Public Service
Electric and Gas
Company

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Director of Nuclear Reactor Regulation
United States Nuclear Regulatory Commission
7920 Norfolk Avenue
Bethesda, Maryland 20814

Attention: Ms. Elinor Adensam, Director
Project Directorate 3
Division of BWR Licensing

Dear Ms. Adensam:

COMPLETION OF ACTIVITIES SUPPORTING
FUEL LOAD AND LOW POWER/POWER ASCENSION TESTING
HOPE CREEK GENERATING STATION
DOCKET NO. 50-354

Public Service Electric and Gas Company (PSE&G) has just completed a detailed assessment of the status of the work activities necessary to support fuel loading and low power/power ascension testing at Hope Creek Generating Station (HCGS). The results of this effort indicate the design, construction, and testing required to support issuance of a low-power license (5%) at HCGS will be completed during the month of February 1986.

In conjunction with this effort, it has become apparent that construction, preoperational testing, and post-test reviews of certain portions of a small number of systems may not be complete prior to fuel load. The delays in completing this work are due to a variety of design, delivery, and installation issues. The draft listing of the affected systems is included as Attachment I. PSE&G's present evaluation of the deferred work concludes that these systems would not affect the ability of HCGS to safely operate during fuel loading and low power/power ascension testing as summarized in Attachment I. This determination is made on the basis of an evaluation of Technical Specification requirements and/or the absence of fission products and decay heat loads up to criticality and the small inventory through low power (0-5%) testing.

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A finalized list of systems which will not be completed by fuel load will be furnished to the NRC at least 30 days prior to the anticipated fuel load date. Each item to be deferred will undergo a safety evaluation to ensure that the proposed deferred work poses no undue risk to the health and safety of the public. Both the Station Operation Review Committee (SORC) and the Offsite Safety Review Group (OSR) will review each safety evaluation prior to submittal. The results of these safety evaluations will be submitted in the aforementioned letter.

In order to control and manage the deferred activities during low power testing, a multi-discipline Work Coordination Team will be established. The purpose of this team will be to interface between the Operations staff and Construction and Testing personnel. Details of the organization, responsibilities, and interface mechanism of this team will be forwarded in separate correspondence.

All work for which deferral is being requested has been reviewed to determine if any exemptions from 10 CFR Part 50 are required. No such exemptions have been found to be necessary. With regard to readiness for fuel loading, completion of corrective actions for 10CFR50.55(e) reportable deficiencies and inspection report open items are being resolved directly with Region I.

Please advise PSE&G if any additional information is required to allow the NRC to plan its resources to support timely issuance of a low power license for the Hope Creek Generating Station.

Sincerely,

Corbin A. McNeill, Jr.
Vice President - Nuclear

Attachment

C D.H. Wagner
USNRC Licensing Project Manager

R. W. Borchardt
USNRC Senior Resident Inspector

ATTACHMENT I

DEFERRALS AT FUEL LOAD

A. Radwaste HVAC Systems

B. Reactor Building Filtration Recirculation and Ventilation System (FRVS)

C. Liquid Radwaste System

D. Solid Radwaste System

E. Radiation Monitoring System, Area/Process

F. Transverse In-Core Probe Monitoring

G. Main Turbine Control (EHC) System

H. Radwaste Building and Turbine Building: Fire Protection Water Systems (Automatic Suppression Systems) and Early Warning Smoke Detection Systems

I. Gaseous Radwaste

J. Containment Pre-purge Clean-up System (CPCS)

A. Radwaste HVAC Systems

The Radwaste HVAC Systems are non-safety-related and provide the following functions:

1. Maintain area temperatures within design limits.

2. Maintain direction of air flow from areas of lower potential contamination toward areas of increasing potential contamination.

3. Provide exhaust from radioactive contaminated tanks and sumps maintaining them at slightly negative pressure.

One of the two Radwaste Tank Vent Filtration units, one of the two Radwaste Supply and two of the three Radwaste Exhaust units will be operational prior to fuel load in order to provide direct ventilation and filtration from the collection tanks and sumps which are operational prior to fuel load. Installation of the required filters in these trains will be completed prior to initial criticality. Final pre-op testing of the operating system identified above will be completed prior to exceeding 5% power. Installation of all filters and associated monitoring instrumentation will be completed and operational prior to exceeding 5% power.

Deferment of completion of the Radwaste HVAC Systems pre-op testing until prior to exceeding 5% power in the Power Ascension Program does not affect any safety related systems or the safe operation of the plant.

B. Reactor Building Filtration, Recirculation and Ventilation System (FRVS)

The FRVS comprise the ESF containment atmospheric cleanup systems for the HCGS. The completion of pre-op testing for FRVS operation is not required until initial criticality is achieved.

The FRVS recirculation system recirculates and filters air in the reactor building to reduce the concentration of potential radioactive halogens and particulates. The FRVS ventilation system maintains the reactor building at a negative pressure with reference to outside atmosphere and further filters the building atmosphere to limit offsite dose.

The FRVS is initiated from either one or a combination of the following events: 1) Reactor vessel level low, 2) Drywell pressure high, 3) Refueling floor high radiation, and 4) Reactor building high radiation. The radioactive fission and activation products of concern for radiation dose consequences will not be present prior to initial criticality.

Deferment of completion of the FRVS until prior to achieving initial criticality does not affect any safety related systems or safe operation of the plant.

C. Liquid Radwaste System

The Liquid Radwaste System is designed to collect, store, process and dispose of or recycle all radioactive or potentially radioactive liquid wastes generated during plant operation.

The HCGS Technical Specification 3.11.1 requires that the concentration of radioactive material released in liquid effluents to unrestricted areas be limited to the concentrations specified in 10CFR Part 20, Appendix B, Table II, Column 2 for radionuclides other than dissolved or entrained noble gases at all times. During low power testing, radioactive fission and activation products will not be generated in the reactor at any appreciable level. Collection tanks in the radwaste system can contain a volume of fluids beyond the quantities to be produced up to 5% power. The following list details the storage capacity of the liquid radwaste system which will be available at fuel load.

Components	Quantity	Capacity Each (gal.)
Tanks		
Waste collector	2	32,000
Floor drain collector tanks	2	17,000
Waste surge tank	1	67,500
Waste neutralizer tanks	2	27,500
Concentrated waste tanks	2	12,000
Detergent drain tank	1	2,000
Decontamination solution concentrated waste tank	1	700
Chemical waste tank	2	4,500
Waste sample tanks	2	17,000
Floor drain sample tanks	2	17,000

Deferment of completion of preoperational testing of the Liquid Radwaste System until prior to exceeding 5% rated thermal power does not affect any safety related system or the safe operation of Hope Creek.

D. Solid Radwaste System

The Solid Radwaste System is scheduled to be completed and available to support power ascension testing above 5% rated thermal power. Prior to this time (i.e. fuel load through 5% power) low power testing will be supported by utilizing the services of a contracted radwaste vendor to process and package radwaste on site, if required. The services of the contracted vendor will be retained beyond 5% power if the permanent plant equipment is not ready. PSE&G will obtain the services of a vendor with an NRC approved Process Control Program (PCP) consistent with the requirement of Technical Specification 3.11.3.

An engineering review of the subject PCP will be performed to assure vendor operational requirements are compatible with Hope Creek system operations responsibility.

All vendor procedures will be reviewed by Engineering and approved by SORC in accordance with Hope Creek procedure SA.AP.ZZ-001(Q).

The solid radwaste compactor will be operational at fuel load.

E. Radiation Monitoring System, Area/Process

A letter from R. L. Mittl (PSE&G) to W. Butler (NRC) dated September 10, 1985, identified those portions of the Hope Creek Radiation Monitoring System (RMS) that would not be functional by the December 1985 fuel load date.

PSE&G is evaluating the impact of the revised fuel load date on the schedule contained in the September 10, 1985 RMS submittal. Separate correspondence will address the results of this evaluation, and also respond to the NRC's letter of November 21, 1985, on this topic.

F. Traversing In-Core Probe Neutron Monitoring

The Traversing In-Core Probe (TIP) System is used to recalibrate the Local Power Range Monitors (LPRMs). This can be done over a range of 5 to 100 percent of rated reactor power. Hope Creek's Technical Specification requires this to be done at least once per 1000 effective full power hours. TIP also can be used to provide an X-Y mapping of gamma flux throughout the reactor core and to verify a particular LPRM reading.

Each of the five TIP detectors consists of a detector, probe drive train and power supply, logic, instrumentation and control circuits. Acceptance criteria for the preoperational testing of this system includes verification of the following:

1. Acceptability of the insulation resistance of each TIP detector,

2. Acceptability of the mechanical installation arrangement, TIP probe driving torque, purge rate and pressure, ball valve operability and squib explosive valve continuous monitoring and firing current,

3. Appropriate core bottom and top limits which are input into program cards and,

4. Acceptability of all operating modes, interlocks, logic and indications.

Preoperational testing of the TIP system will be completed prior to initial criticality. This is acceptable for the following reasons. TIP cannot be used to calibrate LPRMs below 5% rated reactor power. Deferment of the completion of the preoperational testing until prior to initial criticality will not affect any safety-related system or the safe operation of the plant. Verification that the primary containment valves (i.e. squib and ball valves) operate acceptably will be performed prior to entering a condition at which Hope Creek's Technical Specification requires Primary Containment integrity be maintained. Based on the above, deferment of the completion of this testing does not affect any safety-related system or the safe operation of the plant.

G. Main Turbine Control (EHC) System

The Turbine-Generator Control System is a GE electrohydraulic control (EHC) system. It is designed to control turbine inlet pressure during normal operation, and provide pressure control during reactor heatup. During plant transients, the EHC operates the turbine bypass valves in order to reduce the magnitude of reactor pressure transients. The EHC system is not safety related.

Prior to opening of the MSIVs, the EHC system which controls the Main Stop Valves, the Control Valves, Bypass Valves, and the Combined Intermediate Valves, is not required for operation. Hence, the EHC system preoperational testing will be completed prior to opening of the MSIVs.

Deferment of completion of preoperational testing of the Main Turbine Control System until prior to opening of the MSIVs does not affect any safety related system or the safe operation of the plant.

H. Radwaste Building and Turbine Building: Fire Protection Water Systems (Automatic Suppression Systems) and Early Warning Smoke Detection Systems

Preoperational testing of the Radwaste and Turbine Building Fire Protection Water Systems (Automated Suppression) and Early Warning Smoke Detection Systems will be completed prior to achieving initial criticality during low power testing.

Fire Protection Water Systems OWS3, OWS5, OWS6, OWS7, OWS8, OWS13, OWS16, OWS17, OPS2, OD3, OD4 and IPS6 serve certain areas of the Radwaste Building. Early warning smoke detection systems are also provided in various areas of the Radwaste Building. These areas will have operable mitigating fire fighting provisions such as portable fire extinguishers and fire hoses. Out of the aforementioned 12 automatic suppression (water) systems, IPS6 and OWS6 protect areas with safe shutdown cables and will be operable by fuel load. Also, the detection systems in the radwaste wing areas cover areas with safe shutdown cables and will be operable at fuel load. The other Radwaste Building areas where safe shutdown cables exist (the remote shutdown panel room and in rooms 3442, 3444, 3414, 3605 and 3606) will have operable smoke detection systems to alert fire brigade and control room personnel of a possible fire. These detection systems will be operable prior to fuel load.

Administrative controls including a roving fire watch and controlled access will be imposed to prevent fire in the other areas of the Radwaste Building. In addition, the fire protection status panel in the main control room will be operable for the systems in service.

Fire Protection Water Suppression Systems in the Turbine Building are not essential for safe shutdown of Hope Creek. Also, the detection systems in the Turbine Building do not protect any safety-related areas. Portable fire extinquishers and fire hoses are provided as mitigating fire protection throughout the Turbine Building for manual fire fighting. In the absence of an operating smoke detection system, administrative controls including a roving firewatch and controlled access will be imposed to prevent fire.

Deferment of completion of preoperational testing of the identified Radwaste Building and Turbine Building Fire Protection Systems and Early Warning Smoke Detection Systems until prior to initial criticality does not affect any safety related system or the safe operation of Hope Creek.

I. Gaseous Radwaste

The Gaseous Radwaste System is designed to collect and delay release of noncondensible radwaste gases removed from the main condenser by the air ejectors during plant operation.

The HCGS Technical Specification 3.11.2 requires that the dose rate due to radioactive materials released in gaseous effluents from the site to areas at and beyond the site boundary be limited to specified values for gases and particulates at all times. During the low power testing period prior to opening the MSIVs, radioactive noble gases and particulates will not be produced in the reactor to any appreciable level and only air will be collected in the main condenser with the MSIVs closed. When the MSIVs are opened, steam and noncondensible gases will pass to the main condenser and the steam jet air ejectors will then begin processing the noncondensibles through the Gaseous Radwaste System. For this reason, preoperational testing and turnover will be completed prior to opening the MSIVs to ensure that Technical Specification requirements are met.

Deferment of completion of preoperational testing of the Gaseous Radwaste System until prior to opening of the MSIVs does not affect any safety related system or the safe operation of the plant, since no radioactive noncondensible gases can collect in the main condenser until the MSIVs have been opened during initial heatup.

J. Containment Pre-purge Clean-up System (CPCS)

Deferral of the completion of the Containment Pre-purge Clean-up System until prior to reaching initial criticality in the Power Ascension Program is proposed.

The CPCS does not normally operate and is required only to reduce radioactive fission products prior to drywell and torus purging by the RBVS system. Prior to initial criticality, the CPCS is not required to operate since radioactive fission and activation products will not be present.

Deferment of the CPCS until prior to initial criticality does not affect any safety related system or the safe operation of Hope Creek since there will be no fission products generated until initial criticality.