PSE&G

Public Service Electric and Gas Company P.O. Box 236 Hancocks Bridge, New Jersey 08038

Nuclear Department

MAY 06 1993

NLR-N93063
LCR 93-07

United States Nuclear Regulatory Commission
Document Control Desk
Washington, DC 20555

Gentlemen:

LICENSE AMENDMENT APPLICATION
DELETION OF THE FRVS START WITH INOPERABLE LEVEL INSTRUMENTATION
FACILITY OPERATING LICENSE NPF-57
HOPE CREEK GENERATING STATION
DOCKET NO. 50-354

This letter submits an application for amendment to Appendix A of Facility Operating License NPF-57 for the Hope Creek Generating Station and is being filed in accordance with 10CFR50.90. The changes that are proposed in this submittal would eliminate the requirement to place FRVS in operation when the reactor vessel level instrumentation is inoperable. Attachment 1 contains a detailed description of and justification for the proposed changes. Based upon the justification provided, PSE&G believes that the proposed changes do not involve a significant hazards consideration pursuant to 10CFR50.92. Attachment 2 contains marked up Technical Specification pages which reflect the proposed changes.

Pursuant to the requirements of 10 CFR 50.91(b)(1), a copy of this submittal has been sent to the State of New Jersey as indicated below.

Upon NRC approval, please issue a license amendment which will be effective upon issuance and shall be implemented within 60 days of issuance. This latitude permits appropriate procedural modifications necessary to implement the proposed changes.

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The power is in our hands.
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Should you have any questions or comments on this submittal, please do not hesitate to contact us.

Sincerely,

J. J. Hagan
Vice President -
Nuclear Operations

Affidavit
Attachments (2)

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STATE OF NEW JERSEY)
) SS.
COUNTY OF SALEM)

J. J. Hagan, being duly sworn according to law deposes and says:

I am Vice President - Nuclear Operations of Public Service Electric and Gas Company, and as such, I find the matters set forth in our letter concerning the Hope Creek Generating Station are true to the best of my knowledge, information, and belief.

J. J. Hagan

Subscribed and Sworn to before me
this 6th day of May, 1993

Kimberly Jo Brown
Notary Public of New Jersey

KIMBERLY JO BROWN
NOTARY PUBLIC OF NEW JERSEY
My Commission Expires April 21, 1998

My Commission expires on _____

ATTACHMENT 1
PROPOSED CHANGES TO THE TECHNICAL SPECIFICATIONS

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I. DESCRIPTION OF THE PROPOSED CHANGES

This license amendment application proposes to change Action Statement 26 of Technical Specification (TS) Table 3.3.2-1. The change would add the following sentence to the existing action statement:

"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."

II. REASON FOR THE PROPOSED CHANGES

During refueling outages, the reactor vessel level instrumentation is periodically removed from service to permit calibration. During these periods, the instrumentation is considered inoperable and FRVS must be operated in accordance with Action Statement 26 of Technical Specification (TS) Table 3.3.2-1. Operation of FRVS produces condensation on the FRVS ductwork and results in high humidity conditions on the refuel floor. This situation creates an undesirable work environment for personnel and difficulties relative to contamination control.

In addition, the proposed changes preserve operating time for the charcoal filters which must be sampled and tested after every 720 hours of operation in accordance with TS Surveillance Requirement 4.6.5.3.1.d.

III. JUSTIFICATION FOR THE PROPOSED CHANGES

The intent of the requirement for placing FRVS in operation when the reactor vessel level instrumentation is out of service is to compensate for the loss of the automatic Level 2 initiation signal. We believe that this compensatory action is unnecessary based upon other factors which would provide assurance that FRVS would already be in operation if the Level 2 setpoint were to be reached. These other factors include the following:

A. Capability to detect a significant loss of vessel inventory and the associated capability to manually initiate FRVS from the control room

B. Other automatic FRVS initiation signals

These factors are discussed in further detail below.

A. Detection and Manual Initiation Capability

With the water level maintained at least 22 feet 2 inches over the top of the reactor pressure vessel flange, there is at least 35 feet 2 inches of water which must be lost in order to reach the Level 2 setpoint. This includes an available volume above the flange of 547,745 gallons. A depletion of water of this magnitude would be noted by refueling and control room personnel and FRVS could be manually initiated from the control room. This conclusion is based upon the following:

1. The refuel floor is usually manned when the vessel is flooded-up. The time of greatest vulnerability is during fuel movement and Technical Specifications require that the refuel floor be manned during these periods. The refuel floor personnel would therefore, in most instances, be available to note any significant changes in level.

2. A significant loss of reactor vessel and cavity inventory would manifest itself in an increased suppression pool water level. With the suppression pool at greater than or equal to 5 inches indicated level, the fuel pool gates removed, and the suppression pool level alarm set at its setpoint of less than 78.5 inches, control room personnel would be alerted to the reduction in reactor vessel water level prior to the level reaching the top of the vessel flange. Only 482,490 gallons of the 547,745 gallons above the flange would be required to initiate the suppression pool high level alarm.

3. With the spent fuel pool gates open, the low fuel pool level alarm would alert control room personnel to a loss of inventory.

4. With the spent fuel pool gates open, the spent fuel pool cooling pump trip indication would alert control room personnel to a loss of inventory.

B. Other automatic FRVS initiation signals

In Mode 5, FRVS is automatically initiated by the following:

1. Low reactor pressure vessel water level (Level 2)

2. Refuel floor exhaust duct high radioactivity

3. Reactor building exhaust air high radioactivity

4. Reactor building isolation system

Therefore, in addition to the automatic Level 2 initiation, FRVS is automatically initiated by separate trip circuits that sense high radioactivity in the reactor building and the refuel floor.

A significant loss of in cavity inventory would drop the level in the dryer/separator pit and expose the dryer/separator. This would result in high refuel floor radioactivity levels that would automatically initiate FRVS. In this situation, the high refuel floor radioactivity signal would initiate FRVS prior to the level reaching the vessel flange.

In conclusion, we believe that, during flood-up conditions with greater than 22 feet 2 inches of water above the vessel flange, adequate measures are in place to ensure that FRVS would already be in operation if the Level 2 setpoint were to be reached.

IV. SIGNIFICANT HAZARDS CONSIDERATION EVALUATION

PSE&G has, pursuant to 10CFR50.92, reviewed the proposed changes to determine whether they involve a significant hazards consideration. We have determined that operation of the Hope Creek Generating Station in accordance with the proposed changes:

1. **Will not involve a significant increase in the probability or consequences of an accident previously evaluated.**

FRVS is an engineered safety features (ESF) system designed to reduce offsite doses significantly below 10CFR100 guidelines during a loss of coolant accident, a refueling accident, or a high radioactivity event in the reactor building. FRVS is therefore intended to mitigate the consequences of various accidents but has no impact relative to initiation of any accident scenario. As a result, changes to FRVS requirements may impact the consequences of previously analyzed accidents, but would not be expected to affect the probability of any previously analyzed accident.

Operation of FRVS is credited in the evaluation of the radiological consequences of a fuel handling accident and a loss of coolant accident (LOCA); however, initiation of FRVS on Level 2 is applicable only for LOCA mitigation.

The proposed changes remove the requirement to operate FRVS when the reactor level instrumentation is inoperable as long as the reactor level is maintained at least 22 feet 2 inches over the top of the reactor pressure vessel flange, the suppression pool level is maintained at greater than or equal to 5 inches indicated level, at least one channel of the suppression pool high level alarm is operable, and the spent fuel pool gates are removed. The intent of the requirement to place FRVS in operation in this situation is to compensate for the loss of the automatic Level 2 FRVS initiation signal.

Other measures are also available to compensate for the loss of the Level 2 signal. These include: (1) the capability to detect a significant loss of vessel inventory and the associated capability to manually initiate FRVS from the control room and (2) the other automatic FRVS initiation signals. We believe that, during flood-up conditions, these measures would provide adequate assurance that FRVS would already be in operation if the Level 2 setpoint were to be reached. As a result, the assumptions made relative to FRVS in the evaluation of the radiological consequences for the accident scenarios analyzed in the Hope Creek UFSAR are unaffected and the proposed changes will therefore not significantly increase the consequences of any previously analyzed accident.

2. **Will not create the possibility of a new or different kind of accident from any accident previously evaluated.**

Deletion of the FRVS start with inoperable level instrumentation has no effect on the function or operation of any plant system nor does it involve any type of plant modification. Additionally, no new modes of plant operation are involved with these changes. The proposed changes therefore will not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. **Will not involve a significant reduction in a margin of safety.**

As noted in Criterion 1 above, other measures are available to compensate for the loss of the Level 2 FRVS initiation signal. PSE&G believes that, with at least 22 feet 2 inches over the top of the reactor pressure vessel flange, the suppression pool level maintained at greater than or equal to 5 inches indicated level, at least one channel of the suppression pool high level alarm is operable, and the spent fuel pool gates removed, the level of assurance that FRVS would already be in operation if the Level 2 setpoint were to be reached is comparable to that provided by the Level 2 signal itself. We therefore conclude that the proposed changes will not significantly reduce a margin of safety.

V. CONCLUSION

As discussed above, PSE&G has concluded that the proposed changes to the Technical Specifications do not involve a significant hazards consideration since the changes: (i) do not involve a significant increase in the probability or consequences of an accident previously evaluated, (ii) do not create the possibility of a new or different kind of accident from any accident previously evaluated, and (iii) do not involve a significant reduction in a margin of safety.