

June 7, 1990

Docket No. 50-354

Mr. Steven E. Miltenberger  
Vice President and Chief Nuclear  
Officer  
Public Service Electric and Gas  
Company  
Post Office Box 236  
Hancocks Bridge, New Jersey 08038

DISTRIBUTION w/enclosures:

<u>Docket File</u>	MO'Brien (3)
NRC PDR	CShiraki
Local PDR	SBrown
PDI-2 Reading	OGC
SVarga	EJordan, MNBB 3701
BBoger	ACRS (10)
WButler	GPA/PA
PSwetland	

Dear Mr. Miltenberger:

SUBJECT: ENVIRONMENTAL ASSESSMENT AND FINDING OF NO SIGNIFICANT IMPACT  
SPENT FUEL POOL EXPANSION, HOPE CREEK GENERATING STATION  
(TAC NO. 75096)

By letter dated October 11, 1989 Public Service Electric and Gas Company requested a license amendment to increase the allowable capacity of the spent fuel pool.

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 the Federal Register for Publication.

Sincerely,

/s/

Clyde Y. Shiraki, Project Manager  
Project Directorate I-2  
Division of Reactor Projects - I/II  
Office of Nuclear Reactor Regulation

Enclosures:

1. Environmental Assessment
2. Notice

cc w/enclosures:  
See next page

[75096]

PDI-2/PA  
MO'Brien  
5/24/90

d  
PDI-2/PM  
CShiraki:mj  
5/24/90

PDI-2/D  
WButler  
5/24/90

OGC  
e 10/1/90

9006280062 900607  
PDR ADOCK 05000354  
P PIC

Handwritten initials/signature

Mr. Steven E. Miltenberger  
Public Service Electric & Gas Co.

Hope Creek Generating Station

cc:

M. J. Wetterhahn, Esquire  
Conner & Wetterhahn  
Suite 1050  
1747 Pennsylvania Avenue  
Washington, D.C. 20006

Mr. Scott B. Ungerer, Manager  
Joint Generation Projects Department  
Atlantic Electric Company  
Post Office Box 1500  
Pleasantville, New Jersey 08232

R. Fryling, Jr., Esquire  
Law Department - Tower 5E  
80 Park Place  
Newark, New Jersey 07101

Resident Inspector  
U.S. Nuclear Regulatory Commission  
P.O. Box 241  
Hancocks Bridge, New Jersey 08038

Mr. S. LaBruna  
Vice President - Nuclear Operations  
Nuclear Department  
P.O. Box 236  
Hancocks Bridge, New Jersey 08038

Mr. J. J. Hagan  
General Manager - Hope Creek Operations  
Hope Creek Generating Station  
P.O. Box 236  
Hancocks Bridge, New Jersey 08038

Mr. B. A. Preston, Manager  
Licensing and Regulation  
Nuclear Department  
P.O. Box 236  
Hancocks Bridge, New Jersey 08038

Regional Administrator, Region I  
U.S. Nuclear Regulatory Commission  
475 Allendale Road  
King of Prussia, Pennsylvania 19406

Dr. Jill Lipoti, Asst. Director  
Radiation Protection Programs  
NJ Department of Environmental  
Protection  
CN 415  
Trenton, New Jersey 08625-0415



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. NPF-57  
PUBLIC SERVICE ELECTRIC AND GAS COMPANY  
HOPE CREEK GENERATING STATION  
DOCKET NO. 50-354

1.0 INTRODUCTION

1.1 Description of Proposed Action

By letter dated October 11, 1989, Public Service Electric and Gas Company (PSE&G or the licensee) requested an amendment to Facility Operating License No. NPF-57 for the Hope Creek Generating Station (HCGS) to permit the installation of sufficient rack modules to bring the spent fuel pool storage capacity up to the original design value of 4006 fuel assemblies.

The requested increase in allowed spent fuel storage capacity:

- a. consists of placing original racks of the original design on the spent fuel pool floor;
- b. does not involve rod consolidation or double tiering;
- c. does not result in the Keff of the pool exceeding 0.95; and
- d. will utilize no new or unproven technology in the construction process or analytical techniques necessary to justify the expansion.

1.2 Need for Increased Storage Capacity

Amendment 27 to the (HCGS) Technical Specifications increased the capacity of the spent fuel storage pool from 1108 to the presently allowed 1290 fuel assemblies. However, that change did not increase the storage capacity to the plant design limit of 4006 assemblies, but merely provided sufficient storage capacity to accommodate the third fuel cycle while PSE&G completed a review of its long range fuel cycle strategy. PSE&G's current long range plans involve the utilization of the same fuel rack design as that of the original racks for all future fuel cycles. Therefore, PSE&G is requesting that TS 5.6.3 be reworded to permit the installation of the necessary rack capacity for storage of the FSAR design limit of 4006 spent fuel assemblies.

9006280063 900607  
PDR ADDCK 05000354  
PDC

The proposed plan for installing the new racks fundamentally meets the objective of keeping occupational exposures to a level that is as low as reasonably achievable. The operations will occur in pool areas as remote as possible from the currently stored spent fuel.

The Nuclear Waste Policy Act of 1982 provided for limited away-from-reactor storage, and stipulated that a spent fuel repository would be available by 1998. Since the Act does not require a repository before this date, it is not clear whether there will be any place to ship spent fuel in the early-to-mid-1990's. Therefore, in the interim the licensee needs to provide more storage capacity.

### 1.3 Alternatives

Commercial reprocessing of spent fuel has not developed as originally anticipated. In 1975, the Nuclear Regulatory Commission 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 shutdown.

A "Final Generic Environmental Impact Statement (FGEIS) on Handling and Storage of Spent Light Water Power Reactor Fuel" (NUREG-0575), Volumes 1-3, 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 also been confirmed in the Environmental Assessments for the Surry and H. B. Robinson Plants' independent spent fuel storage installations.

The staff has evaluated other alternatives with respect to the need for proposed action as discussed in Section 1.2 of this assessment. The following alternatives were considered by the staff:

- (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 an alternative to increasing the onsite spent fuel storage capacity. The U.S. Department of Energy (DOE) is developing a repository under the Nuclear Waste Policy Act of 1982 (NWP). However, the facility is not likely to be ready to receive spent fuel until the year 2003, at the earliest. Therefore, spent fuel acceptance and disposal by DOE is not an available alternative to increased onsite pool storage capacity.

As an interim measure, shipment to a Monitored Retrievable Storage (MRS) facility is another alternative to increasing the onsite spent fuel storage capacity. DOE, under the NWP, has recently submitted its MRS proposal to Congress. Because Congress has not authorized an MRS and because one is not projected to be available until 1998, this alternative does not meet the near-term storage needs of Hope Creek Generating Station.

Under the NWP, 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 NWP, 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 NWP and 10 CFR Part 53, shipping of spent fuel to an 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 pursuing this application for the spent fuel pool expansion at this time.

2. Shipment of Fuel to a Reprocessing Facility

Reprocessing of spent fuel from Hope Creek Generating Station 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 Hope Creek Generating Station to the storage facility of another utility company could provide short-term relief for the storage capacity problem. However, the NWP 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 Hope Creek Generating Station site. Therefore, this is not considered a practical or reasonable alternative.

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 to 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 Item 1 above. Operation at reduced power would not make effective use of available resources and would 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 the dry cask ISFSI at the Surry Power Station, 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.

While these alternatives are environmentally acceptable, such a new storage facility, either at Hope Creek Generating Station or at a location offsite, would require new site-specific design and construction, including equipment for the transfer of spent fuel. NRC review, evaluation and licensing of such a facility would also be required. It is not likely that this entire effort would be completed in time to meet the need for additional capacity as discussed above. Furthermore, such construction would not utilize the existing expansion capability 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 1290 locations, the storage capacity would become exhausted in the very near future and Hope Creek Generating Station 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 impacts 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 were evaluated in NUREG-0575 and found to be undesirable. This alternative would be a waste of an available resource, Hope Creek Generating Station itself, and is not considered viable.

In summary, the only long-term alternative that could provide an alternative solution to the licensee's spent fuel storage capacity problem is the construction of a new independent spent fuel storage installation at the Hope Creek Generating Station site or at a location away from the site. Construction of such an additional spent fuel storage facility could provide long-term increased storage capacity for Hope Creek Generation Station. However, it is not likely that this alternative could be implemented in a timely manner to meet the need for additional capacity for Hope Creek Generating Station. Further, this alternative would waste resources.

### 1.4 Fuel Reprocessing History

Currently, spent fuel is not being reprocessed on a commercial basis in the United States. The Nuclear Fuel Services (NFS) plant at West Valley, New York, was shut down in 1972 for alterations and expansion. In September 1976, NFS informed the Commission that it was withdrawing from the nuclear fuel reprocessing business. The Allied General Nuclear Services (AGNS) proposed plant in Barnwell, South Carolina, is not licensed to operate. The General Electric Company (GE) Morris Operation (formerly Midwest Recovery Plant) in Morris, Illinois, is in a decommissioned condition.

In 1977, President Carter issued a policy statement on commercial reprocessing of spent nuclear fuel, which effectively eliminated reprocessing as part of the relatively near-term nuclear fuel cycle.

Although no plants are licensed for reprocessing fuel, the storage pools at Morris and at West Valley are licensed to store spent fuel. The storage pool at West Valley is not full, but the licensee (the current licensee is New York Energy Research and Development Authority) is not accepting any additional spent fuel for storage, even from those power generating facilities that had contractual arrangements with West Valley. (In fact, spent fuel is being removed from NFS and returned to its owners). On May 4, 1982, the license held by GE for spent fuel storage activities at its Morris operation was renewed for another 20 years; however GE is committed to accept only limited quantities of additional spent fuel for storage at this facility from Cooper and San Onofre Unit 1.

## 2.0 RADIOACTIVE WASTES

Hope Creek Generating Station 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 December 1984. 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 Material Released to the Atmosphere

With respect to releases of gaseous materials to the atmosphere, the only radioactive gas of significance that could be attributable to storing additional spent fuel assemblies for a longer period of the time is the noble gas radio-nuclide Krypton-85 (Kr-85). Experience has demonstrated that after spent fuel has decayed 4 to 6 months, there is no longer a significant release of fission products, including Kr-85, from stored spent fuel containing cladding defects. To determine the average annual release of Kr-85, we assumed that all of the Kr-85 released from any defective fuel discharged to the SFP would be released prior to the next refueling. Enlarging the storage capacity of the SFP has no effect on the calculated average annual quantities of Kr-85 released to the atmosphere each year. There may be some small change in the calculated quantities due to a change in the fuel burnup; this is expected to be a small fraction of the calculated annual quantities. However, for the purpose of estimating potential radiation doses to members of the public due to the proposed increased storage of spent fuel assemblies, the NRC staff conservatively assumed an additional release of 125 Ci/year of Kr-85 (US NRC 1985).

Iodine-131 releases from spent fuel assemblies to 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 the SFP water results from activation of boron and lithium in the primary coolant and this will not be affected by the proposed changes because BWR primary coolant does not use chemical neutron absorbers like boron. A relatively small amount of tritium is contributed during reactor operation by fissioning of reactor fuel and subsequent diffusion of tritium through the fuel and fuel cladding. Tritium release from the fuel essentially occurs while the fuel is hot, that is, during operations and, to a limited extent, shortly after shutdown. Thus, expanding the SFP capacity will not significantly increase the tritium activity in the SFP.

Storing additional spent fuel assemblies is not expected to increase the bulk water temperature during normal refueling above the value used in the design analysis. Therefore, it is not expected that there will be any significant change in the annual release of tritium or iodine as a result of the proposed modifications from that previously evaluated. Most airborne releases of tritium and iodine result from evaporation of reactor coolant, which contains tritium and iodine in higher concentrations than the SFP. Therefore, even if

there were a higher evaporation rate from the SFP the increase in tritium and iodine releases from the plant, as a result of the increase in stored spent fuel, would be small compared to the amount normally released from the plant and that which was previously evaluated in the FES. Section 3/4.11 of the Hope Creek Generating Station TS, which sets limits for liquid and gaseous radioactive effluent discharges from the plant, is not being changed by this action.

## 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 isotopes. 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 cooling and cleanup system. The increase, if any, of radioactivity due to the proposed modification should be minor because of the capability of the cooling and cleanup system to continuously remove radioactivity in the SFP water to acceptable levels.

We do not expect any significant increase in the amount of solid waste generated from the SFP cleanup due to the proposed modification. The expected increase in total waste volume shipped from the Hope Creek Generating Station would be minimal and would not have any significant additional environmental impact.

## 2.3 Radioactive Material Released to Receiving Waters

It is not expected that there will be a significant increase in the liquid release of radionuclides from the plant as a result of the modifications. 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 removes soluble radioactive materials from the SFP water. 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 resins. After processing, the amount of radioactivity released to the environment as a result of the modification would be negligible.

## 3.0 RADIOLOGICAL IMPACT ASSESSMENT

The radiation dose for this project will 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 (NUREG-0800, US NRC 1981) and Regulatory Guide 8.8 (US NRC 1978) will preclude any significant occupational radiation exposures.

The increase in storage capacity from 1290 to 4006 fuel assemblies is not expected to increase the direct radiation dose to operating personnel because of extensive shielding by pool water and by the pool structure. Any dose from the spent fuel is expected to be minimal and, in most cases, undetectable.

Based on present and projected operations in the SFP area, we estimate that the proposed operation of the modified SFP will add only a small fraction to the total annual occupational radiation dose at Hope Creek Generating Station.

Thus, we conclude that the proposed storage of spent fuel in the modified SFP will not result in any significant long term increase in doses received by workers.

#### 4.0 NON-RADIOLOGICAL IMPACT

The new spent fuel racks will be shipped by truck to the Hope Creek site for installation in the pool. This is not expected to impact terrestrial resources not previously disturbed during the original construction.

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. No impact on aquatic biota is anticipated. 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 pool will be insignificant.

#### 5.0 ACCIDENT CONSIDERATIONS

##### 5.1 Design Basis Accidents

The staff, in the Safety Evaluation Report issued in October 1984, addressed both 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.

##### 5.2 Severe Accidents

The staff has considered accidents whose consequences might exceed a fuel handling accident, that is, beyond design basis events. An accident investigated by the NRC involves a structural failure of SFP resulting in a rapid loss of all contained cooling water, followed by fuel heatup and a zirconium cladding fire. The initiating events that might result in this severe accident are discussed in NUREG/CR-4982, entitled "Severe Accidents in Spent Fuel Pools in Support of Generic Issue 82." In addition, the staff issued NUREG/CR-5176,

entitled "Seismic Failure and Cask Drop Analysis of the Spent Fuel Pools at Two Representative Nuclear Power Plants." This report considers the structural integrity of the SFP and the pool response to the initiating events considered. The staff has recently concluded, on the basis of the two NUREG documents cited above and on NUREG/CR-5281, "Value/Impact Analyses of Accident Preventive and Mitigative Options for Spent Fuel Pools," and NUREG 1353, "Regulatory Analysis for Resolution of Generic Issue 82, Beyond Design Basis Accidents in Spent Fuel Pools," that no action need be taken to reduce the risk of beyond design accidents in spent fuel pools because of the large inherent safety margin in the design and construction of spent fuel pools. In view of the resolution of Generic Issue 82 the staff concludes that an Environmental Impact Statement need not be prepared.

## 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 recommended environmental evaluation of SFP expansions on a case-by-case basis.

The occupational radiation dose for the proposed operation of the expanded spent fuel pool is estimated by the staff to be less than one percent of the total annual occupational radiation exposure for a facility of this type. The small increase in radiation dose should not affect the licensee's ability to maintain individual occupational doses at Hope Creek Generating Station, within the limits of 10 CFR Part 20, and as low as is reasonably achievable. Furthermore, the non-radiological impacts of expanding the spent fuel pool will be insignificant, and none of the alternatives are practical or reasonable.

### 6.1 Alternative Use of Resources

This action does not involve the use of resources not previously considered in connection with the Nuclear Regulatory Commission's Final Environmental Statement, dated December 1984.

### 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 has reviewed the proposed spent fuel pool modification to Hope Creek Generating Station 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 a 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. USNRC, NUREG-0575, "Final Generic Environmental Impact Statement (FGEIS) on Handling and Storage of Spent Light Water Power Reactor Fuel," Volumes 1-3, August 1979.
2. USNRC, NUREG-0800, "Standard Review Plan," Section 13, July 1981 (formerly issued as NUREG-75/087).
3. USNRC, NUREG/CR-4982 "Severe Accidents in Spent Fuel Pools in Support of Generic Issue 82, July 1987.
4. USNRC, NUREG/CR-5176, "Seismic Failure and Cask Drop Analyses of the Spent Fuel Pools at Two Representative Nuclear Power Plants," January 1989.
5. USNRC, Regulatory Guide 8.8, Revision 3, "Information Relevant to Ensuring that Occupational Radiation Exposures at Nuclear Power Stations will be as Low as is Reasonably Achievable," June 1978.
6. USNRC, "Environmental Assessment Related to the Construction and Operation of the Surry Dry Cask Independent Spent Fuel Storage Installation," 1985.
7. USNRC, "Environmental Assessment Related to the Construction and Operation of the H.B. Robinson Independent Spent Fuel Storage Installation," 1986.
8. USNRC, "Environmental Assessment Related to the Construction and Operation of the Oconee Nuclear Station Independent Spent Fuel Storage Installation," 1988.
9. USNRC, NUREG-1074, "Final Environmental Statement," December 1984.
10. USNRC, NUREG/CR-1353, "Regulatory Analysis for the Resolution of Generic Issue 82, Beyond Design Basis Accidents in Spent Fuel Pools," April 1989.
11. USNRC, NUREG/CR-5281, "Value/Impact Analyses of Accident Preventive and Mitigative Options for Spent Fuel Pools," March 1989.
12. USNRC, NUREG-1048, "Safety Evaluation Report," October 1984.

Dated: June 7, 1990

Principal Contributor:

Clyde Y. Shiraki

UNITED STATES NUCLEAR REGULATORY COMMISSIONPUBLIC SERVICE ELECTRIC AND GAS COMPANYDOCKET NO. 50-354NOTICE 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. NPF-57, issued to Public Service Electric and Gas Company, (the licensee), for operation of the Hope Creek Generating Station, located in Salem County, New Jersey.

Identification of Proposed Action:

The amendment would consist of an addition to the Technical Specifications (TS) that would authorize the storage capacity of the spent fuel pool as 4006 spent fuel assemblies.

The amendment to the TS is responsive to the licensee's application dated October 11, 1989. The NRC 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. NPF-57, Public Service Electric and Gas Company, Hope Creek Generating Station, Docket No. 50-354," dated June 7, 1990.

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 (1979), 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.

9006280065 900607  
PDR ADOCK 05000354  
P PDC

For Hope Creek Generating Station, the expansion of the storage capacity of the spent fuel pool will not create any significant additional radiological effects or non-radiological environmental impacts beyond those assessed in the Commission's Final Environmental Statement (FES) issued in December 1984 related to the operation of Hope Creek Generating Station, and in the Safety Evaluation Report issued October 1984 in support of a license amendment concerning storage capacity.

The occupational radiation dose for the proposed operation of the expanded spent fuel pool is estimated to be less than one percent of the total annual occupational radiation exposure for this facility.

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 dated October 11, 1989, (2) the FGEIS on Handling and Storage of Spent Light Water Power Reactor Fuel (NUREG-0575), (3) the FES for Hope Creek Generating Station dated December 1984, and (4) the Environmental Assessment dated June 7, 1990.

These documents are available for public inspection at the Commission's Public Document Room, 2120 L Street, N.W., Washington, D.C. 20555 and at the Pennsville Public Library, 190 S. Broadway, Pennsville, New Jersey 08070.

Dated at Rockville, Maryland, this 7th day of June , 1990.

FOR THE NUCLEAR REGULATORY COMMISSION

A handwritten signature in cursive script that reads "Walter R. Butler".

Walter R. Butler, Director  
Project Directorate I-2  
Division of Reactor Projects I/II  
Office of Nuclear Reactor Regulation