

Docket No. 50-247

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Consolidated Edison Company
of New York, Inc.
ATTN: Mr. William J. Cahill, Jr.
Vice President
4 Irving Place
New York, New York 10003

Gentlemen:

The Commission has issued the enclosed Amendment No. 14 to Facility Operating License No. DPR-26 for Indian Point Nuclear Generating Unit No. 2. The Amendment consists of Change No. 11 to the Technical Specifications in accordance with your application dated July 23, 1975. We have also determined that your proposal to modify the spent fuel storage racks is acceptable as proposed on March 4, 1975 and supplemented on May 9, 1975, July 23, 1975, August 19, 1975, September 11, 1975, October 1, 1975 and October 10, 1975.

The Amendment modifies the Technical Specifications to limit the decay heat input to the spent fuel pool water and restricts the use of the cask handling equipment.

We have evaluated the potential for environmental impact associated with operation of Indian Point Unit 2 in the proposed manner, and have determined that there will be no significant environmental impact attributable to this action. Having made this determination, we have further concluded, pursuant to 10 CFR Part 51, Section 51.5(c)(1) that no environmental impact statement need be prepared for this action.

Copies of the Negative Declaration, which is being filed with the Office of the Federal Register for publication, and the Environmental Impact Appraisal are enclosed. Copies of the related Safety Evaluation and the Federal Register Notice are also enclosed.

Sincerely,

Robert W. Reid, Chief
Operating Reactors Branch #4
Division of Reactor Licensing

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Enclosures:

1. Amendment No. 14
2. Negative Declaration
3. Environmental Impact Appraisal
4. Safety Evaluation
5. Federal Register Notice

Subject to correction on p. 2 + p. 6 of Impact Appraisal CORRECTED 12/11/75

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**NEGATIVE DECLARATION
SUPPORTING A PROPOSED EXPANSION IN STORAGE
CAPACITY OF THE SPENT FUEL STORAGE POOL AND
ASSOCIATED CHANGE TO THE TECHNICAL SPECIFICATIONS
FOR INDIAN POINT NUCLEAR GENERATING PLANT UNIT NO. 2
LICENSE NO. DPR-26
CONSOLIDATED EDISON COMPANY OF NEW YORK
DOCKET NO. 50-247**

The U.S. Nuclear Regulatory Commission (the Commission) has reviewed the licensee's proposed modification to the Indian Point Unit No. 2 spent fuel storage pool (SFP) under Operating License No. DPR-26. This modification and associated change to the Technical Specifications would authorize the expansion of the SFP storage capacity 83 percent. This expansion would permit the storage of an additional 218 spent fuel assemblies, increasing the ultimate capacity of the SFP from the 264 to 482 assemblies. The modification will require the replacement of the present 10 fuel storage racks with 10 new racks designed to permit the storage of additional fuel assemblies. It will not involve any SFP external construction nor alter the external physical geometry of the pool or require fuel pool cleanup system modifications.

The Commission's Division of Reactor Licensing has prepared an environmental impact appraisal for this proposed modification to the SFP. Within the context of this appraisal, the Staff applied, weighed, and balanced the five factors specified by the Commission in its issuance of Federal Register Notice (F.R. 42801) dated September 16, 1975, regarding handling and storage of spent fuel from light water power reactors. On the basis of this environmental impact appraisal, the Commission has concluded that an environmental impact statement for this particular action is not warranted because, pursuant to the Commission's regulations in 10 CFR Part 51 and the Council of Environmental Quality's Guidelines, 40 CFR 1500.6, the Commission has determined that this proposed amendment will not significantly affect the quality of the human environment.

The environmental impact appraisal is available for public inspection at the Commission's Public Document Room, 1717 H Street, N.W., Washington, D.C., 20555, and at the Hendrick Hudson Free Library, 31 Albany Post Road, Montrose, New York 10548.

Dated at Rockville, Maryland, this _____ day of _____ 1975.

FOR THE NUCLEAR REGULATORY COMMISSION.

George W. Knighton, Chief
Environmental Projects Branch No. 1
Division of Reactor Licensing

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subject to mathematical correction on page 6 of Impact Appraisal completed 12/16/75

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ENVIRONMENTAL IMPACT APPRAISAL BY THE
DIVISION OF REACTOR LICENSING SUPPORTING:
AMENDMENT NO. TO DPR 26
CHANGE NO. TO THE TECHNICAL SPECIFICATIONS
CONSOLIDATED EDISON COMPANY OF NEW YORK
INDIAN POINT NUCLEAR GENERATING PLANT UNIT NO. 2
DOCKET NO. 50-247

ENVIRONMENTAL IMPACT APPRAISAL

I. Description of Proposed Action

In their submittal of July 24, 1975, the Consolidated Edison Company of New York (the licensee) requested approval of the NRC for an amendment to Facility Operating License No. DPR-26 and a concomitant change to the Technical Specifications for the Indian Point Nuclear Generating Plant Unit 2 (IP-2). This amendment to the license and change to the Technical Specifications concerns the proposed expansion of the capacity of the spent fuel storage pool (SFP) at IP-2. Presently, the SFP at IP-2 has a design capacity of 264 spent fuel assemblies, approximately 1-1/3 reactor core capacity. The proposed increment in storage capacity represents 218 spent fuel assemblies (83% increase) and will permit the storage of a maximum of 482 spent assemblies or approximately 2.5 reactor cores. The present 10 racks will be replaced with similar new racks which permit the storage of additional spent fuel by decreasing the space between the fuel assemblies. To insure an adequate subcriticality margin due to the closer spacing, boron-stainless steel plates are to be placed along the sides of the stainless steel racks.

The proposed modification will not alter the external physical geometry of the SFP or require modifications to the present SFP cleanup system. Based on the current refueling schedule the expansion of the SFP will allow storage of spent fuel for an additional three year period. It does not, however, affect in any manner the quantity of uranium fuel utilized in IP-2 over the anticipated operating life of the facility and thus in no way affects the generation of spent uranium fuel by the facility. The rate of spent fuel generation and the total quantity of spent fuel generated during the anticipated operating lifetime of the plant and stored in the SFP remains unchanged as a result of this proposed expansion. The time period for the storage of a given quantity of spent fuel is changed however, to the extent of an additional three years.

Currently, spent fuel is not being reprocessed on a commercial basis in the United States. The Nuclear Fuel Services (NFS) plant in New York was shut down in 1972 for alterations and expansion. The Allied General Nuclear Services (AGNS) proposed plant is under construction in South Carolina, and this facility is not licensed to operate. The General Electric Company's (GE) Midwest Fuel Recovery Plant in Illinois is in a

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decommissioned condition. Although no plants are licensed for reprocessing fuel, the GE and NFS facilities are licensed for storing spent fuel and applications have been filed for permission to expand these facilities. Also, AGNS has applied for a license to receive and store irradiated fuel assemblies prior to a decision on the licensing action relating to the separation facility. Construction of the AGNS receiving and storage station itself is complete.

The Staff is preparing a generic environmental impact statement on spent fuel storage of light water power reactor fuel and is expected to complete this statement in about two years (September 1977). The proposed expansion of the SFP capacity at IP-2 will afford the licensee necessary operational flexibility by providing storage of up to 2.5 reactor cores should reprocessing of spent fuel not be available within this two-year time period.

II. Environmental Impacts of Proposed Action

On September 16, 1975, the Commission announced (40 F.R. 42801) its intent to prepare a generic environmental impact statement on handling and storage of spent fuel from light water power reactors. In this notice, the Commission also announced its conclusion that it would not be in the public interest to defer ^{of} licensing actions intended to ameliorate a possible shortage of spent fuel storage capacity pending completion of the generic environmental impact statement. The Commission directed that in the consideration of any such proposed licensing action, the following five specific factors should be applied, balanced, and weighed in the context of the required environmental statement or appraisal.

- a. Is it likely that the licensing action here proposed would have a utility that is independent of the utility of other licensing actions designed to ameliorate a possible shortage of spent fuel capacity?

The present SFP was designed to accept both the spent fuel from a reactor core refueling (approximately 1/3 core) and an entire reactor core, if necessary, for a storage duration prior to next refueling (usually one year). Utilizing this design criteria, shipment of spent fuel would be required in 1977 for the present SFP. The Staff, utilizing a conservative refueling schedule has determined that if the licensee is to retain the capability to load a full core into the SFP as well as store spent fuel assemblies, then shipment of spent fuel would be required in 1980.

The proposed expansion would provide the licensee with the ability to continue to operate during this three-year period (1977-1980), if indeed a situation developed which required a full-core discharge from the

reactor. This proposed licensing action would thus provide the licensee					
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with additional operating flexibility which is desirable even if adequate offsite storage facilities are now or hereafter become available to the licensee.

The Staff has concluded that for the reasons set forth above a need for additional spent fuel capacity exists at IP-2 which is independent of the utility of other licensing actions designed to ameliorate a possible shortage of spent fuel capacity.

- b. Is it likely that the taking of the action here proposed prior to the preparation of the generic statement would constitute a commitment of resources that would tend to significantly foreclose the alternatives available with respect to any other licensing actions designed to ameliorate a possible shortage of spent fuel storage capacity?

With respect to this proposed licensing action the Staff has considered both commitment of material and nonmaterial resources. The material resources considered are those to be utilized in the expansion of the SFP. The ten new spent fuel racks are constructed of stainless steel and are similar in design to the present ten racks except that the center-to-center distances between storage locations has been decreased from 20.5 inches to 14 inches. In addition, one-eighth inch boron-stainless steel plates (approximately 1.0 - 1.2 weight percent boron) will be installed on the sides of each storage location to act as neutron absorbers. The licensee has indicated that each of the eight Type I racks and boron-steel plates weigh when empty 23,000 pounds, and each of the two Type II racks and associated plates weigh when empty 26,000 pounds. Thus, the total weight of stainless steel used in the SFP expansion is 236,000 pounds or 102.6 metric tons. This material is readily available in abundant supply as evidenced by the U.S. production in 1974 of approximately 1,958,000 metric tons of stainless steel. In the context of this criterion, the Staff concludes that the amount of material (stainless steel and boron) required for the racks at IP-2 is insignificant and does not represent an irreversible commitment of natural resources. No other resources need be allocated because the other design characteristics of the SFP remain unchanged. No additional allocation of land would be made; the land area now used for the SFP would be used more efficiently by reducing the spacings among fuel assemblies.

The increased storage capacity at the IP-2 spent fuel pool was considered as a nonmaterial resource and was evaluated relative to proposed similar licensing actions within a two year period, the time the Staff estimates is necessary to complete the generic environmental statement, at other nuclear power plants, fuel reprocessing facilities and fuel storage facilities. The Staff has determined that the proposed 83% expansion to

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the SFP at IP-2 is only a measure to allow for continued operation and provide operational flexibility at the facility, and will not affect similar licensing actions at other nuclear power plants.

The Staff concludes that the expansion of the spent fuel pool at IP-2 prior to the preparation of the generic statement does not constitute a commitment of either material or nonmaterial resources that would tend to significantly foreclose the alternatives available with respect to any other individual licensing actions designed to ameliorate a possible shortage of spent fuel storage capacity.

- c. Can the environmental impacts associated with the licensing action here proposed be adequately addressed within the context of the present application without overlooking any cumulative environmental impacts?

The SFP at IP-2 was designed principally to store spent fuel assemblies prior to shipment to a reprocessing facility. These assemblies may be transferred from the reactor core to the SFP during a core refueling, or to allow for inspection and/or modification to core internals which may require the removal and storage of certain fuel assemblies or a full core. The assemblies are initially intensely radioactive due to their fission product content and have a high thermal output. Thus they are stored in the SFP to allow for radioactive and thermal decay. The major portion of decay occurs during the 150 day period following removal from the reactor core. After this period, the assemblies may be withdrawn and placed into a heavily shielded fuel cask for offsite shipment. Space permitting, the assemblies may be stored for an additional period allowing continued fission product decay and thermal cooling. Presently, the SFP at IP-2 contains no spent fuel assemblies but during the first refueling scheduled for Spring 1976 approximately 72 assemblies will be transferred to the SFP.

Since the additional capacity of the SFP is proposed for this site alone and for this licensee only, all the environmental impacts can be assessed within the context of this application. Potential impacts, both nonradiological and radiological relative to the construction and operation of the expanded SFP at this facility were considered by the Staff. No environmental impacts on the environs outside the spent fuel storage building were identified during the proposed construction of the expanded SFP. The impacts within this building are expected to be limited to those normally associated with metal working activities.

The Staff could not identify any impacts either onsite or offsite as environmentally significant due to the operation of an expanded SFP at this facility. The only potential offsite nonradiological environmental

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impact that could arise from this proposed action would be an additional heat load due to the increased storage capacity. However, the Staff's evaluation showed that the existing SFP cooling system has sufficient capacity such that the water temperature of the SFP will not exceed the design temperature previously evaluated in the FSAR and thus will not alter the analysis of thermal effluents presented in the FES of September 1972.

The only potential offsite radiological environmental impact associated with this expansion would be due to an additional increment in the long-lived radioactive effluents released at the IP-2 facility. The expansion of the SFP will allow an additional three-year storage period for spent fuel without shipment and the additional increment in radioactive releases was considered due only to storage of 218 assemblies for this three-year duration.

During the storage of spent fuel under water, radioactive wastes are released to both the liquid and gaseous phases. Non-volatile fission and corrosion products such as cesium and cobalt can be released from the assemblies and dispersed in the SFP cooling water. The licensee utilizes a fuel pool cleanup system to remove these and other contaminants from the fuel pool water. The cleanup system consists of a filter and two 100 gpm mixed-bed demineralizers, which are in continuous service. The fuel storage pool contains 350,000 gal of water, so that the cleanup system is capable of processing the pool contents in approximately 2-1/2 days. The principal effect of the increased spent fuel storage capacity due to leakage of non-volatile radioactive materials into the pool water will be an increase in the quantity of radioactive materials accumulated on the fuel pool filter and demineralizer, which are disposed of as solid waste. In this evaluation the quantity of long-lived radioactive materials removed by the cleanup system was assumed to increase in proportion to the increase in storage capacity, therefore, the quantity and curie content of the solid wastes from the fuel pool cleanup system would increase by approximately 83%. The increase in solid wastes from the SFP could result in a more rapid depletion of filters and demineralizers resulting in more frequent replacement of these components. However, the increase in SFP demineralizer wastes due to the proposed expansion of the storage pool is less than one percent of the total quantity of solid wastes shipped from the site during 1974, so that the overall impact on solid waste shipments would be negligible.

The Staff has determined the increment in onsite occupational dose resulting from the proposed modification to the SFP on the basis of information supplied by the licensee, and by utilizing realistic assumptions for occupancy times and water cleanup periods. This analysis indicates that the occupational radiation exposure resulting from this

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proposed action represents less than one percent of the present total annual occupational radiation burden at this facility.

With respect to gaseous releases, since short lived noble gases would have decayed to negligible amounts, the only significant noble gas isotope remaining in the SFP and attributable to storing assemblies for an additional three years would be Krypton-85. Utilizing the methods of Draft Regulatory Guide 1.BB, which assumes 0.25% of the fuel to have cladding defects, the Staff has determined the inventory of Krypton-85 to be 2.8 Ci/assembly for an average fuel assembly that achieved the design equilibrium burnup of 33,000 Mwd/MTU. Since the storage capacity of the pool is proposed to be enlarged by 218 fuel assemblies, the inventory of Krypton-85 in all of the fuel with cladding defects in these assemblies is calculated to be 610 curies. On this basis, the quantity of Krypton-85 that could potentially be released from these 218 fuel assemblies during the three year storage period has been estimated to be approximately 203 Ci/year. This represents approximately 5 percent of the total 3758 curies released for all noble gases from this facility during the first half of 1975 (January - June).

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Iodine-131 releases from IP-2 would not be significantly increased by the expansion of the fuel storage capacity since the fuel assemblies would have been stored in the SFP for a year or more and as such the Iodine-131 inventory in the fuel would have decayed to negligible levels.

Radioactive effluent releases from a postulated fuel cask accident over the SFP were not considered in this appraisal since the present crane at IP-2 will not permit the movement of a fuel cask over the SFP. Radioactive effluent releases from postulated fuel handling accidents over the expanded SFP remain unchanged from those presented in the FES of September 1972.

The Staff has considered the potential cumulative environmental impacts associated with the expansion of the SFP and has concluded that they will not result in radioactive effluent releases that significantly affect the quality of the human environment during either normal operation of the expanded SFP or under postulated fuel handling accident conditions.

- d. Have all technical issues which have arisen during the review of this application been resolved within that context?

The accompanying safety evaluation report points out that all questions concerning health and safety have been answered.

- e. Would a deferral or severe restriction on this licensing action result in substantial harm to the public interest?

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In regard to this licensing action at IP-2, the Staff has considered the following alternatives: (a) shipment of spent fuel to a fuel reprocessing facility, (b) shipment of spent fuel to a spent fuel storage facility, (c) shipment of spent fuel to another reactor site, and (d) ceasing operation at IP-2.

The licensee has made inquiries to fuel reprocessors both in the U.S. and in Europe to determine the availability of storage space and fuel reprocessing services. At present, neither the NFS or AGNS facilities in the U.S. nor two European firms (British Nuclear Fuel and United Reprocessors) were able to extend a contract to the licensee for the storage or reprocessing of spent fuel. The licensee anticipates that shipment of spent fuel could be made to such facilities by 1980 at the earliest. A cost comparison was presented by the licensee which indicates that the cost of increasing the spent fuel storage capacity at IP-2 (\$21 KgU) is less costly than at an independent storage facility (\$75 KgU) or at a reprocessor's storage facility (\$90 KgU).

The alternative of storing spent fuel in the storage pool of another nuclear reactor also compares poorly with the proposed action. The cost probably would be comparable to the cost of storage at a commercial storage facility and the licensee would be utilizing storage space which the recipient might require at a future date. Such a transfer would also impose additional fuel handling and transportation requirements.

The alternative of ceasing operation of IP-2 has been considered by the Staff and found to result in substantial harm to the public interest. If a situation arose that required the removal of a full reactor core to inspect and/or make repairs and SFP storage space was not adequate, the licensee could conceivably be required to shutdown IP-2. The licensee has indicated that the additional oil consumption required to replace IP-2 would be about 40,000 barrels per day which amounts to a fuel cost of about \$480,000 per day. Including applicable taxes the total cost to Con Edison's customers would be approximately \$550,000 per day. The licensee has estimated the total construction cost for the expansion of the SFP at \$1.7 million. Thus, in approximately 3 days the cost of shutting down IP-2 and supplying equivalent power from existing oil fired generating units would exceed the cost of expanding the storage pool.

In summary, the alternatives described above do not offer the operating flexibility of the proposed action nor could they be completed as rapidly as the proposed action. The alternatives of shipping the spent fuel to a reprocessing facility, an independent storage facility or to another would be more expensive than the proposed action and either might preempt storage space needed by another utility. The alternative of ceasing operation at IP-2 also would be more expensive than the proposed action

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because of the need to provide fossil fuel replacement power. In addition to the economic advantages of the proposed action, the Staff has determined that the expansion of the SFP would have a negligible environmental impact. Accordingly, deferral or severe restriction of the action here proposed would result in substantial harm to the public interest.

III. Basis and Conclusion for not Preparing an Environmental Impact Statement

The Staff has reviewed this proposed facility modification and change to the Technical Specifications relative to the requirements set forth in 10 CFR Part 51 and the Council of Environmental Quality's Guidelines, 40 CFR 1500.6 and has applied, weighed, and balanced the five factors specified by the Nuclear Regulatory Commission in 40 FR 42801. The Staff has determined that the license amendment and change to the Technical Specifications will not significantly affect the quality of the human environment. Therefore, the Commission has found that an environmental impact statement need not be prepared, and that, pursuant to 10 CFR 50.5(c), the issuance of a negative declaration to this effect is appropriate.

DATED:

Clifford A. Haupt, Project Engineer
Environmental Projects Branch No. 1
Division of Reactor Licensing

Clifford A. Haupt

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George W. Knighton, Chief
Environmental Projects Branch No. 1
Division of Reactor Licensing

George W. Knighton

Subject to correction on V.P. 2 p. 6 of Impact Appraisal corrected 12/16/75

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NO. 14 TO FACILITY LICENSE NO. DPR-26

(CHANGE NO. 11 TO THE TECHNICAL SPECIFICATIONS)
AND MODIFICATIONS TO SPENT FUEL STORAGE RACKS
CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.

INDIAN POINT NUCLEAR GENERATING UNIT NO. 2

DOCKET NO. 50-247

Introduction

By letter dated March 4, 1975, and supplements dated May 9, 1975, July 23, 1975, August 19, 1975, September 11, 1975, October 1, 1975, and October 10, 1975, the Consolidated Edison Company of New York, Inc. (the licensee) requested authorization to modify the spent fuel storage racks at Indian Point Nuclear Generating Unit No. 2 (the facility). The proposed modifications to the spent fuel storage racks would increase the storage capacity of the pool from 264 to 482 fuel assemblies.

By letter dated July 23, 1975, the licensee proposed an amendment to License No. DPR-26 that would revise the Technical Specifications to place restrictions on spent fuel storage and thereby limit the decay heat input to the spent fuel pool water.

Discussion

The proposed spent fuel racks would increase the storage capacity for the pool by decreasing the spacing between assemblies. The center-to-center spacing of the storage locations would be decreased from 20.5 to 14 inches. The licensee proposes to install boron-stainless steel plates in each storage location to insure an adequate criticality margin. The boron-stainless steel plates would extend over the entire length of the active fuel region of each assembly. Since boron has a high absorption cross section for thermal neutrons, the boron-stainless steel plates would compensate for the increase in reactivity due to the closer spacing of fuel assemblies. The licensee proposes to continue to use the existing cooling system for the fuel pool water.

Evaluation

There is no fuel or any other radioactive material in the spent fuel storage pool at this time and the installation of the racks can be accomplished in a dry pool with normal construction procedures. The rack installation process, therefore, will not endanger the health and safety of the public.

This evaluation discusses: (1) the potential change in the nuclear criticality margin due to closer spacing; (2) the increase in heat load due to the increased number of assemblies, (3) the fuel rack structural design, (4) the potential release of radioactive material, (5) the potential change in direct radiation and (6) the potential fuel cask drop accident.

Nuclear Criticality Margin

The center-to-center spacing of assemblies would be decreased from 20.5 inches to 14 inches. The increase in reactivity resulting from this modification would be offset by the introduction of borated-stainless steel plates between the assemblies. An analysis of the proposed fuel storage configuration was performed by the licensee and independently by us, to determine the margin of criticality afforded by the proposed design.

In our independent calculations we assumed:

1. Fresh unirradiated 3.5 w/o U-235 fuel (The present Technical Specification limit is 3.4 w/o U-235),
2. Pure water at room temperature,
3. No axial or radial neutron leakage (infinite medium assumed),
4. Minimum boron content (1.0 w/o) in the stainless steel plates, minimum dimension of stainless steel plates, and
5. Minimum center-to-center spacing (13.875 inches) of assemblies as permitted by the manufacturing tolerances.

Transport theory calculations were used and a calculational uncertainty of 1.0% $\Delta k/k$ was assumed. Parametric studies were performed about the design parameters to obtain values for uncertainties due to variations in center-to-center spacing, boron content, and water temperature. The total uncertainty of these variations was determined to be 1.0%.

Our calculations showed that even if all uncertainties are combined, the K_{eff} value for the storage pool is less than 0.90. A K_{eff} of 0.90 is well below our acceptance criteria of 0.95.

Increased Heat Load to Pool Cooling System

The existing cooling system has sufficient cooling capacity to keep the spent fuel pool water temperature from increasing above 139° F with 264 assemblies in the pool. The licensee has proposed a change to the Technical Specifications to compensate for the potential increase in heat load with 482 assemblies in the pool. The proposed change as modified by us states that "In the event that more than one region of fuel (72 assemblies or less) is to be discharged from the reactor, those assemblies in excess of one region shall not be discharged before a continuous interval of 400 hours has elapsed after shutdown". Our independent calculations show that with the above Technical Specification requirements in effect the existing system has sufficient capacity to maintain the pool water temperature below 139° F. Therefore, there will be no increase in heat load over that which has previously been analyzed in the Safety Analysis Report and found acceptable by the Commission.

Fuel Rack Structure

The proposed spent fuel racks would be of Seismic Category I design. The licensee has considered the most unfavorable combination of dead weight of the racks, the weight of the spent fuel elements, and the horizontal and vertical components of the "Safe Shutdown Earthquake (SSE) accelerations. The racks are designed in accordance with the American Institute of Steel Construction (AISC) specifications (1970 edition). We have determined that the criteria used by the licensee in its analysis and its design of the fuel storage racks are in conformance with criteria, codes, and standards acceptable to us. The use of these criteria provides reasonable assurance that in the event of a SSE, the fuel storage racks will continue to remain structurally sound and will perform their required safety function.

Potential Release of Radioactive Material

Radioactive materials can be released to the fuel pool water from fuel elements which have cladding defects. Non-volatile material would remain in the water while gases would be released to the atmosphere. The proposed increase in fuel storage capacity would mean that spent fuel assemblies would remain in the pool for a longer period of time. Due to the length of a core cycle (approximately one year) the radioactive material in the spent fuel stored in the pool would decay significantly by the time recently spent fuel were placed in the pool as a result of a refueling operation. Consequently, the total inventory of radioactive material would not

be increased in direct proportion to the number of proposed additional storage locations. This is because the short-lived isotopes will have decayed to negligible amounts by the time recently spent fuel is placed in the pool. Therefore the increase in radioactive material which would result from the increase in storage capacity would essentially consist of long-lived isotopes only.

The only long-lived radioactive noble gas isotope of significance is krypton-85. We have independently calculated the increase in the total inventory of krypton-85. Conservatively assuming 0.25% of the fuel to have defective cladding, we concluded that the increase in the amount of krypton-85 that could potentially be released was less than 1/20th of the total annual quantity of all noble gases released from the plant.

Long-lived non-volatile fission products and corrosion products that enter the spent fuel pool water would be removed by the fuel pool cleanup systems. Thus the quantity of radioactive materials accumulated by the fuel pool filter and demineralizer may be increased by approximately 83%. This material would be disposed of as solid waste. These wastes are a small fraction of the total quantity of solid wastes shipped from the site, so that the overall impact on solid waste shipments would be negligible.

Direct Radiation

We have independently calculated the direct radiation levels which could be expected as a result of the proposed increase in storage capacity. The calculation was performed conservatively by assuming that all 482 storage spaces were filled with spent fuel. The results of our independent calculations show that the dose rate at the pool surface would be 3 mr/hr or less. The results also show that there would be essentially no change in exposure at the pool surface due to the increase in the number of assemblies stored, as the major contributor to pool exposure is primary water, some of which mixes with pool water during refueling. It is, therefore, our conclusion that the increase in dosages from direct radiation from the spent fuel to individuals both on and offsite is acceptably low.

Postulated Fuel Cask Drop Accident

The postulated fuel cask drop accident is not considered in this evaluation as it will be considered as part of our review of the facility's cask handling system. The licensee intends to propose a new cask handling system and in the interval until this new cask handling system is authorized by the Commission, will not handle casks near the pool area. An appropriate Technical Specification has been added to the licensee's proposed Technical Specifications to prohibit handling of fuel casks near the fuel pool until the cask handling system has been evaluated and found acceptable by us.

Conclusion

We have concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner as modified by the staff, and (2) such activities will be conducted in compliance with the Commission's regulations and the issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public.

Dated:

December 16, 1975

UNITED STATES NUCLEAR REGULATORY COMMISSION

DOCKET NO. 50-247

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.

NOTICE OF ISSUANCE OF AMENDMENT TO FACILITY
OPERATING LICENSE

Notice is hereby given that the U. S. Nuclear Regulatory Commission (the Commission) has issued Amendment No. 14 to Facility Operating License No. DPR-26 issued to Consolidated Edison Company of New York, Inc. which revised Technical Specifications for operation of the Indian Point Nuclear Generating Unit No. 2, located in Buchanan, Westchester County, New York. The amendment is effective as of its date of issuance.

In accordance with the licensee's application for a license amendment, dated July 23, 1975, the amendment modifies the Technical Specifications by providing additional conditions for the storage of the spent fuel. The amendment also permits modification of the spent fuel element storage pool in order to provide for additional storage capacity for spent fuel in accordance with the licensee's proposal dated March 4, 1975, as supplemented on May 9, July 23, August 19, September 11, October 1, and October 10, 1975.

The application for the amendment complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations. The Commission

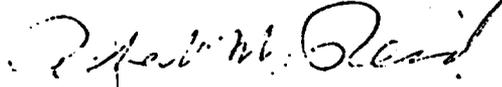
has made appropriate findings as required by the Act and the Commission's rules and regulations in 10 CFR Chapter I, which are set forth in the license amendment. Notice of Proposed Issuance of Amendment to Facility Operating License in connection with this action was published in the FEDERAL REGISTER on October 10, 1975 (40 F.R. 47839). No request for a hearing or petition for leave to intervene was filed following notice of the proposed action.

For further details with respect to this action, see (1) the application for amendment dated July 23, 1975 and proposal to modify spent fuel pool dated March 4, 1975, as supplemented May 9, July 23, August 19, September 11, October 1, and October 10, 1975, (2) Amendment No. 14 to License No. DPR-26, with Change No. 11, (3) the Commission's related Safety Evaluation, (4) the Commission's Negative Declaration dated December 16, 1975, which is being published concurrently with this notice, and (5) the Commission's associated Environmental Impact Appraisal. All of these items are available for public inspection at the Commission's Public Document Room, 1717 H Street, N. W., Washington, D. C. and at the Hendrick Hudson Free Library, 31 Albany Post Road, Montrose, New York,

A copy of items (2) and (3) may be obtained upon request addressed to the U. S. Nuclear Regulatory Commission, Washington, D. C. 20555, Attention: Director, Division of Reactor Licensing.

Dated at Bethesda, Maryland, this 16th day of December, 1975.

FOR THE NUCLEAR REGULATORY COMMISSION



Robert W. Reid, Chief
Operating Reactors Branch #4
Division of Reactor Licensing