

JUNE 10, 1996

FOR: The Commissioners
 FROM: James M. Taylor /s/
 Executive Director for Operations
 SUBJECT: PROPOSED CHANGES TO THE NRC OPERATOR LICENSING PROGRAM

- PURPOSE:
- BACKGROUND:
- DISCUSSION:
- RESOURCES:
- TRANSITION:
- COORDINATION:
- RECOMMENDATION:

PURPOSE:

To inform the Commission of the results of a pilot program under which facility licensees were permitted, in accordance with the pilot examination guidance in [Generic Letter 95-06](#), to draft the written examinations and operating tests that the NRC administers to determine the competence of operator license applicants at power reactor facilities, and to request the Commission's approval to implement this new examination process on a voluntary basis, while in parallel pursuing mandatory implementation by the industry.

BACKGROUND:

Section 107 of the *Atomic Energy Act of 1954* (AEA), as amended, requires the NRC to determine the qualifications of individuals applying for an operator license, to prescribe uniform conditions for licensing such individuals, and to issue licenses as appropriate. Operator license applicants are required by Part 55 of Title 10 of the *Code of Federal Regulations* (10 CFR Part 55) to pass an examination satisfying the basic content requirements specified in the regulation. Part 55 does not state who will write, administer, or grade the examination; however, the NRC has traditionally performed those tasks itself or through contract examiners. To ensure the uniformity required by the AEA, the examiners comply with [NUREG-1021](#), "Operator Licensing Examiner Standards," which contains specific instructions and guidelines for developing, administering, and grading the examinations. Facility licensees currently review the licensing examinations before they are given and are generally familiar with the instructions contained in NUREG-1021.

On March 24, 1995, the staff informed the Commission of its intent to revise the operator licensing program to allow greater participation by facility licensees and to eliminate contractor assistance in this area, as described in SECY-95-75, "Proposed Changes to the NRC Operator Licensing Program." On April 18, 1995, the Commission consented to the staff's proposal to initiate a transition process to revise the operator licensing program, and directed the staff to carefully consider experience from pilot examinations before full implementation. On August 15, 1995, the staff issued Generic Letter (GL) 95-06, "Changes in the Operator Licensing Program," outlining the revised examination development process and soliciting volunteers to participate in pilot examinations to evaluate and refine the methodology.

Between October 1, 1995, and April 5, 1996, the NRC reviewed and approved 22 operator licensing examinations that had been written by facility licensees in accordance with the existing examination development guidance, as supplemented by the pilot examination guidance contained in GL 95-06. These examinations were then used to test 146 reactor operator (RO) and senior reactor operator (SRO) applicants. Facility licensees from each NRC region, representing all four power reactor vendors, participated in the voluntary pilot program.

DISCUSSION:

The pilot program demonstrated that the revised process can be both effective and efficient. Comments from the NRC staff and industry personnel who participated in the pilot examinations were generally favorable. The quality of the administered examinations (as modified by the NRC) and the performance of the individuals who took the examinations were comparable to examinations written by the NRC staff or its contractors. The fact that some of the draft examinations submitted by facility licensees required significant rework illustrated that many facility staffs did not fully understand the criteria to be met in writing an NRC examination. However, both the industry and the NRC staff agree that with training and experience, the industry should gain proficiency in drafting the examination materials.

The details of the pilot examination program, the examination results, a summary of the significant industry comments to the proposed examination process, as well as a discussion of the staff resolution of those comments, and additional improvements identified as warranted by the pilot program are discussed in the attachment.

The necessary procedural changes in the new process are administrative in nature and are limited to those changes which will continue to ensure the security, integrity, quality, and consistency of the examinations. The basic structure and content of the examinations, as specified in Part 55, are not affected. The staff believes that the proposed change in the examination development process does not increase or reduce existing requirements for licensing operators at nuclear power facilities, but rather is an alternative method for implementing the existing requirements.

Under the new process, facility licensees will develop and submit their proposed examinations (the written examination, the plant walk-through, and the dynamic simulator tests) in accordance with NUREG-1021, the same guidance that the NRC would use if it were to develop the examinations. To ensure the uniformity required by the AEA, the staff will not consider alternative testing methodologies.

Although facility licensees will draft the operator licensing examinations, the NRC will continue to review and approve every examination before it is administered to ensure that it conforms to the criteria specified in NUREG-1021 for content, format, quality, and level of knowledge. Facility licensees will also administer and grade the written examinations in accordance with NRC procedures, but NRC examiners will continue to independently administer and grade the operating tests (the dynamic simulator and the plant walk-through portions of the examination). The NRC will review and approve the assignment of grades for the written examinations, including any changes to answer keys and question deletions recommended by the facility licensee. The NRC will continue to make all licensing decisions and administer the appeals process for applicants who fail the examination.

The proposed changes are neither intended nor expected to substantially change the overall protection of the public health and safety or the common defense and security. Facility licensees have been advised that the NRC expects the technical quality of examinations to remain high and the number of post-examination changes to be low. Similarly, regional examiners and managers will be instructed not to approve or administer any examination that does not adhere to NRC standards for content, format, quality, level of knowledge, and level of difficulty. The quality assurance checklists in NUREG-1021 have been modified in an effort to make the examinations more consistent and to facilitate the NRC examiners' efforts to detect deficient examination materials. The use of any facility-written examination that is found to be unacceptable will be delayed or cancelled, if necessary, until the facility licensee and the NRC can upgrade or replace the examination.

The staff's position is that the new process should be made mandatory for all licensees. The staff originally considered rulemaking unnecessary and intended to implement the new process as an administrative change because 10 CFR Part 55 is silent with regard to who will write the examinations. Furthermore, the change is not considered a backfit pursuant to [10 CFR 50.109](#) as discussed below. Nonetheless, the staff now believes that to require all facility licensees to draft examinations, a task long performed by the NRC, would require rulemaking or the issuance of orders to each facility licensee.

The staff considers implementation of the new process on a voluntary basis alone unworkable over the long term. With the elimination of contractor support, the staff will no longer have sufficient examiner resources to write all examinations consistent with the scheduling needs of facility licensees. This resource problem is further compounded by the unpredictable nature of the examination workload. Therefore, the staff intends to implement the new process on a voluntary basis while pursuing mandatory implementation in parallel.

The staff does not consider the proposed change to be a backfit pursuant to 10 CFR 50.109. 10 CFR 50.109(a)(1) states in pertinent part that:

Backfitting is defined as the modification of or addition to systems, structures, components, or design of a facility; or the design approval or manufacturing license for a facility; or the procedures or organization required to design, construct or operate a facility; any of which may result from a new or amended provision in the Commission rules or the imposition of a regulatory staff position interpreting the Commission rules that is either new or different from a previously applicable staff position....

The proposed change does not result in a modification of or addition to systems, structures, components, or the design of a facility. The change does not affect the design approval or manufacturing license for a facility. The procedures required to design or operate a facility will not be affected by the proposed change. The proposed change would ultimately require each nuclear power plant licensee to develop the tests which are used to qualify, as meeting the requirements of 10 CFR Part 55, those nuclear power plant operators whom the nuclear power plant licensee wishes to employ. Development of such tests are not considered to be "procedures required to ...operate a facility." The tests are not applied to the facility licensee, but rather to the operator license candidates. Further, any procedure necessary to develop the test would not be useful in actually "operating" the facility, even if one broadly interprets "operating" as including any action necessary to comply with the Commission's regulations with respect to operation. The organization required to design or operate a facility will not be affected because all facility licensees already have a training staff to train and evaluate candidates for operator licenses, and to train other members of the plant staff, as required by Part 55 and by Part 50.120. Therefore an organizational change is not required due to this process change. For these reasons, the proposed change does not constitute a backfit.

RESOURCES:

The NRC presently depends on its own staff and contractor staff to prepare and administer the initial operator licensing examinations required by 10 CFR Part 55. In accordance with [10 CFR 170.12\(i\)](#), the cost of NRC time spent on examination activities and any related contractual costs are billed directly to the facility licensees that require the examination services. Under the proposed change, facility licensees will prepare the examination materials, thereby reducing Part 55 review fees billed to the facility licensees. The staff views this change as resource neutral at worst, and possibly resulting in a resource savings to facility licensees over time.

Facility licensees also may choose to hire a contractor to draft the examinations (as the NRC has typically done), or to enter into cooperative arrangements with other facilities. The NRC's examination contractors have already expressed an interest in providing their services to facility licensees directly. The staff believes that the cost of using this option would be comparable to the contractor service fees that the NRC currently passes on to facility licensees.

The staff estimates that the revised process could be implemented at all power reactor facilities with the existing NRC resources allotted to the operator licensing program. However, an initial resource investment would have to be made to train additional NRC employees as examiners, thereby providing additional resource flexibility to cope with personnel changes and the fluctuations in examination demand. In the short term, the staff's ability to write the licensing examinations upon demand may be limited depending on the level of voluntary participation in the revised examination process. With Commission approval, NRC nevertheless intends to eliminate contractor support for the operator licensing program (except for the generic fundamentals examination) during fiscal year 1997. Contractor support for the operator licensing program has historically cost approximately \$3M to \$4M per year.

TRANSITION:

As noted in my memorandum of April 12, 1996, the staff is continuing to use the pilot process for the development of initial operator licensing examinations at those facilities that choose to participate in the program. The staff has incorporated the pilot examination process and lessons learned during the pilot examination program in Revision 8 of NUREG-1021, and, with the Commission's approval, will implement the Revision for examinations that are scheduled to be administered six or more months from the date on which it is published. The staff intends to issue a supplement to GL 95-06 to summarize the results of the pilot examinations and to inform power reactor licensees of the NRC's decision to implement the new examination process on a voluntary basis in the short term. The staff intends to pursue rulemaking to ultimately require all power reactor licensees to prepare the initial operator licensing examinations.

COORDINATION:

The Office of the General Counsel has no legal objection to the staff's positions contained herein.

The staff briefed the Advisory Committee on Reactor Safeguards (ACRS) on the proposed changes to the examination process before implementing the pilot program. The ACRS declined the staff's offer for a subsequent briefing on the results of the pilot examinations and the proposed revision to NUREG-1021.

The staff briefed the Committee to Review Generic Requirements after the pilot program was complete and the

public/industry comment period had ended. In the minutes of its meeting, the Committee agreed that the changes represent a reasonable and workable alternative approach and endorsed sending the proposal forward for consideration.

The staff worked closely with operator licensing personnel in the regional offices to develop and refine the proposed changes in the examination process. Representatives from each regional office met twice with the program office staff to outline the pilot examination guidelines and procedures; a third counterpart meeting was held halfway through the pilot program to collect comments and determine if any interim changes were necessary. The program office staff also visited each region to discuss the pilot process with the NRC examiners who would be administering the pilot examinations.

The staff has also communicated regularly with the Nuclear Energy Institute (NEI) and facility licensees to exchange information and viewpoints regarding the proposed changes. The staff conducted a public workshop before beginning the pilot program, attended a public progress meeting with NEI and various facility representatives midway through the pilot program, and held a public meeting after the last pilot examination was administered to discuss the industry's comments on the proposed revision to NUREG-1021 and lessons learned during the pilot program. Later this year, the staff is planning (subject to Commission approval of the proposed changes) to participate in a workshop to familiarize facility licensees with NRC expectations regarding the new examination process.

RECOMMENDATION:

That the Commission:

Approve the full implementation of the new examination process on a voluntary basis with the issuance of NUREG-1021, Revision 8.

Approve the staff's pursuit of rulemaking to require that power reactor facility licensees draft the operator licensing examinations in accordance with NUREG-1021.

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Attachment: [Description and Analysis of the Pilot Examination Program](#)

ATTACHMENT

DESCRIPTION AND ANALYSIS OF THE PILOT EXAMINATION PROGRAM

- [Overview](#)
- [Description](#)
- [Results](#)
- [Discussion](#)
- [Conclusion](#)

Overview

Section 107 of the *Atomic Energy Act of 1954 (AEA)*, as amended, requires the NRC to determine the qualifications of individuals applying for an operator license, to prescribe uniform conditions for licensing such individuals, and to issue licenses as appropriate. Part 55, "Operators' Licenses," of Title 10 of the *Code of Federal Regulations* (10 CFR Part 55) establishes the Commission's procedures and criteria for issuing licenses to reactor operators (ROs) and senior reactor operators (SROs). Part 55 states an applicant's minimum training requirements, the content requirements for licensing examinations, and the process for preparing and submitting a license application. However, Part 55 does not state who will write, administer, or grade the examinations. Specific guidance in this area is given in NUREG-1021, "Operator Licensing Examiner Standards," which contains the specific procedures that NRC staff and contract examiners follow to prepare and conduct both the written and operating portions of the licensing examinations. The role of the facility licensees has historically been limited to reviewing and validating the examinations prepared by the NRC before they are administered, and to providing administrative and logistical support to the NRC and contract examiners while the examinations are in progress.

During the mid- to late-1980s, the industry significantly increased its emphasis in the training area and all power reactor licensees established formal training programs that have been accredited by the National Academy for Nuclear Training. The general improvements in operator training and performance that prompted the NRC to reduce its level of involvement in the requalification program were also evident in the initial operator licensing process. That fact, in conjunction with the Federal Government's streamlining initiatives, motivated the NRC staff to reconsider its approach to the initial operator licensing program.

With the Commission's approval, the staff developed a revised examination methodology that would shift responsibility for drafting the initial operator licensing examinations to the facility licensees. The goal was to eliminate the staff's reliance on contractor support, while maintaining the existing level of effectiveness and conforming with the AEA and 10 CFR Part 55. To the extent possible, the format, content, and level of difficulty of the examinations would remain unchanged, thereby making the changes transparent to the license applicants.

On August 15, 1995, the staff issued Generic Letter (GL) 95-06, "Changes in the Operator Licensing Program," which outlined the revised examination development process and solicited volunteers to participate in a pilot examination program. To ensure that the pilot examinations were conducted with the highest possible degree of quality and consistency, the program office staff also issued guidance to the regional offices clarifying the NRC examiners' responsibilities during the pilot examination development process. That guidance was placed in the NRC's Public Document Room (PDR) and mailed to each facility licensee that was scheduled to participate in the pilot examination program. The details of the pilot examination process are given below.

On September 26, 1995, the operator licensing program office conducted a public workshop to discuss the staff's expectations regarding industry participation in the pilot examination program. The workshop gave

industry representatives an opportunity to question the staff and to voice their concerns about the examination process outlined in GL 95-06.

Between October 1, 1995, and April 5, 1996, the NRC reviewed, revised where appropriate, and approved 22 initial operator licensing examinations that had been prepared by facility licensees in accordance with the guidance in GL 95-06. The examinations were used to test 146 RO and SRO applicants. Facility licensees from each NRC region and representing all four power reactor vendors participated in the pilot program. The pilot examination results are summarized below.

In February 1996, the staff issued a draft revision of NUREG-1021 that incorporated both the pilot process outlined in GL 95-06 and preliminary lessons learned from the early pilot examinations. The draft revision was sent to the PDR and placed on the NRC's home page on the World-Wide Web; a *Federal Register* notice (FRN) requesting industry and public comments was published on February 22, 1996. The Nuclear Energy Institute (NEI) submitted comments and recommendations on behalf of the nuclear industry, and two facility licensees provided additional suggestions; no other public comments were received. On April 18, 1996, the staff conducted a public meeting with NEI and other industry representatives to review their comments and recommendations regarding the draft revision of NUREG-1021. The meeting also provided an opportunity to discuss additional issues and proposed changes that had emerged following the issuance of draft NUREG-1021 (Revision 8) for public comment. The significant comments, issues, and changes are discussed below.

The staff considered the industry's comments and recommendations and prepared a final new examination process in Revision 8 of NUREG-1021, which has been retitled "Operator Licensing Examination Standards for Power Reactors." The revision formally implements Revision 1 of NUREG-1122 [and -1123], the "Knowledge and Abilities Catalog for Nuclear Power Plant Operators: Pressurized [Boiling] Water Reactors," which were recently reorganized and updated. The revision also supersedes NUREG/BR-0122, "Examiners' Handbook for Developing Operator Licensing Written Examinations," and incorporates other minor improvements (e.g., probabilistic risk assessment insights) and clarifications that were recommended by industry groups, licensed operators, and NRC staff.

Description

Under the pilot examination program, facility licensees drafted the initial operator licensing examinations and submitted them to the NRC for review and approval. To maintain uniform standards of examination content, format, level of difficulty, quality, security, and integrity, the staff expected participants in the pilot program to prepare the written examinations and operating tests in accordance with the existing procedures and guidelines in Revision 7 of NUREG-1021; Revision 5 of NUREG/BR-0122; and the supplementary criteria outlined in GL 95-06. The supplementary criteria in GL 95-06 were primarily intended to allay the staff's concerns regarding the lack of independence and possible conflict-of-interest that could potentially result from the new examination process; those criteria included the following:

- Facility employees who played a direct substantial role in training the license applicants were not permitted to write the licensing examinations or tests.
- Limits were placed on the degree to which each written examination and operating test could be taken directly from the facility licensee's examination bank, how much of the examination could be based on modified bank items, and how much of the examination would consist of new material.
- Limits were placed on the degree to which each written examination and operating test could be duplicated from previous examinations, quizzes, or tests administered to the license applicants, or from the two previous NRC licensing examinations administered at the facility.
- Facility licensees were required to state the history (e.g., bank, revised, new, and date last used) of each test item on the written examination and operating test.

NRC staff examiners reviewed the written examinations and operating tests upon receiving them. In its guidance to the regional offices, the staff did not restrict the number or scope of changes that the examiners could ask facility licensees to make in their proposed examinations. Because of resource limitations, examiners were instructed to focus primarily on the content and construction (i.e., level of knowledge and difficulty) of the written examination questions, rather than spend their time verifying the detailed technical accuracy (e.g., procedural and component references) of every question. The staff expected the facility licensees to ensure that the examinations were technically sound, and instructed the regions to question the licensees regarding any post-examination question deletions and answer key changes.

Once the examinations were approved, the facility licensees administered and graded the written examinations in accordance with NRC procedures, and NRC examiners independently administered and graded the operating tests. The NRC reviewed and approved the written examination grades, including any changes to the answer keys, and deletions of questions recommended by the facility licensees. The NRC made the final licensing decisions and administered the appeals process for applicants who had been denied a license because they failed to pass their examinations.

The staff believes that NRC examiners will maintain the ability to write examinations if need be based on their participation in the new process as described above.

Results

The plant-by-plant results of the pilot examinations are summarized in the attached table. The overall results indicate that the examinations drafted by facility licensees, subject to review, revision where appropriate, and approval by NRC staff examiners, are as effective as examinations written by contractors in identifying applicants who have not mastered the job requirements well enough to become licensed ROs or SROs. The pass rates for ROs and SROs on written examinations and operating tests compare favorably with the pass rates for examinations prepared by the NRC or its contractors.

With regard to resource utilization, the staff had estimated that it would take approximately 370 examiner-hours to review and otherwise prepare for, administer, grade, and document an average operator licensing examination. The data for the 22 pilot examinations indicates that the NRC examiners spent an average of approximately 350 hours per examination. The staff believes that the new examination process could be implemented at all power reactor facilities with the same level of direct NRC resources as is currently allotted to the operator licensing program.

The staff did not formally request facility licensees to track or report the number of hours that their employees spent preparing the pilot examinations. However, the FRN respondents and NRC examiners who worked with the facility employees in preparing the examinations indicated that the average total time spent on the examinations was approximately 600 to 800 staff-hours. A portion of that time (about 200 hours) would have been spent reviewing

and assisting with the administration of NRC-developed examinations and should be subtracted from the total. The resulting average burden of approximately 400 to 600 staff-hours was somewhat higher than the time that the NRC currently allocates to its contract examiners for preparing an examination.

Discussion

In an effort to assess the effectiveness of the new examination process, the operator licensing program office asked the NRC examiners who were involved with the pilot examinations to respond to a questionnaire on various aspects of the examination process. The examiners generally concluded that the examinations written by the facility licensees and modified by NRC examiners, discriminated as effectively as NRC-written examinations between applicants who had and had not mastered the job requirements. Many of the as-written examinations were comparable in quality and level of difficulty to recent NRC-written examinations; however, the NRC examiners and facility staff had to rework some of the examinations significantly to bring them up to NRC standards. Although the staff had hoped that the technical accuracy of the facility licensee's written examinations would be as good or better than the accuracy of the examinations written by the NRC, some of the pilot examination results (i.e., more question deletions and answer key changes than expected) indicated a need for greater emphasis in that area.

Despite the challenges of quality and technical accuracy, the staff believes that each as-given pilot examination provided a valid basis for licensing the applicants that passed the examination. The staff expects that the quality of the draft examinations will improve as facility licensees gain experience and become more familiar with NRC examination requirements. The staff has also incorporated in Revision 8 of NUREG-1021 a number of process enhancements that are intended to improve the quality of the examinations developed under the revised process. Those enhancements include more definitive guidelines on the level of knowledge to be tested on the written examination, guidance regarding facility validation of the final examinations before they are given, and improved quality assurance checklists with a requirement for NRC examiners to verify the technical accuracy of a sample of the questions on each written examination.

Although the pass rates of the pilot examinations were comparable with pass rates for NRC-written examinations, the rate at which applicants requested that the NRC informally review their examination failures increased unexpectedly during the pilot program. This not only placed a significant burden on the staff to resolve the applicants' issues, but also raised concerns regarding the effect that any additional question deletions and answer changes might have on the other licensing decisions that had already been made. Consequently, the guidance in NUREG-1021 has been revised to afford the operator licensing program office greater discretion in determining the method for resolving applicant appeals (i.e., every appeal does not necessarily have to be reviewed by a panel of examiners as long as objectivity and fairness are maintained) and to delay the issuance of licenses to applicants who passed the written examination with insufficient margin to guarantee that the licensing decision will be sustained if additional questions are deleted or changed upon appeal. In an effort to minimize the number of appeals, NUREG-1021 has also been revised to encourage facility licensees to solicit and address concerns from the individual license applicants during the process of grading the written examinations.

The facility licensees' lack of familiarity with specific NRC examination expectations was also reflected in the fact that several pilot facilities took more time to prepare the examinations than experienced NRC examiners or contractors usually need. However, the fact that no NRC contractors were used to prepare the pilot examinations significantly reduced the fees that the NRC charged the facility licensees for those examination services pursuant to 10 CFR 170.12 (j). Because the charges significantly reflected NRC time spent to review and rework the draft examinations, the higher the quality of the draft examination submitted by the facility licensee, the lower the resulting charges. Consequently, implementing the pilot process will give facility licensees more control over the cost of their examination services because they will be in a position to manage the quality of the product that is submitted to the NRC.

The staff believes (and the industry agrees) that additional cost reductions will be realized as facility licensees gain experience with the NRC examination expectations and the quality of the draft examinations improves. The staff expects that facility licensees will eventually be able to draft quality examinations in the same time as or in less time than the NRC or a contractor because the facility employees have more detailed knowledge of their facility and easier access to the reference materials required to prepare the examinations.

The industry generally agrees with the changes that the staff has proposed to make in the operator licensing examination process and supports the implementation of Revision 8 of NUREG-1021. As noted in the overview, NEI responded to the FRN that solicited comments on the draft NUREG-1021, Revision 8, by collecting comments from its member utilities and submitting them on their behalf. Two facility licensees, Virginia Power and the Commonwealth Edison Company, submitted separate comments that generally endorsed and reiterated those made by NEI. A summary of the significant comments and, where appropriate, a description of the resulting changes follows:

The commenters all suggested that the personnel restrictions placed on individuals involved in drafting examination materials should parallel those in the requalification program (i.e., stop teaching when examination development begins), and that instructors should not be prohibited from writing the licensing examinations. In order to address independence and conflict-of-interest issues, the staff considers personnel restrictions to be an important element of the revised process. However, the staff concludes that limited involvement by personnel who directly instruct applicants is acceptable under certain circumstances and has revised NUREG-1021 accordingly. Additionally, facility licensees may propose alternative approaches for consideration on a case-by-case basis.

The commenters all questioned the need for facility licensees to document the history of every test item proposed for use on a licensing examination, even if it was drawn from another facility licensee's examination bank. Consequently, the staff has clarified the guidance in NUREG-1021 to minimize the burden on facility licensees while maintaining the ability to monitor the predictability of the examinations.

All three commenters suggested that NUREG-1021 should relax the restrictions on the duplication of test items from the applicants' audit examination (a practice test given prior to the NRC examination by the facility licensee) if the audit examination was developed independently from the license examination. The staff agrees that this is a reasonable approach and has changed the NUREG accordingly.

The commenters all recommended that NUREG-1021 should accommodate facility licensees that have "closed" examination banks (banks not available to applicants for study) by relaxing the limits on the number of test items that can be drawn directly from the bank. The staff acknowledges that this is a valid issue, but because this issue is so complex, it does not intend at this point to establish additional guidelines regarding the maintenance of examination banks. All banks will be treated as if they are "open."

Two commenters recommended that facility licensees be permitted to use site-specific task lists in place of the NRC's knowledge and abilities catalogs when developing the examination outline. The staff believes that wholesale substitution of the catalogs could cause a decline in examination consistency. However, the staff considers the proposal appropriate in limited circumstances on a question by question basis. Therefore, the guidance in NUREG-1021 has been revised to permit substitutions and additions of specific knowledge and ability requirements on a case-by-case basis.

One commenter indicated that NUREG-1021 does not appear to accommodate utilities that do not want to write their own licensing examinations, and suggested that utilities should be allowed to retain that option. The staff has clarified NUREG-1021 to indicate that facility licensees may request the NRC to write the licensing examinations. However, it also cautions facility licensees that staffing levels may limit the NRC's ability to prepare examinations upon demand. Due to the unpredictability of demand for NRC-written examinations and the scheduling difficulties that may result from a long-term voluntary program, the staff is considering an amendment to 10 CFR Part 55 that would require all facility licensees to write their licensing examinations.

As noted in the overview, the staff has met with NEI and other industry representatives to review their comments and recommendations regarding the draft revision of NUREG-1021. The meeting also provided an opportunity to discuss a number of other issues and proposed changes that had emerged since NUREG-1021 was issued for public comment. The staff has considered the industry's concerns and has finalized the new examination process in Revision 8 of NUREG-1021.

Conclusion

The staff believes the new process can be both effective and efficient. The pass/fail data demonstrate that examinations written by the facility licensee and modified as necessary by the NRC discriminate individuals who are ready to be licensed from those that are not. Although it took more effort than expected to write, review, and revise some of the pilot examinations, the staff concludes that with experience and training the industry should be able to write examinations in time comparable to that normally required by the NRC. The new process gives facility licensees more direct input into examination content and more control over the cost of licensing their operators.

The proposed action is consistent with the Commission's qualitative safety goals. The staff believes that the licensing decisions that were made on the basis of the pilot examinations were as valid as those made using the traditional examination process. The staff does not expect that the proposed revisions to the operator licensing program will significantly increase the risk to the life and health of any individual members of the public or that they will be a significant addition to other societal risks.

Pilot Examination Pass/Fail Results

Facility	RO Written	RO Operating	RO Total	SRO Written	SRO Operating	SRO Total
LaSalle	---	---	---	7/7	7/7	7/7
Limerick	3/3	3/3	3/3	3/3	3/3	3/3
Brunswick	8/8	8/8	8/8	2/3	3/3	2/3
Palo Verde	---	---	---	7/8	7/8	7/8
San Onofre	---	---	---	3/3	3/3	3/3
Ft. Calhoun	4/4	4/4	4/4	4/4	4/4	4/4
Millstone 3	4/4	4/4	4/4	5/6	6/6	5/6
Pilgrim	3/3	1/3	1/3	5/5	3/5	3/5
Fermi	6/8	8/8	6/8	2/2	2/2	2/2
Vogtle	1/2	2/2	1/2	6/6	6/6	6/6
DC Cook	---	---	---	0/1	1/1	0/1
Brunswick	---	---	---	7/7	6/6	7/7
McGuire	6/6	6/6	6/6	6/6	6/6	6/6
North Anna	7/7	6/7	6/7	4/4	4/4	4/4
Zion	3/3	3/3	3/3	5/5	5/5	5/5
HB Robinson	---	---	---	5/6	6/6	5/6
Millstone 2	---	---	---	4/4	4/4	4/4
Ginna	0/2	2/2	0/2	---	---	---
Kewaunee	---	---	---	2/3	2/3	2/3
WNP-2	---	---	---	2/2	2/2	2/2
Crystal River	3/3	2/3	2/3	3/3	1/3	1/3
Braidwood	1/1	1/1	1/1	4/4	4/4	4/4
Total Passing	49/54	50/54	45/54	86/92	85/91	82/92
Pilot Pass Rate	91%	93%	83%	93%	93%	89%
FY 1995	94%	98%	92%	95%	95%	92%

- Each box indicates the number of individuals who passed that part of the examination over the total number of individuals who took it.
- The failures at Kewaunee and Crystal River are still open to the appeal process which could impact the final results.
- The examinations administered in FY 1995 were all NRC or contractor written examinations. This data is provided for comparison to the pilot program results.