PSNH

Public Service of New Hampshire

New Hampshire Yankee Division

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United States Nuclear Regulatory Commission
Washington, DC 20555

ATTENTION: Mr. George Knighton, Chief
Licensing Branch No. 3
Division of Licensing

REFERENCES: (a) Construction Permits CPPR-135 and CPPR-136, Docket Nos. 50-443 and 50-444

SUBJECT: Operator Requalification Training Program

Dear Sir:

We have enclosed a revised version of FSAR Section 13.2.1.2 which reflects the Seabrook Requalification Training Program which was recently implemented.

This revision will be included in OL Application Amendment 55.

Very truly yours,

John DeVincentis, Director
Engineering and Licensing

JD:RRB:lw

Attachment

cc: ASLB Service List

A001
1/1

This evaluation will insure each candidate is properly prepared for the NRC exam, and is capable of competent and safe operation of the plant controls.

13.2.1.2 Coordination with Pre-Operational Tests and Fuel Loading

The Station Staff Training program has been developed and will be scheduled to minimize any conflicts in manpower requirements during the unit's pre-operational testing and fuel loading. The positive training effects gained by actual participation in the start-up will be incorporated in the training Program.

The scheduling interface between the Operator License Training Program and the start-up is illustrated in Figure 13.2-1.

13.2.1.3 Licensed Operators - Requalification Training

A comprehensive requalification training program will be conducted for all licensed operators and will be implemented within three (3) months after the initial cold licensing of operators. This requalification training program has been developed and will be implemented to maintain a high level of knowledge and skill in licensed reactor operators and senior reactor operators. The basis for this program is to enhance safety, productivity, and efficiency in operating the plant during normal and abnormal situations.

The Seabrook Station Requalification Training Program has been prepared within the framework of a systems approach to training. The content and schedule of requalification training is established by the Seabrook Training Center's Curriculum Development Committee (CDC). The CDC consists of, but is not limited to, the Training Center Manager, the Training Supervisor, a representative from Operations management, and a representative from Media Support.

A minimum of ten weeks per two year cycle will be dedicated to the license program. All licensed Seabrook Station instructors will participate in the requalification program in order to remain cognizant of current operating history, procedural changes, design changes, and administrative policies, except to the extent that their normal duties preclude the need for specific retraining in particular areas. The requalification training program consists of four interrelated elements:

- Requalification Examinations
- On-the-Job Training
- Pre-Planned Lecture Series
- Special Retraining Programs

Specific retraining programs may be necessary for certain licensees. Exam failure or unsatisfactory performance will require that the deficient licensee meet with the appropriate academic review board. The academic review process is a three tiered program of progressive corrective actions designed to upgrade knowledge and skills identified as deficient. The three levels in the academic review process are:

1. Staff Counselor Interviews,
2. Alert Status Review Board, and
3. Performance Review Board.

Any academic review board that is convened will make recommendations as it deems necessary to upgrade deficient areas. The recommendations of the Performance Review Board may include immediate removal from licensed duties.

The following paragraphs provide a general description of the requalification program:

a. Requalification Examinations

Each licensee will be administered examinations at the end of each training module that will parallel, in content and degree of difficulty, segments of an NRC Licensing Exam. These examinations are designed to meet the requirements of the requalification modules' objectives. At the completion of each annual cycle, a sufficient number of exams will have been administered to parallel, in content and degree of difficulty, a complete NRC Licensing Exam. All graded exams will be retained as a part of the training records. The results of the exams will be used to evaluate past training, and to aid in determining future retraining. The licensee must achieve an overall grade average of 80% or greater at the completion of each annual cycle. Any licensee with an exam score of less than 70% will be required to meet with the appropriate academic review board and carry out any recommendations handed down by the board.

1. Written Examinations

A written examination will be administered to all licensed individuals upon the completion of each requalification module.

The written examinations will be consistent with the individual's license level and will contain appropriate questions from the following topics:

- Theory and Principles of Reactor Operations
- Heat Transfer, Fluid Flow and Thermodynamics
- Features of Facility Design
- General and Specific Plant Operating Characteristics
- Plant Instrumentation and Control System

- o Plant Protection Systems
- o Engineered Safety Systems
- o Radiation Control and Safety
- o Applicable Portions of Title 10, Code of Federal Regulations
- o Fuel Handling and Core Parameters
- o Technical Specifications
- o Administrative Procedures, Conditions and Limitations
- o Nuclear Industry Operating Experience

The person(s) responsible for the preparation of the examination and answer key and the person(s) who reviewed the examination will not be required to take the examination.

2. Demonstrative Examination

A demonstrative examination will be scheduled for each module.

These examinations can be either simulator evaluations, oral examinations or in-plant walk-throughs. Oral examinations are verbal question and answer sessions between student and instructor, usually in a one-on-one setting. In-plant walk-throughs are oral examinations that take place on-site, generally at the location of the equipment being discussed.

A licensee receiving a module grade of less than 70% will meet with the Alert Status Review Board and carry out the recommendations handed down by the Board. A licensee receiving a module grade of less than 70% more than once will meet with the Performance Review Board. The licensee must achieve an overall grade average of 80% or greater at the completion of each annual cycle.

b. On-the-Job Training

In order to maintain an acceptable level of skills and familiarity associated with the Seabrook Station systems, controls, and operational procedures, each licensee will participate in plant evolutions. Each licensee will demonstrate operational proficiency through participation in the following activities:

- o Required reactivity manipulations and plant evolutions
- o Plant simulator exercises
- o In-plant training
- o Design change, procedure revision, and industry experience review

To maintain these skills, licensed operators will actually manipulate the controls; licensed senior operators may either manipulate or actively supervise manipulation of the controls. The simulator may also be used for this purpose. If the instructor has documented that participation on the simulator is unsatisfactory, the licensee will meet with the Alert Status Review Board and carry out the recommendations handed down by the Board.

Each licensee will annually participate in the following list of plant evolutions and abnormal/emergency conditions in either the plant control room or at the plant simulator:

- Plant or reactor startup and power escalation to a range where reactivity feedback from nuclear heat addition is noticeable and heatup rate is established
- Manual control of steam generator water level or feedwater flow during plant startup or shutdown
- Reactor power changes of 10% or greater where rod control is in manual
- Loss of coolant including:

    a) Steam generator tube leaks
    b) Pressurizer leaks
    c) Large and small leaks located inside and outside of primary containment (including leak rate determination for small leaks inside containment)
    d) Saturated Reactor Coolant System response

- Loss of coolant flow/natural circulation
- Loss of all feedwater (normal and emergency)

On a two-year cycle basis, each licensee will participate in the following normal plant evolutions and abnormal/emergency conditions in either the plant control room or at the plant simulator:

- Plant shutdown
- Boration and dilution during power operation
- Reactor power changes of 10% or greater where load change is performed in manual
- Reactor trip
- Turbine or generator trip
- Remote safe shudown
- Nuclear instrumentation failure(s)
- Loss of protective system channel(s)
- Mispositioned control rod(s) (or rod drops)
- Inability to drive control rods
- Conditions requiring use of emergency boration
- Fuel cladding failure or high activity in reactor coolant
- Malfunction of automatic control system(s) which affect reactivity

- Loss of instrument air
- Loss of electrical power and/or degraded power sources
- Loss of condenser vacuum
- Loss of service water
- Loss of residual heat removal
- Loss of primary component cooling system or cooling to an individual component
- Loss of normal feedwater or normal feedwater system failure
- Main steam line break (inside or outside containment)

Response to abnormal/emergency conditions should include use of alternate methods of accomplishing a given function, such as alternate methods of core cooling. Exercises involving multiple failures may be included. Utilization of applicable plant procedures and Technical Specifications during the training exercises will be maximized.

Individual and team performance during the abnormal/emergency training exercises will be monitored and a post-exercise critique conducted with the licensees. The critique on each abnormal/emergency condition will be documented and placed in the Requalification Training records.

In the event that an actual abnormal/emergency condition occurs at the plant and performance of the licensed personnel coping with the condition is satisfactory (as determined by their Unit Shift Supervisor), credit for completion of that evolution may be taken. Completion of actual abnormal/emergency conditions that occur at the plant will be documented by the On-Shift Training Coordinator and forwarded to the Training Center to be filed in the licensees training records.

In addition to actual control manipulations accomplished while on shift in the control room, on-the-job training includes:

- Design Change, Procedure Revision and Industry Experience Review

  This portion of the program will ensure that completed changes and revisions to plant design, changes to procedures and Technical Specifications and industry experiences are reviewed by each licensee.

- Abnormal and Emergency Operating Procedure Review

  Each licensee will review the contents of all abnormal and emergency procedures annually.

- o Simulator Exercises

  This portion of the program will ensure that required control manipulations that are not performed at the plant will be performed during the term of the operator's license. The simulator portion of the requalification program will emphasize such areas as infrequently accomplished procedures, required responses to abnormal and emergency procedures, and significant operating events.

- o In-Plant Training

  This portion of the program will ensure that training which is best suited to be conducted in-plant is performed on actual plant equipment. This includes review of major plant modifications, equipment which is provided with local controls, and simulation of selected procedures (e.g., remote safe shutdown).

c. Design Change, Procedure Revision, and Industry Experience Review

This element provides a system for on-shift review of selected operational experiences and changes to existing operating guidance or equipment. The operational review enables continuous updating of on-shift personnel and establishes a means of disseminating new or changing information that has not been posted in the Standing Orders Book or the Night Orders Book.

This portion of requalification training will ensure that changes or revisions to the Technical Specifications, FSAR, significant changes to procedures and completed facility design changes, are reviewed. When determined by the On-Shift Training Coordinator, an appropriate procedure revision or completed facility design change will be included in the review process.

In addition, a continuing system will be established so that all licensees review the operating experience of Seabrook Station and applicable experiences of the nuclear industry. Selected operational events and reportable occurrences at Seabrook Station will be analyzed and information pertinent to the event collected. Selected operational information from the nuclear industry will also be reviewed. The following sources of information will be considered, but not limited to:

- o Licensee Event Reports
- o Audit, evaluation, and inspection reports
- o NRC IE Notices and Bulletins
- o Publications and periodicals covering nuclear industry information
- o INPO Significant Event Reports and Significant Operating Experience Reports

This information will be routed to all licensees with a sign-off sheet. The on-Shift Training Coordinator, in cooperation with the Shift Superintendents will ensure that all on-shift licensed personnel review the information in a timely manner. The On-Shift Training Coordinator will maintain the documentation of this review process.

A copy of procedure revisions, along with a sign-off sheet, will be placed in the Operational Review Notebook. During a training shift, each licensee will review the contents of the Notebook and, upon completing the assigned reading, will sign the sign-off sheet, signifying that he has read and understands the change or revision. The STC will update the Notebook and remove completed materials to the training records.

In order to ensure a continuing understanding of the action and response necessary during emergency or abnormal situations, a complete review of all emergency and abnormal operating procedures will be conducted by each licensee, over the course of the annual cycle. An acknowledgement sheet will be signed and filed at the Training Center.

d. Simulator Training

The Seabrook specific simulator will be utilized, whenever practical, to fortify the on-going operator requalification program. Simulator exercises and evolutions will be preplanned and scheduled to frequently interface with the Formal Lecture series. The simulator Requalification Training Program will emphasize such areas as infrequently accomplished procedures, required responses to abnormal and emergency procedures, and significant operating events. Exercises will include analyzing the effects of potential equipment/system malfunctions, possible causes and recommended operator responses. A program objective shall be involvement of Unit Shift Supervisors and Shift Superintendents in the capacity of operations assessment and accident analysis during refresher exercise training. A portion of each weeks simulator time, not to exceed twenty percent, will be allocated for specific applications requested by the Unit Shift Supervisors/Shift Superintendents. The simulator will also be used as a means of evaluating and indicating areas requiring further retraining emphasis.

e. Retraining Lectures for License Holders

A formal classroom lecture series, including exams, will be conducted each year as part of the Requalification Program. The level of instruction for the retraining lectures will be consistent with the level of license held. The lecture series will be organized into

separate training modules of instruction divided among the program topics and appropriately scheduled throughout the year. This lecture series will cover two general areas:

- o Fundamentals and Systems Review
- o Procedures and Administrative Controls

Fundamentals and Systems Review lectures will cover topics in which the standard source material is relatively constant; for example, reactor theory, plant design, radiation control, etc.

Procedures and Administrative Controls lectures will cover topics involving essential plant operational guidelines; for example, technical specifications, administrative procedures, major plant evolutions, etc.

All licensed individuals will be required to attend each lecture included in the annual program. Attendance will be recorded and absence will be made up during the current annual cycle by rescheduling or by utilizing self-study and discussion with knowledgeable personnel. The absentee will be required to pass an exam covering the material presented during the missed lectures.

f. Performance Evaluation and Review

Requalification training program effectiveness shall be monitored as described in Subsection 13.2.1.1.

At least once per year, each licensed operator will be observed and evaluated while responding to either real or simulated abnormal or emergency conditions. The evaluation will be performed by the individual's immediate supervisor or a member of the Training Center Staff.

A performance review will be conducted when any of the following situations occur:

- o An annual exam score of less than 70%, or
- o A poor performance evaluation, or
- o Prior to resuming license responsibilities after absence of more than four months.

The purpose of the review will be to determine a course of action necessary to upgrade an individual's performance to an acceptable level. A supplemental training program will be established to up grade areas where deficiencies are shown. Absence from responsibilities applies to all operational shift levels; RO, SRO, Unit Shift Supervisors, Shift Superintendents.

The review will be conducted as soon as practical after one of the above conditions occur. The action taken will be dependent on such factors as examination performance, watch standing performance, observed operational performance and judged overall competence.

13.2.1.4 Replacement Training

Individual advancement to increasing levels of responsibilities as opportunities develop within the organization will be encouraged. For an individual to advance to a more responsible position, he must be fully qualified technically and possess sufficient experience to meet the job requirements.