December 13, 1991

Docket No. 50-333

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Mr. Ralph E. Beedle
Executive Vice President - Nuclear Generation
Power Authority of the State of New York
123 Main Street
White Plains, New York 10601

Dear Mr. Beedle:

SUBJECT: ENVIRONMENTAL ASSESSMENT AND FINDING OF NO SIGNIFICANT IMPACT - SPENT FUEL POOL EXPANSION, JAMES A. FITZPATRICK NUCLEAR POWER PLANT (TAC NO. M76937)

By letter dated May 31, 1990, the Power Authority of the State of New York (PASNY/the licensee) requested a license amendment to change the Technical Specifications related to the proposed spent fuel pool expansion at the FitzPatrick plant. Additional information was provided by letters dated October 31, 1990, December 5, 1990, June 26, 1991, July 12, 1991, July 16, 1991, and September 19, 1991.

Enclosed is our Environmental Assessment related to this proposed action. Based on our assessment, we have concluded that there are no significant radiological or nonradiological impacts associated with the proposed spent fuel pool expansion and it will have no significant impact on the quality of the human environment.

We have also enclosed a Notice of Issuance of Environmental Assessment and Finding of No Significant Impact. This Notice is being forwarded to the Office of Federal Register for publication.

Sincerely,

Original Signed By:
Brian C. McCabe, Project Manager
Project Directorate I-1
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Enclosures:
1. Environmental Assessment
2. Notice of Issuance of Environmental Assessment

cc w/enclosures:
See next page

*See previous concurrence

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

December 13, 1991

Docket No. 50-333

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Executive Vice President - Nuclear Generation
Power Authority of the State of New York
123 Main Street
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Sincerely,

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Division of Reactor Projects - I/II
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See next page

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Power Authority of the State of New York
James A. FitzPatrick Nuclear
Power Plant

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

ENVIRONMENTAL ASSESSMENT

BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATING TO THE EXPANSION OF THE SPENT FUEL POOL

FACILITY OPERATING LICENSE NO. DPR-59

POWER AUTHORITY OF THE STATE OF NEW YORK

JAMES A. FITZPATRICK NUCLEAR POWER PLANT

DOCKET NO. 50-333

1.0 INTRODUCTION

1.1 Description of Proposed Action

By letter dated May 31, 1990, the Power Authority of the State of New York (PASNY/the licensee) requested an amendment to Facility Operating License No. DPR-59 for the James A. FitzPatrick Nuclear Power Plant to allow the expansion of the capacity of the spent fuel pool. Further information was provided by letters dated October 31, 1990, December 5, 1990, June 26, 1991, July 12, 1991, July 16, 1991, and September 19, 1991.

The amendment would specifically authorize the licensee to increase the capacity of the spent fuel pool from the currently-approved capacity of 2244 fuel assemblies to the proposed capacity of 2797 fuel assemblies. The proposed expansion would be achieved by adding five new rack modules containing 553 storage locations to the spent fuel pool.

The proposed new storage rack design is a free-standing and self-supporting module constructed primarily of stainless steel material. The only non-stainless material utilized in the racks is the neutron absorber material which is a composite of aluminum-boron carbide sandwich. The racks are designed to maintain spent fuel assemblies in a space geometry which precludes the possibility of criticality during normal and abnormal conditions. Furthermore, the racks are designed to assure that the neutron multiplication factor (Keff) is less than 0.95 with the racks fully loaded with fuel of the highest anticipated reactivity; and the pool flooded with non-borated water at a temperature corresponding to the highest reactivity. The criticality design basis for the new racks is identical to the basis used for the existing racks.

1.2 Need for Increased Storage Capacity

a. The licensee currently has no contractual arrangements with any fuel reprocessing facility. There are no operating or planned fuel reprocessing facilities available in the U.S. The licensee has executed contracts with the U.S. Department of Energy (DOE) pursuant to the Nuclear Waste Policy Act of 1982. However, the disposal facilities are not expected to be available for spent fuel any earlier than 2010.

b. The licensee's projected refueling schedule for James A. FitzPatrick and the expected number of fuel assemblies that will be transferred into the spent fuel pool at each refueling results in the loss of ability to maintain a full core reserve in 1992. At present, the licensed capacity is 2244 storage cells. All calculations for loss of full core reserve (FCR) are based on the number of licensed total cells in the pool and assumes the installation of 553 additional cells, which lengthens the time of loss of FCR to the year 1997.

c. Adoption of this proposed spent fuel storage expansion would not necessarily extend the time period that spent fuel assemblies would be stored on site. Spent fuel will be removed from the site for disposal under the provisions of the Nuclear Waste Policy Act of 1982, but a government facility is not currently expected to be available to accept full reload quantities of spent fuel from James A. FitzPatrick before 2010.

1.3 Alternatives

Commercial reprocessing of spent fuel has not developed as originally anticipated. In 1975, the U.S. Nuclear Regulatory Commission (NRC) directed its staff to prepare a Generic Environmental Impact Statement (GEIS) on spent fuel storage. The Commission directed the staff to analyze alternatives for the handling and storage of spent light water power reactor fuel with particular emphasis on developing long-range policy. The GEIS was to consider alternative methods of spent fuel storage, as well as the possible restriction or termination of the generation of spent fuel through nuclear power plant shutdown.

A "Final Generic Environmental Impact Statement on Handling and Storage of Spent Light Water Power Reactor Fuel" (NUREG-0575), Volumes 1-3 (the FGEIS) was issued by the NRC in August 1979. The finding of the FGEIS is that the environmental impact costs of interim storage are essentially negligible, regardless of where such spent fuel is stored. A comparison of the impact costs of various alternatives reflects the advantage of continued generation of nuclear power versus its replacement by coal-fired power generation. Continued nuclear generation of power versus its replacement by oil-fired generation provides an even greater economic advantage. In the bounding case considered in the FGEIS, that of shutting down the reactor when the existing spent fuel storage capacity is filled, the cost of replacing nuclear stations before the end of their normal lifetime makes this alternative uneconomical. The storage of spent fuel as evaluated in NUREG-0575 is considered to be an interim action, not a final solution to permanent disposal.

One spent fuel storage alternative considered in detail in the FGEIS is the expansion of the onsite fuel storage capacity by modification of the existing spent fuel pools. Applications for more than 100 spent fuel pool expansions have been received and have been approved or are under review by the NRC. The finding in each case has been that the environmental impact of such increased storage capacity is negligible. However, since there are variations in storage design and limitations caused by the spent fuel already stored in some of the pools, the FGEIS recommends that licensing reviews be done on a case-by-case basis to resolve plant-specific concerns.

The continuing validity and site specific applicability of the conclusions in the NUREG-0575 have been confirmed in the Environmental Assessments for the Surry and H. B. Robinson Plants' independent spent fuel storage installations.

The licensee has considered several alternatives to the proposed action of the spent fuel pool expansion. The staff has evaluated these and certain other alternatives with respect to the need for the proposed action as discussed in Section 1.2 of this assessment. The following alternatives were considered:

(1) Shipment of spent fuel to a permanent federal fuel storage/disposal facility.

(2) Shipment of fuel to a reprocessing facility.

(3) Shipment of fuel to another utility or site for storage.

(4) Reduction of spent fuel generation.

(5) Construction of a new independent spent fuel storage installation (ISFSI).

(6) No action taken.

Each of these alternatives is discussed below.

1. Shipment of Spent Fuel to a Permanent Federal Fuel Storage/Disposal Facility

Shipment to a permanent federal fuel storage disposal facility is a preferred alternative to increasing the onsite spent fuel storage capacity. The licensee has made contractual arrangements whereby spent nuclear fuel and/or high level nuclear waste will be accepted and disposed of by the DOE. DOE is developing a repository under the Nuclear Waste Policy Act of 1982 (NWPA). However, the facility is not likely to be ready to receive spent fuel until the year 2010, at the earliest.

Under the NWPA, the federal government has the responsibility to provide not more than 1900 metric tons capacity for the interim storage of spent fuel. The impacts of storing fuel at a Federal Interim Storage (FIS) facility fall within those already assessed by the NRC in NUREG-0575. In enacting NWPA, the U.S. Congress found that the owners and operators of nuclear power stations have the primary responsibility for providing interim storage of spent nuclear fuel. In accordance with the NWPA and 10 CFR Part 53, shipping of spent fuel to a FIS facility is considered a last resort alternative. At this time, the licensee cannot take advantage of FIS because existing storage capacity is not maximized. Therefore, the licensee has been diligently pursuing this application for the spent fuel pool expansion at this time. The alternative of shipment of spent fuel to a FIS is not available.

2. Shipment of Fuel to a Reprocessing Facility

Reprocessing of spent fuel from FitzPatrick is not viable because presently there is no operating commercial reprocessing facility in the United States, nor is there the prospect for one in the foreseeable future.

3. Shipment of Fuel to Another Utility or Site For Storage

The shipment of spent fuel from FitzPatrick to the storage facility of another utility company could provide short-term relief for the storage capacity problem. However, the NWPA and 10 CFR Part 53 clearly place the responsibility for the interim storage of spent nuclear fuel with each owner or operator of a nuclear power plant. Moreover, transshipment of spent fuel to and its storage at another site would entail potential environmental impacts greater than those associated with the proposed increased storage at the FitzPatrick site. Therefore, this is not considered a practical or reasonable alternative.

The licensee does not own or control any facility where it could transfer spent fuel from FitzPatrick. The Indian Point 3 nuclear plant, owned by the licensee, is a Pressurized Water Reactor (PWR) with PWR spent fuel racks that are not designed to accept Boiling Water Reactor (BWR) fuel from the FitzPatrick plant.

4. Reduction of Spent Fuel Generation

Improved usage of fuel in the reactor and/or operation at a reduced power level would extend the life of the fuel in the reactor. In the case of extended burnup of fuel assemblies, the fuel cycle would be extended and fewer offloads would take place. However, the current storage capacity would still be quickly exhausted as discussed in Section 1.2. Operation at reduced power would not make effective use of available resources and would thus result in economic penalties.

5. Construction of A New Independent Spent Fuel Storage Installation

Additional storage capacity could be developed by building a new, independent spent fuel storage installation (ISFSI), similar either to the existing pool or a dry storage installation. The NRC staff has generically assessed the

impacts of the pool alternative and found, as reported in NUREG-0575, that "the storage of LWR spent fuels in water pools has an insignificant impact on the environment." A generic assessment for the dry storage alternative has not been made by the staff. However, assessments for several proposals including those for the dry cask ISFSI at the Surry Power Station, and the dry modular concrete ISFSIs at the H. B. Robinson Steam Electric Plant Unit 2 and the Oconee Nuclear Station resulted in findings of no significant impact. Subsequent to those licensing actions, the NRC promulgated a final rule that permits the onsite storage of spent fuel in NRC-approved dry storage casks under a general license. Several cask designs have been approved by the NRC staff pursuant to this rule.

While these alternatives are environmentally acceptable, such a new storage facility, either at FitzPatrick or at a location offsite, would require new site-specific design and construction, including equipment for the transfer of spent fuel. It is not likely that this effort would be completed in time to meet the need for additional capacity as discussed in Section 1.2. Furthermore, such construction would not utilize the existing expansion capabilities of the existing pool and thus would waste resources.

6. No Action Taken

If no action were taken, i.e., the spent fuel pool storage capacity remains at 2244 locations, full core offload reserve would be lost in 1992. Furthermore, the storage capacity would become insufficient to handle normal batch offload in 1995, and FitzPatrick would have to be shut down. Such termination of operations would result in no further generation of spent fuel, thereby eliminating the need for increased spent fuel storage capacity. The impact of terminating the generation of spent fuel by ceasing the operation of existing nuclear power plants (i.e., ceasing generation of electric power) when their spent fuel pools become filled was evaluated in NUREG-0575 and found to be undesirable. This alternative would be a waste of an available resource, and is not considered viable. Furthermore, plant shutdown would place a heavy financial burden on New York residents served by the licensee and cannot be justified.

2.0 RADIOACTIVE WASTES

The James A. FitzPatrick Nuclear Power Plant contains radioactive waste treatment systems designed to collect and process the gaseous, liquid, and solid waste that might contain radioactive material. The radioactive waste treatment systems are evaluated in the Final Environmental Statement (FES) dated March 1973. There will be no change in the waste treatment systems described in the FES because of the proposed spent fuel pool (SFP) expansion.

2.1 Radioactive Materials Released To The Atmosphere

Total releases and release rates of gaseous activity are limited by facility Technical Specifications (TSs), which also require that releases be continuously monitored to assure that releases are maintained as low as is reasonably achievable (ALARA) and within limits of 10 CFR Part 20.

With respect to releases of gaseous radioactive materials to the atmosphere, the only radioactive gas of significance which could be attributable to storing additional spent fuel assemblies onsite for a longer period of time would be the noble gas isotope Krypton-85 (Kr-85). Average annual releases of Kr-85 are estimated by assuming that all of the Kr-85 released from any defective fuel stored in the SFP will be released prior to the next refueling. Enlarging the storage capacity of the SFP would have no effect on the calculated average annual quantities of Kr-85 released to the atmosphere each year. Consequently, calculated annual doses to an individual would be likewise unchanged as a result of the proposed modification.

Iodine-131 releases from spent fuel assemblies in the SFP water will not be significantly increased because of the expansion of the fuel storage capacity since the Iodine-131 inventory in the fuel will decay to negligible levels between refuelings.

Most of the tritium in power reactors results from the activation of boron and lithium in reactor coolant. However, BWR primary coolant does not use chemical neutron absorbers like boron during normal operation. A relatively small amount of tritium is contributed during reactor operation by fissioning reactor fuel and subsequent diffusion of tritium through the fuel and fuel cladding. Tritium releases from the fuel essentially occur while the fuel is hot (that is, during operation) and, to a limited extent, shortly after shutdown. Therefore, increasing the SFP capacity will not significantly increase the tritium activity in the SFP.

2.2 Solid Radioactive Wastes

The concentration of radionuclides in the pool water is controlled by the SFP cleanup system and by decay of short-lived radionuclides. The activity is highest during refueling operations when reactor coolant water is introduced into the pool, and decreases as the pool water is processed through the SFP clearup system. The increase of radioactivity (if any) due to the proposed modification should be minor because of the capability of the cleanup system to continuously remove radioactivity from the SFP water and lower radioactivity to acceptable levels.

We do not expect any significant increase in the amount of solid waste generated from the SFP cleanup systems due to the proposed modification. The expected increase in total waste volume shipped from the FitzPatrick site is less than 1 percent and would not have any significant additional environmental impact.

2.3 Radioactive Material Released To Receiving Waters

There should not be a significant increase in the liquid release of radionuclides from the plant as a result of the proposed modifications.

Since the SFP cooling and cleanup systems operate as a closed system, only water originating from cleanup of SFP floors and resin sluice water need be considered

as potential sources of radioactivity. It is expected that neither the flow rate nor the radionuclide concentration of the floor cleanup water will change as a result of these modifications.

The SFP demineralizer resin removes soluble radioactive materials from the SFP water. These resins are periodically sluiced with water to the spent resin storage tank. The amount of radioactivity on the SFP demineralizer resin may increase slightly due to the additional spent fuel in the pool, but the soluble radioactive material should be retained on the resin. Radioactive material which might be transferred from the spent resin to the sluice water will be effectively removed by the liquid radwaste system. After processing in the liquid radwaste system, the amount of radioactivity released to the environment as a result of the proposed modification would be negligible.

3.0 RADIOLOGICAL IMPACT ASSESSMENT

This section contains the staff's estimates of the impacts on the public from the proposed spent fuel pool (SFP) expansion. This section also contains the staff's evaluation of the estimates of the additional radiological impacts on the plant workers from the proposed operation of the modified SFP.

3.1 Public Radiation Exposure

Sections 2.1 and 2.3 indicated that releases to the atmosphere and receiving waters, respectively, would not be significant and would be well within regulatory limits. Consequently, the estimated increase in doses due to exposure of individuals and the population to radioactive material associated with the spent fuel pool expansion will not be significant, i.e., also well within regulatory limits.

3.2 Occupational Exposure

This section contains the staff's evaluation of the estimates of the additional radiological impacts on the plant workers from the proposed addition to the spent fuel storage capacity at the FitzPatrick facility.

The collective occupational dose for the proposed modification of the SFP is estimated by the licensee to be about 2 person-rem. Based on previous experience with related activities at similar facilities, the staff believes that the licensee's estimate is low and that collective doses for these activities will more likely fall in the range of 4-6 person-rem.

The licensee has indicated that the removal of irradiated material currently stored in the spent fuel pool where the additional racks will be installed is estimated to require collective doses of about 13.5 person-rem. The licensee has further stated that this 13.5 person-rem is not directly attributed to the new rack installation. Even if this exposure were included in its entirety, and the staff value of 4-6 person-rem were used to estimate occupational

radiation exposures for the rack installation, the total additional collective dose of 17.5-19.5 person-rem is a small fraction of the 1987-1989 average annual occupational dose for FitzPatrick. This small increase in collective radiation dose should not affect the licensee's ability to maintain individual occupational doses within the limits of 10 CFR Part 20, and is as low as is reasonably achievable. Normal radiation control procedures should preclude any significant occupational exposures.

Based on present and projected operations in the SFP area, we estimate that the proposed expansion of the SFP should add less than 3% to the total annual occupational radiation dose at the facility, based on the average collective dose reported by the licensee for the 1987-1989 period.

Therefore, we conclude that the proposed storage of additional fuel in the modified SFP will not result in any significant increase in doses received by workers.

3.3 Conclusions

Based on its review of the proposed expansion of the SFP storage capacity at the James A. FitzPatrick Nuclear Power Plant, the staff concludes that:

1. The estimated additional radiation doses to the general public from expansion of the SFP storage capacity are:

   a. Well within regulatory limits.

   b. Very small in comparison to the dose which members of the public receive each year from exposure to natural background radiation.

2. The licensee has taken appropriate steps to ensure that occupational dose will be maintained as low as is reasonably achievable (ALARA) and within the limits of 10 CFR Part 20. The collective occupational dose estimated to be associated with the proposed modification of the expanded fuel pool, including removal of miscellaneous components from the spent fuel pool, is less than 20 person-rem, which is a small fraction of the average annual total occupational dose at FitzPatrick.

3. The risks of accidents are very low. Based on the considerations discussed above, the staff concluded that there would be no significant additional environmental radiological impact attributable to the proposed additional fuel storage capacity at the James A. FitzPatrick Nuclear Power Plant.

On the basis of the foregoing evaluation, it is concluded that there would be no significant additional environmental radiological impact attributable to the proposed spent fuel storage capacity expansion at the FitzPatrick facility.

We have concluded, on the basis of the considerations discussed above, that there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, with regard to radiation doses to the public and plant workers.

4.0 NON-RADIOLOGICAL IMPACT

The only nonradiological effluent affected by the SFP expansion is the additional waste heat rejected from the plant. The total increase in heat load rejected to the environment will be insignificant compared to the current total heat load from all plant sources to the environment. Thus, the increase in rejected heat will have negligible impact on the environment.

The licensee has not proposed any change in the use or discharge of chemicals in conjunction with the expansion of the fuel pool. The proposed fuel pool expansion will not require any change to the NPDES permit.

Therefore, the staff concludes that the non-radiological environmental impacts of expanding the spent fuel pool will be insignificant.

5.0 ACCIDENT ASSESSMENT

5.1 Accident Considerations

The staff, in the Safety Evaluation Report issued March 4, 1970, addressed the safety and environmental aspects of a fuel handling accident. A fuel handling accident may be viewed as a "reasonably foreseeable" design basis event which the pool and its associated structures, systems, and components (including the racks) are designed and constructed to prevent. The environmental impacts of the accident were found not to be significant.

The staff has reviewed the accidental fission product releases that could occur at FitzPatrick in conjunction with the proposed expansion of the spent fuel storage capacity. The staff finds that neither the reracking operations nor the increased capacity of spent fuel storage resulting from the proposed modification affect the calculated consequences of postulated accidents. Likewise, the proposed rack addition does not create the possibility of a new type of accident not previously analyzed. The radiological consequences resulting from postulated accidents have been previously analyzed and found acceptable.

5.2 Radiological Assessment of Potential Accidents

Although no onsite fuel handling accidents having significant offsite radiological consequences have ever occurred, such accidents must be postulated and their potential environmental consequences must be analyzed. Potential environmental consequences of such postulated accidents may be realistically bounded by extrapolation of results obtained from conservative estimates.

Offsite dose consequences are conservatively estimated for plant siting purposes and for performing design and operation reviews. The combination of assumptions used for these conservative dose estimates assure that calculations of doses for such accidents result in dose estimates that are unrealistically high. As a result, safe plant siting, design, and operation are enhanced because the doses so calculated would exceed regulatory limits without the adoption of plant safety features and/or operational controls. The principal regulatory dose limits for safety reviews are set forth in 10 CFR Part 100, "Reactor Site Criteria." For safety reviews, the limiting dose is set at 25 rems to the whole body and 300 rems to the thyroid from iodine exposure. For reactor safety review such as those performed to evaluate consequences from fuel handling accidents, doses to the thyroid from inhalation of accident-released iodine isotopes are controlling.

By increasing the spent fuel storage capacity at the FitzPatrick facility, the accidents considered and evaluated previously are still bounding and do not require reevaluation. Therefore, the environmental consequences of postulated accidents meet our criteria and are therefore acceptable.

6.0 SUMMARY

The Final Generic Environmental Impact Statement (FGEIS) on Handling and Storage of Spent Light Water Power Reactor Fuel concluded that the cost of the various alternatives reflects the advantage of continued generation of nuclear power with the accompanying spent fuel storage. Because of the differences in SFP designs, the FGEIS recommend environmental evaluation of SFP expansions on a case-by-case basis.

For FitzPatrick, the expansion of the storage capacity of the spent fuel pool will not create any significant additional radiological effects or measurable non-radiological environmental impacts. The small increase in radiation dose should not affect the licensee's ability to maintain individual occupational doses at FitzPatrick within the limits of 10 CFR Part 20, and as low as reasonably achievable. The only non-radiological effluent affected by the SFP expansion is additional waste heat rejected. The increase in total waste heat is insignificant. Thus, there is no significant environmental impact attributable to the waste heat from the plant due to SFP expansion.

6.1 Alternative Use of Resources

This action does not involve the use of resources not previously considered in connection with the U.S. Nuclear Regulatory Commission Final Environmental Statement, dated March 1973.

6.2 Agencies and Persons Consulted

The NRC staff reviewed the licensee's request. No other agencies or persons were consulted.

7.0 BASIS AND CONCLUSIONS FOR NOT PREPARING AN ENVIRONMENTAL IMPACT STATEMENT

The staff reviewed the proposed spent fuel pool modification to FitzPatrick relative to the requirements set forth in 10 CFR Part 51. Based upon the environmental assessment, the staff has concluded that there are no significant radiological or non-radiological impacts associated with the proposed action and that the proposed license amendment will not have significant effect on the quality of the human environment. Therefore, the Commission has determined, pursuant to 10 CFR 51.31, not to prepare an environmental impact statement for the proposed amendment.

8.0 REFERENCES

1. U.S. Nuclear Regulatory Commission, "Final Environmental Statement Related to Operation of James A. FitzPatrick Nuclear Power Plant," March 1973.

2. U.S. Nuclear Regulatory Commission, Regulatory Guide 8.8, Revision 3, "Information Relevant to Ensuring that Occupation Radiation Exposures at Nuclear Power Stations will be As low As is Reasonably Achievable," June 1978.

3. Memorandum from Charles S. Hinson to F.J. Congel, U.S. NRC, dated June 28, 1990, "LWR Occupational Dose Data for 1989."

4. U.S. Nuclear Regulatory Commission, "Environmental Assessment Relating to the Spent Fuel Pool-Indian Point Nuclear Generating Unit No. 3," October 1989.

5. U.S. Nuclear Regulatory Commission, "Environmental Assessment Related to the Construction and Operation of the Surry Dry Cask Independent Spent Fuel Storage Installation," 1985.

6. U.S. Nuclear Regulatory Commission, "Environmental Assessment Related to the Construction and Operation of the H. B. Robinson Independent Spent Fuel Storage Installation," 1986.

7. U.S. Nuclear Regulatory Commission, "Environmental Assessment Related to the Construction and Operation of the Oconee Nuclear Station Independent Spent Fuel Storage Installation," 1988.

8. U.S. Nuclear Regulatory Commission, NUREG-0575, "Final Generic Environmental Impact Statement (FGEIS) on Handling and Storage of Spent Light Water Power Reactor Fuel," Volumes 1-3, August 1979.

9. U.S. Nuclear Regulatory Commission Final Rule, "Storage of Spent Fuel in NRC-Approved Storage Casks at Power Reactor Sites," published July 18, 1990 (55 FR 29181) effective August 17, 1990.

7590-01

UNITED STATES NUCLEAR REGULATORY COMMISSION

POWER AUTHORITY OF THE STATE OF NEW YORK

DOCKET NO. 50-333

NOTICE OF ISSUANCE OF ENVIRONMENTAL

ASSESSMENT AND FINDING OF NO SIGNIFICANT IMPACT

The U.S. Nuclear Regulatory Commission (the Commission) is considering issuance of an amendment to Facility Operating License No. DPR-59, issued to the Power Authority of the State of New York (the licensee), for the operation of the James A. FitzPatrick Nuclear Power Plant in Oswego County, New York.

Identification of Proposed Action:

The amendment would consist of changes to the Technical Specifications (TS) that would authorize an increase to the storage capacity of the spent fuel pool from 2244 fuel assemblies to 2797 fuel assemblies.

The amendment to the TS is responsive to the licensee's application dated May 31, 1990, as supplemented October 31, 1990, December 5, 1990, June 26, 1991, July 12, 1991, July 16, 1991, and September 19, 1991. The Commission's staff has prepared an Environmental Assessment of the Proposed Action, "Environmental Assessment by the Office of Nuclear Reactor Regulation Relating to the Expansion of the Spent Fuel Pool, Facility Operating License No. DPR-59, Power Authority of the State of New York, James A. FitzPatrick Nuclear Power Plant, Docket No. 50-333," dated December 13, 1991.

Summary of Environmental Assessment:

The "Final Generic Environmental Impact Statement (FGEIS) on Handling and Storage of Spent Light Water Power Reactor Fuel" (NUREG-0575), Volumes 1-3, concluded that the environmental impact of interim storage of spent fuel was negligible and the cost of the various alternatives reflects the advantage of continued generation of nuclear power with the accompanying spent fuel storage. Because of the differences in design, the FGEIS recommended evaluating spent fuel pool expansions on a case-by-case basis.

For the James A. FitzPatrick Nuclear Power Plant, the expansion of the storage capacity of the spent fuel pool will not create any significant additional radiological effects or non-radiological environmental impacts.

The additional whole body dose that might be received by an individual at the site boundary is well within regulatory limits and is not significant. The occupational radiation dose for the proposed operation of the expanded spent fuel pool is estimated to be less than three percent of the total annual occupational radiation exposure for this facility.

The only non-radiological impact affected by the spent fuel pool expansion is the waste heat rejected. The increase in total plant waste heat is insignificant. There is no significant environmental impact attributed to the waste heat from the plant due to the spent fuel pool expansion.

FINDING OF NO SIGNIFICANT IMPACT

The staff has reviewed the proposed spent fuel pool expansion to the facility relative to the requirements set forth in 10 CFR Part 51. Based on

this assessment, the staff concludes that there are no significant radiological or non-radiological impacts associated with the proposed action and that the issuance of the proposed amendment to the license will have no significant impact on the quality of the human environment. Therefore, pursuant to 10 CFR 51.31, no environmental impact statement needs to be prepared for this action. For further details with respect to this action, see (1) the application for amendment to the Technical Specifications dated May 31, 1990, as supplemented October 31, 1990, December 5, 1990, June 26, 1991, July 12, 1991, July 16, 1991, and September 19, 1991, (2) the FGEIS on Handling and Storage of Spent Light Water Power Reactor Fuel (NUREG-0575), (3) the Final Environmental Statement for James A. FitzPatrick dated March 1973 and (4) the Environmental Assessment dated

These documents are available for public inspection at the Commission Public Document Room, 2120 L Street, NW., Washington, DC 20555 and at the Reference and Documents Department, Penfield Library, State University of New York, Oswego, New York.

Dated at Rockville, Maryland, this 13th day of December 1991.

FOR THE NUCLEAR REGULATORY COMMISSION

Francis J. Williams Jr., Acting Director
Project Directorate I-1
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation