

Public Service
Electric and Gas
Company

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May 13, 1986

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:

ENGINEERING EXPERTISE ON SHIFT (GENERIC LETTER 86-04)
HOPE CREEK GENERATING STATION
DOCKET NO. 50-354

In response to USNRC Generic Letter 86-04, "Policy Statement on Engineering Expertise on Shift", Public Service Electric and Gas Company (PSE&G) hereby submits the following information.

1. PSE&G currently assigns a qualified Shift Technical Advisor (STA) who is also a qualified Senior Reactor Operator (SRO) to each shift of the Hope Creek Generating Station (HCGS) operating staff. This individual may fill a dual-role SRO/STA position.
2. The STA filling the dual-role SRO/STA position has a bachelors degree in an engineering, engineering technology, or physical sciences discipline from an accredited institution such that these programs include course work in the physical, mathematical or engineering sciences, or, has a Professional Engineers' license. The STA must have obtained a PE license by successfully passing the PE exam. This position is indicated in HCGS FSAR Section 1.10.2.I.A.1.1 and Technical Specification Table 6.2.2-1.

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3. PSE&G has modified HCGS FSAR Sections 1.10.2.I.A.1.1 and 13.1.2.2.3 in Amendment 14, as attached, to indicate the options chosen for meeting the current requirements for providing engineering expertise on shift and meeting licensed operator staffing requirements. The NRC staff has reviewed and accepted these sections in HCGS FSAR Amendment 14 as stated in HCGS SER Supplement 5.

Sincerely,

CAM / B. Rusty

Attachments

- C D.H. Wagner
USNRC Licensing Project Manager

- R.W. Borchardt
USNRC Senior Resident Inspector

- F. Rowsome
USNRC Division of Human Factors Technology

1.10 TMI-2 RELATED REQUIREMENTS FOR NEW OPERATING LICENSES

1.10.1 NUREG-0737, CLARIFICATION OF THE TMI ACTION PLAN REQUIREMENTS

Following the accident at Three Mile Island (TMI) Unit 2, the Nuclear Regulatory Commission (NRC) developed the TMI Action Plan, NUREG-0660, to provide a comprehensive and integrated plan for improving the safety of power reactors. NUREG-0737 was issued with an October 31, 1980 letter from D.G. Eisenhut, NRC, to licensees of operating power reactors and applicants for operating licenses forwarding specific TMI-related requirements from NUREG-0660 which have been approved by the NRC for implementation at this time. In this NRC report, these specific requirements comprise a single document which includes additional information about implementation schedules, applicability, method of implementation review by the NRC, submittal dates, and clarification of technical positions. The total set of TMI-related actions have been documented in NUREG-0660, but only those items that the NRC has approved for implementation to date are included in NUREG-0737.

Enclosure 2 to NUREG-0737 lists TMI Action Plan requirements for operating license applicants. FSAR Section 1.10.2 itemizes these requirements sequentially according to the NUREG-0737 number. Each item is accompanied by a response and/or reference to a section in the FSAR that further discusses how Public Service Electric and Gas Company (PSE&G) or the Hope Creek Generating Station (HCGS) design complies with the requirement. These responses will be revised periodically as ongoing efforts to address each requirement are completed.

1.10.2 TMI ACTION PLAN REQUIREMENTS FOR APPLICANTS FOR AN OPERATING LICENSE (ENCLOSURE 2 TO NUREG-0737)

- I.A.1.1 SHIFT TECHNICAL ADVISOR

Position

Each applicant shall provide an on-shift technical advisor to the shift supervisor. The shift technical advisor (STA) may serve more than one unit at a multiunit site if qualified to perform the advisor function for the various units.

HCGS FSAR

The STA shall have a bachelor's degree or equivalent in a scientific or engineering discipline and have received specific training in the response and analysis of the plant for transients and accidents. The STA shall also receive training in plant design and layout, including the capabilities of instrumentation and controls and the control room. The applicant shall assign normal duties to the STAs that pertain to the engineering aspects of assuring safe operations of the plant, including the review and evaluation of operating experience.

Clarification

- (1) Due to the similarity in the requirements for dedication to safety, training, and onsite location and the desire that the accident assessment function be performed by someone whose normal duties involve review of operating experiences, our preferred position is that the same people perform the accident and operating experience assessment function. The performance of these two functions may be split if it can be demonstrated the persons assigned the accident assessment role are aware, on a current basis, of the work being done by those reviewing operating experience.
- (2) To provide assurance that the STA will be dedicated to concern for the safety of the plant, our position has been the STAs must have a clear measure of independence from duties associated with the commercial operation of the plant. This would minimize possible distractions from safety judgments by the demands of commercial operations. We have determined that, while desirable, independence from the operations staff of the plant is not necessary to provide this assurance. It is necessary, however, to clearly emphasize the dedication to safety associated with the STA position both in the STA job description and in the personnel filling this position. It is not acceptable to assign a person who is normally the immediate supervisor of the shift supervisor to STA duties as defined herein.
- (3) It is our position that the STA should be available within 10 minutes of being summoned and therefore should be onsite. The onsite STA may be in a duty status for periods of time longer than one shift, and therefore asleep at some times, if the 10-minute availability is assured. It is preferable to locate those doing the operating experience assessment onsite. The desired exposure to the operating plant and contact with the STA (if these functions are to

be split) may be able to be accomplished by a group, normally stationed offsite, with frequent onsite presence.

We do not intend, at this time, to specify or advocate a minimum time onsite.

Response

The STA function will be provided, on shift, by an individual meeting the experience, education, and training requirements as specified in NUREG-0737 and ANS 3.1-1981. The proposed supervisory shift crew composition for conditions 1 through 3 consists of one senior nuclear shift supervisor (SNSS-SRO), one nuclear shift supervisor (NSS-SRO), and two nuclear control operators (NCO-RO). In the event that neither the SNSS nor the NSS are STA qualified, an additional person who is STA qualified will be assigned.

Various proposals for meeting the STA on shift requirement are currently under review by the Institute for Nuclear Power Operations (INPO) and the NRC. The final recommendations of these studies will be incorporated into station procedures.

The STA will have a bachelors degree or equivalent in a scientific or engineering discipline with specific training in plant design response and analysis of the plant for transients and accidents in accordance with the requirements of NUREG-0737, Section I.A.1.1.

Any STA filling the dual role of STA/SRO (Reference 13.1.2.2.3) will have a professional engineer's license or bachelors degree in an engineering, engineering technology, or physical sciences discipline from an accredited institution (such that these programs include courses in the physical, mathematical, or engineering sciences) as well as the specific training specified above.

During normal operations, the STA may be assigned responsibilities that pertain to the engineering aspects of ensuring safe operations of the plant.

See Section 13.1 for further discussion.

The functions of the Senior Operating Support Supervisor include: |

- a. Providing overall waste management program direction to the shift support supervisors in their work associated with the handling, processing and storing of the process generated radioactive waste.
- b. Ensuring that radwaste activities are in compliance with facility operating license, technical specifications, and government regulations
- c. Development and maintenance of radwaste procedures to ensure that activities are conducted safely and efficiently by trained personnel
- d. Implementing a program to minimize generation of liquid and gaseous wastes.

13.1.2.2.3 Operating Shift Supervision

Supervision of the shift personnel is under the direction of the Senior Nuclear Shift Supervisor who reports directly to the Operating Engineer. The Senior Nuclear Shift Supervisor on duty is directly responsible for the operation of the unit. He 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, he assumes responsibility for all plant functions in the absence of senior plant management. The Senior Nuclear Shift Supervisor supervises the Operating Department shift personnel and inspects equipment to ensure that operations are conducted safely and efficiently in compliance with Technical Specifications and the Operating License. He also reviews and approves completed checkoff lists, logs, and other shift data to detect abnormal trends or potential operating problems. He approves removal of equipment from service and performance of safety tagging in support of the plant surveillance and maintenance program.

The Senior Nuclear Shift Supervisor is assisted by the Nuclear Shift Supervisor and Shift Support Supervisor. The Nuclear Shift Supervisor assumes the Senior Nuclear Shift Supervisors' responsibilities in the event of his unavailability. As assigned, the Nuclear Shift Supervisor reviews procedures which apply to startup, power operation, shutdown, emergency, and abnormal conditions. The Nuclear Shift Supervisor provides

direct supervision of the operating crews. The Shift Support Supervisor provides direct supervision to the Equipment Operators and Utility Operators assigned to radwaste.

Personnel qualified as Shift Technical Advisor (STA), shall be assigned on shift. The STA responsibilities include:

- a. Providing an independent objective assessment concerning plant safety
- b. Providing technical assistance to shift supervision during normal and abnormal conditions
- c. 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
- d. Determining critical parameters in the event of instrument failure
- e. Investigating and assessing recommendations of all incident reports and reportable occurrences
- f. Evaluating effectiveness of emergency procedures and recommending revisions.

An STA may also function as a Senior Nuclear Shift Supervisor or Nuclear Shift Supervisor if qualified as STA/SRO as described in Section 1.10.2.I.A.1.1.

13.1.2.2.4 Licensed Operators

Nuclear Control Operators (NCO) report to the Senior Nuclear Shift Supervisor through the Nuclear Shift Supervisor and perform all shift operations from the main control room. The NCO 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: