



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

April 19, 2017

MEMORANDUM TO: Nancy L. Salgado, Chief
Operator Licensing and Training Branch
Division of Inspection and Regional Support
Office of Nuclear Reactor Regulation

FROM: David S. Muller, Reactor Engineer */RA/*
Operator Licensing and Training Branch
Division of Inspection and Regional Support
Office of Nuclear Reactor Regulation

SUBJECT: SUMMARY OF MARCH 23, 2017, MEETING WITH INDUSTRY
FOCUS GROUP ON LICENSED OPERATOR ISSUES

On March 23, 2017, the U.S. Nuclear Regulatory Commission (NRC) staff held a public meeting with the Nuclear Energy Institute's Licensed Operator Focus Group to discuss with the nuclear industry a number of licensed operator issues.

This meeting was the latest in a series of meetings intended to promote efficiency, effectiveness, and open communications with regard to operator licensing. The discussions addressed a variety of operator licensing issues, including: (1) the status of three NUREGs (1021, 1122, and 1123) associated with operator licensing; (2) the status of guideline documents which address the experience and eligibility requirements to be met when applying for operator and senior operator licenses; and (3) an NRC initiative to store and receive information for licensed operator docket files electronically. In addition, potential changes to the process for administering the NRC's Generic Fundamentals Examination were discussed.

Representatives of the NRC and the nuclear industry agreed that this meeting was useful for the exchange of information and agreed to continue the periodic meetings.

Enclosures:

1. List of Attendees
2. Agenda
3. Discussion Summary
4. Meeting Handout: "Revised Question 202.20"

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ON LICENSED OPERATOR ISSUES

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DATE	4/19/2017	4/19/2017

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List of Attendees – Nuclear Regulatory Commission (NRC) / Nuclear Energy Institute (NEI)
 Licensed Operator Focus Group (LOFG) Meeting
 March 23, 2017

Name	Organization
Nancy Salgado	NRC
Angela Baxter	NRC
Theresa Buchanan	NRC
Jake Dolecki	NRC
Tim Kolb	NRC
Bernard Litkett	NRC
David Muller	NRC
John Munro	NRC
Carole Revelle	NRC
Maurin Scheetz	NRC
Gerald McCoy	NRC (via telephone)
Eugene Guthrie	NRC (via telephone)
Bruno Caballero	NRC (via telephone)
Robert Orlikowski	NRC (via telephone)
Gregg Ludlam	NEI LOFG
Greg Cameron	NEI
Michael Petersen	Xcel Energy
Russell Joplin	TVA
Mark Otten	Ameren
Steve Dennis	PSEG
Travis Ouret	NextEra Energy
Jana Bergman	Curtiss-Wright
Bob Meyer	Public - Professional Reactor Operator Society (via telephone)

AGENDA FOR THE U.S. NUCLEAR REGULATORY COMMISSION (NRC) CATEGORY 2
PUBLIC MEETING WITH THE NUCLEAR ENERGY INSTITUTE (NEI)
LICENSED OPERATOR FOCUS GROUP (LOFG)

Thursday, March 23, 2017
9:00 a.m. to 12:00 p.m. Eastern Standard Time

NRC One White Flint North, Room O9B4
11555 Rockville Pike
Rockville, MD 20852

TOPIC

LEAD

Introductions and Opening Remarks

NRC/NEI

Items of Interest for the NRC

NRC

- NUREG-1021, "Operator Licensing Examination Standards for Power Reactors," Rev. 11
- ACAD 10-001, "Guidelines for Initial Training and Qualification for Licensed Operators," Rev. 1
- NUREG-1122, "Knowledge and Abilities Catalog for Nuclear Power Plant Operators: Pressurized Water Reactors," Rev. 3
- NUREG-1123, "Knowledge and Abilities Catalog for Nuclear Power Plant Operators: Boiling Water Reactors," Rev. 3
- Regulatory Guide 1.8, "Qualification and Training of Personnel for Nuclear Power Plants," Rev. 4
- Licensed Operator Digital Docket Files

Items of Interest for the NEI LOFG

NEI

- Generic Fundamentals Examination Process

Items of Interest for the Public

Public

DISCUSSION SUMMARY

Items of Interest for the NRC

NUREG-1021, "Operator Licensing Examination Standards for Power Reactors," Rev. 11

The NRC staff highlighted that the final version of NUREG-1021, Rev. 11 was officially published via a *Federal Register Notice* on February 15, 2017. The staff emphasized that NUREG-1021, Rev. 11 will be required to be used and becomes fully effective on August 15, 2017. The NRC staff clarified that NUREG-1021, Rev. 11 retains the NRC informal review process for proposed examination failures and extends the post-examination comment period from 5 days to 20 days. The LOFG had questions regarding an initial licensing examination that is scheduled to occur shortly after August 15, 2017, and the NRC staff replied that this examination must be conducted in accordance with NUREG-1021, Rev. 11.

ACAD 10-001, "Guidelines for Initial Training and Qualification for Licensed Operators," Rev. 1

The NRC staff indicated that although NUREG-1021, Rev. 11 references the February 2010 version of the National Academy for Nuclear Training's (NANT) guidelines for education and experience (ACAD 10-001, Rev. 0), the staff also considers as acceptable the NANT guidelines for education and experience issued in November 2016 (ACAD 10-001, Rev. 1). The staff further clarified that ACAD 10-001, Rev. 0 or Rev. 1 may be used up until the expected retirement date of May 29, 2018, for Rev. 0; and that after that date ACAD 10-001, Rev. 1 shall be used. The NRC staff provided a handout to the meeting attendees which provided additional details on this subject (see Enclosure 4, "Revised Question 202.20" from the NRC's Operator Licensing Program Feedback webpage).

NUREG-1122, "Knowledge and Abilities Catalog for Nuclear Power Plant Operators: Pressurized Water Reactors," Rev. 3; NUREG-1123, "Knowledge and Abilities Catalog for Nuclear Power Plant Operators: Boiling Water Reactors," Rev. 3

The NRC staff provided an update regarding the publication schedule for NUREG-1122 and NUREG-1123, Rev. 3:

1. Draft Rev. 3 of the two NUREGs were submitted to the NRC's publications branch with an expected completion date for their review of March 31, 2017.
2. The staff will then make any necessary corrections and expects to publish Draft Rev. 3 of the NUREGs for a 30-day public comment period within a few weeks.
3. Following the receipt and resolution of public comments and submittal to NRC's publications branch, the final versions of Rev. 3 to the NUREGs are expected to be published by late summer of 2017.

With regard to implementation of NUREG-1122 and NUREG-1123, Rev. 3, the staff is pursuing a schedule that will (1) allow for the use of Rev. 3 of the NUREGs as soon as they are published, (2) continue to allow the use of Rev. 2, Supp.1 of the NUREGs for one full year after Rev. 3 has been published, and (3) after one year from their publication date, require that Rev. 3 of the NUREGs must be used.

The meeting attendees acknowledged the information presented, and considered a one year transition period after the publication of NUREG-1122 and NUREG-1123, Rev. 3 as a reasonable schedule for implementation.

Regulatory Guide 1.8, "Qualification and Training of Personnel for Nuclear Power Plants," Rev. 4

The NRC staff updated the status of Regulatory Guide 1.8, Rev. 4, in that this revision is currently undergoing internal NRC review. The staff stated that it expects a draft of Regulatory Guide 1.8, Rev. 4 to be issued for a 60-day public comment period in June or July of 2017.

Both the NRC staff and the LOFG agreed that better alignment is a desirable goal between Regulatory Guide 1.8, American National Standard Institute/American Nuclear Society Standard 3.1 (ANSI/ANS-3.1), ACAD 10-001, and NUREG-1021 regarding the experience and education requirements needed to apply for reactor operator and senior reactor operator licenses.

Licensed Operator Digital Docket Files

The NRC staff provided an update on an NRC initiative to store and receive information for licensed operator docket files digitally. Currently, individual licensed operator docket file information has been digitized and stored electronically by the NRC, and the NRC is receiving docket file information from facility licensees via a mix of paper documents and/or electronic files, which require manual processing by the staff to be entered into the digital docket files. The staff stated that it has been working on an initiative to improve, modernize and add efficiency to this process, by automating parts of the process for the electronic receipt of docket file information. To facilitate NRC efforts in this area, the staff stated that starting this summer, it will be offering a voluntary option for facility licensees to register individuals for the NRC's Generic Fundamentals Examination on-line, and to submit licensed operator docket file information via a new Part 55 component of the NRC's Electronic Information Exchange (EIE) system. While this voluntary option is in-place, the staff stated that the current methods for processing licensed operator docket file information will continue, and that the staff will update the nuclear industry on NRC efforts to automate and electronically receive information. The meeting attendees acknowledged the information presented and stated that this appeared to be a worthwhile initiative.

The NRC staff also discussed the following two miscellaneous topics:

- Cold Licensing of Operators: The NRC staff stated that efforts were underway to improve the process for cold licensing of operators at new reactors, and that input from the nuclear industry was desired. The LOFG provided the staff industry points of contact for this issue.
- NRC Form 536: The NRC staff stated that a draft of NRC Form 536, "Operator Licensing Examination Data," has been issued for a 60-day public comment period. The LOFG acknowledged this information and provided no comments on NRC Form 536 at this meeting.

Items of Interest for the NEI LOFG

Generic Fundamentals Examination (GFE) Process

The LOFG informed the NRC staff that when the nuclear industry was considering whether to develop up to two GFEs for calendar year 2017, a different approach was considered to explore whether the GFE could be administered electronically and at any time (on-demand). Instead of expending industry resources to develop two GFEs and receive their approval by the NRC, the LOFG stated that these resources would be better spent developing a process for an electronic, on-demand GFE.

The LOFG then outlined the following methodology for how an electronic, on-demand GFE process could be adopted by the NRC:

1. The overall process would be approved by the NRC.
2. The NRC would approve the content of the GFE question banks, with no requirement to add new or modified questions to the banks.
3. The NRC would approve the GFE generation software tool, which would appropriately select GFE questions from the approved question banks and assemble the GFE for electronic, on-demand delivery.
4. The NRC would approve the electronic delivery method for the GFE.

The LOFG stated that since every part of this process would be approved by the NRC (including the use of NRC-approved GFE question banks) that this would result in GFEs that should be considered as NRC-approved examinations. The LOFG further offered to work through the details of this process with the NRC, including test runs to demonstrate the ability to deliver on-demand electronic versions of the GFE (i.e., piloting), prior to its actual implementation. The LOFG stated the advantages of using an electronic, on-demand process for administering the GFE included: added industry/NRC efficiencies, saving of industry/NRC resources, elimination of NRC costs for contractor-prepared GFEs, and added schedule flexibility for industry operator licensing training programs and NRC-conducted site-specific initial licensing examinations.

The NRC staff said they were considering flexible electronic formats for delivery of the GFE, but that concerns have been identified on the ability for the GFE to be administered “on-demand,” including concerns with:

- The use of only bank questions on the GFE and its effect on level of difficulty; the current GFE format includes new and modified questions.
- The need to add questions to the GFE banks for the generic knowledge and ability (K/A) topic “Basic Energy Concepts” that is being added to NUREG-1122 and NUREG-1123, Rev. 3.
- The ability to revise questions in the GFE banks should flawed questions be identified.
- The adequacy of the current size of the GFE banks, in that they contain only 600-800 unique questions.
- The need to revise NUREG-1021, “Operator Licensing Examination Standards for Power Reactors,” to reflect a bank-only on-demand GFE, as NUREG-1021 currently does not permit the use of a bank-only GFE.

The LOFG acknowledged these concerns, and stated that the GFE question banks used to be much larger (5,000 questions), and that perhaps these questions could be located and added

back to the GFE question banks. The LOFG also stated that administering the GFE via an electronic platform, while beneficial on its own, would not fully address concerns of the nuclear industry if the GFE were administered only two or four times per year.

The NRC staff informed the LOFG that to address some of these concerns, the staff has initiated an internal NRC analysis of the suitability of a bank-only GFE. Specifically, the staff stated that this analysis was initiated to answer two fundamental questions:

1. Can a bank-only GFE maintain test validity, integrity, and reliability?
2. If so, what is the minimum number of questions needed in the GFE banks to properly discriminate between competent and non-competent individuals as a part of the NRC's operator licensing process?

The staff further informed the LOFG that the target completion date for this analysis is December 2017, and that the staff would determine if or how to communicate the results of this analysis to the LOFG.

Additional discussions between the staff and the LOFG regarding the GFE included:

- The historical and consistent performance of test takers on new versus bank GFE questions (bank GFE questions are answered correctly by approximately 95% of test takers; new GFE questions are answered correctly by approximately 75% of test takers).
- Whether some of the new GFE questions used over the past several years have been testing topics that are not appropriate for the GFE.
- Whether new GFE questions are testing GFE topics in a new or novel way.
- The current process for the nuclear industry to review new GFE questions before they are used.
- The adequacy of a bank-only GFE to test for competency compared to the current GFE which includes new questions.

Items of Interest from the Public

A member of the public commented that it was a good idea to allow a one-year transition period for implementing NUREG-1122 and NUREG-1123, Rev. 3. This individual also supported the NRC's efforts to store and receive operator docket file information electronically, and supported the industry's efforts for the electronic and on-demand administration of the GFE.

Revised Question 202.20

202.20 - The National Academy for Nuclear Training's (NANT) "Guidelines for Initial Training and Qualification of Licensed Operators" -- ACAD 10-001 -- were revised in November 2016, i.e., NANT, ACAD 10-001, Revision 1. The revision updated and clarified the experience and education eligibility guidance for the selection of reactor operators (ROs) and senior reactor operators (SROs) at existing nuclear power plants in Section 2.0, Figures 2-1 through 2-4.

However, Revision 10 and 11 of NUREG-1021, "Operator Licensing Examination Standards for Power Reactors," in ES-202 reference the NANT guidelines issued in February 2010 (NANT 2010) and states "unless otherwise informed by a facility licensee, the NRC believes that the education and experience guidelines described in NANT 2010 constitute the facility licensee's education and experience requirements to be licensed as an RO or SRO." Given this NUREG-1021 description, does the NRC also consider the ACAD 10-001, Revision 1, guidelines an acceptable methodology for eligibility determinations at existing nuclear power plants?

The NRC considers the eligibility guidelines for education and experience at existing nuclear power plants promulgated by the NANT including those that were issued in November 2016 -- ACAD 10-001, Revision 1 -- as acceptable methods for meeting 10 CFR 55.31(a)(4).

Notwithstanding the fact that NUREG-1021, Revisions 10 and 11, reference the ACAD 10-001 guidelines issued in February 2010, NUREG-1021 also states that "the guidelines for education and experience issued by the National Academy for Nuclear Training (NANT) [i.e., ACAD 10-001 Revisions 0 and 1] outline acceptable methods for implementing the Commission's regulations in this area." NUREG-1021 also states that, "when a facility licensee certifies [on NRC Form 398] pursuant to 10 CFR 55.31(a)(4), that an applicant has successfully completed a Commission-approved, SAT-based training program, it means that the applicant meets **or exceeds** [emphasis added] the minimum education and experience [eligibility] guidelines **currently** [emphasis added] outlined in NANT 2010." Since ACAD 10-001, Revision 0 will not be retired until May 29, 2018, the NRC Form 398 directions for Block 12.a (Power Reactor Operator Training Program) allow for the applicant to check "YES" indicating that he/she has completed a SAT-based training program accredited by the NNAB based on meeting the guidelines in ACAD 10-001, Revision 0 (through May 29, 2018) or Revision 1.