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SECY-93-027

For: The Commissioners

From: James M. Taylor
Executive Director for Operations

Subject: ANNUAL STATUS REPORT ON THE ADMINISTRATION OF THE NRC'S
REQUALIFICATION PROGRAM AND INITIAL OPERATOR LICENSING
EXAMINATIONS (WITS 8800098)

Purpose: To inform the Commission of the status of the NRC's licensed
operator requalification program and the results of the
NRC's initial licensing examinations for reactor operator
(RO) and senior reactor operator (SRO) applicants.

Background: The staff issued its first periodic report on the status of
the NRC's licensed operator requalification program on
August 28, 1989, and continued to issue quarterly or semi-
annual status reports through the end of calendar year 1991.
In a staff requirements memorandum of January 8, 1992, the
Commission directed the staff to henceforth submit a single
annual report and include the results of the NRC's initial
RO and SRO licensing and requalification examinations. On
February 25, 1992, the staff issued the first combined
report, SECY-92-066, "Semi-Annual Status Report on the NRC's
Requalification Program and Initial Licensed Operator
Examination."

On March 19, 1992, the staff informed the Commission in
SECY-92-100, "Status and Direction of the Licensed Operator
Requalification Program," of improvements that it was
considering for the NRC's licensed operator requalification

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program. Those improvements included using a crew-based method for evaluating operator performance during the dynamic simulator portion of the operating test. The staff evaluated the proposed method during a pilot examination program at six facilities and determined that it was a significant improvement over the historical individual-based evaluation method.

In a staff requirements memorandum of June 23, 1992, the Commission approved the use of the pilot examination method at each facility and noted the staff's intent to implement the pilot method at the facility's option until the Examiner Standards (NUREG-1021) are revised and formally issued. The Commission requested the staff to continue to provide the Commission with information on the pass/fail rates for operator requalification examinations each year and to include a comparison of the pass rate for requalification examinations using the pilot method with the pass rate based on historical individual requalification criteria.

In July 1992, the staff issued the revised Examiner Standards for industry and public comment and plans to publish Revision 7 of NUREG-1021, "Operator Licensing Examiner Standards," during the first quarter of calendar year 1993 with a scheduled implementation date of 180 days from the date of publication.

Discussion:

NRC Requalification Examination Summary for Fiscal Year 1992

During fiscal year 1992, the staff evaluated 43 requalification programs and examined 751 operators. The results are summarized in the following table. Enclosure 1 gives detailed results of the examinations at each facility.

Requalification Results Summary for Fiscal Year 1992			
Element	Number Evaluated	Pass/Fail	Percent Pass
Programs	43	42/1	98
Crews	186	177/9	95
SROs	467	432/35	93
ROs	284	269/15	95
Total (SRO + RO)	751	701/50	93

The overall requalification program pass rate for fiscal years 1989 through 1992, inclusive, was 92 percent, and the overall individual operator pass rate during this same period was 89 percent.

At the beginning of this reporting period (October 1, 1991), four facilities (Vermont Yankee, Washington Nuclear 2, FitzPatrick, and Millstone 1) had unsatisfactory requalification programs based on previous evaluations. The staff reevaluated the requalification programs at Vermont Yankee, FitzPatrick, and Washington Nuclear 2 in February, May, and November 1992, respectively, and determined that they were performing satisfactorily.

In December 1991, the staff evaluated the corrective actions that had been done at the Millstone 1 facility and reclassified its requalification program as provisionally satisfactory. However, when the staff conducted a complete requalification program evaluation in September 1992, it discovered that the licensee was again performing at an unsatisfactory level. The staff conducted operational evaluations at the facility to ensure that the facility licensee could continue to operate the plant safely. The staff concluded that the plant need not be shut down because (1) the NRC examinations administered since 1991 indicated that the facility's program was improving, (2) three of four operating shift crews tested during September 1992 performed satisfactorily, and (3) the program weaknesses involved a level of individual operator proficiency for which the operators are receiving additional training. The staff will continue to conduct augmented inspections at Millstone 1 to monitor the effectiveness of the licensee's corrective action program. The staff has scheduled another requalification program evaluation for the fall of 1993.

Summary of NRC Requalification Examinations Using the Crew-Based Grading Method

At the facility's option, most facilities have chosen to use the crew-based grading method, which the Commission approved on June 23, 1992, and issued for comment in July 1992. Since September 1992, the staff has evaluated 12 programs and examined 188 operators using the crew-based grading method. During the first quarter of fiscal year 1993, three other facilities chose the historical, individual-based

grading method. The staff will not require requalification examinations to be conducted in accordance with Revision 7 of NUREG-1021 until 180 days after its publication. The results of the crew-based examinations are summarized in the following table. Enclosure 2 gives the detailed results of those evaluations.

Crew-Based Method Results Summary			
Element	Number Evaluated	Pass/Fail	Percent Pass
Programs	12	12/0	100
Crews	44	43/1	98
SROs	107	102/5	95
ROs	81	76/5	94
Total (SRO + RO)	188	178/10	95

The staff believes that the slightly higher pass rate observed for the crew-based method as compared to the historical evaluation criteria can be attributed to better teamwork among the operators during the dynamic simulator scenarios. Operators evaluated using the crew-based method are more likely to support each other than those who were evaluated using the individual simulator critical task (ISCT) method specified in the current version (Revision 6) of the Operator Licensing Examiner Standards (NUREG-1021).

Summary of Initial Examination Results

In SECY-92-066, the staff summarized the results of the NRC's initial operator licensing examinations for fiscal years 1987 through 1991 and the first quarter of fiscal year 1992. The following table reflects the examination results for all of fiscal year 1992:

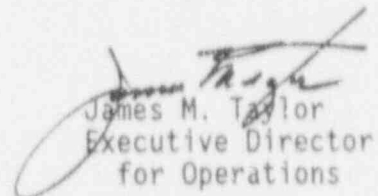
Initial Examination Results Summary							
Examination		Percent Passed During Fiscal Year					
		1987	1988	1989	1990	1991	1992
RO	Written	88.8	90.0	89.9	92.1	92.6	92.2
	Operating	95.7	94.7	95.3	95.1	95.6	98.2
SRO	Written	91.0	91.1	93.5	94.2	96.8	97.9
	Operating	91.0	95.2	92.3	92.6	94.9	95.6

The staff finds that facility initial operator training programs produce applicants who can safely operate their facilities. These operators are then authorized by license to perform the function of a reactor operator or senior reactor operator. Revision 7 of the Examiner Standards (NUREG-1021) incorporates minor changes to the initial examination process and are not expected to alter examination results. The staff will not require initial examinations to be conducted in accordance with Revision 7 of NUREG-1021 until 180 days after its publication.

Conclusion:

The staff concludes that the NRC's requalification examination program continues to be an effective method for assessing operator competence in performing licensed duties and for evaluating the adequacy of facility requalification programs.

The results of the examinations conducted in accordance with the crew-based dynamic simulator grading method have reinforced the conclusions that the staff reached during the pilot testing program and reported to the Commission in SECY-92-100.



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FISCAL YEAR 1992 STATUS REPORT ON THE NRC REQUALIFICATION PROGRAM
OCTOBER 1991 THROUGH SEPTEMBER 1992

Facility Evaluated	Candidates Examined	# P/F	Failed WRT/OP	RO P/F	SRO P/F	# Crews	Crew P/F	Program SAT/UNSAT	DATE
-----	-----	---	-----	---	---	-----	-----	-----	-----
Calvert Cliffs	18	17/1	1/0	6/1	11/0	4	4/0	SAT	10-91
Fort Calhoun	12	12/0	0/0	4/0	8/0	2	2/0	SAT	10-91
Ginna	7	5/2	2/1	2/0	3/2	2	2/0	(1)	10-91
Seabrook	8	8/0	0/0	1/0	7/0	2	2/0	(1)	10-91
Prairie Island	16	16/0	0/0	8/0	8/0	4	4/0	SAT	11-91
Nine Mile 1	13	13/0	0/0	7/0	6/0	3	3/0	SAT	11-91
Cooper	12	10/2	0/2	2/0	8/2	3	2/1	SAT	11-91
Millstone 3	8	8/0	0/0	1/0	7/0	2	2/0	(1)	12-91
Nine Mile 2	9	8/1	0/1	4/1	4/0	2	2/0	(1)	12-91
Sequoyah	19	16/3	2/2	9/0	7/3	5	5/0	SAT	12-91
Fermi	12	10/2	0/2	6/0	4/2	3	2/1	SAT	12-91
Davis-Besse	20	20/0	0/0	7/0	13/0	5	5/0	SAT	12-91
River Bend	12	9/3	1/2	3/1	6/2	2	2/0	SAT	12-91
Trojan	16	16/0	0/0	5/0	11/0	4	4/0	SAT(5)	12-91
Susquehanna	12	9/3	0/3	4/2	5/1	3	2/1	SAT	1-92
DC Cook	20	20/0	0/0	8/0	12/0	6	6/0	SAT	1-92
Zion	20	19/1	1/0	8/0	11/1	5	4/1	SAT	1-92
SONGS 2/3	8	8/0	0/0	6/0	2/0	3	3/0	(1)	1-92
Callaway	16	16/0	0/0	6/0	10/0	4	4/0	SAT	2-92
Vermont Yankee	12	12/0	0/0	4/0	8/0	3	3/0	SAT	2-92
Limerick	12	12/0	0/0	6/0	6/0	4	4/0	SAT	2-92
Kewaunee	3	3/0	0/0	1/0	2/0	1	1/0	SAT(2)	2-92

Facility Evaluated	Candidates Examined	# P/F	Failed WRT/OP	RO P/F	SRO P/F	# Crews	Crew P/F	Program SAT/UNSAT	DATE
Turkey Point	20	19/1	0/1	2/0	17/1	5	5/0	SAT	3-92
Peach Bottom	7	6/1	0/1	2/0	4/1	1	1/0	(1)	3-92
Farley	16	16/0	0/0	3/0	13/0	4	4/0	SAT	3-92
Monticello	12	12/0	0/0	3/0	9/0	4	4/0	SAT	3-92
Palisades	8	8/0	0/0	3/0	5/0	2	2/0	SAT(2)	3-92
South Texas	28	28/0	0/0	16/0	12/0	6	6/0	SAT	3-92
Millstone 2	9	9/0	0/0	3/0	6/0	2	2/0	(1)	4-92
Brunswick	16	16/0	0/0	6/0	10/0	6	5/1	SAT	4-92
Braidwood	23	23/0	0/0	10/0	13/0	7	7/0	SAT	4-92
Big Rock Pt	5	2/3	1/3	0/2	2/1	2	1/1	(1)	4-92
Pilgrim	15	13/2	1/1	8/1	5/1	3	3/0	SAT	5-92
FitzPatrick	13	13/0	0/0	3/0	10/0	4	4/0	SAT	5-92
Haddam Neck	4	3/1	0/1	2/0	1/1	1	1/0	(1)	5-92
LaSalle	13	12/1	0/1	3/1	9/0	3	3/0	SAT	5-92
Catawba	22	17/5	1/4	4/2	13/3	6	6/0	SAT	5-92
McGuire	20	15/5	2/3	7/0	8/5	4	3/1	SAT	6-92
Vogtle	30	29/1	0/1	12/0	17/1	6	6/0	SAT	6-92
ANO 2	16	15/1	0/1	6/0	9/1	2	2/0	SAT	6-92
Duane Arnold	12	12/0	0/0	3/0	9/0	4	4/0	SAT	6-92
Byron	16	16/0	0/0	6/0	10/0	4	4/0	SAT	6-92
Clinton	11	11/0	0/0	2/0	9/0	3	3/0	SAT(3)	6-92
Oconee	24	22/2	0/2	9/1	13/1	6	5/1	SAT	7-92
Susquehanna	12	11/1	0/1	3/0	8/1	3	3/0	SAT	8-92
Indian Point 2	12	11/1	0/1	3/0	8/1	3	3/0	SAT	8-92
Beaver Valley 2	12	12/0	0/0	5/0	7/0	3	3/0	SAT	8-92

Facility Evaluated	Candidates Examined	# P/F	Failed WRT/OP	RO P/F	SRO P/F	# Crews	Crew P/F	Program SAT/UNSAT	DATE
North Anna	6	6/0	0/0	3/0	3/0	1	1/0	(1)	9-92
Dresden	20	19/1	0/1	7/0	12/1	4	4/0	SAT	9-92
Quad Cities	13	13/0	0/0	6/0	7/0	3	3/0	SAT	9-92
Prairie Island	12	12/0	0/0	6/0	6/0	3	3/0	SAT	9-92
Millstone 1	15	10/5	0/5	3/3	7/2	3	2/1	UNSAT	9-92
Hatch	24	23/1	0/1	12/0	11/1	6	6/0	SAT(4)	9-92

Notes:

1. Program evaluation deferred until sample size meets the guidance of Examiner Standard ES-601 (12 operators).
2. Program was considered satisfactory based on both the results of this examination and the results of the previous examination.
3. Program was considered Satisfactory with concurrence of NRR.
4. Examination administered using NUREG-1021, Revision 7 method.
5. Examination administered as part of the pilot testing program.

STATUS REPORT ON THE NRC REQUALIFICATION PROGRAM
USING THE CREW-BASED SIMULATOR GRADING PROCEDURE
(SEPTEMBER - DECEMBER 1992)

Facility Evaluated	Candidates Examined	# P/F	Failed WRI/UP	RO P/F	SRO P/F	# Crews	Crew P/F	Program SAT/UNSAT	DATE
-----	-----	---	-----	---	---	-----	---	-----	-----
Hatch	24	23/1	0/1	12/0	11/1	6	6/0	SAT(1)	9-92
Calvert Cliffs	16	16/0	0/0	6/0	10/0	4	4/0	SAT	10-92
Seabrook	16	16/0	0/0	4/0	12/0	4	4/0	SAT	10-92
Surry	12	12/0	0/0	6/0	6/0	3	3/0	SAT	10-92
St. Lucie	24	21/3	3/1	9/3	12/0	6	6/0	SAT	10-92
Nine Mile 2	15	14/1	0/1	9/0	5/1	3	3/0	SAT(2)	11-92
Crystal River	15	12/3	1/2	8/1	4/2	3	2/1	SAT(2)	11-92
Millstone 2	5	5/0	0/0	2/0	3/0	1	1/0	SAT(3)	12-92
Millstone 3	4	4/0	0/0	2/0	2/0	1	1/0	SAT(3)	12-92
Wolf Creek	13	12/1	1/0	3/0	9/1	3	3/0	SAT	12-92
Browns Ferry	20	20/0	0/0	8/0	12/0	4	4/0	SAT	12-92
Sequoyah	24	23/1	0/1	7/1	16/0	6	6/0	SAT	12-92

NOTE:

1. This examination is also included in the fiscal year 1992 status report (Enclosure 1).
2. One SRO operator failed the dynamic simulator examination.
3. Program was satisfactory based on both the results of this examination and the results of the previous examination.