

May 29, 2001

MEMORANDUM TO: William D. Travers  
Executive Director for Operations

FROM: Joseph Murphy, Chairman **/RA/**  
Committee To Review Generic Requirements

SUBJECT: MINUTES OF THE COMMITTEE TO REVIEW GENERIC  
REQUIREMENTS MEETING NUMBER 363

The Committee To Review Generic Requirements (CRGR) held the Committee's 363<sup>rd</sup> meeting on Monday, May 21, 2001, from 10:30 a.m. to 11:30 a.m. Attachment 1 contains the attendance list of this meeting. The purpose of the meeting was to discuss:

- Final rulemaking to amend 10 CFR Part 55, "Operators' Licenses," "Operator License Eligibility and Use of Simulation Facilities in Operator Licensing" including analysis of public comments (ADAMS Accession Nos. ML011240186 and ML011420349).
- Revision 3 of Regulatory Guide 1.149, "Nuclear Power Plant Simulation Facilities for Use in Operator Training and License Examinations" (ADAMS Accession No. ML011420481).
- "NRC Staff Responses to Public Comments Regarding Draft Regulatory Guide DG-1080" [1.149] (ADAMS Accession Nos. ML011240237).
- "Final Rule Regulatory Analysis" (ADAMS Accession No. ML011240217).

The members commended the staff on the clarity of the Federal Register Notice and the high quality of the Regulatory Analysis. The Committee found no backfits in these documents, after they were revised to resolve the Committee's comments.

Mr. Bruce Boger, Director, Division of Inspection Program Management (DIPM), Office of Nuclear Reactor Regulation (NRR), provided background on the rule change. He compared the experience with simulators in 1987 when simulator regulations in 10 CFR Part 55.45 were revised, with today. He recalled that nuclear power plants used to trip four or five times a year, which provided training opportunities for operator license candidates, while plants typically trip less than once a year now. Without those training opportunities, licensees cycled their plants in the mid-1990s to provide operator training, which was an unnecessary regulatory burden.

Ms. Clare Goodman, NRR/DIPM, Operator Licensing, Human Performance and Plant Support Branch, discussed the final 10 CFR 55 rule changes; her slide presentation may be found in Attachment 2 (ADAMS Accession No. ML011410431). The final rule allows operator licensing candidates to fulfill a portion of their required experience by manipulating a plant-reference

simulator instead of the plant; removes requirements for facility licensee certification of simulators; and eliminates routine, quadrennial reports to the NRC identifying uncorrected performance test failures. The NRC will have continued assurance of simulator fidelity because licensees will be required by 10 CFR Part 55.46 to conduct performance testing, to correct simulator discrepancies through their corrective action programs (which are monitored in the NRC's oversight process), and to make results of performance test failures available on site so inspectors can verify whether operator examinations should be conducted. The rule requires that when a plant reference simulator is used to perform control manipulations, it must replicate the nuclear and thermal hydraulic characteristics of the most recent core load of the reference plant. Five significant control manipulations must be completed without procedural or simulator performance exceptions. Any of these manipulations may be done on the simulator or the plant itself. This final rule does not affect on-the-job training requirements, which will still continue. None of the fifteen public commenters expressed concern about backfits or the Regulatory Analysis. Burden reduction will be a positive net value for the industry over time. Some licensees could incur initial costs to update their simulator core models, to eliminate simulator reporting to the NRC, and to update their commitment to the 1998 standard. NRR will continue discussing these changes with regional examiners and will change the inspection procedures as soon as these rule changes are approved. A backfit analysis was not prepared because the rule does not propose new requirements (as licensee commitment to ANSI/ANS-3.5-1998 is voluntary), but relaxes or reduces existing requirements.

Ms. Goodman noted that Revision 3 of Regulatory Guide 1.149 will be published in conjunction with the 10 CFR Part 55 changes. This guide endorses ANSI/ANS-3.5-1998 without exception and with only minor clarifications. Prior editions of ANSI/ANS-3.5 remain acceptable methods of meeting NRC regulations. While licensees may change their commitment to a revision of the standard via their commitment management program, the NRC expects a simulator be to maintained in accordance with a single revision of the standard. Licensees may want to endorse the 1998 standard because it may fit better with their accreditation and training programs, and their needs for qualification and other exams. Questions were asked during public comment, but no one expressed backfit concerns. As a result, NRR will meet with licensees after the rule changes are issued to discuss these questions and the NRC responses. There are no backfit considerations because licensees may retain their current commitments.

Minor changes in the Federal Register Notice amending 10 CFR Part 55, Regulatory Guide 1.149, and the "Staff Responses to Public Comment Regarding Draft Regulatory Guide DG-1080 [1.149] Nuclear Power Plant Simulation Facilities for Use in Operator Training and License Examinations" requested by CRGR Members, were subsequently reviewed by the CRGR staff, per the CRGR Chairman's request, and found to have resolved the Committee's concerns. The revised ADAMS versions of these documents are referenced herein.

The CRGR believes the proposed final rule change and regulatory guide do not impose a backfit and should be approved.

Questions about these meeting minutes should be referred to Bob Spence at [RAS2@nrc.gov](mailto:RAS2@nrc.gov).

Attachments: As stated

cc w/atts.: See attached list

Memorandum dated: 05/29/01

SUBJECT: MINUTES OF THE COMMITTEE TO REVIEW GENERIC REQUIREMENTS  
MEETING NUMBER 363

cc w/atts.:

Chairman Meserve

Commissioner Dicus

Commissioner Diaz

Commissioner McGaffigan

Commissioner Merrifield

SECY

WKane, DEDR

CPaperiello, DEDMRS

RBorchardt, OE

HBell, OIG

KCyr, OGC

JLarkins, ACRS

HMiller, R-I

LReyes, R-II

JDyer, R-III

EMerschhoff, R-IV

MVirgilio, NMSS

AThadani, RES

SCollins, NRR

CRGR members

MMayfield, RES

STurk, OGC

BBorchardt, NRR

BBoger, NRR

GTracy, NRR

DTrimble, NRR

CGoodman, NRR

LVick, NRR

Memorandum dated: 05/29/01

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KCyr, OGC  
JLarkins, ACRS  
HMiller, R-I  
LReyes, R-II  
JDyer, R-III  
EMerschhoff, R-IV  
MVirgilio, NMSS  
AThadani, RES  
SCollins, NRR  
CRGR members  
MMayfield, RES  
STurk, OGC  
BBorchardt, NRR  
BBoger, NRR  
GTracy, NRR  
DTrimble, NRR  
CGoodman, NRR  
LVick, NRR

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NAME	RSpence:mmk by e-mail		JMurphy	
DATE	05/29/01*		05/29/01*	

**CRGR MEETING No. 363**  
**LIST OF ATTENDEES**  
**(May 21, 2001)**

**CRGR Members**

J. Murphy, Chairman  
M. Mayfield, RES (alternate)  
B. Mallett, R-II  
S. Turk, OGC (alternate)  
B. Sheron, NRR

**NRC Staff**

B. Borchardt, NRR  
B. Boger, NRR  
G. Tracy, NRR  
D. Trimble, NRR  
C. Goodman, NRR  
L. Vick, NRR

**CRGR Staff**

R. Spence, RES

# Final Rulemaking On the Use of Simulation Facilities (10 CFR Part 55) Regulatory Guide 1.149

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CRGR Briefing

May 21, 2001

Clare Goodman (IOLB, 415-1047)  
Lawrence Vick (IOLB, 415-3181)

# 10 CFR Part 55

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## Background

- Rulemaking plan SECY-99-225 (September, 1999)
- Regulatory analysis prepared
- Proposed rule SECY-00-0083 (April, 2000)
- SRM (May, 2000)
- Proposed rule *Federal Register* notice (July, 2000)

# 10 CFR Part 55

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## Operator License Eligibility and the Use of Simulation Facilities in Operator Licensing

- (1) Applicants for operator licenses may fulfill a portion of the required experience prerequisites by manipulating a plant-referenced simulator as an alternative to the actual plant
- (2) Removes requirements for facility licensee certification of simulation facilities
- (3) Eliminates the necessity for routine (quadrennial) submittal of reports to the NRC for review that identify any uncorrected performance test failures

## 10 CFR Part 55

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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

(4) maintain the provisions for license application, examination, and test integrity consistent with 10 CFR 55.49

## 10 CFR Part 55

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When a plant-referenced simulator is used to provide for performance of required control manipulations, the final rule requires that:

- Simulator models must replicate the nuclear and thermal-hydraulic characteristics of the most recent core load in the nuclear power reference plant for which a license is being sought
- Significant control manipulations must be completed without procedural exceptions, simulator performance exceptions, or deviation from the approved training scenario sequence

## 10 CFR Part 55

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### Public Comments

No backfits/ Reg. Analysis concerns expressed by 15 commenters

- Nuclear Energy Institute (NEI)
- Standards Committee Working Group (WG) ANS-3.5
- Professional Reactor Operators Society (PROS)
- 9 Facility Licensees (Utilities)
- 3 Individuals

10 CFR Part 55

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## Backfit Considerations

- Backfit analysis was not prepared because rule does not impose new requirements or backfits as defined in 10 CFR 50.109(a)(1)
- Rule modifies, relaxes and reduces existing requirements
- Industry is expected to recover initial costs ( $\approx 18\text{M}$ ) and the rule would be an overall burden reduction (positive net value of  $\approx 88\text{M}$ )

## Regulatory Guide 1.149

### "Nuclear Power Plant Simulation Facilities For Use in Operator Training and License Examinations"

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- Revision 3 to be published with 10 CFR 55 changes
- Endorses ANSI/ANS-3.5-1998 without exceptions and with minor clarifications
- Prior editions of ANSI/ANS-3.5 remain acceptable methods of meeting the regulations
- Draft regulatory guide (RG 1.149) was published in *Federal Register* (August, 1999)

# Regulatory Guide 1.149

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## History and Background of ANSI/ANS Standard

- In 1981 the industry developed ANSI/ANS-3.5-1981 which has been revised 3 times: 1985, 1993, and 1998
- ANSI/ANS-3.5-1985 has prescriptive, stand-alone testing of system models and simulator training capabilities as part of initial simulator acceptance testing
- ANSI/ANS-3.5-1998 has performance testing that includes operability and scenario-based testing
- ANSI/ANS-3.5-1998 reduces inconsistencies between needs of licensee programs and simulator performance testing

# Regulatory Guide 1.149

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## Public Comments

No backfit concerns expressed by 7 commenters

- 6 utilities or facility licensees
- 1 facility training organization

# Regulatory Guide 1.149

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## Backfit Considerations

- Prior editions of ANSI/ANS-3.5 remain acceptable methods of meeting the regulations
- Adoption of ANSI/ANS-3.5-1998 is voluntary, therefore no backfit concerns are warranted