000 students within 20 miles of the site which would be directly endangered by a less than class 9 incident and which are not considered by applicant in Alternative Site Analysis; in regard to consequences of any class of 'incident' toward this dependent population nor in regard to any type of emergency plan for ameliorating said consequences in event of any class of 'incident';
- p. (added because NRC requested removal of "amongst other things")  
property values in Gardiner and surrounding towns would decrease as a direct result of being near nuclear plants and utilization of said property would become limited because of the nearby source and storage place of radioisotopes.
2. The citizens of Gardiner would have their health and safety adversely affected by atmospheric PCBs dispersed into the atmosphere through operation of planned natural draft cooling towers using Hudson river water as secondary coolant for nuclear plants at Stuyvesant.
3. The citizens of Gardiner would have their health and safety adversely affected by atmospheric PCBs dispersed into the atmosphere through operation of planned natural draft cooling towers using Hudson river water as secondary coolant for nuclear plants at Northumberland.

4. (added because of NRC request that contentions be made site specific) The citizens of Gardiner would have their health adversely affected by atmospheric dispersal of mirex, PCBs, and other halogenated hydrocarbons from natural draft cooling towers using Lake Ontario water as secondary coolant for nuclear plants at New Haven.

5. (added because of NRC request that contentions be made site specific) The approximately 70% of energy released in nuclear fission not recoverable as electric energy at the reactor is planned, by applicant, to be released to the "ultimate heat sink" - the atmosphere - at New Haven, at Stuyvesant, and at Gardiner, at Northumberland, at Charleston, and at Barton which will adversely affect the citizens of Gardiner because their electricity (some of which will presumably be purchased from NYSEG-LILCO) will be more expensive since applicant contravenes national energy policy by not applying the principle of reverse co-generation - using the 'waste' heat in another use such as district heating or as industrial process heat - at any of the proposed nuclear plant sites.

6. (revised because of NRC request that contentions be made site specific) A malfunction at nuclear plants in Gardiner would have a deleterious effect on the physical environment of Gardiner and the health and safety of its citizens and normal operations involving release of gaseous radioactive fission products and secondary isotopes (e.g.  $^3\text{Ht}$ ,  $^{85}\text{Kr}$ ,  $^{125}\text{I}$ ,  $^{131}\text{I}$ ,  $^{133}\text{Xe}$ ) also giving such deleterious effects because

a. any ionizing radiation (and nuclear plants would increase said ionizing radiation in Gardiner) has the potential...minimum requirement - one nuclear decay per biological event...for changing cells including tumorigenesis and of causing mutations in germ cells affecting the next generation;

b. besides direct effects on populations near nuclear plants, radioisotopes released in a malfunction (excluding class 9) or normal operation of nuclear plants can also become incorporated into the food chain and in water supplies indirectly affecting large populations away from the immediate plant site (evidence for distant spread of radio-isotopes was presented in our amended petition to intervene);

c. Class 9 malfunction would release the entire radioisotope inventory of the reactor fission products to the environment to spread widely uncontrolled, both physically and biologically, threatening the very existence of the citizens of Gardiner from associated radiation;

d. a class 9 malfunction would release the entire reactor inventory of  $^{239}\text{Pu}$  to the environment to spread widely, uncontrolled, both physically and biologically threatening the very existence of the citizens of Gardiner from chemo-toxic and carcinogenic effects.

7. (revised because of NRC request that contentions be made site specific) A malfunction at nuclear plants at Stuyvesant would release the entire radioisotope inventory of the reactor fission products to the environment to spread widely, uncontrolled, both physically and biologically, threatening the very existence of the citizens of Gardiner, from associated radiation, and from chemotoxic and carcinogenic effects.

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8. (revised because of NRC request that contentions be made site specific) A malfunction at nuclear plants at New Haven would release the entire radioisotope inventory of the reactor fission products to the environment to spread widely, uncontrolled, both physically and biologically, threatening the very existence of the citizens of Gardiner, from associated radiation, and from chemotoxic and carcinogenic effects.

9. (revised because of NRC request that contentions be made site specific) A malfunction at nuclear plants at Barton, or at Charleston, or at Northumberland would release the entire radioisotope inventory of the reactor fission products to the environment to spread widely uncontrolled, both physically and biologically, threatening the very existence of the citizens of Gardiner, from associated radiation; and from chemotoxic and carcinogenic effects.

10. (revised to meet NRC requests for 'elaboration' and site specificity) The health and safety of the citizens of Gardiner and of their descendants will be endangered by the possibility of loss to the environment, including food, air, and water, of stored fission products and fissile materials from spent nuclear fuel which must be stored at the New Haven site since no accepted on site disposal methods for such materials exist or are planned.

11. (revised to meet NRC requests for 'elaboration' and site specificity) The health and safety of the citizens of Gardiner and of their descendants will be endangered by the possibility of loss to the environment, including food, air, and water, of stored fission products and fissile materials from spent nuclear fuel which must be stored at the Stuyvesant site since no accepted on site disposal methods for such materials exist or are planned.

12. (revised to meet NRC requests for 'elaboration and site specificity) The health and safety of the citizens of Gardiner and of their descendants will be endangered by the possibility of loss to the environment, including food, air, and water, of stored fission products and fissile materials from spent nuclear fuel which must be stored at the Gardiner site since no accepted on site disposal methods for such materials exist or are planned.

13. (revised to meet NRC requests for 'elaboration' and site specificity) The health and safety of the citizens of Gardiner and their descendants will be endangered by the possibility of loss to the environment, including food, air, and water, of stored fission products and fissile materials from spent fuel which must be stored at the Bart... Charleston, or Northumberland sites since no accepted on site disposal methods exist or are planned.

14. (revised to meet NRC requests for 'elaboration' and site specificity) Transport of nuclear fuel to or of spent fuel, including fission products, from the New Haven site would endanger the health and safety of the citizens of Gardiner and their descendants due to the possibility of accidental uncontrolled release of such materials to the environment, including food, air, and water, in or near the town which is within 10 miles of principal north-south highway (I-87) and rail (Conrail), and water (Hudson river), and east-west highway (I-84) transportation routes.

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15. (revised to meet NRC requests for 'elaboration' and site spe-

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cificity) Transport of nuclear fuel to or of spent fuel, including fission products, from the Stuyvesant site would endanger the health and safety of the citizens of Gardiner and their descendants due to the possibility of accidental uncontrolled release of such materials to the environment, including food, air, and water, in or near Gardiner since all such materials would have to pass through the town or near it (see #14).

16. (revised to meet NRC requests for 'elaboration' and site specificity) Transport of nuclear fuel to or of spent fuel, including fission products, from the Gardiner site would endanger the citizens of Gardiner and their descendants due to the possibility of accidental uncontrolled release of such materials to the environment, including food, air, and water, in or near Gardiner since all such materials would have to pass through the town.

17. (revised to meet NRC requests for 'elaboration' and site specificity) Transport of nuclear fuel to or of spent fuel, including fission products, from the Barton or the Charleston, or the Northumberland sites would endanger the citizens of Gardiner and their descendants due to the possibility of accidental uncontrolled release of such materials to the environment, including food, air, and water, in or near Gardiner since all such materials would have to pass through the town, or near it (see #14).

18. (revised to meet NRC requests for 'elaboration' and site specificity) The construction and operation of nuclear plants at New Haven will result in the production (where none existed previously) of radioisotopes, fission products and actinides, whose decay cannot

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be stopped or controlled in any way, the existence of which threaten the health and safety of the citizens of Gardiner and their descendants if the radioisotopes are released accidentally or through purposeful action; applicants fail to indicate means of preventing these products of their proposed process from entering food and/or fiber and/or materials used by man, of entering ground and/or surface waters and affecting citizens of Gardiner, or of entering the atmosphere and affecting citizens of Gardiner for the lifetimes of these radioactive products.

19. The construction and operation of nuclear plants at Stuyvesant will result in the production (where none existed previously) of radioisotopes, fission products and actinides, whose decay cannot be stopped or controlled in any way, the existence of which threaten the health and safety of the citizens of Gardiner and their descendants if the radioisotopes are released accidentally or through purposeful action; applicants fail to indicate means of preventing these products of their proposed process from entering food and/or fiber and/or materials used by man, of entering ground and/or surface waters and affecting citizens of Gardiner for the lifetimes of these radioactive products.

20. The construction and operation of nuclear plants at Gardiner will result in the production (where none existed previously) of radioisotopes, fission products and actinides, whose decay cannot be stopped or controlled in any way, the existence of which threaten the health and safety of the citizens of Gardiner and their descendants if the radioisotopes are released accidentally or through purposeful action; applicants fail to indicate means of preventing these products of their proposed process from entering food and/or fiber and/or materials used by man, of entering ground and/or surface waters and affecting citizens of Gardiner, or of entering the atmosphere and affecting citizens of Gardiner for the lifetimes of these radioactive products.

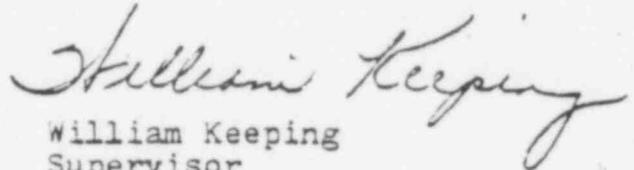
21. The construction and operation of nuclear plants at Barton, or Charleston, or Northumberland will result in the production (where none existed previously) of radioisotopes, fission products and actinides whose decay cannot be stopped or controlled in any way, the existence of which threaten the health and safety of the citizens of Gardiner and their descendants if the radioisotopes are released accidentally or through purposeful action; applicants fail to indicate means of preventing these products of their proposed process from entering food and/or fiber and/or materials used by man, or of entering ground and/or surface waters and affecting citizens of Gardiner, or of entering the atmosphere and affecting citizens of Gardiner for the life times of these radioactive products.

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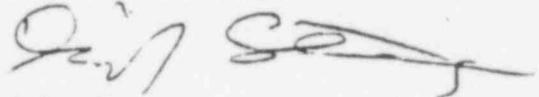
22. (revised for site specificity following NRC request)  
 For economic operation compared to fossil fuels, base-load nuclear facilities such as those planned for New Haven, for Stuyvesant, for Gardiner, for Barton, for Charleston, for Northumberland, require ancillary energy storage facilities when the NYPP nuclear capacity rises above the minimum daily demand in New York and the construction and operation of such energy storage facilities could affect the physical environment of the town of Gardiner adversely (see our comments on DEIS, PERC # 2829, 6/78) and the welfare of its citizens.

23. (revised for site specificity following NRC request)

Addition of base-load nuclear generating facilities at New Haven, at Stuyvesant, at Gardiner, at Barton, at Charleston, and/or at Northumberland will require transport of generated electric energy to points of use most of which are far from the listed sites planned (see applicant's Alternative Site Analysis) as either 345 kv or 765 kv lines and Gardiner is on the route of a 765 kv link which could affect the health and safety of Gardiner citizens through microwave radiation generated, arcing, and interference with communications and would be a less productive use of land, considering the 350 ft. right of way, and which would not be necessary if such cited, nuclear base-load facilities were not added to the NYPP.



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