

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING BOARD  
Before Administrative Judges:  
Louis J. Carter, Chairman  
Frederick J. Shon  
Dr. Oscar H. Paris

DOCKETED  
USNRC

02 JUL 19 10 53

OFFICE OF SECRETARY  
DOCKETING & SERVICE  
BRANCH

-----X  
In the Matter of : Docket Nos.  
CONSOLIDATED EDISON COMPANY OF NEW YORK, : 50-247 SP  
INC. (Indian Point, Unit No. 2) : 50-286 SP  
:   
POWER AUTHORITY OF THE STATE OF NEW YORK : July 14, 1982  
(Indian Point, Unit No. 3) :   
-----X

RESPONSE OF GNYCE TO INTERROGATORIES OF  
LICENSEES UNDER COMMISSION QUESTION 6

The Greater New York Council on Energy ("GNYCE")  
herein responds to those interrogatories numbered 22 through  
123 in Licensees' First Set of Interrogatories and Document  
Request Under Commission Question 6, dated June 9, 1982 which  
pertain to contention 6.3, for which GNYCE is lead intervenor.  
The sheer bulk of the interrogatories makes repetition of  
them herein impractical; therefore, they are referred to by  
number.

Responses to interrogatories 22 through 27, 88 and  
89 were provided by Dr. Richard Rosen of Energy Systems  
Research Group, Inc.

22. The economic investigation is in progress. Study design, results, assumptions, and reference documents will be provided with submission.

23. See response to interrogatory 22.

24. See response to interrogatory 22.

25. Dr. Richard Rosen, Dr. Thomas Austin, Dr. Paul Raskin, Dr. Stephen Bernow, Bruce Biewald, Barry Feldman.

26. Witnesses not identified at this time.

27. A costing program is being developed for this study, incorporating ancillary models used previously. All models will be identified and described in submission.

28. Referred to was a study entitled An Evaluation of "Economic Impact of Closing the Indian Point Nuclear Facility," A Report of the General Accounting Office, by Vince Taylor and Charles Komanoff, dated December 3, 1980, and available from the Union of Concerned Scientists, 1725 I Street N.W., Washington, D.C. 20006.

29. GNYCE objects to this interrogatory on the basis that it is overly broad and does not relate specifically to the substance of these proceedings.

30. Please see response to interrogatory 29.

31. In a recent meeting with Mr. Richard Schrader and others, Mr. Frey remarked that he was strongly in favor of cogeneration and would like to see increased PASNY participation in its implementation.

32. The phrase "New York's energy security" would be reasonably defined as the short- and long-term reliability and

dependability of its supply of energy. A lack of security can result from unstable energy imports into the city as well as unreliable energy conversion devices such as nuclear power plants.

33. There is much activity in energy conservation improvements in New York in the commercial, residential and industrial sectors, resulting in growing numbers of organizations performing energy audits, installing insulation and marketing energy control systems. In cogeneration, there is a growing number of energy consumers desiring such installations, a wide variety of firms now prepared to provide such services, and a large, active Cogeneration Society. Three new cogeneration projects are currently underway in Manhattan alone, begun before the recent ruling by the PSC in favor of cogeneration for which potential cogenerators have been waiting anxiously for over a year. GNYCE believes that conservation and cogeneration projects are best initiated by those other than the licensees, although proposed state legislation would have PASNY aid in funding of various types of cogeneration projects which GNYCE believes constructive.

34. It is not possible for us to supply a quantitative answer to this question at this time.

35. Some have considered the conservation of electricity and energy in general as a significant alternative for many years. Society in general has begun to act in such a manner since the mid-1970s. Conservation will be significant as an alternative to nuclear power indefinitely, or until nuclear power contributes no electricity.

36. The PSC has had little interest in the potential for cogeneration in the Con Edison service area, but as PASNY's chairman, John Dyson, has publicly observed, the PSC is a "lackey" of Con Edison. It should be noted that the Chairman's remarks were made in the context of the desirability of expanded cogeneration in New York and the efforts to stop it on the parts of Con Edison and the PSC. Nevertheless, after stalling for over a year, the PSC recently settled the cogeneration case before it in favor of cogenerators, finding little value in the testimony of Con Edison.

37. Conservation is undoubtedly the result of rate increases, but the relationship is not necessarily simple. Once large, remarkable rate increases have spawned conservation, its practice can become a regular occurrence and continue even if rates level off.

38. Attached is a copy of the GNYCE study, The Potential for Cogeneration in New York City, which to a degree compares the fuel cost savings of cogeneration and Indian Point.\*

39. See Interrogatory 38. The Brookhaven avoided-cost study is available from the National Center for Analysis of Energy Systems, Brookhaven National Laboratory, Upton, N.Y., 11973.

\* The study is also available from the New York City Energy Office, 17 John Street, New York, N.Y., 10038, or from the GNYCE at the service list address.

40. Interrogatory is unclear. Conservation investments span a tremendous range of capital costs and resulting energy cost savings. Payback periods of typically five to seven years are used as a criterion for priority investments in conservation improvements by many consultants, agencies and other organizations which evaluate, recommend or authorize such investments. Longer payback periods can be appropriate under certain financing arrangements. Shorter payback periods would correspond to return on investments that is above that needed to provide adequate incentive.

41. See attached list taken from the New York State Energy Master Plan Final Report, March 1980. Not included are New York University and other projects underway.

/

/

/

/

/

/

/

/

/

/

/

/

/

/

**FIGURE D-1-12**  
**EXISTING COGENERATION FACILITIES IN NEW YORK STATE**

<u>Name</u>	<u>Location</u>	(KW) <u>Electric Capacity</u>
<u>Industrial</u>		
Allied Chemical	Syracuse	55000
Allied Chemical (2)	Buffalo	10000
Amstar Corporation	Brooklyn	9500
Bethlehem Steel	Lackawanna	48000
Boise-Cascade Co.	Beaver Falls	2500
Buffalo Color Corp.	Buffalo	5000
Clevepak Co.	Piermont	6000
Commerce Labor I Co.	New York	24000
CPS International	Yonkers	5000
Eastman Kodak	Rochester	125000
GAF	Binghamton	7000
General Electric	Schenectady	28000
Georgia Pacific	Lyons Falls	7000
Hanna Furnace	Buffalo	5000
International Paper	Tonawanda	2000
International Paper	Hudson	28000
International Paper	Ticonderoga	30000
International Salt	Watkins Glen	8000
Lederle Labs	Fearl River	insignificant
Newton Falls Paper Mills	Newton Falls	5000
Proctor & Gamble Co.	Staten Island	14500
Republic Steel Co.	Buffalo	10000
Refined Syrups & Sugar Co.	Yonkers	4000
Revere Sugar	Brooklyn	2500
Ronzoni Inc.	Long Island City	1600
St. Regis Paper Co.	Deferit	7000
United States Gypsum	Oakfield	600
Upson Company	Lockport	1300
<b>TOTAL INDUSTRIAL COGENERATION</b>		<b>451500</b>
<u>Institutional, Commercial and Other</u>		
Brooklyn Developmental Center	Brooklyn	4250
Kings Park Psy. Ctr.		3000
Kings Plaza	Brooklyn	11000
NY Telephone Bldg.	New York City	5000
Rockdale Village	Queens	18000
Saw Mill Rv. Tennis Crts.	Mt. Kisco	210
Starret City	Brooklyn	18000
Warbasse Houses	Brooklyn	12500
<b>TOTAL INSTITUTIONAL, ET AL, COGENERATION</b>		<b>71960</b>
<b>TOTAL EXISTING COGENERATION</b>	<b>— NYS —</b>	<b>523,460</b>

**FIGURE D-1-13**  
**PLANNED COGENERATION FACILITIES IN NEW YORK STATE**

<u>Name</u>	<u>Location</u>	(KW) <u>Electricity Capacity</u>
<u>Industrial</u>		
Miller Eastern Brewing	Fulton	6000
Seal-Pak Packaging	New York City	1005
Unspecified, design completed/underway	Downstate	17000
<b>TOTAL INDUSTRIAL COGENERATION</b>		<b>24005</b>
<u>Institutional, Commercial and Other</u>		
Big Six Towers	New York City	4200
Bronx Community College	New York City	7900
West 42nd Street	New York City	5600
<b>TOTAL INSTITUTIONAL, ET AL., COGENERATION</b>		<b>17300</b>
<b>TOTAL PLANNED COGENERATION</b>		<b>41305</b>

42. 1,500 MW of cogeneration at \$1,000/kW installed would cost in total \$1.5 billion. This capital cost is above that for several of New York City's recent installations. Depending upon PSC actions and site specifics, payback periods would be expected to range from three years to the maximum acceptable to individual cogenerators, perhaps eight.

43. Natural gas decontrol will make gas-fired cogeneration more expensive, but with Reagan's sudden decontrol plans killed, it may not do so at a rate faster than Con Edison rate increases make it more economical. GNYCE has not done an analysis of this.

44. See interrogatory 38.

45. GNYCE has not independently studied this issue. It accepts the State of New York Energy Planning Board ("EPB") opinion that natural gas supplies can be expected to be more than adequate for the State's needs through 1996.

46. Cogeneration installations in New York City were subdued by regulatory uncertainty and an effective opposition and non-cooperation by Con Edison. Now that the PSC has finally ruled in favor of fair electric rates for cogenerators in the Con Edison service territory (Case no. 27574), potential cogenerators are heartened, but still wary of Con Edison's ability to interfere with cogeneration installation and operation.

47. The energy impact of 1500 MW of cogeneration is not significantly affected by the anticipated changes in Con Edison and PASNY generation over the next 15 years. 1500 MW of



cogeneration is 1500 MW of cogeneration regardless of utility practices. What utility practices do affect are utility rates and since electric rates in New York City can be expected to grow in both nominal and real terms, the level of implemented economical cogeneration will be enhanced and make yet a greater contribution to fuel saving.

48. It is to be expected that Canadian power imports will be increasingly available for displacing oil and/or Indian Point, and less certainly coal conversions and refuse burning because of regulatory and technical issues. GNYCE has not as yet quantified the contributions from these sources.

49. GNYCE agrees with the EPB opinion that gas-fired cogeneration, which is what we advocate, will at no level of implementation lower air quality or contravene the SIP under the CAA or New York City laws. Those who construct oil-fired cogeneration will have to demonstrate that appropriate laws will not be contravened. The situation is especially good for gas-fired cogenerators when the fuel for direct thermal loads displaced is taken into account which is often oil.

50. GNYCE does not have this information.

51. GNYCE does not have this information.

52. GNYCE does not have this information.

53. Cogenerators are not subject to some of the taxes that private utilities are in New York City and State. GNYCE considers this inadvertent incentive for more efficient energy use desirable. Contrary to the frequent claims of Con



Edison, the differential is not, however, the major economic incentive for cogeneration. We understand that the staff of the Legislative Commission on Science and Technology found the tax differential to account for about 10% of the economic benefit of a typical cogeneration system. In any case, tax impacts are not economic impacts but merely changes in legislated transfers of funds and, as the PSC ruled in Case no. 27574, are immaterial to energy or even ratemaking decisions regarding cogeneration.

54. Gas-fired cogeneration utilizes a domestic fuel as opposed to an oil-fired furnace. Any more efficient system, even oil-fired cogeneration, uses less fuel, and is therefore inherently less susceptible to interruption. Now that reasonable rates have been established by the PSC, the bulk of cogeneration systems should be grid-connected and their back-up electricity would be utility supplied. Utilities have their own notions of how to provide service most dependably, but in no case should a cogenerator be expected to provide for national energy security to a greater extent than a typical furnace. As with the 1973 Arab oil embargo, heat or electric supply to cogenerators would not be interrupted, nor would it be any different from other buildings.

55. These issues have not been studied by GNYCE. It is also not clear in which context their consideration is intended by the interrogatory. Such issues will be included in the ESRG study which will be presented as testimony on Commission Question 6.

56. See response to interrogatory 55.

57. See response to interrogatory 55.

58. See response to interrogatory 55.

59. See response to interrogatory 55.

60. An "acceptable" cost to pay for foregoing the risk of operating the Indian Point plants should be based on a quantification of the risk, but ultimately must entail to some extent a subjective decision on the part of the people at risk or their government, not GNYCE.

61. This information is not available at this time.

62. If Indian Point were shut down, Con Edison could and should terminate its nuclear department, as should be required by the PSC. Or at least it should not be deemed chargeable to operating expenses. This is because Con Edison would no longer be operating any nuclear plant and because load growth, interest rates, state energy policy and construction costs (painfully illustrated to New Yorkers by Shoreham and Nine Mile Point 2) preclude serious consideration of Con Edison's building any new nuclear capacity.

We do not have the unemployment impact information at this time.

63. Since we do not have transcript copies, it would be helpful if this interrogatory was clarified by quoting from the transcript.

64. We believe that conservation and cogeneration will occur at unprecedented levels primarily because of the economic driving force to employ them, and because the two main hindrances, lack of consumer awareness and need for regulatory

reform, are currently improving. The awareness on the part of energy officials that Indian Point cannot be relied upon (due to its own performance) causes them to take alternatives more seriously. If Indian Point were closed permanently, it would be immediately seen that serious measures to actively promote conservation and cogeneration are called for, and so its closing would serve to strongly augment their implementation.

65. Conservation (electrical) and cogeneration are alternatives to the way Con Edison operates. To the extent that these methods are further implemented, average electric costs in New York will be lowered, thereby mitigating the absolute cost of electricity if and when Indian Point is closed.

66. Closing a reactor does not curtail all risks entailed by the nuclear fuel cycle, nor was this implied by GNYCE. Reactor operation or non-operation does not in itself require curtailment of spent fuel pool operation. Also, if it is found desirable to remove the spent fuel from Indian Point, spent fuel pools at other reactors are an alternative to AFR storage.

67. This information is not available at this time.

68. This information is not available at this time.

69. No such assumptions or analysis was made.

70. See response to interrogatory 69.

71. See response to interrogatory 69.

72. See response to interrogatory 69.

73. This interrogatory is too vague. For example,

does "consumers" mean those who install cogeneration or conservation methods?

74. The extent to which non-cogenerating customers are benefitted by others' cogeneration is entirely determined by the rates and other restrictions chosen by the PSC. We fail to see how an action by one party is wrong because it would only benefit another after a few years. As written this interrogatory is puzzling.

75. It is not clear whether this interrogatory refers to a specific calculation or study. In general, an allowance must be made for systems entailing interconnection, but it is clear that in practice, such costs will be hotly contested by cogenerators and Con Edison before the PSC.

76. We assume this interrogatory refers to the GNYCE study, The Potential for Cogeneration in New York City, which used very rough numbers achievable by cogeneration systems. Although not specified in that study, it is reasonable to assume that both electric-directed and heat-directed types will be installed depending on building or load types, various electric rates, and interconnection and other costs. In heat-directed systems, the heating load is provided for and electricity is considered a valuable byproduct for electric load offset or sale to the grid. In electric-directed systems, the usually grid-isolated building has its electricity provided for and the heat generated is used when needed and discarded when not needed. The latter type can be less efficient and is not normally advocated by GNYCE, although because of high electric rates and heretofore inavailability of grid-connection is often still economical and will con-

tinue to be used. Both types can have an auxiliary heat supply depending on the thermal electric load balance and the size of the cogeneration system. Some of the buildings with centralized electric air-conditioning can be economically refit with absorption chillers, permitting a high capacity factor and efficiency. It should be noted that with regard to the economics of Indian Point it is the overall economics of cogeneration that are important, not efficiency and capacity factors per se.

77. GNYCE has not used the term "equivalent availability" as far as we know.

78. No.

79. The grounds for the estimate were cited with the estimate.

80. No allocation of energy conservation to one Indian Point plant or the other was made, nor does it make sense to us.

81. Since cogeneration is less expensive than Con Edison's electricity, it would be desirable for all of New York City's electricity to be cogenerated. Because of site specifics, however, many buildings or complexes cannot use cogeneration. 1500 MW represents about 12% of installed generating capacity in New York.

82. The only significant barrier to conservation efforts is lack of awareness.

83. Yes, as reasoned in our April 9, 1982 submittal to the board.

84. The figures were, as stated, from the report of the City Energy office entitled, Energy Consumption in New York City, which on page 29 shows a minimum potential electric saving of 5.7

billion kWh valued at \$551.1 million. This is gross savings based on the year 1979, not net.

85. Yes, but we do not have detailed information available at this time.

86. GNYCE does not have this information at this time.

87. Obviously, the "impact of Indian Point" cannot be evaluated entirely without including it in the analysis. However, an analysis of the potential of cogeneration in New York can be done without including Indian Point. On the crude level of detail used in the GNYCE study of cogeneration, it is a simple matter to examine the case proposed which includes both cogeneration and Indian Point. This was not done by GNYCE however because it was not of interest to the proceeding for which the study was prepared. Sensitivity runs with different amounts of cogeneration were not performed because the report was generated by GNYCE members in their spare time for no remuneration for the explicit purpose of advocating that the City commission a detailed study. The City is now in the process of doing so.

88. ESRG has provided analysis and policy recommendations on virtually all aspects of utility planning over the past six years in most states. Selected ESRG's governmental clients are included in the attached list. In addition, numerous governmental agencies have accepted ESRG recommendations in part or in full. Preparation of a detailed scorecard would be burdensome.

/

/

Selected ESRG Governmental Clients

Alabama Attorney General  
Alabama Public Service Commission  
Boston Redevelopment Authority  
City of New York  
Clark County School District, Nevada  
Colorado Energy Research Institute  
Connecticut Office of Consumer Counsel  
Connecticut Power Facility Evaluation Council  
Idaho Public Utilities Commission  
Illinois Governor's Office  
Indiana Office of Utility Consumer Counselor  
Kentucky Office of the Attorney General  
Kentucky Public Service Commission  
Maine Attorney General  
Maine Public Utilities Commission  
Massachusetts Executive Office of Energy Resources  
Massachusetts Solar Action Office  
Michigan Attorney General  
Minnesota Office of Consumer Services  
Missouri Office of Public Counsel  
Maryland People's Counsel  
Nevada Office of the Attorney General  
New Hampshire Public Utility Commission  
New Jersey Public Advocate  
New York Consumer Protection Board  
New York Department of Environmental Conservation  
New York City Energy Office  
New York State Energy Office  
Ohio Office of Consumer Counsel  
Oklahoma Attorney General  
Oklahoma Corporation Commission  
Pennsylvania Office of Consumer Advocate  
Rhode Island Attorney General  
Rhode Island Public Utility Commission  
Suffolk County, New York  
Ulster County, New York  
Utah Consumer Service Committee  
United States Department of Energy  
United States General Accounting Office  
Vermont Department of Public Service  
West Virginia Consumer Advocate  
Wisconsin Public Service Commission



89. Please see response to interrogatory 88.

90. Since Con Edison's electricity is now in the range of 12¢ per KWH, we have not examined comparisons with lower rates.

91. Although we do not know the precise cost of electricity from Con Edison's most expensive marginal plant, it must be significantly higher than the average rate and a total amount of cogeneration greatly in excess of 1500 MW would doubtless compare very well against it. However, the relevant comparison for a prospective cogenerator is the average or effective rate.

92. GNYCE is not aware of studies of the nature asked for beyond those already cited or supplied. The cogeneration studied soon to be done for the City should contain much of this information.

93. This depends entirely on the rates set by the PSC. Through control of buy-back and standby rates the PSC can "capture" a portion of the efficiency-caused savings for the utility to flow through to its other customers. We have not yet analyzed the new PSC rate structure for its effect on other customers.

94. While no one fights for the privilege of buying electricity from Con Edison, PASNY has no shortage of potential customers, and loss of customers to cogeneration would not seem to present a problem but rather an opportunity to add other customers. It is unclear what is meant by the "rates...charged for cogenerated electricity." The PSC sets the rates for electricity flowing between the cogenerator and the utility. It is the understanding of GNYCE that pursuant to the decision in the cogeneration case, Con Edison will propose tariffs to the PSC for approval.

95. The ESRG study is still underway, and they are still assembling documents.

96. See interrogatory 87 response.

97. Please see our April 9, 1982 submittal to the Board regarding the lessened need for Indian Point as a result of increased conservation and cogeneration, and the documents cited therein. As is well known and as reported in the City Energy Office study, New Yorkers use less than one half the U.S. per capita residential electric consumption. This is due to the inherent efficiency of city living and to the fact that New York has had the nation's highest rates for many years. However, as that report also points out, there is still room for so much conservation in this sector that at least a 24% reduction can be considered reasonable. And residential is only one sector: altogether the electricity reductions cited were as reported in our April 9, 1982 submittal.

98. Because of economic dispatch, any consistent demand reduction lowers the cost of the then marginal utility generation.

99. In the absence of any other effects the shutdown of the Indian Point plants would serve to increase the cost of the marginal generation. However, once Con Edison has reached the point of marginal generation by expensive gas turbines, the cost will level off. Shrinking demand also tends to offset the marginal cost.

100. GNYCE considers the burning of oil to generate electricity an unfortunate situation and one that should be minimized to the greatest extent practical by safe, reliable, and economical means. Because with electric generation we are discussing

residual oil and judging from the past oil shortages we consider that such use entails no risk to a steady supply, very slight risk of real price increases, and significant environmental risk. The last is a major reason, along with cost, that the use of oil in terribly inefficient central utility plants such as Con Edison's with efficiencies of about 25% (Con Edison Annual Report, 1980) is regrettable.

101. Since ratepayers pay average costs and in the near term none of the sources of energy listed will take over all or even nearly all of generation on this system, such comparisons are mere busy work.

102. Subject to site-specifics, cogenerated heat can in general be used to economically displace oil for space heating, water heating, process heat, etc. It is virtually never sound energy policy to replace a thermal use of a fuel with electricity. The cogenerated electricity is best used to displace electricity inefficiently generated by oil or other fossil fuel.

103. Increased cogeneration is likely to have an impact on the Con Edison steam supply system because the steam is so expensive. Steam customers such as sizable residences are among the prime candidates for cogeneration because they already have many of the systems that make a cogeneration system easily compatible and of optimum cost-effectiveness such as hydronic heating and absorption chiller centralized air-conditioning. We have not studied this situation closely enough to quantify the likely impact.

104. As stated earlier, there will be a reduction in taxes collected with any reduction in Con Edison revenues, but this is strictly not an economic impact, merely a transfer which

can be readjusted by state and local legislatures.

105. GNYCE believes it is foolhardy to predict energy supply prices for a period as long as twenty years. It is reasonable to assume however that as gas price decontrol is phased in, the price will rise to a rough parity with oil.

106. The supply of natural gas for cogeneration may well be distributed by the centralized systems, or with appropriate regulatory reform, by individual contracts with pipeline companies with wheeling by distributing utilities.

107. GNYCE believes that Indian Point has enough problems with the heat exchangers (steam generators and condensers) that it already has. Adding more to utilize the rejected heat, if technically feasible at all, would probably be dangerous if not merely enhancing unreliability. Also, the only likely load for such a heat source would be industrial, and we know of no industry that could economically utilize such an undependable heat supply. (Nearby Georgia Pacific has petitioned the PSC for a large gas hook-up for the purpose of cogeneration.)

108. No such studies were made or specifically relied upon.

109. Conservation is highly practical and greatly employed by those who cannot afford rent, utility bills, or electric appliances, although it is the conservation of denial. As far as the amount of increased conservation by the poor who do use electricity, it is less per customer than that possible by higher income customers, but the level of electrical conservation cited in the City study does not contravene this fact.

110. Nuclear fuel, plant maintenance, nuclear staff, capital improvements, nuclear research, nuclear litigation.

111. GNYCE did not assert that 'vast political and social changes' would "result" from using energy sources such as hydropower and coal conversion. Rather, in our April 9, 1982 submittal we argued that conservation and cogeneration would not require such changes. No one has a problem with cogeneration except Con Edison. Coal conversion and new transmission lines through upstate New York are highly controversial. Municipal refuse burning, as we also mentioned is not only controversial but technically questionable from past U.S. experience. None of this is to say that these other alternatives will not be utilized for they almost certainly will be, but that conservation and cogeneration present the best "fit" to the social and political milieu.

112. As has been stated before, New Yorkers are becoming increasingly aware of the fact that they have economical alternatives to the high and escalating electric rates of Con Edison. City and state policy now reflect this understanding with regard to at least conservation, and as the situation becomes increasingly desperate, policy will continue to shift to more active promotion of cogeneration as the only way to bring economical generating capacity on line quickly using private and public capital. Con Edison has made it clear that even if it gets its way with regard to Indian Point, electric rates will be significantly higher in the near future, and this is becoming less and less tenable for sectors of the economy which can afford to do something about it. Their actions, of investing in conservation and cogeneration projects with short payback periods will serve and are serving to stabilize and lower average energy costs in the City which will reduce the absolute level of economic impact that would be entail-

ed by closing Indian Point.

113. PASNY has announced plans to build nine new hydropower installations totalling 200 MW by 1990. Projects at Ashokan and Kensico reservoirs are already underway. PASNY also plans to expand the Niagara project by as yet an undetermined amount.

114. Most likely, hydropower will be able to replace Indian Point to some extent. In addition to small hydropower, increased quantities of imported hydropower from Canada would be available to New York City if PASNY's proposed transmission line from Marcy to the southeast is built. A shutdown of Indian Point may serve to add impetus to the effort to overcome opposition to such facilities, but no direct effect can be cited with certainty.

115. One assumes that PASNY has considered such factors and that it has found them acceptable as a basis for its proposals. We have not independently evaluated PASNY'S technical and economic analysis of its plans for increased hydro imports and transmission to southeastern New York State. In any case, the non-catastrophic nature of the cost of a shutdown of Indian Point is not dependent on such increased hydropower.

116. There are a number of other small hydro projects but we do not have a list. The cost of the power they produce varies widely depending on site-specific factors such as the state of existing facilities, land costs, financing, etc.

117. This is true but only trivially so. Any reputable energy consultant should recommend energy efficiency improvements to a reasonable level (a payback at least up to that of a cogeneration system) before a cogeneration system is installed. Even with the maximum potential for heat conservation in New York City, there will still be far more than an adequate heat load for 1500



MW of cogeneration when it is considered that according to the city, the end-use space heat load alone in 1979 was about 400 trillion BTUs(CEO report, page 22). This would roughly correspond to almost 7,000 MW of cogeneration capacity. An accounting of other heat loads such as water heating, air-conditioning, and process heat would show that even with the most favorable levels of conservation, the heat load is still tremendous and would not impinge on the need for cogeneration. Furthermore, on a specific site basis, a decision to employ cogeneration would rarely if ever be dropped due to conservation investments, rather it would more likely be scaled-down accordingly. Remember, cogeneration is electric cost-motivated, not heat cost-motivated, for in New York any byproduct electricity is very valuable.

118. Likewise, solar heat should be evaluated for any site that is considering cogeneration, but in general the return on investment for solar cannot approach that for cogeneration, even though some solar systems are economically desirable. The effect of solar heat on cogeneration will be very small within the next decade.

119. Once-through cooling with or without cooling towers or closed-cycle cooling towers. Cogeneration cost figures used are representative total system costs on an installed KW basis.

120. It would not make sense to operate Indian Point in any other than a baseload mode.

121. Please see response to interrogatory 25. We do not yet have the document information requested. Please also see response to interrogatory 88. Subpart (f) is burdensome and not



relevant to this proceeding. Witnesses for the insurance aspects of the contention have not yet been identified.

122. None specifically other than cited elsewhere.

123. GNYCE has an oral agreement with ESRG for its development of testimony on the economic impact of closing Indian Point. The only communication relevant to these interrogatory responses are the responses provided by ESRG as described in the introductory paragraph.

Respectfully submitted,

*15/ Dean R. Corren (BHC)*

Dean R. Corren, Director

Greater New York Council on Energy  
c/o Dean R. Corren  
New York University  
26 Stuyvesant Street  
New York, New York 10003

Dated: July 14, 1982  
New York, New York

RELATED CORRESPONDENCE

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

DOCKETED  
USNRC

02 JUL 19 10:55

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

OFFICE OF SECRETARY  
DOCKETING & SERVICE  
BRANCH

In the Matter of

CONSOLIDATED EDISON COMPANY OF NEW YORK  
(Indian Point Unit 2)

POWER AUTHORITY OF THE STATE OF NEW YORK  
(Indian Point Unit 3)

Docket Nos. 50-247 SP  
50-286 SP

July 14, 1982

CORRECTION

CORRECTION OF THE RESPONSE OF GNYCE TO INTERROGATORIES  
OF LICENSEES UNDER COMMISSION QUESTION 6, DATED JULY 14

The above document, page 4, paragraphs 3 (Interrogatory 38) and 4 (Interrogatory 39) should be corrected to read:

38. Attached\* is a copy of the GNYCE study, The Potential for Cogeneration in New York City, which to a degree compares the fuel cost savings of cogeneration and Indian Point. The study is also available from GNYCE at the service list address.

39. See Interrogatory 38. The Brookhaven avoided-cost study is available from the National Center for Analysis of Energy Systems, Brookhaven National Laboratory, Upton, N.Y. 11973. The study, Energy Consumption in New York City, is available from the New York City Energy Office, 17 John Street, New York, NY 10038

Delete footnote at bottom of page 4.

Add the following footnote:

\*The study itself is being served only to Licensees. Other parties who wish to obtain the study may request it from GNYCE at service list address.

2503

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

DOCKETED  
USNRC

'02 JUL 19 AIO:52

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

OFFICE OF SECRETARY  
DOCKETING & SERVICE  
BRANCH

In the Matter of )

CONSOLIDATED EDISON COMPANY OF NEW YORK )  
(Indian Point Unit 2) )

POWER AUTHORITY OF THE STATE OF NEW YORK )  
(Indian Point Unit 3) )

Docket Nos. 50-247 SP  
50-286 SP

Certificate of Service

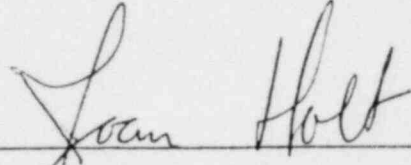
I hereby certify that copies of:

RESPONSE OF GNYCE TO INTERROGATORIES OF LICENSEES UNDER  
COMMISSION QUESTION 6, dated July 14, 1982 have been served  
upon licensees Con Edison and PASNY by hand delivery to  
their offices as listed on the service list, and all other  
parties

/

have been served on the official minimum service list for the above  
captioned proceeding by depositing in the United States mail, first class,  
this 14 day of July, 1982.

\_\_\_\_\_  
Amanda Potterfield, Esq.  
P.O. Box 384  
Village Station  
New York, New York 10014

  
\_\_\_\_\_  
Joan Holt  
New York Public Interest Group, Inc.  
9 Murray Street  
New York, New York 10007

DOLKATED  
USNRC

) ) ) ) ) ) ) )

Docket Nos. 50-247 SP  
50-286 SP

3

### SERVICE LIST

Paul F. Colarulli, Esq.  
Joseph J. Levin, Jr., Esq.  
Pamela S. Horowitz, Esq.  
Charles Morgan, Jr., Esq.  
Morgan Associates, Chartered  
1899 L Street, N.W.  
Washington, D.C. 20036

Charles M. Pratt, Esq.  
Thomas R. Frey, Esq.  
Power Authority of the State  
of New York  
10 Columbus Circle  
New York, N.Y. 10019

Ellyn R. Weiss, Esq.  
William S. Jordan, III, Esq.  
Harmon & Weiss  
1725 I Street, N.W., Suite 506  
Washington, D.C. 20006

Joan Holt, Project Director  
Indian Point Project  
New York Public Interest  
Research Group  
9 Murray Street  
New York, N.Y. 10606

Mayor George V. Begany  
Village of Buchanan  
236 Tate Avenue  
Buchanan, N.Y. 10511

John Gilroy, Westchester Coordinator  
Indian Point Project  
New York Public Interest  
Research Group  
240 Central Avenue  
White Plains, N.Y. 10606

Jeffrey M. Blum, Esq.  
New York University Law School  
423 Vanderbilt Hall  
40 Washington Square South  
New York, N.Y. 10012

Charles J. Maikish, Esq.  
Litigation Division  
The Port Authority of  
New York and New Jersey  
One World Trade Center  
New York, N.Y. 10048

Ezra I. Bialik, Esq.  
Steve Leipsiz, Esq.  
Environmental Protection Bureau  
New York State Attorney  
General's Office  
Two World Trade Center  
New York, N.Y. 10047

Alfred B. Del Bello  
Westchester County Executive  
Westchester County  
148 Martine Avenue  
White Plains, NY 10601

Andrew S. Roffe, Esq.  
New York State Assembly  
Albany, N.Y. 12248

Janice Moore, Esq.  
Counsel for NRC Staff  
Office of the Executive  
Legal Director  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

Honorable Ruth Messinger  
Member of the Council of the  
City of New York  
District #4  
City Hall  
New York, N.Y. 10007

Stanley B. Klimberg  
General Counsel  
New York State Energy Office  
2 Rockefeller State Plaza  
Albany, N.Y. 12223

Marc L. Parris, Esq.  
Eric Thorsen, Esq.  
County Attorney, County of Rockland  
11 New Hempstead Road  
New City, N.Y. 10956

Geoffrey Cobb Ryan  
Conservation Committee  
Chairman, Director  
New York City Audubon Society  
71 West 23rd Street, Suite 1828  
New York, N.Y. 10010

Greater New York Council on  
Energy  
c/o Dean R. Corren, Director  
New York University  
26 Stuyvesant Street  
New York, N.Y. 10003

Honorable Richard L. Brodsky  
Member of the County Legislature  
Westchester County  
County Office Building  
White Plains, N.Y. 10601

Pat Posner, Spokesperson  
Parents Concerned About  
Indian Point  
P.O. Box 125  
Croton-on-Hudson, N.Y. 10520

Charles A. Scheiner,  
Co-Chairperson  
Westchester People's Action  
Coalition, Inc.  
P.O. Box 488  
White Plains, N.Y. 10602

Lorna Salzman  
Mid-Atlantic Representative  
Friends of the Earth, Inc.  
208 West 13th Street  
New York, N.Y. 10011

Alan Latman, Esq.  
44 Sunset Drive  
Croton-on-Hudson, N.Y. 10520

Zipporah S. Fleisher  
West Branch Conservation  
Association  
443 Buena Vista Road  
New City, N.Y. 10956

Judith Kessler, Coordinator  
Rockland Citizens for Safe Energy  
300 New Hempstead Road  
New City, N.Y. 10956

David H. Pikus, Esq.  
Richard F. Czaja, Esq.  
330 Madison Avenue  
New York, N.Y. 10017

Atomic Safety and Licensing Board  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555 \*

Atomic Safety and Licensing Appeal  
Board  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555 \*

Docketing and Service Section  
Office of the Secretary  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555 \*

Ms. Amanda Potterfield, Esq.  
P.O. Box 384  
Village Station  
New York, NY 10014

Renee Schwartz, Esq.  
Paul Chessin, Esq.  
Laurens R. Schwartz, Esq.  
Margaret Oppel, Esq.  
Botein, Hays, Sklar & Hertzberg  
200 Park Avenue  
New York, NY 10166

Jonathan D. Feinberg  
New York State Public Service  
Commission  
3 Empire Plaza  
Albany, NY 12223

Ruthanne G. Miller, Esq.  
Atomic Safety and Licensing Board  
Panel  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

Donald Davidoff, Director  
Radiological Emergency Preparedness  
Empire State Plaza  
Tower Bldg. Rm. 1750  
Albany, NY 12237

Laurie A. Vetere, L.A.  
Office of the County Exec.  
Westchester County  
148 Martine Ave.  
White Plains, NY 10601