

August 31, 2010

MEMORANDUM TO: Frederick D. Brown, Director
Division of Inspection and Regional Support
Office of Nuclear Reactor Regulation

FROM: John McHale, Chief **/RA/**
Operator Licensing Branch
Division of Inspection and Regional Support
Office of Nuclear Reactor Regulation

SUBJECT: SUMMARY OF AUGUST 12, 2010, MEETING WITH THE NEI
INDEPENDENT PANEL REGARDING OPERATOR LICENSING
TRAINING AND EXAMINATION PROCESSES

On August 12, 2010, the U.S. Nuclear Regulatory Commission (NRC) staff held a public meeting with the NEI Independent Panel on the operator licensing training and examination process to discuss a number of operator licensing issues. Enclosure 1 lists attendees at the meeting.

This meeting was the latest in a series of meetings intended to enhance the operator licensing training and examination processes. The discussions addressed issues related to initial licensing examination content and structure, initial licensing training programs and other initial operator licensing issues. Enclosure 2 is the agenda for the meeting, and the discussion topics are summarized in Enclosure 3.

Representatives of the NRC and the industry agreed that this meeting was useful for the exchange of information.

Enclosures: As stated

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(301) 415-2758

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NAME	CCowdrey	JMcHale
DATE	8/ 26/2010	8/31/2010

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List of Attendees – NRC / NEI Independent Panel Meeting on Operator Licensing
August 12, 2010

Name	Organization
John (Jack) McHale	NRC/NRR
Bruce Boger	NRC/NRR
Mike Junge	NRC/NRO
John Munro	NRC/NRR
Chris Cowdrey	NRC/NRR
Kriss Kennedy	NRC/RII
Bryce Shriver	NEI Independent Panel
Audeen Fentiman	NEI Independent Panel
Ken Brockman	NEI Independent Panel
Bob Meyer	Public (PROS)
Phil Polefrone	Public (Unistar)

AGENDA FOR THE CATEGORY 2 PUBLIC MEETING WITH THE NEI INDEPENDENT
PANEL REGARDING OPERATOR LICENSING TRAINING AND EXAMINATION PROCESSES

Thursday, August 12, 2010
9:00 a.m. – 1:00 p.m.

Nuclear Regulatory Commission
One White Flint North
11555 Rockville Pike – Room O 13D20
Rockville, MD 20852

TOPIC

LEAD

Introductions and Opening Remarks

NRC/NEI panel

Public Comments

Public

Discussion of the Operator Licensing Training Process

NEI panel

Discussion of the Operator Licensing Examination Process

NEI panel

Public Comments

Public

Summary/Conclusions/Action Items

NRC/NEI panel

DISCUSSION SUMMARY

GENERAL DISCUSSION

Overall Program Changes

The panel asked the NRC if there are any significant changes to the operator licensing program under consideration and inquired as to how the NRC identifies any potential improvements to the program. The NRC staff stated that there are no rulemaking efforts in progress at this time, however that the NRC continually evaluates the program by reviewing operating experience and analyzing examination results. The NRC staff further discussed changes that have been made to the program including the use of multiple choice examinations instead of essay questions and Job Performance Measures (JPMs) in place of walk-throughs. The NRC staff described its monitoring of the INPO accreditation process and a potential update to the licensed operator requalification inspection procedure. Additionally, the NRC staff highlighted some of the differences that would potentially be part of the initial operator licensing programs for new reactors.

DISCUSSION OF THE OPERATOR LICENSING TRAINING PROCESS

Initial Licensing Program Throughput

The panel mentioned that the pass rates on the NRC initial licensing examinations are consistently around 90 percent; however the pass rates on the company audit examinations are much lower. The NRC staff and panel members discussed that the difference could potentially be attributable to the lower difficulty level of the examinations and quizzes administered by the training programs prior to the company audits and the use of the company audit examinations as the ultimate measurement of an applicant's ability to pass the NRC examination. Additionally, the NRC staff and the panel discussed whether facility learning objectives are tied to initial operator licensing knowledge and abilities (K/As). It was recognized that there is a possibility that not all facilities tie their learning objectives to applicable K/As. There was also a general discussion of the impact of candidate screening and mentoring on the overall program success.

Initial Licensing Program Challenges

The NRC and the panel further discussed additional challenges to the initial licensing program including the impacts from the fatigue rule, union rules, simulator availability, eligibility guidelines and candidate screening. The NRC staff and the panel discussed opinions on the reasons for difficulties associated with attracting qualified applicants to the initial licensing programs. Discussion further included the use of modern instruction techniques and the overall length of the initial licensing program. The NRC staff and panel did not identify any aspect of the initial license examination that would preclude the implementation of new learning techniques.

DISCUSSION OF THE OPERATOR LICENSING EXAMINATION PROCESS

Examination Structure

The panel asked the NRC if there is consideration given to whether a K/A would be better examined in a simulator rather than on a written examination. The NRC staff stated that the simulator scenarios are designed to test the ability of an applicant to think and react in a real-time situation and provide a means to evaluate a candidate's communication skills and command and control capability. Additionally, the NRC staff stated that the simulator scenarios tend to follow a defined path and are more focused on testing the response of the applicant rather than a broad area of knowledge. The NRC staff further contended that the written examination is the most effective method for determining individual knowledge and understanding and allows for sampling of a wide range of knowledge areas.

The NRC staff and the panel discussed concepts surrounding question construction and the discussion specifically addressed the potential use of 3-answer multiple choice questions in place of the current 4-answer format. The NRC cited examples of 4-answer formats used in other industries. The panel questioned whether the time spent developing a third distractor is justified in terms of its influence on the overall effectiveness of the question.

New Examination Questions

The panel asked whether the NRC analyzed questions from examinations in terms of pass rates on previously used questions versus pass rates on new questions. The NRC staff mentioned that, specifically for the generic fundamentals examination (GFE), a report is provided by the GFE contractor fully analyzing each examination. The discussion continued regarding the potential reasons for why a new question failure rate might be higher than a question from an examination bank. Also, the panel and NRC staff acknowledged that some bank questions which may have been considered acceptable in the past may no longer be considered acceptable due to higher standards on question construction, particularly in the areas of higher cognitive level questions and distracter plausibility. Additionally, the panel mentioned that some facilities perceive that they are prohibited from using recent examinations from other utilities as a source for questions. The NRC staff stated that no such general prohibition exists, but the process would need to be monitored closely if a single contractor was involved in preparing examinations for multiple facilities (could result in predictability of test items).

The panel further mentioned that some facilities felt there were differences concerning the number of new and revised questions on an examination depending on which NRC region was administering the examination. Additionally, the panel stated that some facilities have cited occurrences of questions being accepted by one chief examiner, but rejected by another. (The panel stated that they had not yet independently validated either of these facility observations.) The NRC staff mentioned that there has been no feedback from the utilities regarding these concerns and that NUREG-1021 is consistent with the requirement for less than 75 percent of examination questions from an examination bank. The panel mentioned that some facilities valued the relationship with their chief examiner so highly, that they were hesitant to raise concerns with their examinations to the next level of NRC management. The NRC staff further emphasized the need to provide open communication and feedback on the process to promote consistency among the regions and the chief examiners.

The panel questioned the requirement for two new Job Performance Measures (JPMs) on each licensing examination and asked whether there is a point when a JPM has been developed for

every task that an operator would be expected to perform. The NRC acknowledged that theoretically there would be a point where there was a JPM already in existence for every key task, however that there are various methods to examine each task and a wide variety of situations that could be utilized when developing JPMs for a given skill or ability, plus the ability to modify existing JPMs.

Requalification Process versus Initial Licensing Process

The panel asked the NRC if elements of the requalification process could be implemented into the initial operator licensing examination. Specifically, the discussion covered crew complement on the simulator and the use of open references. The NRC staff responded by emphasizing that the initial operator licensing examination is intended to evaluate the individual for the purpose of issuing an individual license. The NRC staff further explained the difficulty in evaluating an individual during a simulator scenario and the extent to which an exceptional control room supervisor or shift manager can obscure the true abilities of the remaining individuals on the crew. The staff also discussed challenges related to the use of open reference questions, particularly in ensuring that provided references do not inadvertently give answers to other test items meant to be closed reference.

Examination Validation

The NRC staff asked the panel if any central reasons had been identified during benchmarking that could explain the success of one facility license examination versus another. The panel mentioned that the successful facilities implemented a robust validation process and suggested that resource issues at some facilities prevented them from developing an effective validation program prior to administering the examinations.

Examination Construction Timeframe

In addition to the validation process, the panel also cited early communication with the chief examiner as another central aspect among those facilities who have experienced consistent success with their initial licensing programs. The panel mentioned that in some regions the interaction does not start until approximately 45 days prior to the examination and in others it can begin as early as 10 months. The NRC staff acknowledged the existence of workload differences between the regions and stated that, regardless of region, the NRC will continue to meet the timelines and milestones contained in NUREG-1021.

SUMMARY / CONCLUSION / ACTION ITEMS

In summary, the NRC staff and attendees agreed that the meeting was useful and that continued communication between the panel and the NRC would be beneficial. The panel mentioned that the target for completion of their evaluation was the end of September 2010. No specific action items were taken from the meeting.