

SECTION 13

CONDUCT OF OPERATIONS

13.1 ORGANIZATION STRUCTURE

The original content of this chapter has been modified as allowed by Regulatory Guide 1.181 in conjunction with NEI 98-03, Guidelines for Updating Final Safety Analysis Reports (see UFSAR Appendix 3A).

On August 21, 2000, the operating licenses for the Salem Units 1 & 2, and for the Hope Creek station were transferred from Public Service Electric & Gas (PSE&G) to PSEG Nuclear LLC. PSEG Nuclear LLC, a limited liability company, is a subsidiary of Public Service Enterprise Group (PSEG), an investor-owned company headquartered in the State of New Jersey. PSEG Nuclear LLC is dedicated to the safe, reliable and efficient operation of the nuclear units and assumes full responsibility for meeting all license obligations. The relationship between PSEG and PSEG Nuclear LLC is shown in Figure 13.1-1.

For the Hope Creek project, Bechtel Power Corporation and Bechtel Construction, Inc. designed and constructed the plant. General Electric Company designed, supplied and provided engineering support for the Nuclear Steam Supply System (NSSS) for the Hope Creek project. For the Salem projects, PSE&G and Westinghouse Electric Corporation jointly participated in the design and construction of each unit. PSE&G provided an experienced and trained staff to support preoperational testing, core load and power ascension testing programs of the nuclear units.

Management of PSEG Nuclear LLC's nuclear program is provided by the President and Chief Nuclear Officer, Nuclear who reports to the President Power and Chief Operating Officer (Figure 13.1-2). The CNO is the chief nuclear manager on-site and is responsible for overseeing the direction, development and implementation of the nuclear program. Reporting to the CNO are the Salem Vice President (Section 13.1.1), Hope Creek Vice President, Director-Operations Support (Section 13.1.2), the Director-Regulatory Affairs (Section 13.1.3), the Director-Nuclear Oversight (Section 13.1.4), the Director, Corporate Services (Section 13.1.5), Director-Corporate Operations (Section 13.1.6) and select matrixed personnel providing financial and human resources support (Section 13.1.7). Table 13.1-1 provides a comparison between select PSEG Nuclear LLC terms and organization titles in the UFSAR and the corresponding terms and position titles used in Section 6.0 of the Hope Creek and Salem Technical Specifications.

13.1.1 Salem Site

The Vice President-Salem is the senior manager directly responsible for the activities involving the safe, efficient and reliable operation and maintenance of the Salem units. These activities include, but are not limited to, plant operation, maintenance, work management, outage management, engineering support, training, chemistry, radiation protection, liaison activities with regulatory and other agencies, and general administration. The Vice President also ensures station commitment to the PSEG Nuclear LLC Operational QA Program by maintaining close liaison with the Director-Nuclear Oversight. The Director-Engineering, the Manager-Training, the Manager-Performance Improvement, and the Plant Manager report to the Vice President. The Site Operations organization is shown in Figure 13.1-3.

13.1.1.1 Engineering

The responsibilities of the Director-Engineering include:

- Engineering and design for plant modifications
- Thermal Performance Program
- Monitoring and trending of overall system performance.
- Coordination of system maintenance, surveillance and engineering activities.
- Timely and effective engineering support to ensure plant system readiness.
- Technical support associated with Technical Specification testing and surveillance.
- Responding to operational experience documents as appropriate.
- Preparation and revision of technical reports and procedures, and nonconformance resolution.
- Performing 50.59 evaluations of proposed design changes, temporary modifications, and abnormal operating occurrences, as required.
- Specifying or approving as required, inspections and/or tests.
- Control and maintenance of the design basis of the operating nuclear facilities
- Engineering and design for plant modifications
- Preparation and update of detailed engineering and design documents, including drawings and specifications, for all structures, systems and components (SSCs).

- Specifying applicable codes, standards, regulatory and quality requirements, acceptance standards and other design input in design documents.
- Performing design verification for SSCs covered by the Operational QA program.
- Reviewing design documents submitted by suppliers (including the NSSS supplier) and contractors.
- Analysis and resolution of steam generator issues.
- Nuclear Repair Program
The Code Assurance Specialist shall review and approve specifications for Code Q-Listed materials, equipment and services to ensure they meet QA Program requirements.
- Inservice Inspection/Inservice Testing Programs
- Maintenance Rule Program
- Designating the "Engineer in Charge".
- Recommending engineering consultants and laboratories for procurement services and coordinating their activities.
- Specifying or approving as required, inspections and/or tests.
- Managing the development, installation and testing of plant modifications and other large projects.
- Valve programs.
- Identifying SSCs that are covered by the Operational QA Program.
- Probabilistic Risk Assessment Program.

13.1.1.2 Performance Improvement

The Manager-Performance Improvement is responsible for Learning Program activities, to include:

- Operating Experience Program.
- Corrective Action Program.
- Self-Assessment Program.
- Benchmarking Program.
- Supporting the Nuclear Review Board, as needed.

13.1.1.3 Training

The Manager-Training reports to the Site Vice President and is responsible for providing operations training, technical training, maintenance training, and learning support services.

13.1.1.4 Plant Management

The Salem Plant Manager is responsible for day-to-day operation of the Salem units, maintaining compliance with the operating licenses, ensuring the prompt reporting of unusual plant events and the implementation of effective corrective actions, and evaluating plant safety-related activities and ensuring that required support is available. Operations, Maintenance, Radiation Protection, Work Management, and Chemistry report directly to the Plant Manager thereby providing control over those activities necessary for safe operation and maintenance of the plants.

13.1.1.4.1 Operations

The Operations Department is responsible for safe and efficient plant operation. The Director-Operations reports to the Plant Manager and is responsible for managing, directing and controlling the department's activities. The Director-Operations ensures that plant operation complies with the facility operating license, Technical Specifications and all governing regulations and company policies. This individual ensures that a properly trained, licensed and non-licensed staff is available to provide safe and efficient operation which, in turn, ensures plant availability and reliability. The Operations Department organization is shown in Figure 13.1-4.

Administratively, the Director-Operations is responsible for the review of conditions adverse to quality as reported in the corrective action program, reportable occurrences and other correspondence. The Director-Operations or his designee approves all operating procedures.

Reporting to the Director-Operations are the Reactor Engineering Manager, the Shift Operations Manager, the Operations Services Manager, and the Operations Support Manager. The Reactor Engineering personnel provide technical support for safe and efficient reactor power maneuvers, and Technical Specification surveillance testing.

The Shift Operations Manager (designated by the Operations Director to oversee the performance of Technical Specification functions) is responsible for plant operations and the preparation, review and maintenance of departmental administrative, operating and emergency procedures. Reporting to the Shift Operations Manager are the Shift Managers, who provide routine direction to the operating shift.

The Operations Services Manager provides technical, special projects and administrative support for the Operations Department and the station. The responsibilities of the Operations Services Manager include:

- Reviewing conditions adverse to quality as reported in the corrective action program, reportable occurrences, departmental accident reports and other NRC correspondence.
- Reviewing tagging requests.
- Developing and maintaining systems to track and schedule departmental activities.

NOTE: Either the Shift Operations Manager or the Operations Services Manager may assume the authority and responsibility of the department in the absence of the Director-Operations provided they meet the qualifications.

In the event of an unexpected contingency, the succession of authority and responsibility for the overall operation of the station is in the following order:

1. Director-Operations
2. Shift Operations Manager
3. Operations Services Manager

The Operations Support Manager provides administrative support to the Operations Department in the areas of scheduling, procedures, corrective actions and training.

13.1.1.4.1.1 Operating Shift Supervision

Supervision of shift personnel is under the direction of the Shift Manager, who reports to the Shift Operations Manager. The Shift Manager is responsible for the direct operation of the generating station in accordance with station, operating license, technical specifications and approved procedures. Shift Manager responsibilities include supervision, performance management, and reviewing/responding to issues, findings, open items and requests as required to operate the plant safely.

The Shift Manager has the authority to take any action necessary, including plant shutdown, to protect equipment or personnel and to act in accordance with approved procedures. During off-normal hours, the Shift Manager assumes responsibility for all plant functions in the absence of senior plant management. The Shift Manager supervises Operations Department shift personnel and inspects equipment to ensure that operations are conducted safely and

efficiently in compliance with the facility operating license and Technical Specifications. The Shift Manager also ensures the review and approval of completed checkoff lists, logs and other shift data to detect abnormal trends or potential operating problems. This individual ensures the approval of removal of equipment from service and performance of safety tagging in support of plant surveillance and maintenance.

The Shift Manager is assisted by the Shift Supervisor (SS). The SS assumes the Shift Manager's responsibilities in the event of this individual's unavailability. As assigned, the SS reviews procedures which apply to startup, power operation, shutdown, emergency and abnormal operation conditions. The SS provides direct supervision of the operating crews.

Personnel qualified as Shift Technical Advisor (STA/SS) are assigned on shift. The STA's responsibilities include:

- Providing an independent objective assessment concerning plant safety.
- Providing technical assistance to shift supervision during normal and abnormal conditions.
- Comparing operating to design parameters during transient or accident conditions to determine adequate core cooling and providing recommendations to prevent loss of adequate core cooling.
- Determining critical parameters in the event of instrument failure.
- Assisting in investigations of abnormal and unusual events as assigned.

13.1.1.4.1.2 Operating Shift Crews

The shift crew composition, position titles, license qualifications and number of personnel on each shift are provided in the Technical Specifications, Section 6.0, Administrative Controls and the Nuclear Administrative Procedures.

Shift staffing meets and/or exceeds that stated in Supplement No. 1 of NUREG-0737. In addition, the following adjunct requirements will be incorporated in the administrative control of shift staffing:

1. A licensed senior reactor operator will be in the main control room area at all times when the unit is in operational condition 1 through 3 (Hope Creek) or mode 1 through 4 (Salem).
2. A licensed reactor operator will be in the main control room at all times whenever there is fuel in the reactor.

3. The licensed senior reactor operator assigned to supervise core alterations during refueling may have no concurrent operational duties.
4. If the Control Room Supervisor position is not filled by an STA/SRO, a qualified shift technical advisor is required in operational condition 1 through 3 (Hope Creek) or mode 1 through 4 (Salem).
5. In addition to the Radiation Protection Technician required to be on shift whenever there is fuel in the reactor, all shift personnel will be trained in basic radiation protection.
6. Shift hours will be administratively controlled to ensure compliance with current NRC policy.

13.1.1.4.1.3 Licensed Operators

Reactor Operators (RO) report to the Shift Manager through the SS and perform all shift operations from the main control room. The RO is responsible for manipulating controls for startup, changing electrical output and reactor power, and plant shutdown as required. These functions are in compliance with the facility operating license and Technical Specifications to ensure safe and efficient operations. To meet these requirements, the licensed operator must:

- Remain knowledgeable about all operating, emergency and abnormal procedures.
- Complete checkoff lists, logs and other required shift data.
- Routinely observe plant equipment and parameters.
- Initiate immediate action necessary to maintain the plant in a safe condition during normal, abnormal, and emergency operations and shut the reactor down when it is determined that the safety of the reactor is in jeopardy, or whenever operating parameters exceed reactor protection system setpoints and an automatic shutdown or station response fails to occur.
- Direct the activities of non-licensed operators in support of plant operation.
- Provide an adequate shift turnover to ensure continuity of safe operation.

13.1.1.4.1.4 Unlicensed Operators

The non-licensed operators perform routine duties outside of the main control room that are necessary for safe, continuous operation of the plant as directed by the Reactor Operators or Shift Supervisor.

Their duties also include:

- Completing check-off lists, logs, and other shift data.
- Initiating immediate actions necessary to maintain assigned equipment in a safe condition during normal, abnormal and emergency operations.
- Routinely observe assigned equipment.
- Operating auxiliary equipment as assigned to support plant operations.

Shift electricians, instrumentation and control (I&C), mechanical, and radiation protection technicians coordinate their activities with the SS. These personnel perform support functions associated with electrical, I&C, mechanical, and radiation monitoring disciplines. During normal operation, they are available to perform surveillance, preventive and corrective maintenance. When periods of emergency or abnormal operating conditions exist, they are available as part of the plant Emergency Preparedness Program for emergency response and technical assistance.

13.1.1.4.2 Maintenance

The Director-Maintenance reports to the Plant Manager and is responsible for all maintenance for the nuclear units and other on-site facilities in accordance with the facility licenses and applicable regulations. Specific responsibilities include:

- Performing electrical, mechanical, and instrument and controls maintenance
- Developing installation and testing instructions for plant modifications and projects.
- Implementing plant modification installation and testing.
- Providing Preventive/Predictive maintenance programs
- Ensuring maintenance personnel are properly trained and qualified
- Providing oversight of contract maintenance services
- Providing monitoring and oversight of maintenance activities

13.1.1.4.3 Chemistry

The Manager-Chemistry Radwaste and Environmental reports to the Plant Manager and is responsible for implementing programs to ensure plant chemistry, radiochemistry and plant effluents / environmental monitoring are in accordance with the facility licenses and government regulations.

Chemistry is responsible for the development and implementation of the chemistry, radiochemistry, certain environmental monitoring and liquid effluent monitoring programs. Chemistry is also responsible for operation of the condensate demineralizers, demineralized water makeup plant, service water chlorination, non-radioactive liquid waste disposal system, oil-water separator and post-accident sampling system.

Chemistry is responsible for the sampling and analysis of plant fluid systems, chemistry results reporting, calibration of chemistry instrumentation, evaluation of laboratory and chemical systems operation and techniques, operation of deep bed demineralizers, plant water and chemical control systems, and maintaining the plant fluid systems and liquid effluents within established limits.

13.1.1.4.4 Radiation Protection

The Manager-Radiation Protection reports to the Plant Manager and is responsible for implementation of the plant radiological safety, industrial safety, and radioactive material control programs in accordance with the facility operating license, government regulations and the PSEG Nuclear LLC Radiation Protection Program. These programs ensure that personnel exposure to radiation and releases of radioactive material to the environment meet ALARA requirements and that industrial safety practices are consistent with applicable regulations. The Radiation Protection Program and organization are described in Section 12.3.

13.1.2 Operations Support

The Director-Operations Support reports to the President & Chief Nuclear Officer and is responsible for facility and yard maintenance, station/facilities support, repair and calibration of measuring and test equipment, projects and outage services.

13.1.3 Director-Regulatory Affairs

The Director-Regulatory Affairs is responsible for providing oversight and support of station licensing, regulatory and environmental activities, and managing the site environmental programs and maintaining oversight of nuclear communications. The Manager-Regulatory Compliance reports to the Director-Regulatory Affairs and is responsible for:

- Overall management of nuclear licensing and regulatory activities associated with the station.
- Managing the preparation, review and approval of licensing documents.
- Coordinating station involvement with regulatory agencies.

13.1.4 Nuclear Assessment

The Director-Nuclear Oversight (Director-NOS), reporting to the President and Chief Nuclear Officer, Nuclear, provides management direction and control of functions that assess the safe operation of the nuclear stations, the quality of work performed by support personnel, and compliance with the Operational QA Program, nuclear safety requirements, company policies, regulatory commitments and governmental regulations. The Director-NOS assures that an appropriate Quality Assurance Program (QAP) is established, maintained and effectively executed throughout the nuclear organization.

The Director-NOS advises PSEG Nuclear LLC management regarding the overall quality and safety of plant operations and makes recommendations for performance improvement, as appropriate. Reporting to the Director-NOS are the Manager-NOS Audits, the QA Programs Manager, the Employee Concerns Manager, and Assessment staff. The Manager-NOS Audits is responsible for all audits performed in Nuclear.

A detailed description of the PSEG Nuclear LLC Operational Quality Assurance Program is provided in the Salem and Hope Creek Quality Assurance Topical Report (QATR).

13.1.5 Emergency Services

The Director-Corporate Services is responsible for providing oversight and support of Emergency Preparedness, Security and the site access program including badging, background investigations, and the fitness for duty program. The corporate medical department supports the medical portion of the fitness for duty program.

13.1.6 Corporate Operations

The Director-Corporate Operations reports to the President & Chief Nuclear officer and is responsible for Nuclear Fuels, BWR & PWR fuel procurement, Performance Improvement, Fire Protection and Engineering Services.

13.1.7 Finance and Human Resources

The Director Finance Nuclear as well as the Human Resources Manager are matrixed to the President and Chief Nuclear Officer, Nuclear. The Director Finance Nuclear provides direction to and oversight of business support functions to include: strategic planning, financial controls and services, and co-owner affairs. The Human Resources Manager provides direction and oversight to include: staffing and workforce planning, performance management, employee and labor relations.

13.1.8 Personnel Qualifications

Plant personnel meet the minimum qualification requirements of Regulatory Guide 1.8, Revision 2 and ANSI/ANS 3.1-1981, except for the following differences or clarifications:

- Individuals designated as the Director-Operations shall
 - Hold a senior reactor operator license, or
 - Have held a senior reactor operator license for this or a similar unit (Hope Creek/BWR and Salem/PWR) or
 - Have been certified at an appropriate simulator for equivalent senior operator knowledge.
- Individuals designated as Shift Technical Advisors shall meet the experience, education and training requirements as specified in Regulatory Guide 1.8, Revision 2 and the administrative section of the Technical Specifications.
- Licensed operators shall comply with the requirements of 10 CFR Part 55
- The individual designated as the Manager-Radiation Protection shall meet or exceed the qualifications of Regulatory Guide 1.8, September 1975.

The Plant Manager may authorize deviations from a qualification requirement for subordinate positions when the combined education, experience and managerial competency of an individual are judged sufficient to ensure adequate performance of designated responsibilities. Such judgment will be documented and will not be used to degrade staff overall qualification.

Engineering staff personnel meet the qualification requirements similar to those of major engineering firms, which consist primarily of individuals having college degrees or the equivalent experience in the appropriate science or engineering discipline. In certain instances, technicians who, by virtue of formal education, training programs, or experience, have acquired special expertise in particular areas are involved in providing technical support. In keeping with responsible management practices, the capabilities of individuals and necessary supervision are appropriately considered in making personnel assignments. Engineering managers designated as the "Engineer in Charge" meet or exceed the qualifications of ANSI/ANS 3.1-1981.