

August 18, 1993

Docket No. 50-354

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

Dear Mr. Miltenberger:

SUBJECT: OPERABILITY REQUIREMENTS FOR FILTRATION, RECIRCULATION, AND  
VENTILATION SYSTEM, HOPE CREEK GENERATING STATION (TAC NO. M86352)

The Commission has issued the enclosed Amendment No. 57 to Facility Operating License No. NPF-57 for the Hope Creek Generating Station. This amendment consists of changes to the Technical Specifications (TSs) in response to your application dated May 6, 1993.

This amendment would eliminate the requirement to place the filtration, recirculation, and ventilation system (FRVS) in operation when the reactor vessel level instrumentation is inoperable.

A copy of our safety evaluation is also enclosed. Notice of Issuance will be included in the Commission's biweekly Federal Register notice. You are requested to notify the NRC, in writing, when this amendment has been implemented.

Sincerely,

/s/

Stephen Dembek, Project Manager  
Project Directorate I-2  
Division of Reactor Projects - I/II  
Office of Nuclear Reactor Regulation

Enclosures:

1. Amendment No. 57 to License No. NPF-57
2. Safety Evaluation

cc w/enclosures:

See next page

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Docket File	CMiller	GHill(2), P1-22	OPA
NRC & Local PDRs	MO'Brien(2)	Wanda Jones, P-370	OC/LFMB
PDI-2 Reading	SDembek/PRush	CMcCracken, 8D-1	EWenzinger, R-I
SVarga	OGC	CGrimes, 11E-21	JWhite, R-I
JCalvo	DHagan, 3206	ACRS(10)	

OFC	: PDI-2/I	: PDI-2/PM	: SPLB	: OGC	: PDI-2/D	: OTSB
NAME	: MO'BRIEN	: PRUSH:rb	: SDEMBEK	: CMCCRACKEN: R.Bachmann	: CMILLER	: CGrimes
DATE	: 7/7/93	: 7/7/93	: 7/7/93	: 7/14/93	: 7/22/93	: 8/17/93

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w/corrections

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UNITED STATES  
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

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Sincerely,

A handwritten signature in cursive script, appearing to read "Stephen Dembek".

Stephen Dembek, Project Manager  
Project Directorate I-2  
Division of Reactor Projects - I/II  
Office of Nuclear Reactor Regulation

Enclosures:

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2. Safety Evaluation

cc w/enclosures:  
See next page

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

Hope Creek Generating Station

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Lower Alloways Creek Township  
c/o Mary O. Henderson, Clerk  
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UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

PUBLIC SERVICE ELECTRIC & GAS COMPANY

ATLANTIC CITY ELECTRIC COMPANY

DOCKET NO. 50-354

HOPE CREEK GENERATING STATION

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 57  
License No. NPF-57

1. The Nuclear Regulatory Commission (the Commission or the NRC) has found that:
  - A. The application for amendment filed by the Public Service Electric & Gas Company (PSE&G) dated May 6, 1993, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;
  - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
  - C. There is reasonable assurance: (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations set forth in 10 CFR Chapter I;
  - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
  - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Facility Operating License No. NPF-57 is hereby amended to read as follows:

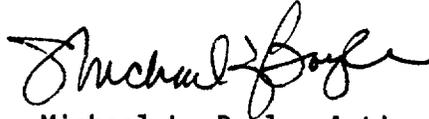
(2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A, as revised through Amendment No. 57, and the Environmental Protection Plan contained in Appendix B, are hereby incorporated into the license. PSE&G shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

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3. The license amendment is effective as of its date of issuance and shall be implemented within 60 days of the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Michael L. Boyle, Acting Director  
Project Directorate I-2  
Division of Reactor Projects - I/II  
Office of Nuclear Reactor Regulation

Attachment:  
Changes to the Technical  
Specifications

Date of Issuance: August 18, 1993

ATTACHMENT TO LICENSE AMENDMENT NO. 57

FACILITY OPERATING LICENSE NO. NPF-57

DOCKET NO. 50-354

Replace the following pages of the Appendix "A" Technical Specifications with the attached pages. The revised pages are identified by Amendment number and contain vertical lines indicating the area of change. Overleaf page provided to maintain document completeness.\*

Remove

3/4 3-15

3/4 3-16

3/4 3-16a

-

Insert

3/4 3-15\*

3/4 3-16

3/4 3-16a

-

TABLE 3.3.2-1 (Continued)

ISOLATION ACTUATION INSTRUMENTATION

<u>TRIP FUNCTION</u>	<u>VALVE ACTUA- TION GROUPS OPERATED BY SIGNAL (B)</u>	<u>MINIMUM OPERABLE CHANNELS PER TRIP SYSTEM (A)</u>	<u>APPLICABLE OPERATIONAL CONDITION</u>	<u>ACTION</u>
<b>7. <u>RHR SYSTEM SHUTDOWN COOLING MODE ISOLATION</u></b>				
a. Reactor Vessel Water Level - Low, Level 3	3	2/Valve <sup>(e)</sup>	1, 2, 3	27
b. Reactor Vessel (RHR Cut-in Permissive) Pressure - High	3	2/Valve <sup>(e)</sup>	1, 2, 3	27
c. Manual Initiation	3	1/Valve <sup>(e)</sup>	1, 2, 3	25

TABLE 3.3.2-1 (Continued)

ISOLATION ACTUATION INSTRUMENTATION

ACTION

- ACTION 20 - Be in at least HOT SHUTDOWN within 12 hours and in COLD SHUTDOWN within the next 24 hours.
- ACTION 21 - Be in at least STARTUP with the associated isolation valves closed within 6 hours or be in at least HOT SHUTDOWN within 12 hours and in COLD SHUTDOWN within the next 24 hours.
- ACTION 22 - Be in at least STARTUP within 6 hours.
- ACTION 23 - Close the affected system isolation valves within one hour and declare the affected system inoperable.
- ACTION 24 - Restore the manual initiation function to OPERABLE status within 48 hours or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.
- ACTION 25 - Restore the manual initiation function to OPERABLE status within 8 hours or close the affected system isolation valves within the next hour and declare the affected system inoperable.
- ACTION 26 - Establish SECONDARY CONTAINMENT INTEGRITY with the Filtration, Recirculation and Ventilation System (FRVS) operating within one hour. The action of operating FRVS is not required when the Reactor Vessel Water Level - Low Low, Level 2 instrumentation is inoperable as long as the following conditions are met:
- a) the reactor water level is maintained at least 22 feet 2 inches over the top of the reactor pressure vessel flange,
  - b) the suppression pool level is maintained at greater than or equal to 5 inches indicated level,
  - c) at least one channel of the suppression pool high level alarm is operable, and
  - d) the spent fuel pool gates are removed.
- ACTION 27 - Lock the affected system isolation valves closed within one hour and declare the affected system inoperable.
- ACTION 28 - Place the inoperable channel in the tripped condition or close the affected system isolation valves within one hour and declare the affected system inoperable.
- ACTION 29 - Place the inoperable channel in the tripped condition or establish SECONDARY CONTAINMENT INTEGRITY with the Filtration, Recirculation, and Ventilation System (FRVS) operating within one hour.

TABLE 3.3.2-1 (Continued)

ISOLATION ACTUATION INSTRUMENTATION

ACTION

- ACTION 20 - Be in at least HOT SHUTDOWN within 12 hours and in COLD SHUTDOWN within the next 24 hours.
- ACTION 21 - Be in at least STARTUP with the associated isolation valves closed within 6 hours or be in at least HOT SHUTDOWN within 12 hours and in COLD SHUTDOWN within the next 24 hours.
- ACTION 22 - Be in at least STARTUP within 6 hours.
- ACTION 23 - Close the affected system isolation valves within one hour and declare the affected system inoperable.
- ACTION 24 - Restore the manual initiation function to OPERABLE status within 48 hours or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.
- ACTION 25 - Restore the manual initiation function to OPERABLE status within 8 hours or close the affected system isolation valves within the next hour and declare the affected system inoperable.
- ACTION 26 - Establish SECONDARY CONTAINMENT INTEGRITY with the Filtration, Recirculation and Ventilation System (FRVS) operating within one hour. The action of operating FRVS is not required when the Reactor Vessel Water Level - Low Low, Level 2 instrumentation is inoperable as long as the following conditions are met:
- a) the reactor water level is maintained at least 22 feet 2 inches over the top of the reactor pressure vessel flange,
  - b) the suppression pool level is maintained at greater than or equal to 5 inches indicated level,
  - c) at least one channel of the suppression pool high level alarm is operable, and
  - d) the spent fuel pool gates are removed.
- ACTION 27 - Lock the affected system isolation valves closed within one hour and declare the affected system inoperable.
- ACTION 28 - Place the inoperable channel in the tripped condition or close the affected system isolation valves within one hour and declare the affected system inoperable.
- ACTION 29 - Place the inoperable channel in the tripped condition or establish SECONDARY CONTAINMENT INTEGRITY with the Filtration, Recirculation, and Ventilation System (FRVS) operating within one hour.

TABLE 3.3.2-1 (Continued)

NOTES

- \* When handling irradiated fuel in the secondary containment and during CORE ALTERATIONS and operations with a potential for draining the reactor vessel.
- \*\* When any turbine stop valve is greater than 90% open and/or when the key-locked bypass switch is in the Norm position.
- # Refer to Specification 3.1.5 for applicability.
- \*\* The hydrogen water chemistry (HWC) system shall not be placed in service until reactor power reaches 20% of RATED THERMAL POWER. After reaching 20% of RATED THERMAL POWER, and prior to operating the HWC system, the normal full power background radiation level and associated trip setpoints may be increased to levels previously measured during full power operation with hydrogen injection. Prior to decreasing below 20% of RATED THERMAL POWER and after the HWC system has been shutoff, the background level and associated setpoint shall be returned to the normal full power values. If a power reduction event occurs so that the reactor power is below 20% of RATED THERMAL POWER without the required setpoint change, control rod motion shall be suspended (except for scram or other emergency actions) until the necessary setpoint adjustment is made.
- (a) A channel may be placed in an inoperable status for up to 2 hours for required surveillance without placing the trip system in the tripped condition provided at least one other OPERABLE channel in the same trip system is monitoring that parameter.
- (b) Also trips and isolates the mechanical vacuum pumps.
- (c) Also starts the Filtration, Recirculation and Ventilation System (FRVS).
- (d) Refer to Table 3.3.2-1 table notation for the listing of which valves in an actuation group are closed by a particular isolation signal. Refer to Tables 3.6.3-1 and 3.6.5.2-1 for the listings of all valves within an actuation group.
- (e) Sensors arranged per valve group, not per trip system.
- (f) Closes only RWCU system isolation valve(s) HV-F001 and HV-F004.
- (g) Requires system steam supply pressure-low coincident with drywell pressure-high to close turbine exhaust vacuum breaker valves.
- (h) Manual isolation closes HV-F008 only, and only following manual or automatic initiation of the RCIC system.
- (i) Manual isolation closes HV-F003 and HV-F042 only, and only following manual or automatic initiation of the HPCI system.



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
RELATED TO AMENDMENT NO. 57 TO FACILITY OPERATING LICENSE NO. NPF-57  
PUBLIC SERVICE ELECTRIC & GAS COMPANY  
ATLANTIC CITY ELECTRIC COMPANY  
HOPE CREEK GENERATING STATION  
DOCKET NO. 50-354

1.0 INTRODUCTION

By letter dated May 6, 1993, the Public Service Electric and Gas Company (the licensee) submitted a request for changes to the Hope Creek Generating Station, Technical Specifications (TS). The requested changes would modify the requirements of Technical Specification 3.3.2, Table 3.3.2-1, Action 26, which mandates that the filtration, recirculation, and ventilation system (FRVS) be in operation when the reactor vessel water level instrumentation is inoperable. The proposed changes would not require FRVS to be in operation while the reactor vessel water level instrumentation is inoperable provided additional conditions are met.

2.0 BACKGROUND

The FRVS is an Engineered Safety Feature designed to minimize offsite doses in the event of a loss of coolant accident, a refueling accident, or a high radioactivity event in the reactor building. FRVS is automatically started in response to the following signals:

- a. High drywell pressure,
- b. Low reactor vessel water level (Level 2),
- c. Refueling floor exhaust duct high radioactivity,
- d. Reactor building exhaust air high radioactivity, and
- e. Reactor building ventilation system isolation.

In addition, the FRVS can also be manually started from the main control room.

During refueling operations, there exists the potential that a loss of coolant accident or inadvertent diversion of RCS water could lead to a draining of the reactor vessel. With the reactor vessel level instrumentation inoperable, an automatic initiation based on a Level 2 start signal for the FRVS would not be possible. To compensate for the loss of level start signal in this case, current plant technical specifications require that the FRVS be in operation when the reactor vessel level instrumentation is inoperable.

During refueling operations, the reactor vessel level instrumentation is periodically removed from service for maintenance purposes. When this occurs, the FRVS must be put into operation. While the FRVS is in operation, condensation forms on the ductwork and results in high humidity conditions on the refueling floor. This creates both an uncomfortable work environment for plant personnel and difficulties related to contamination control.

Additionally, operation of the FRVS increases the usage time for the charcoal filters within this system. As a result, sampling and testing of these filters as required by plant Technical Specification Surveillance requirements must be completed more often.

To compensate for the loss of level actuation signal to the FRVS, the amendment specifies additional criteria which must be met during periods when the reactor vessel level instrumentation is inoperable.

### 3.0 EVALUATION

The FRVS is required to be in operation with the reactor vessel water level instrumentation inoperable to compensate for the loss of an automatic initiation signal in the event that the water level in the reactor vessel decreases below the Level 2 setpoint. With the FRVS in operation, it would be available to mitigate the consequences of a radiological release to the refueling floor in the event of a significant decrease in reactor vessel water level. The additional criteria specified in this amendment ensure that other alarms would alert operators to a draindown of the reactor vessel.

The first criterion requires that the water level in the reactor cavity be at least 22 feet 2 inches above the reactor vessel flange when level instrumentation is inoperable. At this minimum water level, there is a total of 547,745 gallons above the reactor vessel flange. In order to reach the Level 2 setpoint, the loss or diversion of more than 550,000 gallons of water from the refueling cavity and the reactor vessel would be required. During periods when the refueling cavity is flooded, plant personnel will usually occupy the refueling floor. Plant personnel in this vicinity would probably notice a loss of inventory of this magnitude.

If a draindown of the reactor vessel cavity to the suppression pool were to occur, the stipulations requiring operability of the suppression pool high level alarm and maintaining a level in the suppression pool at or above 5 inches indicated level would serve to alert operators to a loss of inventory event. Diverting water from the reactor vessel to the suppression pool would

lead to an increase in the suppression pool water level. At an initial suppression pool level of 5 inches indicated level, the addition of 482,490 gallons of water would lead to a high suppression pool water level alarm in the control room.

The spent fuel pool is equipped with a low water level alarm. Decreasing the water level in the refueling cavity with the fuel pool gates open would concurrently decrease the water level in the fuel pool. A continued decrease in level would actuate the low fuel pool level alarm in the main control room alerting operators to the loss of inventory. This alarm would occur irrespective of the leak/draindown path from the reactor vessel. In addition, the design of the spent fuel pool cooling system is such that the decreased level in the pool would lead to a fuel pool cooling pump trip. A fuel pool cooling pump trip will also cause an alarm in the control room.

An undetected loss of inventory event resulting in the draining of the refueling cavity would also decrease water level in the dryer/separator pit. If the draindown went undetected, the water level would drop low enough to expose the dryer/separator assembly. Upon exposing these reactor vessel internals high refueling floor radioactivity levels would automatically initiate FRVS.

The licensee proposes to delete the requirement which mandates that the FRVS be in operation when the reactor vessel level instrumentation is inoperable. This modification along with the additional criteria necessary to meet this condition specified in the amendment were evaluated by the staff. Based on this evaluation, the staff finds the proposed changes acceptable.

### 3.0 STATE CONSULTATION

In accordance with the Commission's regulations, the New Jersey State Official was notified of the proposed issuance of the amendment. The State official had no comments.

### 4.0 ENVIRONMENTAL CONSIDERATION

The amendment changes a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. The NRC staff has determined that the amendment involves no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendment involves no significant hazards consideration, and there has been no public comment on such finding (58 FR 34090). Accordingly, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b) no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendment.

## 5.0 CONCLUSION

The Commission has 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, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: P. Rush

Date: August 18, 1993