

December 30, 2009

MEMORANDUM TO: Michael Junge, Chief  
Operator Licensing and Human Performance Branch  
Division of Construction and Operational Programs  
Office of New Reactors

FROM: Richard Pelton */RA/*  
Operator Licensing and Human Performance Branch  
Division of Construction and Operational Programs  
Office of New Reactors

SUBJECT: SUMMARY OF DECEMBER 2, 2009, MEETING WITH THE  
INDUSTRY FOCUS GROUP ON NEW REACTOR OPERATOR  
LICENSING

On December 2, 2009, the U.S. Nuclear Regulatory Commission (NRC) staff held a public meeting with the Industry Focus Group on New Reactor Operator Licensing to discuss potential changes to the licensed operator examination process. Enclosure 1 lists the attendees at the meeting. Enclosure 2 is the meeting agenda. This meeting was the latest in a series intended to promote efficient, effective, and consistent preparation and administration of new reactor operator licensing examinations.

The NRC representatives stated that NRC concerns focused on the fact that the potential exists that license candidates will not maintain their level of readiness after taking the written examination. It was further stated that the proposal is a temporary measure designed to bridge any potential gaps resulting from the unavailability of plant referenced simulators. In addition, the NRC stated that any changes from the current process would be used for limited period of and with limited number of candidates using the system.

Enclosure 3, "Comments on Operator Licensing Process Position Paper" (ML093510901), identifies NRC questions and comments based on the review of the "Operator Licensing Process Position Paper, Revision C" (ML092440070). Areas within the position paper where NRC staff had questions or comments are identified by number. Enclosure 4 contains the industry responses to those comments that were discussed during the public meeting.

No final positions were taken during the meeting. The staff did agree to consider the need for clarifications and additions to NUREG-1021 or other regulatory documents to implement the modified operator licensing guidance. The industry agreed to consider the staff's comments and will submit a revision to the Operator Licensing Process Position Paper prior to the next meeting.

Enclosures: As stated

CONTACT: Rick Pelton, NRO/DCIP  
(301) 415-1028

MEMORANDUM TO: Michael Junge, Chief  
 Operator Licensing and Human Performance Branch  
 Division of Construction and Operational Programs  
 Office of New Reactors

FROM: Richard Pelton */RA/*  
 Operator Licensing and Human Performance Branch  
 Division of Construction and Operational Programs  
 Office of New Reactors

SUBJECT: SUMMARY OF DECEMBER 2, 2009, MEETING WITH THE  
 INDUSTRY FOCUS GROUP ON NEW REACTOR OPERATOR  
 LICENSING

On December 2, 2009, the U.S. Nuclear Regulatory Commission (NRC) staff held a public meeting with the Industry Focus Group on New Reactor Operator Licensing to discuss potential changes to the licensed operator examination process. Enclosure 1 lists the attendees at the meeting. Enclosure 2 is the meeting agenda. This meeting was the latest in a series intended to promote efficient, effective, and consistent preparation and administration of new reactor operator licensing examinations.

The NRC representatives stated that NRC concerns focused on the fact that the potential exists that license candidates will not maintain their level of readiness after taking the written examination. It was further stated that the proposal is a temporary measure designed to bridge any potential gaps resulting from the unavailability of plant referenced simulators. In addition, the NRC stated that any changes from the current process would be used for limited period of and with limited number of candidates using the system.

Enclosure 3, "Comments on Operator Licensing Process Position Paper" (ML093510901), identifies NRC questions and comments based on the review of the "Operator Licensing Process Position Paper, Revision C" (ML092440070). Areas within the position paper where NRC staff had questions or comments are identified by number. Enclosure 4 contains the industry responses to those comments that were discussed during the public meeting.

No final positions were taken during the meeting. The staff did agree to consider the need for clarifications and additions to NUREG-1021 or other regulatory documents to implement the modified operator licensing guidance. The industry agreed to consider the staff's comments and will submit a revision to the Operator Licensing Process Position Paper prior to the next meeting.

Enclosures: As stated

CONTACT: Rick Pelton, NRO/DCIP  
 (301) 415-1028

Meeting Notice Accession Number: ML093220430  
 Meeting Summary Accession Number: ML093630831  
 ADAMS Package Accession Number: ML093631326 NRC-001

OFFICE	DCIP/COLP	DCIP/COLP:BC
NAME	RPelton	MJunge
DATE	12/30/09	12/30/09

OFFICIAL RECORD COPY

Meeting with the Industry Focus Group on  
New Reactor Operator Licensing  
December 2, 2009

Meeting Attendees

<b>Name</b>	<b>Organization</b>
Mike Junge	NRC / NRO
Rick Pelton	NRC / NRO
Fred Guenther	NRC / NRR
Jack McHale	NRC / NRR
Malcolm Widmann	NRC / RII via telephonic bridge
Hironori Peterson	NRC/RIII via telephonic bridge
Rick Hons	Progress Energy
Tom Kuhar	Westinghouse
Julia Longfellow	GE - Hitachi
Walt Shura	Dominion
Wes Sparkman	Southern Nuclear Company
John Butler	NEI
Glenn MacDonald	STPNOC
Charles Sawyer	Duke
Al Koon	SCANA
Michael Llewellyn	INPO
William Wagner	DTE Energy
Chris Paulsen	GTTSI
Leonard Kabana	MNES
Ted Amundson	Southern Nuclear Company

AGENDA FOR THE CATEGORY 2 PUBLIC MEETING WITH THE  
INDUSTRY FOCUS GROUP ON NEW REACTOR OPERATOR LICENSING ISSUES

December 2, 2009  
9:00 a.m. – 2:00 p.m.

Nuclear Regulatory Commission  
One White Flint North  
11555 Rockville Pike -- Room O 7 B4  
Rockville, MD 20852

TOPIC

LEAD

Introductions and Opening Remarks

NRC/Focus Group

Public Input

Public

Changes to the operator licensing process

Focus Group

Public Questions and Answers

Public

Summary / Conclusion / Action Item Review

NRC/ Focus Group

## COMMENTS ON OPERATOR LICENSING PROCESS POSITION PAPER

*For comment 1, refer to page 1 of Enclosure 3, "Comments on Operator Licensing Process Position Paper" (ML093510901).*

- 1. The argument seems to be that demand for exams will go up and simulators won't be available in time, so the process needs to change. Has the industry explored other options besides a change in the process, e.g. addressing the delay in simulators or hiring more instructors and exam developers and having them in place in time for the anticipated demand?**

Yes, the industry has been working on changes to the operator licensing process for more than three years.

The first step in the process was to estimate instructor and licensed operator resource requirements. During this step, it was discovered that simulator availability would be a problem. It was determined that certifying that the simulator was plant referenced coupled with the number of operators to be licensed; two simulators would be required at each site.

The second step in the process was to determine the qualifications and experience of potential candidates. The result of this review was NEI 06-13A, revision 2, "Licensed Operator Training Cold Licensing Plan Template" (ML090910554).

The third step was to determine the size of the staff necessary to train the projected number of candidates. The result of this review was the determination that additional training staff is needed.

The industry is determining the process to safely and efficiently hire additional training staff. The instructors are expected to commence training with Westinghouse in 2010.

*For comment 2, refer to page 2 of Enclosure 3, "Comments on Operator Licensing Process Position Paper" (ML093510901).*

- 2. What is the significance of the operating test being conducted within one year of fuel load?**

The objective of conducting the operating test within one year of fuel load is to provide the operators with additional plant experience.

*For comment 3, refer to page 2 of Enclosure 3, "Comments on Operator Licensing Process Position Paper" (ML093510901).*

- 3. If it is anticipated that existing instructor resources may be inadequate to develop examinations and conduct training, it would seem logical to increase the number of instructors now in anticipation of the future workload rather than or in addition to recommending a change to the examination process. If the licensee ensures that sufficient resources are in place (by 1Q2013), then the current practice of**

**4. conducting the written exam and operating test within approximately 30 days would not be as difficult to achieve.**

Refer to the response to comment 1 above. It is desirable to have new processes in place early to allow changes to improve the processes as necessary.

*For comment 4, refer to page 2 of Enclosure 3, "Comments on Operator Licensing Process Position Paper" (ML093510901).*

**5. What is the basis for 24 months (vs. 90 days, 6 months, 12 months, etc.)? What licensee training resource assumptions are associated with 24 months?**

The 24 months is a worst case scenario. The actual time between the written exam and operating test should be no more than 12 months. Factors that could influence the time between exam and test include instructor availability, training schedules, and plant construction and start up activities.

The current waiver process should work. The industry had questions regarding the waiver process:

- how should the waivers be submitted,
- what information needs to be included in the waiver,
- what needs to be included in the package to demonstrate to the NRC that candidate knowledge will not deteriorate

*For comment 5, refer to page 2 of Enclosure 3, "Comments on Operator Licensing Process Position Paper" (ML093510901).*

**6. How will any required site-specific knowledge be tested?**

Site specific knowledge and abilities will be tested using methods currently being used in the operator licensing examination process, job performance measures and site-specific questions on the written examination.

*For comment 6, refer to page 2 of Enclosure 3, "Comments on Operator Licensing Process Position Paper" (ML093510901).*

**7. This seems to imply that quality will suffer if the proposed process change is not adopted. What licensee training resource assumptions are associated with 24 months? What other mechanisms to ensure qualities were examined besides a process change?**

Not discussed during the meeting.

*For comment 7, refer to page 2 of Enclosure 3, "Comments on Operator Licensing Process Position Paper" (ML093510901).*

**8. Has the NRC agreed that it has resource constraints that warrant a process change? If not, then the benefit is irrelevant.**

Not discussed during the meeting.

*For comment 8, refer to page 3 of Enclosure 3, "Comments on Operator Licensing Process Position Paper" (ML093510901).*

**9. Why is this a benefit? Do the benefits resulting from not approving a limited scope simulator outweigh those of changing the process as described?**

NRC has the authority to allow the use of a limited scope simulator (Part 55) for the license exam. A limited scope simulator can be used for training without NRC approval. It has not been discussed in detail as to what would be needed to allow the use of a limited scope simulator for the licensing exam. At a minimum, most plant systems would have to be operational on the simulator in much the same manner that the reactor vendors use a complete control room simulation for human factors engineering (HFE) testing. Any decision on the use of a limited scope simulator for the licensing exam would have to be after successful completion of HFE testing.

*For comment 8a, refer to page 3 of Enclosure 3, "Comments on Operator Licensing Process Position Paper" (ML093510901).*

**8a. This could also be achieved by hiring more instructors. If maintaining teams intact and maintaining student ratios is a problem, what other options, besides a process change, has industry explored?**

To be discussed at a future meeting.

*For comment 9, refer to page 3 of Enclosure 3, "Comments on Operator Licensing Process Position Paper" (ML093510901).*

**10. Is applicant stress really still an issue? Is this another way of saying that applicant stress is lower (and pass rate is higher) when examinations are not cumulative (applicants don't have to pass a written exam and operating test within the same 30 day period)?**

Several industry representatives felt that increasing the time between the written exam and the operating test would reduce the stress levels of candidates. Other industry representatives weren't sure what the impact would be on candidates. It was said that maintaining candidates at the peak of their knowledge and ability would be a hardship, a stressor, and the period of time candidates are maintained at this peak needs to be reduced/modified.

Any continuing training after the written exam would have to be conducted in a program and manner similar to the existing licensed operator requalification training programs.

If the length of time between the written exam and the operating test is significant, for whatever

reason, it may be possible to use a process for waiving a retake of the written examination prior to administration of the operating test in a manner similar to that used for the generic fundamentals examination.

*For comment 10, refer to page 3 of Enclosure 3, "Comments on Operator Licensing Process Position Paper" (ML093510901).*

**11. Is this a metric important to the NRC?**

Not discussed during the meeting.

*For comment 11, refer to page 3 of Enclosure 3, "Comments on Operator Licensing Process Position Paper" (ML093510901).*

**12. The current problem with 'Uniform Conditions' is in the area of requalification examinations, not initial licensing examinations. This does not appear to be a substantial benefit.**

Not discussed during the meeting.

*For comment 12, refer to page 3 of Enclosure 3, "Comments on Operator Licensing Process Position Paper" (ML093510901).*

**13. Although examination security is important, it does not appear to be a problem under the current process. This does not appear to be a substantial benefit.**

Not discussed during the meeting.

*For comment 13, refer to page 3 of Enclosure 3, "Comments on Operator Licensing Process Position Paper" (ML093510901).*

**14. This appears to be a policy decision that has yet to be made. What value does this option have, for whom, and under what circumstances? The GFE is largely 'open' with a portion of new questions on each examination.**

Licensing exams are currently entered into ADAMS as a publicly available document. The industry would need to identify something in or about the exam that would allow the exam to be withheld. However, even if the exam is withheld, a freedom of information act request could result in the release of exam questions. The question of a closed exam bank is also being discussed in the Operating Reactor Operator Licensing Focus Group; OGC is looking at the issue including how long the exam could be kept out of ADAMS. The current GFE guidance is that a GFE exam can include 80% previously used questions. Analysis of GFE exam data reveals that candidate performance is better on those questions that are repeated.

*For comment 13a, refer to page 3 of Enclosure 3, "Comments on Operator Licensing Process*



*Position Paper” (ML093510901).*

**13a. The organization of this section is confusing. Which items are risks and which are mitigating actions?**

Not discussed during the meeting.

*For comment 14, refer to page 3 of Enclosure 3, “Comments on Operator Licensing Process Position Paper” (ML093510901).*

**15. What is the potential impact of a decrease in exam validity? How does this translate to risk?**

Not discussed during the meeting.

*For comment 15, refer to page 3 of Enclosure 3, “Comments on Operator Licensing Process Position Paper” (ML093510901).*

**16. Specifically, what is the point of the analogy? How are pilots, and pilot training programs, similar to and different from, nuclear plant operators and nuclear plants? Were other analogous situations explored that might indicate that a process change is not warranted?**

The industry is trying to show that separation of written and practical examinations is used in other highly regulated industries. The industry feels this is a reasonable analogy.

*For comment 16, refer to page 3 of Enclosure 3, “Comments on Operator Licensing Process Position Paper” (ML093510901).*

**17. Whose procedures? Who approves the procedures?**

Not discussed during the meeting.

*For comment 71, refer to page 4 of Enclosure 3, “Comments on Operator Licensing Process Position Paper” (ML093510901).*

**18. This appears to be a policy decision. Do we want to eliminate a stakeholder’s ability to appeal the outcome of a new process with no track record?**

To allow candidates to appeal the results of their examination, an NRC Form 398 will be submitted.

*For comment 18, refer to page 4 of Enclosure 3, “Comments on Operator Licensing Process Position Paper” (ML093510901).*

**19. Interesting language that labels continuing license training a burden. What will be the training content without a simulator?**

Not discussed during the meeting.

*For comment 19, refer to page 4 of Enclosure 3, "Comments on Operator Licensing Process Position Paper" (ML093510901).*

**20. What is the nature of the commitment, how will it be enforced, and for how long? How much deviation is too much and then what?**

It is recognized that under existing 1021, common exams are possible. A common exam would require increased cooperation between both utilities and the NRC. The first few exams will use a common licensing basis for exam development. After using the process for the first several exams, an evaluation would be conducted to ensure the industry level of cooperation is being maintained and the plants remain standardized. An incentive to maintain standardization and to continue to cooperate is the plan to store training materials on a common server. Maintaining common materials should make the exam approval faster.

*For comment 20, refer to page 5 of Enclosure 3, "Comments on Operator Licensing Process Position Paper" (ML093510901).*

**21. What do impartial educational psychologists know about this?**

The industry agreed to contact educational psychologists/specialists from outside the nuclear industry to determine the impact on a candidate of a time separated examination.

*For comment 21, refer to page 6 of Enclosure 3, "Comments on Operator Licensing Process Position Paper" (ML093510901).*

**22. What are the benefits/costs of a '5% license' vs. the proposed process change? Why would this require rulemaking?**

Not discussed during the meeting.

*For comment 22, refer to page 7 of Enclosure 3, "Comments on Operator Licensing Process Position Paper" (ML093510901).*

**23. The action doesn't directly address the potential risk/concern. Although the proposed process may not conflict with 10CFR55, it may not be a change that is in the best interests of all stakeholders. What is the basis for the assertion that segmenting does not reduce validity? Since the proposal to segment is a new process, would there be any evidence based on historical data?**

The industry does not have data available at this time. It is possible that the educational psychologists/specialists from outside the nuclear industry may have data of this sort, especially

the FAA. At a minimum, continuing training during the time between the written exam and the operating test would be necessary.

*For comment 23, refer to page 7 of Enclosure 3, "Comments on Operator Licensing Process Position Paper" (ML093510901).*

**24. Which process would be permanently revised? New reactors only or new and existing (10CFR50) reactors?**

This new process would be only for new reactors. The industry is proposing adding the process to a new reactor section of NUREG 1021. The process would be in effect as long as the common design is common and divergence is minimized. Ending use of a common examination would be dependent upon the gap between the standard design and the actual design. Major differences would probably be noticed first in training.

*For comment 24, refer to page 13 of Enclosure 3, "Comments on Operator Licensing Process Position Paper" (ML093510901).*

**25. Why should retake necessarily occur before denial?**

By submitting NRC Form 398, retakes will only occur after denial.

*For comment 25, refer to page 14 of Enclosure 3, "Comments on Operator Licensing Process Position Paper" (ML093510901).*

**26. One option would be to define "active" differently before and after fuel load (e.g. for less than 5% and above 5%).**

This will be discussed internally.

*For comment 26, refer to page 14 of Enclosure 3, "Comments on Operator Licensing Process Position Paper" (ML093510901).*

**27. Is written examination quality criteria part of the revised process? Written examination quality guidelines would not appear to be applicable to the proposal to extend the time between the written exam and operating tests to 24 months, i.e. outside the scope of this position paper.**

Written examination quality criteria would continue to be part of the exam development process.

DISTRIBUTION: Summary of December 2, 2009, Meeting with the Industry Focus Group on New Reactor Operator Licensing

PUBLIC	MJunge	COgle, RII
COLP Reading File	FBrown	RBaldwin, RII
RidsNroOd	JMcHale	CKontz, RII
RidsNroDcip	SGuenther	ABoland, RIII
RidsNroDcipColp	JMunro	HPeterson, RIII
RidsEDOMailCenter	DJohnson	CPederson, RIII
RidsOgcMailCenter	DRoberts, RI	O'Brien, RIII
RidsAcrcAcnwMailCenter	MDapas, RI	MSatorius, RIII
SCoffin	PWilson, RI	CCasto, RIV
GHolahan	SHansell, RI	RCaniano, RIV
MJohnson	HChristensen, RII	TPruett, RIV
PMadden	RCroteau, RII	RLantz, RIV
DMatthews	LPlisco, RII	MMiller, HRTD
DWilliams	MWidmann, RII	SCochrum, TTC
GTracy	VMcCree, RII	RDevercelly, TTC
JTappert	AGody, RII	REgli, TTC
	KKennedy, RII	SRutledge, TTC

MLlewellyn (LlewellynMD@inpo.org)

Mr. Anthony Pietrangelo, Senior Director  
Risk Regulation  
Nuclear Energy Institute  
1776 I Street, NW, Suite 400  
Washington, DC 20006-3708

Mr. James H. Riley, Director  
Engineering  
Nuclear Energy Institute  
1776 I Street, NW, Suite 400  
Washington, DC 20006-3708

Mr. H. A. Sepp, Manager  
Regulatory and Licensing Engineering  
Westinghouse Electric Company  
P. O. Box 355  
Pittsburgh, PA 15230-0355

Mr. John Butler  
Nuclear Energy Institute  
1776 I Street, NW, Suite 400  
Washington, DC 20006-3708

Mr. Charles B. Brinkman  
Washington Operations  
ABB-Combustion Engineering, Inc.  
12300 Twinbrook Parkway, Suite 330  
Rockville, MD 20852

Mr. Gary L. Vine, Executive Director  
Federal and Industry Activities, Nuclear  
Sector  
EPRI  
2000 L Street, NW, Suite 805  
Washington, DC 20036

Mr. Pedro Salas  
Regulatory Assurance Manager - Dresden  
Exelon Generation Company, LLC  
6500 N. Dresden Road  
Morris, IL 60450-9765  
Ms. Barbara Lewis  
Assistant Editor  
Platts, Principal Editorial Office  
1200 G St., N.W., Suite 1100  
Washington, DC 20005

Mr. Gary Welsh  
Institute of Nuclear Power Operations  
Suite 100  
700 Galleria Parkway, SE  
Atlanta, GA 30339-5957