UNITED STATES OF AMERICA

NUCLEAR REGULATORY COMMISSION

COMMISSIONERS:

Nunzio J. Palladino, Chairman
Victor Gilinsky
John F. Ahearne
Thomas M. Roberts
James K. Asselstine

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

VIEWS OF CON EDISON RESPECTING RADIOLOGICAL EMERGENCY PLANNING AT INDIAN POINT IN RESPONSE TO THE COMMISSION'S MAY 5, 1983 ORDER

Dated: New York, New York
May 20, 1983

CONSOLIDATED EDISON COMPANY OF
NEW YORK, INC.
Licensee of Indian Point
Unit 2
4 Irving Place
New York, New York 10003
(212)460-4600

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COMMISSION'S MAY 5, 1983 ORDER

Consolidated Edison Company of New York, Inc., ("Con Edison"), licensee of the Indian Point Unit 2 nuclear power plant, submits its views on the appropriateness of enforcement action relating to emergency preparedness at Indian Point pursuant to leave granted by Order of the Nuclear Regulatory Commission ("Commission") dated May 5, 1983.

On April 14, 1983 the Federal Emergency Management Agency ("FEMA") released a post-exercise assessment relating to an emergency planning exercise conducted at Indian Point on March 9, 1983. That assessment asserts that two significant deficiencies in plans for a serious radiological accident at Indian

Point were identified in the course of the exercise. The FEMA deficiencies relate to the nonparticipation of one of four counties within the Indian Point 10 mile emergency planning zone ("EPZ") in the March 9 exercise, and a lack of assurance of sufficient public transportation resources for evacuation of transit-dependent persons in another county.

For the reasons set forth below, Con Edison submits that further enforcement action against the Indian Point licensees would be wholly inappropriate. The history of our involvement in off-site emergency planning is one of responsible generosity and cooperation with State and local governments, and no licensee could be expected to have done more. At the present time, interim off-site emergency planning measures are being put in place which will provide further assurances that the public is amply protected from the exceedingly low risks posed by the plant. The FEMA deficiencies, even if correct, would have a de minimis impact on the public were an accident to occur. The severe and immediate adverse economic consequences to the citizens of the New York metropolitan area from any interruption in the operation of the Indian Point units is a compelling reason which is sufficient of itself to permit their continued operation.

Summary of Emergency Planning Activities
in the Vicinity of Indian Point Since 1979

In order for the Commission to fully understand the present status of offsite radiological emergency planning in the vicinity of Indian Point, it should have an overview of the state, licensee and county activities to improve emergency planning at this site since the NRC amended its regulations.

When the NRC proposed amendments to its emergency planning regulations, 10 CFR Part 50 and App. E, in November 1979, Indian Point was one of the few operating nuclear power plant sites to have comprehensive emergency planning in place. Prior to the Three Mile Island incident, Con Edison had already implemented emergency planning, which included a plan coordinated with the State and Westchester County, an on-site meteorology system, a backup and primary emergency control center, field monitoring teams with radio communication equipment, and agreements with various organizations to provide assistance in the event of an incident.

Con Edison also conducted ongoing emergency planning training and drills with local fire, ambulance and police. The Con Edison Indian Point Emergency Planning Director had for a number of years been maintaining regular contact with emergency services officials in both Westchester and Rockland Counties, and these contacts increased as efforts to comply with the NRC's new regulations got under way. Starting in late 1979, Con Edison officials had numerous meetings with county officials to solicit advice on emergency planning efforts.

In December 1979, Con Edison and the New York Power Authority retained a leading civil engineering firm, Parsons, Brinckerhoff, Quade and Douglas, to prepare evacuation time estimates. In early 1980 the licensees proposed to the four counties around Indian Point that licensees fund the activities of consultants to develop county and state radiological emergency response plans which would conform to the NRC's new regulations. With the assistance of emergency planners from the state and the counties, a specification was prepared and proposals were solicited from over 30 vendors. Five vendors gave proposals to a committee comprised of county and utility representatives, and

on March 17, 1980, with the support of Rockland and Westchester Counties, the firm of EDS Nuclear was selected to develop overall emergency plans. Because of its familiarity with the Indian Point EPZ gained in preparing the evacuation time estimates, the Parsons, Brinckerhoff firm was retained to prepare the evacuation portion of the plans. Although compensated by the utilities, these two firms acted as consultants for the state and the four Indian Point counties.

On April 29, 1980, several months after the initial issuance of NUREG-0654 by NRC and FEMA, New York's five nuclear utilities entered into a contract with the State of New York to fund the State's Radiological Emergency Preparedness Group ("REPG"). In exchange for payments ultimately aggregating $439,000, the State assumed the responsibility for preparing radiological emergency response plans and implementing procedures, which would comply with all Federal regulations and guidance, for the nuclear power plants in the State. The contract provides that the State:

> ". . . shall see to it that the plan and implementing procedures submitted by the State fully comply with all applicable Federal regulations and guidance."

The contract also makes the State:

> ". . . responsible for the coordination and review of local radiological response plans and written implementing procedures."

Throughout 1980 and much of 1981, the consultants preparing the plans and State representatives met frequently with officials of the four Indian Point counties. These county officials included those responsible for civil defense, law enforcement, health, schools, public works and highways, fire and rescue, ambulance corps, social services and transportation. Every effort was made to maintain close communication with the various participating agencies in the four counties.

By early 1980, EDS Nuclear had designated an emergency planner to work full-time with Rockland County. Frequent meetings were held with Rockland County officials to prepare and discuss three successive revisions to the draft Rockland County plan. All draft plan materials were also discussed with the State's Radiological Emergency Preparedness Group and the Office of Disaster Preparedness. By September 1980, EDS Nuclear had incorporated all comments made by the counties and the State into the emergency plans. Meanwhile, Parsons, Brinckerhoff planners held meetings on almost a daily basis with officials from schools, nursing homes, hospitals and various public agencies in the four counties to assess evacuation needs and to inventory equipment and personnel that would be available to aid in responding to an accident.

EDS Nuclear maintained continuing contact with the County Executives of Westchester, Putnam and Orange Counties, and the then-Chairman of the Rockland County Legislature,* throughout the course of the Indian Point project. In Rockland County, EDS Nuclear also maintained continuing contact with the Deputy Director of the Office of Emergency Services, as well as the County Sheriff, the Commissioner of Health, the County Radiological Health Specialist, and the Superintendent of Highways. In mid-1981, EDS met with the Chiefs of Police of at least seven Rockland County municipalities, who stated that the draft county plan was acceptable.

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* The present Chairman of the Rockland County Legislature assumed his duties on January 8, 1983.

Parsons, Brinckerhoff also maintained an extensive contact program with schools and bus companies in the four counties, concentrating on the evacuation component of the plan. Through 1981, Parsons had contacted 38 school administrators in Rockland County alone whose schools were located within the EPZ. In Westchester County, Parsons met with seven bus companies and operators, all of which indicated that they would participate in the plan.

Radiological emergency response plans for the four counties surrounding Indian Point were submitted to NRC on December 30, 1980, and revised county plans were submitted on August 17, 1981. By this time, the two consultant firms had devoted in excess of 1,300 man-hours to contacts with local and county representatives, not including the many hundreds of additional hours devoted to this purpose by utility and New York State REPG personnel.

In testimony recently given before the Indian Point Licensing Board, the official responsible for radiological emergency planning in Orange County described the county's involvement with the consultants in plan preparation as follows:

> "I was very impressed with Parsons Brinckerhoff, the people that worked for them, the type of work they do....
>
> As the plan developed, Parsons Brinckerhoff did not put a plan together for us. They worked with us. Every month we had a department head meeting. We had all our commissioners and department heads and we sat down with Parsons Brinckerhoff so that anything we put together would be tailored to how things functioned in Orange County. This is how the plan evolved. It was with direct input from all our agency heads and department heads."*

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* Transcript of Indian Point Special Proceeding, Nuclear Regulatory Commission; Docket No. 50-247 SP and 50-286 SP, at pages 12074-77 (hereinafter "Tr.").

The Putnam County Civil Defense Director characterized county radiological plan development in a similar fashion:

> "Parsons Brinckerhoff gave us the first draft. The first draft had quite a few things in it that were wrong. We took this plan and we called the services in, for instance, the transportation plan. Some of the roads were named wrong, which would be -- I think it would be par for the course for anybody who is making a plan.
>
> We took our own people, our sheriffs, our highway department people and we showed them the plan. We showed them the maps. They pointed out where the mistakes were on the roads and stuff. We made these corrections. We made these corrections two years ago; two years ago we made these corrections. Almost anything we wanted -- anything they want to do, we had the input." (Tr. at p. 12075.)

In early 1981, NRC and FEMA publicly expressed concern over whether in the event of a radiological emergency State officials and the Governor would have sufficient authority to insure the participation and direct the activities of county and local workers. State planners also wished to initiate a permanent program to provide continuous funding for radiological emergency preparedness to replace the contractual arrangements started in April 1980. On July 9, 1981 the New York State Legislature passed Chapter 708 of the Laws of 1981.* This legislation gives the Governor or his designee complete powers to direct the participation and activities of county officials and other local workers in the event of a radiological emergency.

This legislation also imposes an annual fee of $250,000 per reactor upon utility licensees in New York State to be used for radiological emergency preparedness purposes at both the state and local levels. In the 22 months

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* Now codified as Executive Law, Art. 2-B, McKinney's Consolidated Laws of New York.

this law has been in effect, the State Disaster Preparedness Commission and the REPG have received fees amounting to $3,450,000 for nuclear emergency planning, $1,150,000 from the Indian Point licensees alone. Con Edison and the Power Authority each pay to the State the highest annual assessment for radiological emergency planning of any nuclear utility in the country.

From the funds received through utility assessments, the State REPG makes annual direct cash grants for radiological emergency planning to affected counties throughout the State. In 1982, the four counties surrounding Indian Point received payments totalling $212,247, of which Rockland County received $57,870. In addition to these cash grants, the State has to date also purchased and provided to the four Indian Point counties from utility payments under the funding legislation over $73,000 in equipment, including 950 dosimeters and over 3000 TLDs.

In 1980, the utilities began to receive equipment requests directly from the four counties. Two complete mobile radiation monitoring kits were delivered to each county in 1980, and with the assistance of county officials, including Rockland County, a network of fixed-site Ludlum and Reuter-Stokes radiation monitors was installed in each county. The utilities also agreed to supply extensive communications and computer equipment to each of the four counties, and by mid-1981, the Emergency Operations Center in each county was supplied with a computer to access meteorological and radiation data from Indian Point. A dedicated Hotline and a backup system were also installed at utility expense which permit instantaneous communications among the State, four counties and the site.

After the passage of the radiological emergency planning funding legislation, and the counties' receipt of the cash and equipment described

above both from the Indian Point licensees directly and from the State, two of the four Indian Point counties (but not other counties within the State) asserted that they were still without sufficient resources to maintain adequate planning. So in December 1982, Con Edison and the Power Authority made a further voluntary payment to the State, beyond that required by law, of $210,000, to be used in the four Indian Point counties. These funds have been applied as follows:

Rockland County	
Radiological Consultant	$30,000
Cost of 1982 Exercise	30,000
Paging Equipment	1,750
Westchester County	
Mass Transit Study	23,360
Police Training	21,640
Orange County	
Radiological Specialist	15,000
Training Expenses	10,000
Mass Transit Study	20,000
Putnam County	
Public Information Specialist	30,000
Stand-by Electric Generator	13,250
Radiological Specialist	15,000

Con Edison and the Power Authority have expended considerable funds for Indian Point emergency planning in addition to the legislative assessments and voluntary grants described above. To date, the licensees have made capital expenditures for radiological emergency planning amounting to approximately $11,885,000, exclusive of the thousands of hours of utility personnel time which have been devoted to planning activities. These funds have been expended as follows:

State and County plan development	$ 2,488,000
MIDAS (Meteorological Information and Dose Assessment System)	618,000
Meteorological equipment	390,000
Respirator Test facility	57,000

Emergency Operations Facility	1,104,000
Radiation Monitoring Station	590,000
Portable Radiation Instrumentation	204,000
ECC Radios	1,106,000
State and County Communications Equipment	366,000
Alert Notification (Siren) System	4,693,000
Public Information System	150,000
Demand Breathing System	49,000
Warning Point Notification	70,000
Total	$11,885,000

The lion's share of this amount, $7,761,000, has been spent off-site for such items as the public notification system, plan development and radiation monitors. Moreover, licensees have incurred additional expenses in excess of $1,900,000 for operation and maintenance of the emergency planning system. Some of these expenses include the installation and maintenance of the New York State/County hotline and preparation of the emergency planning public information booklets.

In addition to the funds expended for direct off-site emergency planning, as a result of the Three Mile Island incident, Con Edison has made further expenditures under the "lessons learned" program for modifications which substantially enhance plant operator ability to diagnose and respond to an emergency at Indian Point Unit 2. To date, approximately $57,000,000 has been expended for facilities and equipment which would improve emergency response, including a Technical Support Center, Post-Accident Sampling, Radiation Monitors, and improved Control Room habitability.

In addition to cash expenditures, both the State and the licensees have devoted considerable effort to the training of county emergency response workers. Since February 9, 1981, Con Edison has trained over 163 county emergency workers from the various counties in field monitoring and dose

assessment. Additionally, prior to the initial Indian Point exercise in March 1982, Stone and Webster Engineering Corporation was retained by the Power Authority to conduct radiological emergency response training sessions for county personnel. From January 28 until March 1, 1982, twenty four separate county worker training sessions were conducted at various locations within the four county area. The total county trainee attendance at these sessions was approximately 400.

Starting in March 1982, the State REPG has also been providing radiological emergency response training regularly to state and local workers in the four counties surrounding Indian Point. This training was described in detail in testimony given by the State of New York before the Indian Point Licensing Board.* To date, State-sponsored training has been given to a total of 4,892 attendees, 1,045 of whom attended courses in Rockland County. Those who have received training include police, firemen, ambulance and rescue teams, radiological exposure and decontamination workers, bus drivers, hospital workers, and school superintendents.

Thus the Indian Point licensees as well as the State have devoted an enormous amount of resources to the development of local government emergency response capability in the vicinity of Indian Point. The Orange County official who testified before the Indian Point Licensing Board described those resources as follows:

> "[W]e have always received equipment from the state in the form of war related activities, radiological equipment. A number of those pieces of equipment are or can be used in this type of a scenario. The utilities, however, did provide us with a tremendous amount of much more sophisticated equipment to work in the peacetime nuclear scenario. . . . In addition, the utilities, if I may, continue with that, provided us with computers, telefax machines, telephones, really anything we requested to insure that our plan would work." (Tr. at pp. 12093-94.)

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*Exhibit 9 to the Testimony of Donald B. Davidoff and Lawrence B. Czech.

The Putnam County Civil Defense Director testified in the hearings that:

> "The utilities, also, gave us all kinds of equipment. As a matter of fact, anything we want, they have been more than decent about giving us." (Tr. at p. 12095.)

The witness added that the same policy was applied to training:

> "The State will give us any assistance we want and the utilities will give us any assistance -- I could ask the utility for somebody on 2:00 on Sunday afternoon to train somebody. He's there. The state will do the same thing. We have no problem getting anybody to give us a hand." (Tr. at p. 12099.)

I.

BASED UPON IMPROVEMENTS AND INTERIM COMPENSATING ACTIONS FOR OFF-SITE EMERGENCY PLANNING WHICH ARE BEING TAKEN AT INDIAN POINT SINCE THE MARCH 9, 1983 EXERCISE, FEMA AND THE NRC SHOULD FIND THAT THERE ARE NO LONGER ANY SIGNIFICANT DEFICIENCIES.

In its post-exercise assessment FEMA acknowledges that "substantial progress" in improving off-site emergency planning in the vicinity of Indian Point "is being made almost on a daily basis." This statement is an accurate characterization of the entire period from the March 9, 1983 exercise to date. The licensees, the State of New York, and Westchester and Rockland Counties have been working intensively over recent weeks to improve planning and to alleviate the situations characterized as significantly deficient by FEMA in its post-exercise assessment.

In Westchester County, the FEMA objections have been overcome through a number of significant breakthroughs. One of FEMA's concerns related to bus driver training in Westchester County. A commitment has been received from the unions representing the majority of Westchester bus drivers whereby 1,500 drivers will receive classroom orientation on radiation emergency response

procedures. The sessions commenced on May 19, with over 40 drivers. The timetable anticipates that 1,500 drivers will be trained within a six-week period.

In testimony before the Indian Point Licensing Board (Tr. at p. 14977), FEMA testified that agreements with bus companies to provide transportation services in the event of an emergency would be satisfactory to FEMA. Within the past few days, agreements have been reached to sign letters of intent whereby up to 1,000 buses would be made available for possible use in an actual emergency, which is at least twice the number which would be required for evacuation of the entire Westchester County portion of the EPZ. Since the March 9 exercise, Westchester County has also requested and received a commitment from the State of New York to provide the bus companies with 1,000 dosimeters, 1,000 bottles of potassium iodide tablets, and other materials which would aid in the evacuation component of an emergency.

In another significant development, Con Edison and the Power Authority have executed an agreement with the State of New York's Radiological Emergency Planning Group and paid $241,725 for the services of the Transportation Safety Planning Group ("TSPG") to conduct a study of the evacuation portion of the Westchester Radiological Emergency Preparedness Plan. A written agreement between TSPG and Westchester County to conduct the study was signed on May 20, and the study will be underway shortly.

In Rockland County, substantial progress is also being made to address the FEMA significant deficiency. There recently appears to be increased recognition among responsible Rockland County elected officials that some interim arrangements formalizing a County or State/County response capability are desirable for the benefit of County residents during the several months

while the County is preparing its own plan. On May 17, the Multi-Services Committee of the Rockland County Legislature approved and sent to the full Legislature a Resolution providing in pertinent part that:

> "RESOLVED, that the Legislature of Rockland County hereby expresses its intent to accept an interim emergency evacuation plan from any responsible individual or entity pending the acceptance by the legislature of a final emergency evacuation plan for the County of Rockland. . . ."

The Resolution, which makes any interim emergency plan subject to County approval, will be considered by the Legislature at its meeting on June 2, 1983.

At the time Rockland County withdrew from the coordinated emergency planning process in 1982, it established a Citizens' Advisory Committee to assist the County in preparing its own plan. At a meeting of the County Legislature on May 16, the Legislature heard a report from the Chairwoman of the Citizens' Advisory Committee who stated that "great strides" had been made in developing the plan. The Committee has been meeting regularly, and the Chairman of the County Legislature has recently suggested that a Con Edison representative who is a resident of Rockland County be proposed for membership in the Committee. Con Edison welcomed the opportunity and has reiterated to County officials that it stands ready to assist in radiological emergency preparedness activities wherever possible. The County called upon the licensees to provide such assistance last week, when at the County's request licensees provided an additional 300 dosimeters and four field monitoring kits to Rockland County.

FEMA found deficient the State's compensatory action program to substitute State personnel for Rockland County officials who ceased participating after 9 A.M. during the March 9 exercise. FEMA's position was in

large part because there was no written plan providing for substitution of State workers. The State has recently indicated a willingness to make the plan changes necessary to accommodate this FEMA concern. Con Edison has expressed its support for this new State activity and has offered any assistance that may be of use.

The NRC Staff has itself recently recognized the efforts of Con Edison in improving off-site emergency planning in the vicinity of Indian Point. In its May 20, 1983 Systematic Assessment of Licensee Performance (SALP) report on Indian Point Unit 2, the NRC Staff observed that:

> "The licensee has been very cooperative in assisting the State of New York and local officials in upgrading offsite emergency preparedness."

Referring to corrected deficiencies from the 1982 exercise, the SALP report states that:

> "The licensee committed significant resources to accomplish the corrective actions."

Based on the foregoing, there are at present adequate interim compensating actions that are being taken promptly to correct or overcome the FEMA significant deficiencies. Having met the requirements of the Commission's May 5 Order, Con Edison submits that further enforcement action would no longer be appropriate.

II.

FEMA'S POST-EXERCISE ASSESSMENT DOES NOT SUPPLY THE BASIS FOR A SHUTDOWN OF THE INDIAN POINT PLANT.

A. FEMA Did Not Intend To Suggest In Its Post-Exercise Assessment That There Were Conditions Making Consideration Of Shutdown Appropriate.

The extensive changes in the emergency planning picture around Indian Point discussed above are of themselves cause for the Commission not to pursue any enforcement action at this time. The current status of emergency preparedness is thus now considerably different from what it was at the time of the March 9 exercise, as considered in FEMA's April 14, 1983 Indian Point post-exercise assessment. Yet even if this were the only information before the Commission, it is quite clear from FEMA's explanations to the Indian Point Licensing Board that there would be no justification for further enforcement action under the NRC's regulations.

The FEMA post-exercise assessment is remarkable in only two respects: the letter which transmits it to the NRC states that "FEMA cannot assure that public health and safety can be protected in the ten mile EPZ around Indian Point," and two deficiencies found by FEMA are singled out for special characterization as "significant." Exactly what FEMA intended to convey by these statements is evidently not clear from the post-exercise assessment itself, nor from FEMA's April 20, 1983 oral briefing to the Commission. Thus FEMA's "cannot assure" may or may not be equivalent to "there is a lack of protection," and a deficiency might be "significant" from a great variety of standpoints.

Fortunately, however, the intent and meaning of the principal authors of the post-exercise assessment was fully explained when they testified before the Indian Point Licensing Board on April 28, 1983. The testimony of the FEMA witnesses makes abundantly clear that in the post-exercise assessment there was no intent to suggest that conditions warranting enforcement action such as shutdown exist at Indian Point.

With respect to FEMA's "cannot assure" statement, the FEMA witnesses testified that all FEMA intended to communicate to NRC was that Indian Point had not successfully completed the proposed 44 CFR 350 process, whereby FEMA gives accreditation to emergency response plans at various sites. FEMA testified that:

> "Q. Well, then, is the statement that the assurance that public health and safety cannot be protected, in your view, Mr. McIntire, the equivalent of saying that proposed 44 CFR 350 accreditation is not appropriate? Are you saying is one in the same, are the two statements one in the same?
>
> A. (Witness McIntire) What was the last word following 40 CFR 350?
>
> Q. Accreditation.
>
> A. (Witness McIntire) Could you be a little more specific?
>
> Q. What do you characterize what we have been calling the 350 process as?
>
> A. I think I understand now. We are involved in each site, including Indian Point, with a 350 process. The ultimate goal of the 350 process is to have the regional director certify and assure to associate director, state and local programs in Washington, that he can assure that public health and safety can be protected. That is the end product of the 350 process from the regional point of view.
>
> In respect to Mr. Petrone's letter, he was requested as of April 14 to make a statement at that point in time of whether he could or could not assure the health and safety of the public, and that he did. . . .
>
> Q. Well, was, in your view, Mr. Petrone attempting to communicate that public health and safety was imperiled in any way or simply that he was unable to give the assurances that would follow a successful completion of a 350 procedure?

A. (Witness McIntire) The latter." (Tr. at pp. 14861-62).

Moreover, FEMA went on to testify that only 16 of 87 plants have successfully completed the 350 accreditation process, and that FEMA was not suggesting that there were lesser assurances of protecting the public at Indian Point than at any other of the 61 plants not accredited. Thus, far from being in a unique category of one site where the public was at risk from sorely inadequate emergency planning, the FEMA witnesses believed that Indian Point was one of a great number of plants for which FEMA similarly was unable to "assure that public health and safety can be protected." FEMA testified that:

"Q. Now, if I recall your earlier testimony, there are some 78 or so plants that are currently in operation around the United States, is that right? Approximately?

A. I think the number was 87 but I am not sure.

Q. 87 is even better. You said 16 have successfully gone through the 350 process?

A. That's my understanding.

Q. So there is a substantial number, 61, if my subtraction works, for which FEMA similarly cannot assure the public health and safety can be protected at this time, is that right?

A. (Witness McIntire) That would be my assumption." (Tr. at pp. 14862-63)

Thus, as far as the FEMA authors of the post-exercise assessment are concerned, Indian Point is in exactly the same situation as all other sites where accreditation is not yet warranted. The reason why Indian Point was singled out was only because the NRC requested an overall assessment, and had NRC requested a bottom line on emergency planning at any of the other unaccredited sites, FEMA would also have used the same language describing emergency planning at those sites as it used regarding Indian Point here.

With respect to FEMA's characterization of the Rockland County exercise nonparticipation and Westchester County transportation issues as "significant" deficiencies, FEMA similarly did not intend to supply a predicate for NRC enforcement. This is because FEMA made no connection between its characterization of these risks as "significant," and increased risk to the public. FEMA testified that:

> "Q. Was there any attempt made by FEMA, either independently or through consultation with your NRC people to match your use of the term significant with public health risks?
>
> A. (Witness McIntire) Not to my knowledge." (Tr. at pp. 14831-32).

Thus FEMA did not intend to convey in its post-exercise assessment that the two deficiencies labeled as "significant" would be at all significant in terms of their impact on the public in the event of an accident. Since FEMA was admittedly not even looking at whether an accident at Indian Point would have greater consequences in light of these two deficiencies, clearly the FEMA evaluation cannot possibly supply a basis for invoking an enforcement action such as shutdown under the NRC's regulations.

B. The Two Deficiencies Characterized As Significant At Indian Point Have Been Found To Be Generic.

FEMA has acknowledged both in testimony before the Indian Point Licensing Board and in discovery by the licensees* that the two deficiencies

* See Tr. at pp. 14885-88; Exhibits G and N to the Power Authority's May 3, 1983 letter to Chairman Palladino, et al.

which it has characterized as significant at Indian Point are in fact generic to at least a large number of plants. Thus in a September 1982 publication entitled "Generic Deficiencies in Off Site Emergency Preparedness at Commercial Nuclear Power Plants," FEMA states that "problems associated with evacuation (school bus utilization problems. . .)" has been identified as a generic deficiency recurring in many exercises observed by FEMA throughout the country. "Assignment of responsibility (organizational control) - lack of written agreements between government agencies" is similarly identified as a generic deficiency which FEMA has noted.

FEMA has thus paradoxically characterized nonparticipation of a local government in exercises and uncertainty about evacuation of transit-dependent persons as generic, while only Indian Point is faced with major enforcement action. Insights into how this could occur come from testimony before the Indian Point Licensing Board, where FEMA testified that the New York and New Jersey regional office which prepared the post-exercise assessment had received no guidance from FEMA's national officials as to when, and under what circumstances, a deficiency should be characterized as "significant" or otherwise. FEMA testified that:

> "Q. Did FEMA national give you any guidance as to whether you should judge a deficiency as significant or insignificant?
>
> A. (Witness McIntire): Not to my knowledge.
>
> Q. Am I correct in saying that, Mr. McIntire, you have very little personal knowledge of deficiencies that have been identified in emergency plans in other regions?
>
> A. (Witness McIntire): Yes." (Tr. at p. 14963).

If the two presumably significant deficiencies identified at Indian Point are in fact generic as stated by FEMA, then it is wholly inappropriate

for these licensees alone to be facing serious enforcement action, particularly when the matters at issue are beyond the powers of the licensees to correct. Since FEMA believes that the issues are generic in nature, to the extent NRC concurs it should give them generic treatment through rulemaking, rather than unfairly singling out one particular site for threatened enforcement action.

C. The Significance Of The Rockland County Deficiency Is Confined To The Exercise, And Does Not Relate To The Actual Level Of Preparedness In The Area.

In its post-exercise assessment, FEMA did not make adjustment for a crucial distinction between Rockland County's actions on March 9 and what they would be in an actual emergency. Rockland County declined to participate in the exercise, but in the event of an actual emergency the County Legislature has:

> "Resolved, that in the event of a nuclear occurrence of the Indian Point Facilities, the Legislature of Rockland County hereby authorizes, empowers and directs its Chairman, notwithstanding this resolution, to take any and all action in coordinating and cooperating with any and all Federal and State agencies to protect the lives and property of the citizens of Rockland County. . . ." (Resolution No. 320 of the Rockland County Legislature, May 18, 1982.)

Since FEMA was previously concerned with activities on March 9, its assessment did not look to other indicators of the effectiveness of the County's reponse to an actual emergency, such as the extent of training of Rockland personnel (see, especially, page 11 above), or how Rockland responds to nonradiological accidents.

However, the limited scope of the post-exercise assessment and FEMA's principal concern with the absence of approved Rockland County plans has caused County officials to dispute FEMA's assessment of the County's capabilities to

respond to a radiological accident. The Deputy Director of Rockland County's Office of Emergency Services, who is the official in day-to-day charge of emergency planning, testified at his deposition taken in connection with the Indian Point Licensing Board proceedings that Rockland County workers could have performed all of the operations required in the March 9 exercise. When asked to comment on the appropriateness of the FEMA post-exercise assessment as a measure of Rockland County's ability to respond to an actual emergency, the County official testified as follows:

"Q. You said that in your view, FEMA doesn't know at what preparedness level the County is at?

A. I don't think they do know.

Q. Is that because they haven't gone beyond the fact that there's no written approved plan?

A. I think that's what they're basing it on, there's no written approved plan.

Q. So is it your opinion then that FEMA has not gone beyond the absence of a plan to look at the question of what would the quality of Rockland County's response be, if there were an accident tomorrow?

A. In my opinion, they have not looked at that, right."

As set forth in Point IIIA below, under its regulations NRC must make its own independent findings on preparedness. We submit that because the questions before the Commission are much broader than those considered by FEMA, the Commission should accept the evaluation of Rockland County as set forth above and conclude that in an actual emergency, with both State and County participation, the public would be adequately protected.

Not only would Rockland County participate, but State compensating resources would be available as well. These were criticized in the post-exercise assessment for reasons which we submit were accurately

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We submit that the history and intended meaning of the post-exercise assessment, as amplified by the FEMA witnesses' testimony before the Indian Point Licensing Board and as discussed in Point II above, do not supply a basis for the NRC to conclude that reasonable assurances of adequate protective measures are lacking at Indian Point. Surely the absence of 44 CFR 350 plan accreditation is not sufficient, because dozens of sites would then be subject to enforcement action on an equal basis with Indian Point. Furthermore, the admittedly generic nature of the FEMA deficiencies and the weaknesses in the FEMA analysis which led to its conclusions of significant deficiency would appear to deprive the FEMA conclusions of whatever weight they would otherwise be entitled to in the process by which NRC performs the independent assessment required by its regulations.

characterized by one Commissioner as "legalistic rather than substantive." (Remarks of Commissioner Ahearne dated May 5, 1983).

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However, the NRC is required to take another important step in which it is completely unaided by FEMA. To the extent that the NRC's independent assessment establishes the existence of deficiencies, in proceeding to consider a shutdown or other enforcement action the Commission must determine whether the deficiencies revealed by its independent inquiry are "significant for the plant in question," 10 CFR § 50.54(c)(2)(ii). The Commission's May 5 Order acknowledged as much when it stated that:

> "Our conclusions under the regulation is broader than FEMA's; where FEMA is concerned primarily with the significance of deficiencies in emergency planning and preparedness, and the adequacy of interim compensating measures, our regulations require us to consider other factors when we make a decision on the desirability of enforcement action."

As discussed above, at p. 18-19, FEMA did not even attempt to distinguish between deficiencies labeled as "significant" or "minor" based upon an evaluation of the potential risk impact on the public (Tr. at pp. 14831-32). Nor did the authors of the FEMA post-exercise assessment seek guidance from the FEMA national office as to the standards to be used in assessing significance. And certainly FEMA did not examine whether it believed its deficiencies were significant for the plant in question, since expertise in how accidents could be expected to unfold at "the plant in question" lies with the NRC rather than FEMA.

Whether a deficiency is "significant for the plant in question" must of course be evaluated from the standpoint of the impact which the deficiency would have on protective measures for the public in the event of an actual accident. If an accident at a particular "plant in question" would have the same or substantially the same effects on the public irrespective of whether a particular emergency planning deficiency was or was not present, then that deficiency could not possibly be categorized as "significant" under 10 CFR

§50.54(s)(2)(ii), and a shutdown or other major enforcement action would be unwarranted and inappropriate. These are judgments which are required by the cited regulation,* and which only the NRC is able to make.

B. The FEMA Deficiencies Cannot Possibly Be "Significant" For Purposes Of The Commission's Regulations Since They Would Have An Insignificant Effect On The Public In The Event Of A Radiological Emergency At Indian Point.

If an accident at Indian Point would have the same consequences to the public irrespective of Rockland County's nonparticipation in the March 9 exercise, and irrespective of a lack of agreements with bus companies in Westchester County, then clearly those deficiencies cannot be "significant for the plant in question" and enforcement action such as shutdown is not

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* A careful scrutiny of the public "significance" of the deficiencies found by NRC to the effects upon the public from an accident at "the plant in question" may be required by due process and Atomic Energy Act amendments as well. In Industrial Union v. American Petroleum Institute, 448 U.S. 607 (1980), the Supreme Court invalidated "safety" regulations promulgated by the Secretary of Labor under the Occupational Safety and Health Act (OSHA) when the Secretary did not demonstrate that the regulations were "reasonably necessary or appropriate to provide safe or healthful employment." The Supreme Court held that OSHA did not give the Secretary "discretion to adopt standards designed to create absolutely risk-free workplaces regardless of costs," 448 U.S. at pp. 613-15. An inquiry by NRC here into the risk significance of the supposed deficiencies would appear to be essential to preserve the validity of its emergency planning regulations under Industrial Union. The NRC's statutory mission in the area of emergency planning — to provide "reasonable assurance that public health and safety is not endangered" (Pub. L. 96-295, 94 Stat. 780 (1980) — is virtually identical to the OSHA standard held to require "a reasonable relationship to the expected benefits" and a "balancing" of costs in that case, see 448 U.S. at pp. 667-668.

warranted. This does not mean, as some have suggested, that the Commission would not be "stand[ing] behind [its] regulations," or that "emergency planning will rapidly deteriorate nationwide,"* but rather that in furtherance of its regulations the Commission has matched its enforcement remedy with an actual determination of "significance for the plant in question" under 10 CFR §50.54(s)(2)(ii).

The inquiry into risk significance required by the regulations necessarily involves an analysis of the way in which serious accidents can be expected to unfold at Indian Point. Fortunately, this very topic was exhaustively addressed in the recently completed hearings of the Indian Point Licensing Board. Indeed, the record before the Licensing Board is rich with insights into the relative risk reduction value of various of the NRC's emergency planning regulations, and should be reviewed in connection with the ongoing FEMA/NRC project to reassess NUREC-0654.** The record before the Board indicates that in order to make meaningful assessments of the adequacy of emergency planning, one must consider such factors as the nature of the emergency, the time required for a public response, the preferred nature of that response, and the resources required to respond.

Testimony by the NRC Staff and the licensees before the Licensing Board establishes that the most probable accident scenario at Indian Point is a slowly evolving gradual overpressurization of the containment building, for which the median frequency is about once in 30,000 reactor years. In these sequences, containment failure would occur no sooner than 12 hours, and more likely more than 24 hours, after the accident began. Thus no fewer than 12

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* Separate remarks of Commissioner Ahearne dated May 5, 1983 herein.

** Letter from Lee M. Thomas to William Dircks dated February 8, 1983.

hours and most likely more than 24 hours warning time would be available to effect an emergency response prior to any off-site release of radiation. This accident is not likely to cause early fatalities. It could lead to an extremely small increase above the background cancer fatality rate occurring over 30 years. Specifically, the median frequency of accidents resulting in an increase of one percent or more above the natural cancer fatality rate, employing WASH-1400 source term assumptions (see below), is roughly once in 10,000,000 years.* The slow development of the overpressurization sequence would allow ample time to terminate the accident or to compensate for a delayed protective response due to, for example, a shortage of buses in Westchester County. (Indeed, the travel velocities required to avoid plume exposure are so slow that walking out of the EPZ would be sufficient.) There would also be ample time for the State to compensate for any lack of preparedness caused by Rockland County's refusal to participate in exercises.

The only other accident scenario contributing substantially to the risk at Indian Point is the so-called V sequence or interfacing systems LOCA. The median frequency of this sequence is about once in 25 million reactor years. This sequence, although exceedingly unlikely, evolves quickly and releases radioactive materials in a matter of a few hours, making it impossible to evacuate before plume passage even with optimum preparedness. The preferred protective response to this type of accident is therefore sheltering until after the plume has passed, followed by relocation from contaminated areas only

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*Licensees Testimony on Commission Question One at p. 29.

(but not the entire EPZ). Calculations by both the licensees and the NRC Staff show that sheltering followed by early relocation is nearly as effective in limiting early fatality risk as immediate evacuation (through the plume).*

The immediate response requirements for the V sequence scenario would be limited to prompt communication of sheltering instructions to the public, and mapping of ground contamination. After sheltering, the preferred protective response need entail no more than moving people from comparatively small areas of highly contaminated ground short distances (less than 1.5 miles)** to the nearest areas where contamination is low or absent.*** The shelter followed by relocation option would require far less use of mass transit than would evacuation, and would be simple to implement.**** The response requirements for county personnel during a V sequence accident would be minimal and involve activation of sirens and the Emergency Broadcast System ("EBS"). The adequacy of the siren system as confirmed during the exercise was also acknowledged by Rockland and Orange County officials testifying before the Indian Point Licensing Board. (Tr. at pp. 4073-74, 12104).

The risk of anyone near the plant incurring any adverse health effect is small. Even unrealistically assuming that no one would evacuate or take special shelter for a day following a rapidly developing accident (i.e., that people would continue their daily activities), the average early fatality risk

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* Direct Testimony of Frank Rowsome and Roger Blond (NRC) Concerning Commission Question 1 (IV.B) at p.12; Licensees' Testimony on Commission Question One and Board Question 1.1 at pp. 118, 122-25.

** Ibid. Licensees' Testimony on Commission Question One at p. 124.

*** Ibid. Rowsome and Blond at p. 13.

**** Ibid. Licensees' Testimony on Commission Question One at p. 131.

to an individual within a mile of the plant would be about once in 17,000,000 years.* Early fatality risk decreases markedly with increasing distance from the plant.

More than 95% of the early fatality risk is confined to a four-mile radius,** assuming that there are no protective measures (evacuation or sheltering) taken by the public. Most of Rockland County's population is located beyond four miles from the plant. Since the Hudson River separates the plant from Rockland County, few or no people reside within one mile of the plant. In fact, the Rockland County Radiological Emergency Response Plan (Volume 1, Appendix G, Tables G-10 through G-17) indicates there are none. These tables also indicate that approximately 700 Rockland residents are within 2 miles of the plant; approximately 3800 within 3 miles and approximately 10,000 within 4 miles. The 4-mile total represents only approximately 10% of the total Rockland County population within the 10-mile EPZ. The total population from all four Counties within 4 miles of the plant is approximately 43,000. Rockland County represents about 24% of the total population within 4 miles of Indian Point. Additionally, local wind patterns make it unlikely that released radioactive material would reach Rockland County. Because of the sparse population distribution and infrequent wind patterns in the direction of Rockland County, it is reasonable to conclude that Rockland County represents a small portion of the total early fatality risk which in itself is already small.

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*Licensees' Question 1 Testimony at p. 120a.

** Licensees Question 1 Testimony at p. 112.

Even these indicators of risk would appear to overstate the possible consequences of serious accidents at Indian Point. During the special Indian Point proceeding requested by this Commission, extensive testimony was received by the Licensing Board concerning the amount and type of radioactive material released from accidents (source term). While there may still be some debate as to the precise composition of the source term, there is widespread technical agreement that current risk assessments, including those prepared by the licensees and the NRC Staff, have overstated the source term and, therefore, overstated the risk.* The NRC Staff's witness, Robert Bernero, testified that it was his personal expectation that the source terms used in current assessments were overstated by a factor of 10, and that an understanding of the biases introduced by current WASH-1400-based source terms was necessary to make informed regulatory judgments (Tr. at pp. 12597-602). Con Edison's experts testified that with a more realistic source term no early fatalities result from accidents at Indian Point.**

Thus an inquiry into whether the FEMA deficiencies are indeed "significant for the plant in question" has already occurred before the Indian Point Licensing Board. That inquiry shows that problems associated with

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* Licensees' Testimony of William R. Stratton, Walton A. Rodger, and Thomas E. Potter on Question One at 5, 61; see Staff Testimony of Robert M. Bernero on Severe Accident Source Terms at 3; Testimony of Dr. Sarbeswar Acharya Regarding NRC Staff Assessment of Accident Consequences and Risks at III.C.A.-20 to III.C.A.-21.

** Licensees' Testimony of William R. Stratton, Walton R. Rodger, and Thomas E. Potter on Question One at 6; see Licensees' Testimony on Commission Question One, Board Question 1.1, and Contention 1.1, at 125-27.

delayed emergency response, the unwillingness of Rockland County officials to participate in exercises, or a possible shortage of buses in Westchester County are illusory from the standpoint of their significance to public risk.

IV.

THERE ARE COMPELLING REASONS WHY THE INDIAN POINT UNITS SHOULD BE PERMITTED TO CONTINUE OPERATION.

A. It Would Be Wholly Inappropriate To Permit Local Government Veto Of Nuclear Power Plant Operations

The history of the Indian Point licensees' efforts to achieve compliance with the NRC's emergency planning regulations respecting State and local governments, pp. 2-12 above, is one in which no effort or expense has been spared. Since the passage of the NRC's new emergency planning regulations, over $11 million has been spent for achieving compliance, more than $7 million for off-site preparedness. These substantial amounts are in stark contrast to the Commission's own estimates, when the regulations were promulgated, that:

> "typical costs to State and local governments to achieve a positive finding from NRC concurrence in their emergency response plans would be about $360,000 initial costs, plus $74,000 in annual updating costs." (SECY-80-275)

Nor have the Indian Point licensees' efforts been confined to financing. As noted by the emergency planning director of one of the Indian Point counties before the Indian Point Licensing Board:

> "The utilities, also, gave us all kinds of equipment. As a matter of fact, anything we want, they have been more than decent about giving us." (Tr. at p. 12095.)

In the particular Indian Point situation, local government efforts to close the plant through a lack of cooperation in emergency planning appear to be a purposeful tactic. The Chairman of the Rockland County Legislature was recently quoted as saying "Our strategy is working beautifully." (Gannett Westchester Newspapers, April 25, 1983.) Whether this will prove to be the case is now in the hands of the Commission.

Rockland County withdrew from cooperative radiological emergency planning with the passage of Resolution 320 on May 18, 1982, although in the same resolution the County Legislature emphasized that it would cooperate fully with state and federal officials in the event of an actual emergency. In December, when the NRC declined to shut down Indian Point following expiration of a 120-day clock, Rockland County sued the NRC in the Second Circuit Court of Appeals seeking to compel a shutdown, a suit which is still pending. (County of Rockland v. U.S. Nuclear Regulatory Commission, Docket No. 83-4004.)

Such an eventuality was not unanticipated by Congress. The legislative history of the FY 1980 NRC Authorization Bill (Public Law 96-295, 94 Stat. 780) which first required the NRC to upgrade emergency planning requirements clearly indicates that Congress did not intend to permit local government efforts to shut down nuclear plants through noncooperation in off-site emergency planning. House Conference Report No. 96-1070 on the FY 1980 Authorization Bill states that:

> "The [House and Senate] conferees sought to avoid penalizing an applicant for an operating license if a State or locality does not submit an emergency response plan to the NRC for review or if the submitted plan does not satisfy all the guidelines or rules. In the absence of a State or local plan that complies with the guidelines or rules, the compromise permits NRC to issue an operating license if it determines that a State, local or utility plan, such as the emergency preparedness plan submitted by the applicant, provides reasonable assurance that the public health and safety is not endangered by operation of the facility."

This policy was reiterated by Congress in the FY 1983 NRC Authorization Bill (Public Law 97-415). Senate Report No. 97-113 states that:

> "the Committee seeks to underscore the intent of Congress, as evidenced by section 109 of Public Law 96-295, that the NRC, in the absence of an approved state or local emergency preparedness plan, issue an operating license for a nuclear power plant if it determines that a state, local or utility emergency preparedness plan, or some integration of these plans, provides reasonable assurance that public health and safety is not endangered by operation of the plant."

The absence of any endangerment to Rockland County citizens due to the County's lack of participation in exercises is established in Point IIIB, above. Equally important, however, is that FEMA's evaluation of the Rockland County situation in its post-exercise assessment was not consistent with the principles articulated by Congress.

FEMA declined to evaluate the State of New York's procedures to compensate for a lack of Rockland County participation in the exercise. FEMA also declined to go beyond the County's nonparticipation and assess what its capabilities would be in an actual emergency, when it would cooperate fully. FEMA stated in its post-exercise assessment that:

> "As for Rockland County, a judgment on adequacy will not be able to be made until the County plan is developed and exercised with full County participation." (Petrone to McLoughlin letter at p. 3.)

FEMA confirmed in testimony before the Indian Point Licensing Board that "full County participation" was indeed a precondition to approval:

> "Q. Let me rephrase the question. Can you form a judgment as to the adequacy of emergency preparedness in Rockland County short of development of a county plan and the exercise of that plan?
>
> A. (Witness McIntire): No." (Tr. at p. 14920.)

We submit that in considering enforcement action, the Commission should take a broader view as it addresses the wide variety of factors set forth in 10 CFR § 50.54(s)(2)(ii). A compelling reason to permit continued

operation of Indian Point must surely be that the licensees have done everything which could reasonably be expected of them to achieve compliance with emergency planning regulations.

Public health and safety cannot be endangered, both for the reasons set forth in Point IIIB above, and because continued operation will spur Rockland County to promptly complete its own plan. It will also avoid the creation of a precedent elsewhere, one which Secretary of Energy Hodel has suggested "threatens the viability of the nuclear power industry." (New York Times, May 12, 1983.)

B. Any Interruption Of The Continued Operation Of The Indian Point Units Would Have A Severe Adverse Effect Upon The Economy Of The New York Metropolitan Area.

A further compelling reason for the Commission to permit continued operation of the Indian Point units is the severe and immediate adverse impact which a shutdown would have upon public and private energy consumers in New York City and Westchester County. A shutdown of Indian Point after the Commission's ruling on June 9 would result in an increase in the cost of electric energy to Con Edison's customers of approximately $600,000 per day throughout the summer.* The closing of Indian Point would result in about an additional $800,000 per day costs to other electric customers throughout New York State.* The great bulk of these additional costs, approximately

*Testimony presented by Con Edison before the Indian Point Licensing Board employed somewhat differing assumptions more appropriate for long-term unit unavailability. The production penalty shown above was determined on the basis of current oil prices of $30 per barrel, and includes associated taxes to electricity consumers. Since neither of the Indian Point units is scheduled for refueling during the remainder of 1983, proportionately higher costs would be incurred than would be the case over the long term.

$700,000 per day, would be borne by the Power Authority's governmental and other public sector customers within the Con Edison service area, such as public housing authorities, schools and other publicly owned institutions.

Private, residential consumers would be required to bear a disproportionate share of this $1,400,000 per day burden. Not only would they bear a portion of the cost of a shutdown directly in their electric bills, but they would also indirectly bear the burden of increased energy costs to the commercial and governmental sector in the form of higher prices for goods and services, and increases in transit fares and taxes.

Because of a smaller customer base, the impact on the Power Authority's customers would be particularly dramatic. Due to contractual and statutory requirements, the Power Authority has quite limited opportunities to reallocate energy from other areas of the State, and only one other generating unit (which must burn expensive low-sulfur oil) is regularly available to service Power Authority customers in the New York City metropolitan area.

We are informed by Power Authority officials that if the scheduled restart of its Indian Point 3 unit next month were interrupted, electricty costs for its metropolitan area customers would increase to a level 25 to 30 percent higher than if Indian Point were permitted to operate.

While these amounts represent the licensees' best current estimates, some persons have asserted that the costs of even a temporary shutdown of Indian Point have been overstated. Con Edison does not agree, and refers the NRC to a prior occasion on which the actual increased energy costs of an Indian Point shutdown were determined in a contested proceeding before the New York Public Service Commission. Following the October 1980 containment flooding event at Indian Point Unit 2, the Public Service Commission determined that Con

Edison's electric customers incurred increased energy costs amounting to $33,700,000 for 59 days of lost operations of just one of the Indian Point units, or $571,000 per day, exclusive of interest.

Although the costs of even a temporary shutdown of the Indian Point plant would be burdensome to New York metropolitan area electric consumers, the direct and indirect consequences of a prolonged shutdown are truly staggering. The cost to Con Edison's customers alone for a shutdown for the calendar year 1984 would be $200 million. The corresponding increase in costs to the remaining customers in the State, which would be borne mostly by New York Power Authority customers in the New York metropolitan area, would be about $250 million.

However, the consequences of a shutdown of such a duration would extend far beyond customers' utility bills. If the Indian Point units were to be shut down in the 1983-84 period, 92% of the replacement energy would come from the burning of oil, much of it imported. A permanent shutdown would necessitate an increase in oil consumption of some 200 million barrels by the turn of the century, a significant blow to our nation's effort to reduce dependence on foreign oil.

One of Indian Point's customers which would be most severely hit by a prolonged shutdown is and the Metropolitan Transportation Authority. The Power Authority has estimated that approximately one-fifth of the costs of a shutdown would have to be borne by the users of public transit. This increase in energy costs to the Metropolitan Transportation Authority would necessitate a 6¢ increase in the New York City subway fare, or a reduction in an already inadequate level of service to cover the deficit. Even the least disruptive alternative of raising the subway fare would cause reduced transit usage, which

would in turn cause a loss of over 11,000 jobs and $323,000,000 in lost income in New York City. This reduced transit usage would cause City tax revenues to decline by $34,000,000, and all of these transit impacts would be even higher if service were to be reduced to avoid the 6¢ fare increase.

A permanent shutdown of Indian Point would be the cruelest blow of all to the State and to the New York City metropolitan area. Licensees have calculated that the present discounted value of the New York statewide costs of a shutdown of the unit from 1984-2009 would be $9.0 billion.* These estimates assume an ambitious coal conversion program, construction of additional generating units, and installation of transmission improvements. If any of these projects do not come to fruition or are delayed, the costs to consumers would increase.

Substantial shutdown costs have also been estimated by non-utility witnesses before the Indian Point Licensing Board. New York State witness James Parmalee testified that the present worth cost of shutting down Indian Point would total $2.3 billion just through 1996 (Tr. at p. 13727). Similarly, Vince Taylor, a witness sponsored by the Union of Concerned Scientists, estimated the cost of a permanent shutdown of Indian Point as being over $4.0 billion on a present worth basis (Tr. at p. 13298).

Thus the costs of losing the energy from Indian Point for even a day are substantial, and the costs of a prolonged or permanent shutdown are more than one State and one metropolis can be expected to bear. Costs of shutdown are immediate and they are real. Compared to the uncertainty, at best, of the impact on the public which the supposed emergency planning deficiencies would

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* Testimony of Sally Hunt Streiter at 2.

have (see pp. 25-31 above), the unmistakable draconian economic effects alone surely supply a compelling reason for permitting continued operation of Indian Point.

Conclusion

For the foregoing reasons, in accordance with its regulations, 10 CFR ¶50.54(s)(2)(ii), the Commission should determine that no further enforcement action is appropriate against Con Edison at this time.

Respectfully submitted,

Joseph D. Block

Brent L. Brandenburg

Joseph D. Block
Executive Vice President and
General Counsel
Brent L. Brandenburg
Assistant General Counsel
CONSOLIDATED EDISON COMPANY OF
NEW YORK, INC.
4 Irving Place
New York, New York
(212)460-4600

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