




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

June 30, 2023

MEMORANDUM TO: Russell N. Felts, Director
Division of Reactor Oversight
Office of Nuclear Reactor Regulation  Signed by Miller, Keith
on 06/30/23

FROM: Keith Miller, Acting Chief
Operator Licensing and Human Factors Branch
Division of Reactor Oversight
Office of Nuclear Reactor Regulation

SUBJECT: SUMMARY OF THE 2023 ANNUAL UNITED STATES NUCLEAR
REGULATORY COMMISSION/INSTITUTE OF NUCLEAR
POWER OPERATIONS COORDINATION MEETING ON
TRAINING-RELATED ISSUES

On June 1, 2023, the U. S. Nuclear Regulatory Commission (NRC) conducted a public observation meeting on training-related issues with the Institute of Nuclear Power Operations (INPO) via Microsoft Teams and a teleconference call. This meeting was conducted in accordance with the NRC/INPO Memorandum of Agreement dated December 1, 2022 (ML23026A093). The purpose of the meeting was to discuss items of mutual interest concerning INPO's training program accreditation process and other initiatives. Participants included representatives of the NRC's Office of Nuclear Reactor Regulation (NRR); Region II, Region III and RIV Operations Branch; INPO's Workforce Training, Education and Proficiency Division; and members of the public.

Introductions and Opening Remarks

The NRC provided opening remarks. INPO provided opening remarks, including a discussion of organizational changes since the 2022 Coordination Meeting. The NRC discussed efforts to improve the efficiency of licensed operator examinations. INPO discussed its strategy to improve the accreditation process. During opening remarks, the NRC and INPO both discussed the importance of training and qualifications, and the need to have effective communications between the two organizations.

Enclosures:

1. Meeting Attendee List
2. Meeting Agenda

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NRC Regulatory Issues

NUREG-1021 revision 12 was issued on September 17, 2021, public comments were addressed and implemented on March 17, 2022. The revision 12 changes included the elimination of the GFE, improved schedule flexibility and ensuring that operators are tested on fundamental topics at the time of licensing. An effectiveness review is ongoing. The objective of the effectiveness review is to monitor the application of new instructions and guidance in revision 12, and determine if additional actions are needed, such as additional training or clarifications to support implementation of the major changes made in the revision. This review will also include an assessment of the implementation and outcomes of each major change.

Accreditation Team Visit Observation

Had the opportunity for an NRC observer to observe the Quad Cities Operation accreditation team visit during the week of September 12, 2022. Looking forward to the results of future assessments and measures of effectiveness that are planned for changes to the new INPO process of the performance continuum for accreditation. The NRC anticipate that Russ Felts will be the NRC observer for the Columbia Operations performance continuum in October.

Key guidance documents for advanced reactors and Commission review of training programs:

Staff is currently engaged in several human factor engineering application reviews and initiatives related to Part 53 rulemaking for advanced reactors.

Accreditation for Advanced Reactors:

The NRC staff is interested in more engagement than typical as INPO develops accreditation standards and guideline revisions. As the reactors are evolutionary, broader engagement between the regulator and INPO/National Academy for Nuclear Training (NANT) would be worthwhile. The NRC staff are developing interim staff guidelines for non-accredited programs, and perhaps some engagement on that topic to ensure that we don't create conflicting guidance. A draft white paper on Facility Training Program Guidance can be found at ML23017A130.

INPO

INPO has continued all accreditation activities, seminars, and courses as planned. The virtual activities have allowed more frequent engagement with facility staff, improved continuous monitoring of training, and have reached more leadership staff at the sites.

Accreditation Update

INPO reported that 22 accreditation team visits and 22 remote National Nuclear Accreditation Boards for the operations and technical training programs were conducted between May 2021 and May 2022. INPO also had one remote board that resulted in an additional in-person board. INPO has an additional 19 accreditation team visit (ATVs) and 12 remote NNABs scheduled in 2023 for the operations and technical training programs. NRC observers attended most of the

remote NNABs, and an NRC observer attended the operations ATV at Quad Cities Nuclear Plant in September of 2022. An NRC observer will observe the Columbia Operations performance continuum in October of 2023. INPO continues to get meaningful feedback from the NRC observers.

INPO is on track to transition the INPO accreditation process into a continuous monitoring process in July of this year. This change will replace accreditation team visits with a multitude of site visits, all aspects of our current process will still be implemented over the accreditation cycle. In the new process, prior to the accrediting board, INPO and station personnel will complete accreditation readiness activities either virtually or in-person to ensure that appropriate information has been gathered, and to align our industry stakeholders on key points documented in the accreditation reports.

For small module reactors accreditation, INPO has started discussion with some new suppliers for potential accreditation of their training program.

Regulatory Issues

The NRC staff has been engaged in efforts to establish a risk-informed, technology-inclusive regulatory framework for advanced reactors for optional use by applicants for new commercial advanced nuclear reactor licenses. This new framework under development is 10 CFR Part 53 (Docket ID NRC-2019-0062). The NRC staff will provide the 10 CFR Part 53 proposed rule package to the Commission by February 2023 and provide the final rule package, including key guidance, to the Commission by December 2024. The guidance includes criteria for the staff to review plans for training programs that may be submitted for Commission approval. This guidance is based largely on existing guidance in NUREG-1220, "Training Review Criteria and Procedures," and it will continue to focus on evaluating whether the training programs to be implemented follow a systems approach to training process.

Additionally, the NRC staff anticipates that members of industry who work with INPO to develop accredited training programs for plant personnel at advanced reactor facilities will develop eligibility criteria, including education and experience requirements that are different from those currently in use for large light-water reactors. The NRC staff are interested in continued engagement with INPO as INPO develops new accreditation standards for small modular and advanced reactors.

The staff are particularly interested in understanding the criteria that may be used to determine adequate eligibility requirements for licensed personnel, and whether any changes are envisioned that may be different from existing Commission policies, so that the staff can engage the Commission as appropriate.

Academy documents revisions

INPO provided an update on several National Academy for Nuclear Training documents revisions. The Academy document revisions that are planned to be completed over the next year.

- ACAD 92-002, The Process for Maintaining Accreditation of Training in the Nuclear Power Industry

- ACAD 02-001, The Objectives and Criteria for Accreditation of Training in the Nuclear Power Industry
- ACAD 08-001, The Process for Initial Accreditation of Training in the Nuclear Power Industry

Industry Learning Activities

INPO gave an update on Industry Learning activities. In 2022, the Industry Learning division at INPO develops, delivers, and supports common learning for the industry on behalf of the NANT. We provide instructor-led training at both INPO and remote locations for leader development and technical topics. INPO also deliver training in the form of e-learning through the National Academy for Nuclear Training e-Learning system, commonly referred to as NANTeL.

Leadership courses

INPO's leadership courses and seminars focus on individual leadership development. In 2022, we facilitated approximately 100 seminars and courses and influenced approximately 1800 nuclear professionals from the first level supervisor to members of the Boards of Directors.

In 2021, several of our seminars were canceled or delayed. Most notably, the Reactor Technology and Nuclear Operational Risk courses at MIT. In 2022, we restored those course offerings. The Nuclear Operational Risk Course is an important industry course where the NRC contributes time and support, presents information, and clarifies questions of participants. For the first time, we will have an NRC participant at the Reactor Technology Course this year. In addition, the Senior Nuclear Plant Management course continues to benefit from NRC participation.

In 2022, we developed and started delivering our standard in person seminars and training instructor courses using virtual platforms, which provides additional options for industry participation.

In 2022, we began the development of a new series of seminars for Director specific positions. In 2022, we developed and piloted seminars for operations and engineering directors. This year we will expand to maintenance and work management directors.

INPO discussed development of training using NANTel. NANTel is a national web-based training system. NANTel started in 2006 and has seen significant increases in usage over the last year. The use of e-Learning has increased with over 70,000 utility workers participating. In 2022, NANTel had approximately 733,000 certifications completed. This allows workers at multiple locations to complete interactive, on-line training for site access, fitness for duty, and radiation protection. INPO stated that this type of training can support the needs of industry into the future.

Other Items of Mutual Interest Related to Training NRC/INPO

The NRC discussed the annual report on the effectiveness of training in the nuclear power industry. The current annual report is in concurrence. The Memorandum of Agreement between INPO and the NRC says the NRC will assess the effectiveness of the industry's training and qualification program improvements as follows: (1) conducting initial operator licensing examinations, (2) audit or monitor operator requalification examinations, (3) monitor

plant and industry trends and events involving plant personnel errors, and (4) conduct inspections, as needed—these would be for-cause training inspections conducted in accordance with NRC Inspection Procedure 41500, “Training and Qualification Effectiveness.”

INPO discussed meetings, lessons learned, and workshops related to nuclear training that have been conducted with training managers, now held in a virtual format.

Additionally, INPO discussed its strategic focus area on teaching and learning strategy. INPO is in its third year of a ten-year strategy to improve industry performance in several areas. One of these areas is to advance the industry’s behaviors and methods deployed to teach and learn.

Nuclear industry training imparts the basic knowledge needed for a qualified, effective workforce. Similarly, industry training in simulators, labs and on-the-job reinforces the skills needed to achieve quality work. This approach has contributed to an industry performing at record high levels today.

To improve the likelihood to sustain this high level of performance and advance it further, this strategy will focus on nuclear leaders and workers being passionate learners - and teachers. To this end, the National Academy is committed to fostering an industry culture of continuous learning through an emphasis on advanced teaching methods, cutting-edge technologies and applying the insights into the science of adult learning. INPO’s primary focus this year is implementation of the INPO Teaching and Learning guidance document released to the industry in January this year. This document clarifies best practices to achieve standards of excellence for continuous learning. INPO is in the second year of a 10-year program to improve training and performance. The NANT’s focus is on improving teaching. Focus areas include nuclear leaders being passionate learners, continuous learning through advanced teaching methods, and applying insights on adult learning. INPO plans to issue a new NANT document in this area.

Closing Remarks

In closing, the NRC and INPO agreed that this meeting was productive and future meetings would continue. The NRC staff stated it is looking forward to continued engagement on accreditation activities and continued dialogue on the major activities the NRC and INPO are working on for advanced reactors. No final positions were taken during the meeting.

SUBJECT: SUMMARY OF THE 2023 ANNUAL UNITED STATES NUCLEAR REGULATORY COMMISSION/INSTITUTE OF NUCLEAR POWER OPERATIONS COORDINATION MEETING ON TRAINING-RELATED ISSUES DATE: JUNE 30, 2023

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ADAMS Accession No: ML23172A282 NRR-106

OFFICE	NRR/DRO/IOLB	NRR/DRO/IOLB
NAME	BLitkett	KMiller
DATE	6/22/2023	6/30/2023

OFFICIAL RECORD COP

NRC-INPO Coordination Meeting Webinar and Teleconference, June 1, 2023,

ATTENDEES

Nuclear Regulatory Commission

Russel Felts, Director, Division of Reactor Oversight, NRR
Ami Agrawal, Acting Deputy Director, Division of Reactor Oversight, NRR
Keith Miller, Acting Chief, Operator Licensing and Human Factors Branch
Bernard Litkett, Operator Licensing and Human Factors Branch, NRR/DRO
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Tom Stephen, Chief, RII, DRS/Operator Licensing Branch 1
April Nguyen, Chief, RIII, DORS, OB
Heather Gepford, Chief, RIV, DORS, OB

INPO Participants

Robert Gambone, Executive Director, National Academy for Nuclear Training; and Senior Vice President, Teaching and Learning
Larry Lucas, Director, Industry Training and Accreditation
Kenny Christian, Director, Industry Learning
Brain Gollatz, Manager, Teaching and Learning
Joyce Tomlinson, Senior Evaluator, Training
Conrad Smith, Columbia Operations continuum leader

Members of the Public

Jane Bergman, Curtiss Wright
Chris Courtenay, TerraPower
Michael Smith, X-energy
Tim Riti, Nuclear Energy Institute
Jessy Fowler
Jesse Howard
Burt Macklin
Mark H. Miller
Mary Miller
Ross Moore
Ingrid Nordby
D. Silver
Rick A. Stadtlander
Mark Verbeck

ANNUAL PUBLIC MEETING AGENDA

June 1, 2022, 02:00 pm to 04:00 pm

Teams meeting and teleconference call.

Time	Topic	Speaker
2:00 pm	Introductions and opening remarks	NRC/INPO
2:15 pm	Accreditation Update	INPO
	<ul style="list-style-type: none">• Summary of accreditation activities• Initial accreditation• New Reactor Suppliers• Academy document revisions	
2:30 pm	Regulatory Issues	NRC
	<ul style="list-style-type: none">• Revision 12 of NUREG-1021• Key guidance documents for advanced reactors and Commission review of training programs• Accreditation for advanced reactors	
2:45 pm	Industry Learning	INPO
	<ul style="list-style-type: none">• Leadership courses• E-learning (NANTeL)	
3:00 pm	Other Items of Mutual Interest Related to Training	NRC/INPO
	<ul style="list-style-type: none">• Discussion on the Annual INPO report• Meetings and workshops conducted• Training and performance continuum• Teaching/learning Strategy	NRC INPO INPO INPO
3:30 pm	Public Input	NRC
3:50 pm	Closing Remarks	NRC/INPO
4:00 pm	Adjourn	