

BEFORE THE UNITED STATES

ATOMIC ENERGY COMMISSION

In the Matter of )  
 )  
Consolidated Edison Company ) Docket No. 50-247  
of New York, Inc. )  
(Indian Point Station, Unit No. 2) )

AFFIDAVIT OF CHARLES F. LUCE

CHARLES F. LUCE, being duly sworn, deposes and says  
that:

1. I am the Chairman of the Board and Chief Executive  
Officer of the Consolidated Edison Company of New York, Inc.  
("Con Edison").

2. This information is presented in support of the  
"Motion of Applicant for an Order Establishing Further Procedural  
Requirements to Implement the National Environmental Policy  
Act of 1969" to which this affidavit is attached and is intended  
to demonstrate the urgent need for Con Edison to utilize the  
capacity of Indian Point Unit 2 in order to satisfy the crucial  
requirements of its customers and also to bring to the attention  
of the Commission other relevant considerations in support of

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the relief requested in the Motion.

3. Con Edison provides electric service in the five boroughs of New York City and in most of Westchester County. The population of this service area is about 8,650,000. An adequate and reliable supply of electric power is essential to the life of this key metropolitan area. A lack of such a supply will jeopardize a vast array of critical services and facilities vital to the preservation of public health and safety such as water supply, fire protection, sewage and garbage disposal, hospitals, nursing homes, railway and subway transportation, law enforcement, traffic control, drawbridge operation, and all forms of local and interstate communications.

4. Since 1969 Con Edison has been faced with a crisis in supplying electric energy to the communities which it serves. Despite all of its efforts to meet the increasing demands upon its system as the consumption of electricity in its service area continues to grow, the Company has had to curtail service through voltage reductions with unacceptable frequency,<sup>1/</sup> and,

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<sup>1/</sup>A tabulation of the frequency of load curtailment measures used from 1969 to 1971 is attached to this affidavit.

on one occasion, to discontinue service to some of its customers.

5. The grave difficulties encountered from 1969 to 1971 foreshadow the even more difficult problems which the Company will face during the winter of 1971-1972 and the summer of 1972.

6. Prior to 1969 the Company's planned reserve capacity, including purchases from others, was 1,532 megawatts or 21% of its anticipated peak load. In 1969, however, delays in the addition of new capacity by other utilities limited the amount of the purchased power actually available in that year to 260 megawatts, a minor portion of the 710 megawatts for which we had contracted. In addition, there were several equipment outages and deratings<sup>2/</sup> experienced during the summer period, which is the period of peak demand on the Company's system. As a consequence, the Company had to request large customers to reduce load voluntarily, to appeal to the general public to conserve electricity and to institute voltage

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<sup>2/</sup>"Deratings" result from equipment problems which, while they do not require that a generating unit be completely removed from service, restrict its operation to less than its full capacity.

reductions on eight different days on which the loss of capacity ranged from 800 to over 2,000 megawatts. On two occasions the voltage reduction reached the maximum allowable level of 8%,<sup>3/</sup> after which the only load control device available is to totally discontinue electric service to some of our customers.

7. Again in 1970 the Company experienced power shortages even though we had increased our planned capacity resources from 8,882 megawatts to 9,839 megawatts. This represented a reserve of 27% of our anticipated peak load, and was to be principally achieved by the addition of almost 1,200 megawatts of gas turbine capacity to our system. Construction and start-up delays, as well as a strike which affected one of our suppliers, caused slippage in the schedule for adding the gas turbines. This, together with equipment deratings and forced outages, made it necessary for us to make appeals again for the conservation of electricity by the public and to institute voltage reductions on fifteen days. On one

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<sup>3/</sup>Voltage reductions in excess of 8% would cause damage to customers' equipment.

occasion we had to resort to discontinuance of service to approximately 1% of our customers. Discontinuance of service to any customers is a drastic measure, and every effort must be made to avoid its recurrence.

8. As far as 1971 is concerned, we have added 624 megawatts of additional gas turbine capacity and, after re-rating some of our older units, we have a reserve installed on our own system equal to only 9% of the estimated peak load. We have also contracted for 920 megawatts of firm capacity purchases, thus raising the reserve to 21%.

9. This reserve is of the same order of magnitude as those with which we faced the summers of 1969 and 1970, and again we have had to resort to the frequent use of voltage reduction. So far this year we have reduced voltages on our system on thirteen occasions.

10. Our peak load forecast for 1971 was 8,150 megawatts and to date we have experienced a peak of 7,719 megawatts. This occurred on July 1st when a 3% voltage reduction was in effect on a major part of our system.

11. We are making vigorous efforts to promote the

conservation of electricity and have both ceased our sales promotion activities and instituted a "Save-a-Watt" program to further that goal. We are urging our customers to conserve electric energy at all times, but particularly during periods of peak demands. In this connection we have communicated individually with our major customers many of whom have already taken measures to operate regularly with partial lighting which also reduces the demand for power for air conditioning purposes. Nevertheless, this power shortage continues despite these efforts.

12. We hope to be able to serve our customers during the rest of the summer of 1971 with the aid of voltage reductions on a few days. If, however, a substantial portion of our capacity becomes unavailable during the rest of the summer and if we encounter a period of unusually hot weather we will be forced to resort to more frequent voltage reductions and to other load curtailment measures perhaps including the discontinuance of service to some of our customers.

13. Looking ahead to the summer of 1972, we foresee a substantially worsened situation. Our estimated peak load is

8,550 megawatts and our installed capacity, assuming that Indian Point Unit No. 2 is on-line, is expected to be 9,996 megawatts.<sup>4/</sup> We have, in addition, contracted for 395 megawatts of purchased capacity.<sup>5/</sup> This would provide a reserve of 21.5%, which is substantially less than is desirable. It is at this level of anticipated reserve, and greater, that we have experienced severe difficulties for the past three years. If the 873 megawatts of capacity from Indian Point Unit No. 2 were not to be available, our reserve margin for 1972 would be cut almost in half, i.e., to 11%. This margin would be intolerable. It would represent a serious potential threat to the health, safety and economic well-being of the persons living and working in the New York Metropolitan Area.

14. Some of the Company's generating stations, such as Sherman Creek and Kent Avenue, contain less reliable, older units which we had hoped to retire before this. Most of the equipment at those locations is over forty years old and has become increasingly difficult to maintain. These plants are

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<sup>4/</sup>This includes 400 megawatts from Con Edison's share of Bowline Point Unit No. 2, scheduled to go on-line in July 1972, and 348 megawatts from barge-mounted gas turbines, also scheduled for July 1972.

<sup>5/</sup>Of this, 125 megawatts are from Orange & Rockland's share of the Bowline Point Unit No. 2.

no longer dependable and will deteriorate further each additional year they remain in service, despite continuing maintenance efforts. In these circumstances, should Indian Point Unit No. 2 not be in operation in 1972, the Company's reserve margin will be considerably less than it should be, and service difficulties, possibly much more severe than any experienced to date, will certainly occur again in the summer of that year.

15. In my opinion there is no way by which Con Edison's reserve margin for 1972 can be substantially improved. The Company will, of course, continue to explore every possible means of improving this situation. However, additional firm purchases are not now available and, while we are hopeful of acquiring an additional amount of about 200 megawatts before next summer, this will not provide substantial help and is the limit of the assistance I can foresee from this source for the summer of 1972. We have already exhausted all of the additional gas turbine supply which would be available to us in time to meet the 1972 peak load. Thus, the only possible source of additional capacity would be a further postponement of the retirement of our Hell Gate Station. This would be grossly insufficient, since the capacity of that station is only 315



megawatts and is, moreover, no longer dependable.

16. Con Edison was able to make emergency purchases of energy from outside our system while we were encountering the service difficulties heretofore discussed. Those purchases prevented a much more serious situation from occurring. While some emergency purchases will undoubtedly be available to us again, the power supply situation for the coming summer is so serious that in my judgment whatever emergency purchases we are able to make cannot prevent the shortages to which I have referred.

17. In view of the difficult prospects we face for the summer of 1972, even with Indian Point Unit No. 2 available, and particularly in light of the fact that about 875 megawatts of the capacity on which we are relying will be provided by units which are not estimated to be completed before July of that year and which might therefore be delayed beyond that date, there is a critical need for Indian Point Unit No. 2 by this coming winter. First, we must prepare for next summer by putting Unit No. 2 through the initial "shakedown" period of operation that any new unit must undergo. Second, we need to utilize

the capacity of Indian Point Unit No. 2 in order to perform all of the necessary maintenance on the remainder of our generating facilities.

18. During the winter period, maintenance is normally performed on the Company's generating facilities. However, during the entire 1970-1971 winter period Ravenswood Unit No. 3, a 1,000 megawatt unit, was out of service for repairs to its generator. This severely curtailed the Company's maintenance program. As a result forced outages and deratings were significantly increased. In fact, during the winter of 1970-1971 the Company found it necessary to institute voltage reductions on eight different days, an unprecedented situation.

19. Without Indian Point Unit No. 2 the only significant increase in capacity for the winter of 1971-1972 will be 624 megawatts of gas turbines added during 1971. This will provide some margin over the growth in winter peak load between 1970-1971 and 1971-1972. However, during the coming winter Con Edison must urgently undertake a more extensive maintenance program for its generating facilities in order to make up for the work which we were unable to complete last

winter. The opportunity to complete this maintenance effort will be severely handicapped if Indian Point Unit No. 2 is not available during the winter. Even worse, if Indian Point Unit No. 2 is not available to us it may be necessary to defer a scheduled three-month outage of the Ravenswood No. 3 Unit. That outage is necessary to replace the defective stator (part of the generator) which has been a major cause of our electric supply difficulties since 1969, and the unavailability of Indian Point Unit No. 2 would force us either to postpone the work on Ravenswood No. 3 or to defer equally needed maintenance on other large units.

20. The New York State Public Service Commission described the scope of the electricity supply problem in our service area in a recent opinion (page 6), as follows:

"In the summer of 1971 and, it appears, for a number of summers to come, the New York metropolitan region may be forced to adjust to shortages of electric power serious enough, at least, to cause inconvenience and, at worst, to weaken the capacity of both the city and its surrounding areas to function."<sup>6/</sup>

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<sup>6/</sup> - A copy of the full text of the Public Service Commission's "Opinion and Order Fixing Procedures for Load Adjustment by Consolidated Edison Company of New York, Inc., in Times of Emergency" issued August 9, 1971 is attached to this affidavit.

That statement was written on the assumption that Indian Point Unit No. 2 would be available during the summer of 1972. Should the plant not be available then, or indeed by the winter of 1971-1972, it is my judgment that the welfare of the New York Metropolitan Area will be directly threatened by a shortage of power.

21. The requirements of our customers represent the primary justification for early utilization of Indian Point Unit No. 2. There are, however, other compelling reasons. Construction of the plant is nearly completed. We have built this plant in compliance with the construction permit which we received from the Atomic Energy Commission in 1966 and in compliance with all applicable laws and environmental requirements. Indian Point Unit No. 2 is now nearly ready for operation, and I am informed by our supplier that we will be ready to load fuel in the reactor, in accordance with the authorization we have already received, by September 13, 1971.

22. If Indian Point Unit No. 2 is not allowed to commence operation after it has been approved by the AEC's Atomic and Safety and Licensing Board, the financial cost

to Con Edison, and to our customers, will be huge. This unnecessary cost will consist of about three million dollars per month, the estimated out-of-pocket cost of replacing energy which would otherwise have been produced by Unit No. 2, plus almost one million dollars per month, the amount of interest during construction which would accrue during the period of delay. To impose this heavy financial burden unnecessarily would be completely inconsistent with our national effort to combat inflation and unemployment.

22. I also call attention to the positive environmental effect of operating Indian Point Unit No. 2. If the plant is delayed for one year, for example, Con Edison would be forced to make greater use of older fossil-fueled plants. The result would be that the following estimated additional amounts of pollutants would be added to the New York City atmosphere:

<u>Pollutant</u>	<u>Additional Emissions</u>
Particulates	1,245 tons
SO <sub>2</sub>	29,000 tons
NO <sub>x</sub>	16,000 tons

In view of the foregoing facts demonstrating the urgent need for the earliest possible operation of Indian Point Unit 2 to satisfy the power needs of New York City and Westchester County, the unnecessary consumer costs and environmental detriments which will result from any delay, and the compelling equities supporting the prompt issuance of a license for the operation of a plant that is nearly completed and ready for productive use, I strongly urge that the relief requested in Applicant's motion be granted.

*Charles F. Luce*

Charles F. Luce

Sworn to before me

this 17th day of August, 1971

*CLOTILDE M. REGAZZI*

Notary Public

CLOTILDE M. REGAZZI  
Notary Public, State of New York  
No. 41-8521650 Queens County  
Cert. filed in New York County  
Commission Expires March 30, 1972

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.

LOAD CURTAILMENT MEASURES

(1969 - 1971)

Numer of Times

<u>Year</u>	<u>Voltage Reductions Placed In Effect</u>	<u>Calls To Large Customers Requesting Load Reductions</u>	<u>Appeals To The General Public To Conserve Electricity</u>
1969	9	4	3
1970	15*	12	11
1971 (through July 31)	13	5	5

\*On one day, it was necessary also to discontinue service to about 1% of the Company's customers for a period of time.

NOTE: In the years from 1964 through 1968 the number of voltage reductions averaged about three a year.