

- (4) PSEG Nuclear LLC, pursuant to the Act and 10 CFR Parts 30, 40 and 70, to receive, possess, and use at any time any byproduct, source and special nuclear material as sealed neutron sources for reactor startup, sealed sources for reactor instrumentation and radiation monitoring equipment calibration, and as fission detectors in amounts as required;
- (5) PSEG Nuclear LLC, pursuant to the Act and 10 CFR Parts 30, 40 and 70, to receive, possess, and use in amounts as required any byproduct, source or special nuclear material without restriction to chemical or physical form, for sample analysis or instrument calibration or associated with radioactive apparatus or components; and
- (6) PSEG Nuclear LLC, pursuant to the Act and 10 CFR Parts 30, 40 and 70, to possess, but not separate, such byproduct and special nuclear materials as may be produced by the operation of the facility.

C. This license shall be deemed to contain and is subject to the conditions specified in the Commission's regulations set forth in 10 CFR Chapter I and is subject to all applicable provisions of the Act and to the rules, regulations and orders of the Commission now or hereafter in effect; and is subject to the additional conditions specified or incorporated below:

(1) Maximum Power Level

PSEG Nuclear LLC is authorized to operate the facility at reactor core power levels not in excess of 3840 megawatts thermal (100 percent rated power) in accordance with the conditions specified herein.

(2) Technical Specifications and Environmental Protection Plan

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

(3) Inservice Testing of Pumps and Valves (Section 3.9.6, SSER No. 4)*

This License Condition was satisfied as documented in the letter from W. R. Butler (NRC) to C. A. McNeill, Jr. (PSE&G) dated December 7, 1987. Accordingly, this condition has been deleted.

*The parenthetical notation following the title of many license conditions denotes the section of the Safety Evaluation Report and/or its supplements wherein the license condition is discussed.

- (8) Solid Waste Process Control Program (Section 11.4.2, SER; Section 11.4, SSER No. 4)

PSEG Nuclear shall obtain NRC approval of the Class B and C solid waste process control program prior to processing Class B and C solid wastes.

- (9) Emergency Planning (Section 13.3, SSER No. 5)

In the event that the NRC finds that the lack of progress in completion of the procedures in the Federal Emergency Management Agency's final rule, 44 CFR Part 350, is an indication that a major substantive problem exists in achieving or maintaining an adequate state of emergency preparedness, the provisions of 10 CFR Section 50.54(s)(2) will apply.

- (10) Initial Startup Test Program (Section 14, SSER No. 5)

Any changes to the Initial Startup Test Program described in Section 14 of the FSAR made in accordance with the provisions of 10 CFR 50.59 shall be reported in accordance with 50.59(b) within one month of such change.

- (11) Partial Feedwater Heating (Section 15.1, SER; Section 15.1, SSER No. 5; Section 15.1, SSER No. 6)

The facility shall not be operated with reduced feedwater temperature for the purpose of extending the normal fuel cycle unless analyses supporting such operation are submitted by the licensee and approved by the staff.

- (12) Detailed Control Room Design Review (Section 18.1, SSER No. 5)

- a. PSE&G shall submit for staff review Detailed Control Room Design Review Summary Reports II and III on a schedule consistent with, and with contents as specified in, its letter of January 9, 1986.
- b. Prior to exceeding five percent power, PSE&G shall provide temporary zone markings on safety-related instruments in the control room.

- (18) Upon implementation of Amendment No. 173 adopting TSTF-448, Revision 3, the determination of control room envelope (CRE) unfiltered air inleakage as required by Surveillance Requirement 4.7.2.2.a, in accordance with TS 6.16.c.(i), the assessment of CRE habitability as required by Specification 6.16.c.(ii), and the measurement of CRE pressure as required by Specification 6.16.d, shall be considered met. Following implementation:
- a. The first performance of Surveillance Requirement 4.7.2.2.a, in accordance with Specification 6.16.c.(i), shall be within the specified frequency of 6 years, plus the 18 month allowance of Surveillance Requirement 4.0.2, as measured from July 29, 2001, the date of the most recent successful tracer gas test, as stated in the December 9, 2003 letter response to Generic Letter 2003-01, or within the next 18 months if the time period since the most recent successful tracer gas test is greater than 6 years.
 - b. The first performance of the periodic assessment of CRE habitability, Specification 6.16.c(ii), shall be 3 years, plus the 9 month allowance of Surveillance Requirement 4.0.2, as measured from July 29, 2001, the date of the most recent successful tracer gas test, as stated in the December 9, 2003 letter response to Generic Letter 2003-01, or within the next 9 months if the time period since the most recent successful tracer gas test is greater than 3 years.
 - c. The first performance of the periodic measurement of CRE pressure, Specification 6.16.d, shall be within 18 months, plus the 138 days allowed by Surveillance Requirement 4.0.2, as measured from April 5, 2006, the date of the most recent successful pressure measurement test, or within 138 days if not performed previously.
- (19) Leak rate tests required by Surveillance Requirement 4.6.1.2.a and 4.6.1.2.h to be performed in accordance with the Primary Containment Leakage Rate Testing Program are not required to be performed until their next scheduled performance, which is due at the end of the first test interval that begins on the date the test was last performed prior to implementation of Amendment No. .

(20) Top Guide Beams

Until there is more detailed guidance regarding the inspections of the top guide beams or the issue is resolved by the BWRVIP generically, the following license condition applies to Hope Creek to preclude the loss of the component's intended function:

Enhanced visual testing (EVT-1) of the top guide grid beams will be performed in accordance with GE SIL 554 following the sample selection and inspection frequency of BWRVIP-47 for CRD guide tubes. That is, inspections will be performed on 5 percent of the population within six years, and 10 percent of the total population of cells within twelve years. The sample locations selected for examination will be in areas that are exposed to the highest fluence. This inspection plan will be implemented beginning with the first RFO following EPU operation.

(21) Vibration Acceptance Criteria for SRVs

PSEG Nuclear LLC shall provide the Level 1 main steam safety relief valve vibration acceptance criteria to the NRC staff prior to increasing power above 3339 MWt.

(22) Steam Dryer

This license condition provides for monitoring, evaluating, and taking prompt action in response to potential adverse flow effects as a result of power uprate operation on plant structures, systems, and components (including verifying the continued structural integrity of the steam dryer).

1. The following requirements are placed on initial operation of the facility at power levels above 3339 MWt to 3840 MWt for the power ascension:
 - a. PSEG Nuclear LLC shall monitor hourly the main steam line (MSL) strain gage data during power ascension above 3339 MWt for increasing pressure fluctuations in the steam lines.
 - b. PSEG Nuclear LLC shall hold the facility at 105 percent and 110 percent of 3339 MWt to collect data from the MSL strain gages required by Condition 1.a, conduct plant inspections and walkdowns, and evaluate steam dryer performance based on these data; shall submit the evaluation to the NRC staff upon completion of the evaluation; and shall not increase power above each hold point until 96 hours after submitted to the NRC.

- c. If any frequency peak from the MSL strain gage data exceeds any of the Level 1 limit curves, PSEG Nuclear LLC shall return the facility to a lower power level at which the limit curve is not exceeded. PSEG Nuclear shall resolve the uncertainties in the steam dryer analysis, evaluate the continued structural integrity of the steam dryer, and submit that evaluation to the NRC staff.
 - d. In addition to evaluating the MSL strain gage data, PSEG Nuclear LLC shall monitor reactor pressure vessel water level instrumentation and MSL piping accelerometers on an hourly basis during power ascension above 3339 MWt. If resonance frequencies are identified as increasing above nominal levels in proportion to strain gage instrumentation data (including consideration of the EPU bump-up factor), PSEG Nuclear LLC shall stop power ascension, evaluate the continued structural integrity of the steam dryer, and submit that evaluation to the NRC staff.
2. PSEG Nuclear LLC shall implement the following actions for the initial power ascension at power levels above 3339 MWt to 3840 MWt:
- a. In the event that acoustic signals are identified that challenge the limit curves during power ascension above 3339 MWt, PSEG Nuclear LLC shall evaluate dryer loads and re-establish the limit curves based on the new strain gage data, and shall perform a frequency-specific assessment of ACM uncertainty at the acoustic signal frequency including application of 65 percent bias error and 10 percent uncertainty to all the SRV acoustic resonances.
 - b. After reaching 111.5 percent of 3339 MWt, PSEG Nuclear LLC shall obtain measurements from the MSL strain gages and establish the steam dryer flow-induced vibration load fatigue margin for the facility, update the dryer stress report, and re-establish the limit curves with the updated ACM load definition, which will be submitted to the NRC staff.
 - c. After reaching 115 percent of 3339 MWt, PSEG Nuclear LLC shall obtain measurements from the MSL strain gages and establish the steam dryer flow-induced vibration load fatigue margin for the facility, update the dryer stress report, and re-establish the limit curves with the updated ACM load definition, which will be submitted to the NRC staff.

- d. During power ascension above 3339 MWt, if an engineering evaluation is required because a Level 1 acceptance criterion is exceeded, PSEG Nuclear LLC shall perform the structural analysis to address frequency uncertainties up to ± 10 percent and assure that peak responses that fall within this uncertainty band are addressed.
 - e. PSEG Nuclear LLC shall revise plant procedures to reflect long-term monitoring of plant parameters potentially indicative of steam dryer failure; to reflect consistency of the facility's steam dryer inspection program with BWRVIP-139; and to identify the NRC Project Manager for the facility as the point of contact for providing power ascension testing information during power ascension.
 - f. PSEG Nuclear LLC shall submit the final EPU steam dryer load definition for the facility to the NRC staff upon completion of the power ascension test program.
 - g. PSEG Nuclear LLC shall submit the flow-induced vibration related portions of the EPU startup test procedure to the NRC staff, including methodology for updating the limit curves, prior to initial power ascension above 3339 MWt.
3. PSEG Nuclear LLC shall prepare the EPU startup test procedure to include:
- a. the stress limit curves to be applied for evaluating steam dryer performance;
 - b. specific hold points and their duration during EPU power ascension;
 - c. activities to be accomplished during hold points;
 - d. plant parameters to be monitored;
 - e. inspections and walk downs to be conducted for steam, FW, and condensate systems and components during the hold points;
 - f. methods to be used to trend plant parameters;
 - g. acceptance criteria for monitoring and trending plant parameters, and conducting the walkdowns and inspections;

- h. actions to be taken if acceptance criteria are not satisfied; and
- i. verification of the completion of commitments and planned actions specified in its application and all supplements to the application in support of the EPU license amendment request pertaining to the steam dryer prior to power increase above 3339 MWt.

PSEG Nuclear LLC shall provide the related EPU startup test procedure sections to the NRC staff prior to increasing power above 3339 MWt.

- 4. The following key attributes of the program for verifying the continued structural integrity of the steam dryer shall not be made less restrictive without prior NRC approval:
 - a. During initial power ascension testing above CLTP, each test plateau increment shall be approximately 5 percent of 3339 MWt;
 - b. Level 1 performance criteria; and
 - c. The methodology for establishing the stress spectra used for the Level 1 and Level 2 performance criteria.

Changes to other aspects of the program for verifying the continued structural integrity of the steam dryer may be made in accordance with the guidance of NEI 99-04.

- 5. During the first scheduled refueling outage after Cycle 15 and during the first two scheduled refueling outages after reaching full EPU conditions, a visual inspection shall be conducted of all accessible, susceptible locations of the steam dryer in accordance with BWRVIP-139 inspection guidelines.
- 6. The results of the visual inspections of the steam dryer shall be reported to the NRC staff within 90 days following startup from the respective refueling outage. The results of the power ascension testing to verify the continued structural integrity of the steam dryer shall be submitted to the NRC staff in a report within 60 days following the completion of all Cycle 15 power ascension testing. A supplement shall be submitted within 60 days following the completion of all EPU power ascension testing.

- D. The facility requires exemptions from certain requirements of 10 CFR Part 50 and 10 CFR Part 70. An exemption from the criticality alarm requirements of 10 CFR 70.24 was granted in Special Nuclear Material License No. 1953, dated August 21, 1985. This exemption is described in Section 9.1 of Supplement No. 5 to the SER. This previously granted exemption is continued in this operating license. An exemption from certain requirements of Appendix A to 10 CFR Part 50, is described in Supplement No. 5 to the SER. This exemption is a schedular exemption to the requirements of General Design Criterion 64, permitting delaying functionality of the Turbine Building Circulating Water System-Radiation Monitoring System until 5 percent power for local indication, and until 120 days after fuel load for control room indication (Appendix R of SSER 5). Exemptions from certain requirements of Appendix J to 10 CFR Part 50, are described in Supplement No. 5 to the SER. These include an exemption from the requirement of Appendix J, exempting main steam isolation valve leak-rate testing at 1.10 Pa (Section 6.2.6 of SSER 5); an exemption from Appendix J, exempting Type C testing on traversing incore probe system shear valves (Section 6.2.6 of SSER 5); an exemption from Appendix J, exempting Type C testing for instrument lines and lines containing excess flow check valves (Section 6.2.6 of SSER 5); and an exemption from Appendix J, exempting Type C testing of thermal relief valves (Section 6.2.6 of SSER 5). These exemptions are authorized by law, will not present an undue risk to the public health and safety, and are consistent with the common defense and security. These exemptions are hereby granted. The special circumstances regarding each exemption are identified in the referenced section of the safety evaluation report and the supplements thereto. These exemptions are granted pursuant to 10 CFR 50.12. With these exemptions, the facility will operate, to the extent authorized herein, in conformity with the application, as amended, the provisions of the Act, and the rules and regulations of the Commission.
- E. The licensee shall fully implement and maintain in effect all provisions of the Commission-approved physical security, training and qualification, and safeguards contingency plans including amendments made pursuant to provisions of the Miscellaneous Amendments and Search Requirements revisions to 10 CFR 73.55 (51 FR 27817 and 27822) and to the authority of 10 CFR 50.90 and 10 CFR 50.54 (p). The plans, submitted by letter dated May 19, 2006 are entitled: "Salem-Hope Creek Nuclear Generating Station Security Training and Qualification Plan," and "Salem-Hope Creek Nuclear Generating Station Security Contingency Plan." The plans contain Safeguards Information protected under 10 CFR 73.21.

- F. Except as otherwise provided in the Technical Specifications or Environmental Protection Plan, PSEG Nuclear LLC shall report any violations of the requirements contained in Section 2.C of this license in the following manner: initial notification shall be made within 24 hours to the NRC Operations Center via the Emergency Notification System with written followup within thirty days in accordance with the procedures described in 10 CFR 50.73(b), (c), and (e).
- G. The licensees shall have and maintain financial protection of such type and in such amounts as the Commission shall require in accordance with Section 170 of the Atomic Energy Act of 1954, as amended, to cover public liability claims.
- H. This license is effective as of the date of issuance and shall expire at midnight on April 11, 2026.

FOR THE NUCLEAR REGULATORY COMMISSION
- original signed by H.R. Denton -
Harold R. Denton, Director
Office of Nuclear Reactor Regulation

Enclosures:

- 1. Appendix A - Technical Specifications (NUREG-1202)
- 2. Appendix B - Environmental Protection Plan

Date of Issuance: July 25, 1986

Amendment No.