POLICY ISSUE
NEGATIVE CONSENT

March 14, 2002 SECY-02-0044

FOR: The Commissioners

FROM: William D. Travers
Executive Director for Operations

SUBJECT: ANNUAL STATUS REPORT FOR FY 2001 ON THE ADMINISTRATION OF THE NRC'S REQUALIFICATION PROGRAM AND THE RESULTS OF INITIAL OPERATOR LICENSING EXAMINATIONS (WITS 198800098)

PURPOSE:

To inform the Commission of the status of the NRC's licensed operator requalification program and the results of the agency's initial licensing examinations for reactor operator (RO) and senior reactor operator (SRO) applicants for fiscal year (FY) 2001, and to obtain (by negative consent) Commission approval to discontinue the requirement to submit an annual report on these subjects, given the stability of the licensed operator requalification program and the initial licensed operator program.

BACKGROUND:

On June 9, 1988, the Commission requested that the staff provide "... quarterly status reports on the new NRC requalification program until such time as it is running smoothly." On August 28,1989, the staff issued the first of these periodic reports (SECY-89-264). On March 5, 1991, in a staff requirements memorandum responding to SECY-91-034 (dated February 8, 1991), the Commission relaxed its requirement, requesting that the staff provide "... semi-annual reports until the staff is satisfied with the stability of the program." In another staff requirements memorandum dated January 8, 1992, responding to SECY-91-386 (dated December 2, 1991), the Commission again relaxed its requirement, directing the staff to henceforth submit an annual report, which also communicated the results of the NRC's initial RO and SRO licensing examinations and licensed operator requalification examinations. The most recent of these reports was SECY-01-0038 (dated March 9, 2001). These reports were instituted at a time when weaknesses had been identified in licensed operator requalification training at several facilities and the NRC’s requalification examination program had substantially

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changed. Those weaknesses were the subject of Information Notice 90-54 dated August 28, 1990, and included such issues as weaknesses in crew communications and command and control. Since that time, facility licensees' operator requalification programs have improved, and NRC inspections have identified few problems. Over the past 8 years, the NRC's operator requalification program requirements have stabilized.

DISCUSSION:

NRC Requalification Program and Inspection Summary for Fiscal Year 2001

During FY 2001, the staff continued to monitor and inspect facility licensees' licensed operator requalification training and examination programs. The objectives of each inspection were to (1) confirm that the requalification programs contributed to safe power plant operation by evaluating how well individual operators and crews mastered training program objectives; (2) assess licensee effectiveness in evaluating and revising requalification programs for licensed operators on the basis of operational performance (including requalification examinations); (3) determine licensee effectiveness in ensuring that licensed individuals satisfy the conditions of their licenses as specified in 10 CFR 55.53, "Conditions of Licenses"; and (4) provide regional management with the information it needs to assess the performance of licensees' operator requalification programs and to determine the need for additional inspections or NRC-conducted examinations. The staff evaluated the programs using the process described in NRC Inspection Procedure (IP) 71111.11, "Licensed Operator Requalification Program." In December 2000, the staff enhanced the requalification inspection program by implementing the operator requalification significance determination process (OR SDP) under the reactor oversight process (ROP), which uses a logic flowchart and matrix to determine the risk-importance of any issues identified during a requalification inspection.

The regional staff conducts a requalification program inspection at each facility at least every 24 months, consistent with each licensee's requalification examination cycle. In addition, the resident inspector staff reviews licensed operator requalification testing and/or training activities at least once each quarter. The staff may also conduct "for cause" requalification examinations, as needed, when it loses confidence in a licensee's ability to conduct its own examinations or when it believes that the inspection process will not produce the necessary insights into the quality of the licensee's program. During FY 2001, the staff did not conduct any "for cause" requalification examinations.

The staff conducted biennial licensed operator requalification inspections at 36 power reactor facilities during FY 2001 and identified no findings of more than very low significance, i.e. greater than green. Therefore, the staff believes that the power reactor facilities inspected are sustaining the performance level of their licensed operator requalification training programs. The following table depicts the licensees' improved performance in conducting their requalification programs, as evidenced by no major program failures since FY 1994.

Under the ROP, two findings of a safety-significant nature were identified outside the focus period, i.e., FY 2001, of this paper and are currently under staff review. In October 2001, Indian Point Unit 2 experienced a high crew failure rate during facility-administered, annual requalification operating examinations. Four of seven crews failed the scenario portion of their

annual exam. This finding was assessed using the OR SDP and has preliminarily been determined to be a yellow finding. Corrective actions are underway, and affected operators were not returned to shift duties until they satisfactorily completed training and subsequent

NRC Requalification Program Evaluation Results for Fiscal Years 1994 through 2001

Element	1994	1995	1996	1997	1998	1999	2000	2001
Number of Requalification Programs Evaluated	43	58	41	41	32	40	41	36
Number of Satisfactory*/Unsatisfactory Requalification Programs	43/0	58/0	41/0	41/0	32/0	40/0	41/0	36/0
Percent Satisfactory	100	100	100	100	100	100	100	100

*A program rating of satisfactory indicates that the licensee's requalification program complied with the requirements of 10 CFR 55.53 and 55.59 for the areas inspected, and the staff did not elect to conduct NRC-administered "for cause" requalification examinations as a result of any findings.

evaluations. In the fall of calender year 2001, a review of a July 2000 biennial written requalification examination at Cooper Nuclear Station determined that the integrity of that examination had potentially been compromised to the extent that the pass/fail determinations of a limited number of operators may have been affected. The potential compromise resulted from an improper examination validation process and has been preliminarily determined to be a white finding. Requalification inspections at other facilities have not indicated that these issues represent problems that might be generic to the industry.

Summary of Initial Examination Results

The staff is continuing to administer initial licensing examinations to applicants for RO and SRO
licenses at power and non-power reactor facilities. During FY 2001, the staff administered approximately 58 site-specific initial licensing examinations to 439 applicants (195 ROs and 244 SROs) at power reactor facilities. This number includes 46 site-specific licensing examinations that were prepared, in whole or in part, by facility licensees in accordance with the NRC's examination guidance in NUREG-1021, "Operator Licensing Examination Standards for Power Reactors." The NRC staff reviews and approves all facility-prepared examinations, and NRC certified examiners administer all of the operating tests. In addition to the facility-prepared examinations that were administered to 68 percent of the applicants (compared to 71percent in FY 2000), the staff administered NRC-prepared examinations to 32 percent of the applicants (compared to 29 percent in FY 2000).

The following table summarizes the power reactor initial operator licensing examinations results from FY 1998 through FY 2001; results for NRC-prepared and facility-prepared examinations are listed separately.

These results indicate that initial operator training programs at power reactors continue to

produce a large number of applicants who pass the operator licensing examinations, regardless of whether the examinations were prepared by the NRC or by the facility licensees. Although

Power Reactor Initial Examination Results									
Examination		Percentage of Applicants Who Passed During the Fiscal Year							
		1998		1999		2000		2001	
		Exam Prepared By		Exam Prepared By		Exam Prepared By		Exam Prepared By	
		NRC	Facility	NRC	Facility	NRC	Facility	NRC	Facility
RO	Written	N/A	89	100	89	98	95	96	86
	Operating	N/A	99	100	93	100	98	99	100
SRO	Written	100	96	100	94	100	95	99	95
	Operating	94	96	100	98	96	99	100	97

the FY 2001 RO written examination pass rate on NRC-prepared examinations is higher than that on facility-prepared examinations, the average grades on those examinations differed by only 1.8 percent (84.7 percent versus 86.5 percent).

The quality of examinations prepared by facility licensees is generally adequate, but consistency in examination quality across licensees and examination developers is still a problem, in part because of the turnover of experienced examination developers. Several facility licensees elected not to prepare their own examinations and, thus, have little or no experience. The staff continues to seek ways to improve the initial licensing examination process, while reducing unnecessary burden and maintaining the integrity of the examinations. Example program improvements are discussed later in this paper.

The following table indicates the total number of applicants who requested NRC review of their examination results, including the outcomes from FY 1995 through FY 2001. During FY 2001, the staff noted a significant decrease in the percentage of proposed applicant denials being overturned by the review process. (The one overturned denial was attributed to new information provided by the applicant. The new information was not identified by the NRC or facility licensee during the pre-examination review and validation process or the post-examination review and comment process.) The staff believes that regional and national public workshops over the past 3 years with examiners and the industry regarding the NUREG-1021 examination development process, coupled with routinely occurring public meetings between the staff and the industry's focus group on initial operator licensing issues, have brought attention to concerns regarding the examination review and validation process and thereby increased the effectiveness of the facility licensees' quality review checks for examination test items. The staff also believes that these efforts, together with NRC examiner reviews of facility-prepared examinations, have contributed to the decrease in the number of overturned denials. In FY 2002 to date, the staff has received no applicant requests for NRC review of proposed license denials.

Power Reactor Initial Examination Denial Results							
Description	1995	1996	1997	1998	1999	2000	2001
Number of Proposed Applicant Denials	30	47	44	41	60	19	35
Number of Applicant Requested Reviews	4	12	13	20	16	9	4
Number of Final Denials	30	44	35	28	47	16	34
Number of Licenses Issued Upon Review	0	3	9	13	13	3	1

The following table summarizes the results of the non-power reactor initial operator licensing examinations from FY 1997 through FY 2001. During FY 2001, the staff administered approximately 26 site-specific initial licensing examinations to RO and SRO applicants at non-power reactor facilities (compared to 20 in FY 2000) in accordance with the current examination guidance in NUREG-1478, "Non-Power Reactor Operator Licensing Examiner Standards."

Non-Power Reactor Initial Examination Results						
Examination		Percentage of Applicants Who Passed During the Fiscal Year				
		1997	1998	1999	2000	2001
RO	Written	70	87	63	78	94
	Operating	93	100	96	89	98
SRO	Written	100	94	100	82	89
	Operating	95	100	100	100	100

The non-power initial operator licensing program has not been modified and remains consistent and stable. The results continue to indicate that training programs for non-power reactor facility operators generally produce applicants who pass the NRC's licensing examinations.

Operator Licensing Program Initiatives

During FYs 2001 and 2002 to date, the NRC continued its efforts to improve and support the

oversight of the operator licensing program and respond to stakeholder concerns. The staff's initiatives include the following examples:

(1) Augmented NRC Inspection Manual Chapter 0609 by issuing the OR SDP. This SDP is used to determine the risk-importance of issues that are identified during licensed operator requalification program inspections, such as exam quality, security and grading, and the performance of licensed operators on the biennial written examinations and annual operating tests.

(2) Completed rulemaking (66 FR 52657) to amend 10 CFR Part 55, effective November 16, 2001, and issued Revision 3 to Regulatory Guide 1.149, "Nuclear Power Plant Simulation Facilities for Use in Operator Training and License Examinations." This rule change takes advantage of improvements in simulator technology and permits operator license applicants to fulfill a portion of the required experience prerequisites by manipulating the controls of a plant-referenced simulator as an alternative to manipulation of the controls of the actual nuclear power plant. It also eliminates the requirements for facility licensee certification of their simulation facilities and routine submittal of reports to the NRC. Continued assurance of simulator fidelity is provided because a facility licensee must: (1) conduct performance testing and retain results for four years; (2) correct modeling and hardware discrepancies and discrepancies identified from scenario validation and from performance testing; (3) make the results of any uncorrected performance test failures available onsite; and (4) maintain the provisions for license application, examination, and test integrity consistent with Section 55.49. Lastly, the final rule facilitates voluntary licensee transition to the improved simulator testing described in ANSI/ANS-3.5-1998, "Nuclear Power Plant Simulators for Use in Operator Training and Examination."

(3) Issued a supplement to Revision 8 of NUREG-1021, "Operator Licensing Examination Standards for Power Reactors," dated April 2001. That supplement included three significant changes. First, it implemented a systematic and random selection of topics and questions for the written examination thereby making it possible to relax the limits on question usage. Second, it updated the guidelines regarding training and qualification of operator license applicants to conform with Revision 3 of Regulatory Guide 1.8, "Qualification and Training of Personnel for Nuclear Power Plants." Finally, it clarified the documentation of NRC staff concerns related to draft examination quality.

(4) Developed a Generic Fundamentals Examination (GFE) website, which enables users to access the entire GFE test bank consisting of validated items and past examinations. Users of the website are also able to view and download publicly available GFE test files for training and testing purposes.

CONCLUSION:

The NRC's licensed operator requalification inspection program continues to effectively ensure that those individuals who are licensed to operate or supervise the reactor controls are maintaining the required level of competence to safely perform their licensed duties. The NRC's initial operator licensing examination program continues to provide reasonable assurance that only those applicants who have mastered the knowledge, skills, and abilities required to safely operate and supervise the reactor controls are being licensed to do so.

RECOMMENDATION:

The staff believes, based upon improvements made in operator requalification training across the industry, stabilization of operator requalification program requirements, and the results of initial examinations, that the Commission's objective in instituting this periodic report has been met, i.e., the staff is satisfied with the stability of these programs. Moreover, much of the information that the staff has historically provided in this annual report, including initial examination performance trends and requalification inspection findings, is available on the NRC's operator licensing and reactor oversight process websites. Use of these websites in lieu of development of this annual report will increase NRC staff effectiveness and efficiency. The resource savings of no longer providing this annual report is one-tenth FTE annually.

The staff will continue to inspect and monitor the quality of facility licensed operator requalification training and examination programs under the ROP. Additionally, the staff will continue to administer initial licensing examinations to RO and SRO applicants, review and approve facility-prepared examinations, monitor the initial operator licensing program to assure continued stability, and will continue its efforts to improve the process and respond to stakeholder concerns. Therefore, absent further direction from the Commission, the staff will no longer provide this annual status report on the administration of NRC's requalification program and the results of initial operator licensing examinations.

Staff requests action within 10 days. Action will not be taken until the SRM is received. We consider this action to be within the delegated authority of the EDO.

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*See previous concurrence

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