

September 11, 1979

SECY-79-330F

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## COMMISSIONER ACTION

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For: The Commissioners

From: Harold R. Denton, Director, Office of Nuclear  
Reactor Regulation

Thru: Executive Director for Operations *TAR for L.V.G.*

Subject: QUALIFICATIONS OF REACTOR OPERATORS

Purpose: To provide a supplement to the Commission Action Paper,  
SECY 79-330E, dated July 30, 1979, on the above subject. The  
supplement covers information for implementation and rule-  
making decisions for all recommendations. \*

Category: This paper covers a major policy matter. Resource estimates,  
Category 1, preliminary.

Discussion: On July 30, 1979, SECY 79-330E was submitted to the  
Commissioners and contained (16) recommendations complete  
with various options to improve the Operator Licensing Program,  
in response to Samuel J. Chilk's request to Lee V. Gossick,  
dated April 30, 1979. That report considered the principal  
type of facility, i.e., nuclear power generating reactors, for  
which licensing of operators is required.

Recommendations for the time required to implement each  
of the (16) SECY-79-330E recommendations are addressed in  
Enclosure 1. Also, this enclosure provides staff proposals  
concerning implementation steps and whether rulemaking amend-  
ments or changes are required and/or desirable. The infor-  
mation in Enclosure 1 is based on approval of the recommenda-  
tions in SECY-79-330E and this paper.

\*SECY NOTE: This paper and SECY-79-330E are currently scheduled for a briefing at an  
Open Commission Meeting on Thursday, September 13, 1979.

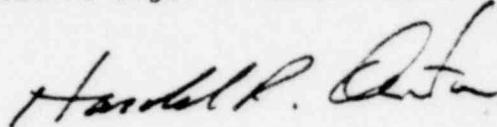
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The recommendations contained in SECY-79-330E and this paper address improvements to the operator licensing program for Nuclear Power plants only. Staff recommendations regarding non-power reactors will be addressed in a separate paper.

Coordination: The Lessons Learned Task Force concurs in these recommendations. The Office of the Executive Legal Director has no legal objection.



Harold R. Denton, Director  
Office of Nuclear Reactor Regulation

Enclosures:

1. Implementation Considerations  
for Operator Licensing Program  
Recommendations

Commissioners' comments should be provided directly to the Office of the Secretary by c.o.b. Monday, September 24, 1979.

Commission Staff Office comments, if any, should be submitted to the Commissioners NLT September 18, 1979, with an information copy to the Office of the Secretary. If the paper is of such a nature that it requires additional time for analytical review and comment, the Commissioners and the Secretariat should be apprised of when comments may be expected.

DISTRIBUTION

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## Enclosure 1

### Implementation Considerations Operator Licensing Program Recommendations

Recommendations 1, 2 and 3

Recommendations 1, 2 and 3 all pertain to increased requirements that must be possessed by applicants for licenses. These provisions would provide for increased operating experience of applicants, prior to NRC examination. Since the implementation considerations of all three are the same, they are considered together.

1. The experience requirements regarding power plant operations for senior operator applicants should be increased.
2. Establish requirements for applicants for senior operator licenses after the plant achieves criticality to be licensed as an operator for 6 months.
3. Establish requirements for participation in plant shift operations prior to licensing.

#### A. Implementation Rationale

The requirements should be put in place at the earliest practicable date. However, some notice to industry should be provided, so adjustments can be made to utility selection and training practices. Requiring this experience for all applicants who file applications 6 months after the Commission's decision date is recommended. Further, in implementation of recommendation 1, provision for consideration of equivalent qualifications by the staff should be made.

## B. Implementation Steps

1. Recommendations 1, 2, and 3 can be promptly implemented by the staff without the need for formal rulemaking. Utilities should be informed that applications filed 6 months or more from the date of Commission approval must reflect the revised experience requirements. The requirement for power plant operations experience should provide for acceptance of other experience considered equivalent by the staff. This experience would constitute part of the evidence that the individual has learned to operate the controls in a safe and competent manner, as required by 10 CFR 55.10(a)(6).
2. Rulemaking should be initiated for the purpose of clarifying the Commission's interpretation of 10 CFR 55.1u(a)(6) and to call attention to the revised experience requirements set forth in the initial recommendations approved by the Commission.

Recommendations 4, 7 and 11

Recommendations 4, 7 and 11 all pertain to requiring the use of power plant simulators for training and examining activities where their use to date has been encouraged, but optional. Since the implementation considerations are the same for all three, they are considered together.

4. Establish requirements that simulators be used in training programs for hot applicants.

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7. In addition to the present operator requalification program requirements, all licensees should be required to participate in periodic retraining and recertification on a full scope simulator representative of their facility.
  
11. Applicants for operator and senior operator licenses should be examined at a nuclear power plant simulator.

A. Implementation Rationale

The requirements for use of nuclear power plant simulators should be put in place as soon as practicable. However, even though use of simulators for initial training and requalification is already widely practiced in the industry, it is not feasible for the Commission to establish a specific date for full compliance. Reasons for this include:

1. The degree of similarity between each plant and the simulators available for training must be evaluated to determine the extent of the value of such training. For some existing plants, (primarily older, smaller units) no existing simulator is a close replica and alternative proposals should be considered by the staff.
  
2. For new simulator installations, suitable time for procurement and installation must be provided.

3. There is uncertainty associated with the availability of existing simulators. In the four training centers operated by NSSS Vendors, we presume that they would be willing to accept all customers (with preferential treatment to their NSSS customers) to the limits of their capacity. However, most existing simulators are owned by private utilities and were intended for their own corporate training needs. The extent to which these simulators would be made available to train other utilities will need to be determined.
4. Contractual arrangements between utilities and training center owners will have to be executed, including provisions for NRC examinations.

B. Implementation Steps

1. Appropriate rulemaking proceedings should be initiated to amend existing regulations in order to provide for mandatory simulator training for both new license applicants and licensees under the provisions of requalification programs.

Recommendations 5 and 9

These recommendations concern NRC involvement in auditing of training programs, including administration of examinations.

5. NRC should audit training programs more closely, including administration of certification examinations.
  
9. An increased level of confidence in the effectiveness of requalification programs should be provided by NRC examiners administering annual requalification examinations.

A. Implementation Rationale

The degree of auditing and the extent to which NRC examiners administer certification and requalification examinations will be increased as additional OLB manpower becomes available until the degree reaches the recommended level. Complete implementation will depend upon the rule-making proceeding, approval of OLB manpower increases and obtaining qualified examiners.

B. Implementation Steps

1. Recommendation 5 can be promptly implemented by the staff without the need for formal rulemaking.
  
2. Appropriate rulemaking proceedings should be initiated for the implementation of recommendation 9.

Recommendation 6

Develop eligibility requirements for instructors.

A. Implementation Rationale

Comprehensive requirements are to be fully developed. Implementation of the initial requirement for specified types of instructors (hold a senior operator license) should be completed pursuant to standard rulemaking procedures. This will permit the staff time to determine those instructors that will require licenses and to develop the necessary eligibility requirements for examinations. It will also allow industry time to make the necessary changes in their personnel selection and instructor training programs.

B. Implementation Steps

1. Rulemaking proceedings should also be initiated for the purpose of establishing as a requirement that specified types of instructors must hold a senior operator's license
2. The staff will continue to develop comprehensive eligibility requirements for instructors in cooperation with the American Nuclear Society Sub-Committee ANS-3 and the newly created Institute of Nuclear Power Operations.

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Recommendations 8 and 15

These recommendations address simulator training program content and capability of the simulators.

8. Establish more explicit requirements regarding exercises to be included in simulator requalification programs.
  
15. ANSI/ANS 3.5-1979, "Nuclear Power Plant Simulators," should be reviewed and revised and a Regulatory Guide reflecting NRC endorsement be developed.

A. Implementation Rationale

The implementation of these recommendations will commence immediately after they have been considered and approved by the Commission. The NRC guidance regarding simulator exercises should be developed within 3 months. The standard, currently undergoing revision by the ANS-3 standards committee, should receive expeditious review after it is issued.

B. Implementation Steps

1. Recommendations 8 and 15 can be promptly implemented by the staff without the need for formal rulemaking.

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2. No rulemaking changes are required. Authority for the recommended actions is contained in existing regulations.
3. The staff should continue consultation with ANS-3 and INPO in a cooperative effort to effect these and further improvements.

Recommendations 10, 12, 13 and 14

These recommendations address the scope, administration and grading of NRC examinations; and notification of facility management of the results.

10. The scope of the written examinations should provide increased emphasis on understanding of thermodynamics, hydraulics, and related matters.
12. Senior operator applicants who hold operator licenses should be required to take an oral test pursuant to 10 CFR 55.23 as well as the written examination pursuant to 10 CFR 55.22.
13. The passing grade of written examinations should be increased to 80% or greater overall and 70% or greater in each category.
14. NRC should inform facility management of the results of each examination so that remedial training of individuals may be instituted, as applicable.

A. Implementation Rationale

These recommendations should be implemented immediately.

B. Implementation Steps

1. Recommendations 10, 12, 13, and 14 can be promptly implemented by the staff without the need for formal rulemaking.
2. Appropriate steps should be taken to amend the list of "routine uses" of this system of records under the Privacy Act so as to include remedial training as one of the uses for which examination results may be disclosed.
3. Rulemaking should be initiated to explicitly call out recommendation 10 in 10 CFR Part 55; this is desirable to clearly indicate the scope of examinations in sections 55.21 to 55.23.

Recommendation 16

The present part-time examiners should be augmented by utility and vendor training personnel and formal training programs should be instituted for examiners.

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A. Implementation Rationale

1. Check Examiners

The utilization of utility and vendor training personnel to conduct NRC examinations requires resolution of conflict of interest problem, development of specific personnel procedures, determination of contractual and funding problems and securing industry cooperation. Detailed investigation of the FAA rules and practices in this regard should be made. The implementation proposed is performance of a feasibility study by the staff and a report to the Commission with further recommendations.

Exploration of these areas will start immediately after approval by the Commission.

2. Part-time Examiners

Formal training programs for all examiners will require program development and study to determine the optimum methods of administering the proper training to them. Ten of the present part-time examiners have personal services contracts. It is our understanding that there may exist prohibitions to the training of consultants. The remaining part-time examiners are employed at the National Laboratories. The feasibility of NRC providing training to these persons needs determination. Also, arrangements would have to be made with DOE to permit these individuals to devote the time required to perform their examining duties.

The fundamental issues to be considered are the following:

- a. What constraints exist on the NRC's ability to provide training to
  - a) private consultants and b) DOE operating contractor personnel?
- b. If ample training cannot be provided, what future use of these personnel in the NRC operator licensing program should be made?
- c. If significant training is provided, what amount of commitment of service per year to NRC would be appropriate to justify such training?
- d. How many of the part-time examiners, and their primary employers, would be willing to commit to the amount of annual service deemed necessary?

Exploration of these matters will begin immediately after approval by the Commission.

#### B. Implementation Steps

1. The staff should perform a feasibility study of the viability of the check pilot concept and report, with recommendations, to the Commission. The Executive Legal Director should provide NRR with an opinion concerning the conflict of interest question. The Director of Administration should provide NRR with advice on contractual and personnel matters, as required.

2. The Director of Administration should provide NRR with advice concerning the NRC's authority to provide training to a) private consultants and b) DOE operating contractor personnel, related to their performance of NRC activities.
  
3. The staff should further investigate the issues associated with training of part-time examiners and report to the Commission.

# **RECOMMENDATION 1**

## ***INCREASE MINIMUM EXPERIENCE REQUIREMENTS FOR SENIOR OPERATOR APPLICANTS***

**4 YEARS OF OPERATING EXPERIENCE  
2 YEARS NUCLEAR — 6 MONTHS ON SITE**

- **NUCLEAR PLANT STAFF ENGINEER OR**
- **CONTROL ROOM OPERATOR**
- **2 YEARS MAY BE ACADEMIC**

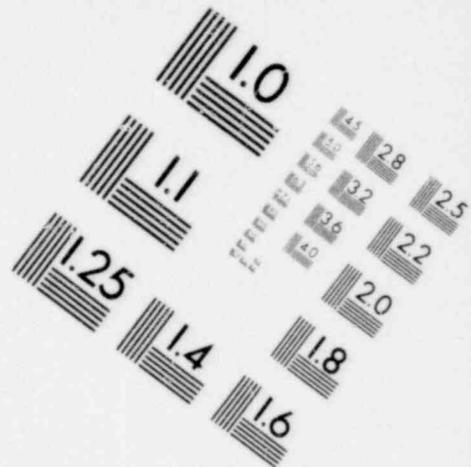
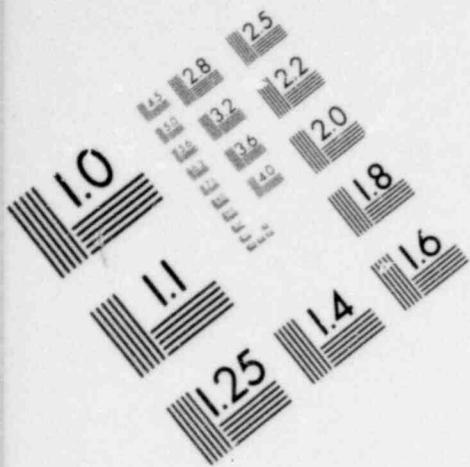
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## **RECOMMENDATION 2**

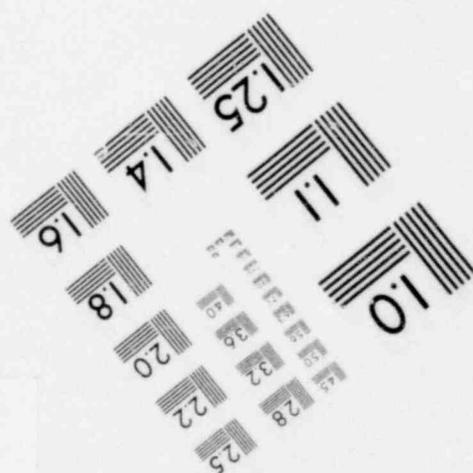
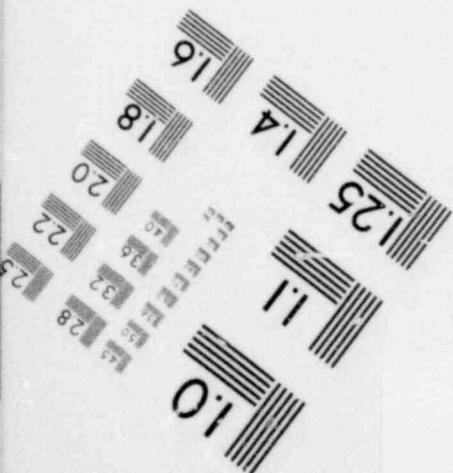
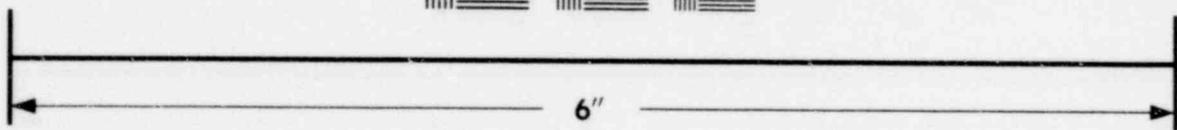
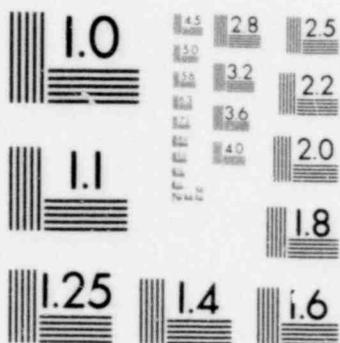
***SENIOR OPERATOR APPLICANTS  
MUST HOLD AN OPERATOR  
LICENSE FOR SIX MONTHS***

**RECOMMENDATION 3**

***MORE SPECIFIC TRAINING  
REQUIREMENTS FOR HOT  
LICENSE APPLICANTS***



**IMAGE EVALUATION  
TEST TARGET (MT-3)**



**RECOMMENDATIONS 4, 7 AND 11**

**REQUIRE SIMULATORS TO BE USED**

**IN HOT TRAINING PROGRAMS**

**IN REQUALIFICATION PROGRAMS**

**FOR ADMINISTERING NRC  
EXAMINATIONS**

1095-001

**RECOMMENDATIONS 5 AND 9**

**AUDIT OF TRAINING PROGRAMS,  
INCLUDING ADMINISTRATION  
OF CERTIFICATION EXAMINATIONS**

**ADMINISTER REQUALIFICATION  
EXAMINATIONS**

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## **RECOMMENDATION 6**

**REQUIRE INSTRUCTORS TO  
HOLD SENIOR OPERATOR  
LICENSES**

1055 004

## **RECOMMENDATIONS 8 AND 15**

**ESTABLISH EXPLICIT EXERCISES  
TO BE PERFORMED AT THE  
SIMULATORS**

**REVIEW AND REVISE ANSI/ANS 3.5  
AND DEVELOP REGULATORY GUIDE**

**RECOMMENDATIONS 10, 12,  
13 AND 14**

**INCREASE SCOPE OF EXAMINATION  
THERMODYNAMICS—HYDRAULICS**

**ORAL EXAMINATIONS FOR ALL  
SENIOR OPERATOR APPLICANTS**

**INCREASE PASSING GRADE  
80% OVERALL  
70% EACH CATEGORY**

**NOTIFICATION OF RESULTS**

1055-005

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## **RECOMMENDATION 16**

- A. DEVELOP TRAINING PROGRAMS FOR NRC EXAMINERS**
  
  - B. USE INDUSTRY PERSONNEL AS PART TIME EXAMINERS**
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