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MEMORANDUM FOR: Jack W. Roe, Director
Division of Licensee Performance
and Quality Evaluation, NRR

FROM: Robert M. Gallo, Chief
Operator Licensing Branch
Division of Licensee Performance
and Quality Evaluation, NRR

SUBJECT: NUMARC/NRC MEETING MINUTES ON SIMULATOR EXAMINATION DEVELOPMENT GUIDELINES - AUGUST 29 AND SEPTEMBER 5, 1991

On August 29 and September 5, 1991, the staff of the Operator Licensing Branch (LOLB), Division of Licensee Performance and Quality Evaluation (DLPQ) met with representatives from the Nuclear Management and Resources Council (NUMARC) to discuss the status of the industry initiative on the development of guidelines for dynamic simulator examination construction and administration. Enclosed is a summary of the topics discussed and a list of meeting attendees.

Robert M. Gallo, Chief
Operator Licensing Branch
Division of Licensee Performance
and Quality Evaluation, NRR

Enclosures:
As stated

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555

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ENCLOSURE 1

MEETING SUMMARY

On August 29 and September 5, 1991, members of the NRC staff met with NUMARC representatives at the NRC office in Rockville, Maryland and at the NUMARC office in Washington, D.C., respectively. The purpose of the meetings was to discuss the progress of the NUMARC industry initiative on the development of guidelines for dynamic simulator examination construction and administration. The guidelines are intended to provide a framework for developing simulator examination scenarios, acceptable to the nuclear industry and the NRC, which are fair and accurate tests of operator competence. The guidelines will also address deficiencies identified by NUMARC in both the content and administration of dynamic simulator examination scenarios.

Mr. Robert Whitesel and Mr. Michael Kirk, speaking for NUMARC, outlined the three issue areas addressed by their guidelines and explained the main attributes of each issue. The following is a description of each issue and their associated principles.

1. Scenario Attributes - The characteristics that enable a scenario to be a fair test of both individual operator and team skills and that can discriminate between a capable operator and one who requires additional training and evaluation.

   - o Scenarios must test only the knowledge and skills that have been imparted by the training program. Scenarios that require an operator to demonstrate proficiency in areas not covered by training are inappropriate.

   - o Realistic simulation and execution are critical to a successful scenario. Examination scenarios must be credible and adhere to the laws of nature. Time compression and software model manipulation would be prohibited.

   - o Scenarios must possess objectives that are clearly defined, measurable, and achievable. Simulator scenarios should stay within the confines of the plant's operating and emergency procedures.

   - o Simulator scenarios should reinforce the team concept by involving all members of the crew.

2. Scenario Development Methodology - Identifies items that should be considered in the design and revision of a scenario.

   - o Scenarios that require the use of emergency operating procedures should focus on one of three areas - reactivity management, core cooling, and containment control.

   - o Scenario events must be realistic with time sequences similar to actual occurrences.

- o Licensee Event Reports, INPO documents, and reference plant events should be emphasized as source material for scenarios.

- o All scenarios must be validated by an experienced crew prior to being used for training or evaluation.

3. Scenario Examination Administration

   - o Increased emphasis should be placed on normal and abnormal operations. At least one scenario per crew should be designed such that entry into the emergency operating procedures is not required.

   - o There should be no prescription on a minimum number of critical tasks. A scenario that emphasizes normal operations may have none.

   - o The examination should not exceed three hours in length and no prescribed number of scenarios should be mandated.

   - o The focus of the simulator evaluation should be on crew performance with a lesser emphasis on individual evaluations.

   - o SROs that generally stand shift as an RO should be rotated to allow evaluation in a position requiring an SRO license. Rotation among shift positions within a license classification is not necessary.

NRC representatives expressed general agreement with the purpose and goals of the initiative. However, the NRC identified some concerns with certain specific aspects of the guidelines as currently proposed. The concerns are as follows:

1. The limitation on scenario content to only topics covered by the training program and the potential elimination of credible events as covered by the plant's operating and emergency procedures would be inappropriate.

2. Scenario time compression, if properly employed, may be a useful and necessary tool for the evaluation of crew performance on many normal and abnormal plant events. Changes to software modeling would be inappropriate in all instances.

3. Focus of emergency scenarios in one major area, such as core cooling, can be an appropriate and effective evaluation scheme. However, application of this concept for all scenarios, would inappropriately eliminate evaluation of operator and crew performance on credible events addressed by the emergency operating procedures.

4. The NRC focuses its examination on those areas that are the most safety significant. The staff believes the most effective evaluation methodology for accomplishing this goal is one that requires each crew of operators to address two challenging scenarios requiring use of emergency operating procedures.

NRC representatives discussed the status and schedule of the pilot program for dynamic simulator examinations which focuses the evaluation on crew performance and reduces the emphasis on individual evaluations during the NRC-administered requalification examination.

ENCLOSURE 2

Attendees for the NUMARC/NRC
Public Meetings

NRC

J. Roe	Director, Division of Licensee Performance and Quality Evaluation, NRR (8/29/91 meeting)
R. Gallo	Chief, Operator Licensing Branch, DLPQ
C. Casto	Chief, Operator Licensing Section, Region II (8/29/91 meeting)
J. Munro	Operator Licensing Examiner, LOLB, DLPQ
L. Vick	Operator Licensing Examiner, LOLB, DLPQ (8/29/91 meeting)
J. Walker	Operator Licensing Examiner, Region III (8/29/91 meeting)

NUMARC

R. Whitesel	Manager, Operations, Management and Support Services Division
M. Kirk	Project Manager, NUMARC
Committee Members	NUMARC Simulator Scenario Ad Hoc Advisory Committee (9/5/91 meeting)