UNITED STATES
NUCLEAR REGULATORY COMMISSION
OFFICE OF NUCLEAR REACTOR REGULATION
WASHINGTON, D.C. 20555-0001

April 25, 1995

NRC INFORMATION NOTICE 95-24: SUMMARY OF LICENSED OPERATOR REQUALIFICATION INSPECTION PROGRAM FINDINGS

Addressees

All holders of operating licenses or construction permits for nuclear power reactors.

Purpose

The U.S. Nuclear Regulatory Commission (NRC) is issuing this information notice to alert addressees to deficiencies and weaknesses uncovered while conducting its licensed operator requalification inspection program. It is expected that recipients will review the information for applicability to their facilities and consider actions, as appropriate, to avoid similar problems. However, suggestions contained in this information notice are not NRC requirements; therefore, no specific action or written response is required.

Background

Effective March 11, 1994, the NRC amended Part 55, "Operators' Licenses," of Title 10 of the *Code of Federal Regulations* (10 CFR) to eliminate the requirement for licensed operators to pass a comprehensive requalification written examination and an operating test conducted by the NRC during the term of the operator's license. The amendment enabled the NRC to shift its focus from examining individual operators for the purpose of license renewal to evaluating the effectiveness with which facility licensees conduct their requalification programs.

The NRC developed an inspection procedure (IP 71001), "Licensed Operator Requalification Program Evaluation," to implement the new requalification oversight program and to guide inspectors as they review the subject programs. The procedure includes assessments of facility licensee effectiveness in:

- evaluating trainee (operator and crew) mastery of the training objectives as required by 10 CFR 55.59(c) and by element 4 of a systems approach to training (SAT)-based program as defined in 10 CFR 55.4;

- evaluating and revising the requalification program based on operator performance as required by 10 CFR 55.59(c) and by element 5 of a SAT-based program;

- ensuring the integrity of requalification examinations and tests as required by 10 CFR 55.49; and

- ensuring that licensed operators satisfy the conditions of their licenses as specified in 10 CFR 55.53.

The NRC is using the inspection procedure to evaluate each licensed operator requalification program at least once per Systematic Assessment of Licensee Performance (SALP) cycle.

Discussion

During the period that the NRC conducted requalification examinations for the purpose of renewing operator licenses (i.e., 1987 to 1993), the staff noted significant improvements in the performance of the individual operators and the quality of facility licensee evaluators and testing materials. As noted in the March 1994 rule change, the NRC discontinued conducting routine requalification examinations because licensees had established a high standard of performance under the regulations and NRC examiners were largely duplicating tasks that were required of, and routinely performed by, facility licensees. The NRC resolved that it would not duplicate facility licensee efforts to examine operators as long as the NRC staff remained confident that the requalification program was maintaining licensed operator competence.

Facility licensees are expected to comply with the 10 CFR Part 55 requirements for licensed operator requalification training and testing and with the commitments contained in their respective NRC-approved requalification programs. Facility licensees having SAT-based requalification programs are required by the NRC regulations to implement five program elements (i.e., job analysis, objective development, training design and implementation, trainee evaluation, and program evaluation and revision) to ensure that licensed operators and crews maintain the job performance standards necessary for continued safe plant operation. Furthermore, facility licensees must ensure that operators comply with their 10 CFR Part 55 license conditions. As noted earlier, the requalification program inspections conducted in accordance with IP 71001 focus on many of these elements and factors. When necessary, the NRC may inspect additional training program elements in accordance with IP 41500, "Training and Qualification Effectiveness."

Since January 1993, the NRC has completed more than 50 requalification program inspections using IP 71001 or its predecessor, Temporary Instruction 2515/117. A number of specific findings, some of which were observed at several facilities, are listed in Attachment 1.

The findings in Attachment 1 suggest that some facility licensees are relying largely on the guidelines in NUREG-1021, "Operator Licensing Examiner Standards," for the development and administration of their requalification examinations. NUREG-1021 provides instructions for conducting NRC examinations only; it is not intended to be guidance on how to implement a SAT-based training program or to ensure compliance with all the regulations applicable to requalification examinations. For example, the crew-based dynamic simulator evaluation procedure in NUREG-1021 does not ensure that each licensed operator will be individually evaluated during an operating test as required by 10 CFR 55.59(a).

The findings in Attachment 1 also indicate that the level of difficulty of examinations at some facilities was questioned as to whether facility licensees could determine that the operators had mastered their job performance requirements as stipulated by element 4 of a SAT-based training program or whether the examinations would sufficiently require an operator to demonstrate an understanding of and the ability to perform the actions referenced by 10 CFR 55.59(a)(2)(ii). Simulator scenarios that verify operator ability to implement the emergency operating procedures (EOPs) were questioned as to whether they were at the level of difficulty necessary to adequately complete the assessment.

The requalification inspections have identified a number of weaknesses and deficiencies. 10 CFR 55.59(c) allows a facility licensee significant latitude in the implementation of its requalification program if the licensee adopts a systems approach to training. Many of the issues described in Attachment 1 are performance-based issues that raise questions regarding the effectiveness of facility licensee training and testing programs.

Although the staff has not judged the findings at specific facilities to be of sufficient concern, to date, to warrant NRC conducting requalification examinations, it has concluded that the findings are sufficient in number and significance to share them with the industry. If an NRC inspection determines that a requalification program is ineffective or if the staff concludes that the inspection process will not provide the insight necessary to confirm the adequacy of the program, the NRC may exercise its discretion, per 10 CFR 55.59(a)(2)(iii), and conduct requalification examinations in accordance with NUREG-1021.

This information notice requires no specific action or written response. If you have any questions about the information in this notice, please contact one of the technical contacts listed below or the appropriate Office of Nuclear Reactor Regulation (NRR) project manager.

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Attachments:
1. Program Deficiencies Identified by Inspections
2. List of Recently Issued NRC Information Notices

Attachments filed in Jacket

PROGRAM DEFICIENCIES IDENTIFIED BY INSPECTIONS

Trainee Evaluation

- The dynamic simulator scenario banks at some facilities did not contain any shutdown scenarios or failed to adequately exercise the contingency actions of the EOPs.

- Some of the dynamic simulator scenarios consisted of unrelated events or had critical tasks that could not discriminate between acceptable and unacceptable operator performance because they were impossible to fail.

- In one instance, written test items were worded in such a way that the person taking the test could possibly select the correct answer based solely on question construction.

- The job performance measures were sometimes overly simple and had little evaluative merit (e.g., push one button) or they had procedural verification steps that were inappropriately identified as critical to task completion.

- Some facility licensees were not able to explain their SAT-based rationale for selecting the control manipulations that were included in their training syllabus, the appropriate mode of completion (i.e., performance, supervision, or observation), or the method for evaluating whether the operators had mastered the job performance requirements.

- The written examinations and operating tests (walk-through and dynamic simulator) at some facilities were so basic that it was questionable whether the examinations and tests could adequately evaluate operator performance or the effectiveness of the training or identify areas needing improvement. The questions, job performance measures, and scenarios did not test the operators at the comprehension and analysis levels of knowledge, but strictly at the memorization level.

- Some facilities did not sufficiently control how many test items were repeated between practice and comprehensive examinations or among successive examinations (i.e., week-to-week or year-to-year). Other facilities attempted to avoid duplication by revising their dynamic simulator scenarios between administrations, but the revisions were so superficial that the types and sequence of malfunctions and the required operator actions and mitigation strategies were essentially unchanged.

- One facility that almost always operates with only two reactor operators (ROs) on a control room crew, used three ROs on some of its dynamic simulator examination crews in order to reduce the number of scenarios required to conduct the examinations.

- The operators at some facilities were given little or no retraining on weak areas unless they failed the examination. Sometimes retesting did not sufficiently address areas identified as weak.

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- One facility that almost always operates with only two reactor operators (ROs) on a control room crew, used three ROs on some of its dynamic simulator examination crews in order to reduce the number of scenarios required to conduct the examinations.

- The operators at some facilities were given little or no retraining on weak areas unless they failed the examination. Sometimes retesting did not sufficiently address areas identified as weak.

- The evaluators at some facilities did not identify areas in which retraining was needed to upgrade licensed operator knowledge because they graded their operators exclusively on the basis of completing critical tasks and did not conduct any individual competency evaluations unless an operator failed.

Program Evaluation and Revision

- Some licensed operator requalification training programs did not always close the feedback loop by informing the originators of training comments how their concerns were resolved.

Examination and Test Integrity

- Some facility licensees permitted training personnel who had specific knowledge of the examination content to continue their routine training activities, thereby introducing the appearance of impropriety and the possibility that examination integrity could be compromised.

- Some facility licensees took minimal action to keep their operators separated while individual examinations were in progress or to review the examination results for possible indications that security had been compromised.

Compliance with Operator License Conditions

- One facility licensee failed to ensure that all of its licensed operators completed the requalification training required by 10 CFR 55.53(h) and 55.59(a)(1).

- Some licensees were in violation of 10 CFR 55.53(e) and (f) because they performed or directed licensed activities without meeting the requirements for maintaining an active license or because they returned to licensed duties before completing the required reactivation training.

- Some licensees were in violation of 10 CFR 55.53(i) because they did not receive the required biennial medical examination.

- In some instances, facility licensees neglected to inform the NRC of permanent changes in licensed operator medical status (e.g., a medical defect that might necessitate a conditional license or disqualify the operator) as required by 10 CFR 55.25.

LIST OF RECENTLY ISSUED NRC INFORMATION NOTICES

Information Notice No.	Subject	Date of Issuance	Issued to
95-23	Control Room Staffing Below Minimum Regulatory Requirements	04/24/95	All holders of OLs or CPs for nuclear power reactors and all licensed operators and senior operators at those reactors.
95-22	Hardened or Contaminated Lubricants Cause Metal Clad Circuit Breaker Failures	04/21/95	All holders of OLs or CPs for nuclear power reactors.
95-21	Unexpected Degradation of Lead Storage Batteries	04/20/95	All holders of OLs or CPs for nuclear power reactors.
94-64, Supp. 1	Reactivity Insertion Transient and Accident Limits for High Burnup Fuel	04/06/95	All holders of OLs or CPs for nuclear power reactors
95-18, Supp. 1	Potential Pressure-Locking of Safety-Related Power-Operated Gate Valves	03/31/95	All holders of OLs or CPs for nuclear power reactors.
95-20	Failures in Rosemount Pressure Transmitters due to Hydrogen Permeation into the Sensor Cell	03/22/95	All holders of OLs or CPs for nuclear power reactors.
95-19	Failure of Reactor Trip Breaker to Open Because of Cutoff Switch Material Lodged in the Trip Latch Mechanism	03/22/95	All holders of OLs or CPs for nuclear power reactors.
95-18	Potential Pressure-Locking of Safety-Related Power-Operated Gate Valves	03/15/95	All holders of OLs or CPs for nuclear power reactors.

OL = Operating License
CP = Construction Permit

The findings in Attachment 1 also indicate that the level of difficulty of examinations at some facilities was questioned as to whether facility licensees could determine that the operators had mastered their job performance requirements as stipulated by element 4 of a SAT-based training program or whether the examinations would sufficiently require an operator to demonstrate an understanding of and the ability to perform the actions referenced by 10 CFR 55.59(a)(2)(ii). Simulator scenarios that verify operator ability to implement the emergency operating procedures (EOPs) were questioned as to whether they were at the level of difficulty necessary to adequately complete the assessment.

The requalification inspections have identified a number of weaknesses and deficiencies. 10 CFR 55.59(c) allows a facility licensee significant latitude in the implementation of its requalification program if the licensee adopts a systems approach to training. Many of the issues described in Attachment 1 are performance-based issues that raise questions regarding the effectiveness of facility licensee training and testing programs.

Although the staff has not judged the findings at specific facilities to be of sufficient concern, to date, to warrant NRC conducting requalification examinations, it has concluded that the findings are sufficient in number and significance to share them with the industry. If an NRC inspection determines that a requalification program is ineffective or if the staff concludes that the inspection process will not provide the insight necessary to confirm the adequacy of the program, the NRC may exercise its discretion, per 10 CFR 55.59(a)(2)(iii), and conduct requalification examinations in accordance with NUREG-1021.

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Attachments:
1. Program Deficiencies Identified by Inspections
2. List of Recently Issued NRC Information Notices

DOCUMENT NAME: 95-24.IN
*See previous concurrence

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DATE	01/23/95		01/26/95		01/26/95		01/23/95		03/17/95	

OFFICE	*OECB/DOPS		*C/OECB/DOPS		D/DOPS	E				
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Secondly, the NRC is concerned, based on its observations to date, that the level of difficulty of examinations at some facilities may degrade to the point that the examinations will not be sufficiently challenging and discriminatory to determine whether the operators have mastered their job performance requirements as required by element 4 of a SAT-based training program or will not sufficiently require an operator to demonstrate an understanding of the ability to perform the actions referenced by 10 CFR 55.59(a)(2)(ii). In particular, the NRC is concerned that simulator scenarios which verify an operator's ability to implement the EOPs could lack the level of difficulty necessary to adequately complete the assessment. Consistent with performance-based regulations, there is no regulatory requirement which specifically defines the appropriate level of difficulty, however for reference licensees should note that Part 55 was amended to change the NRC's involvement based largely on the level of performance reached by the industry in 1993, and in the area of simulator scenarios, the level of difficulty at that time was largely defined by the guidance contained in NUREG-1021.

Licensees are reminded that if an NRC inspection determines that a requalification program is ineffective or if the staff concludes that the inspection process will not provide the insight necessary to confirm the adequacy of the program, the NRC may exercise its discretion, per 10 CFR 55.59(a)(2)(iii), and conduct requalification examinations in accordance with NUREG-1021.

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