

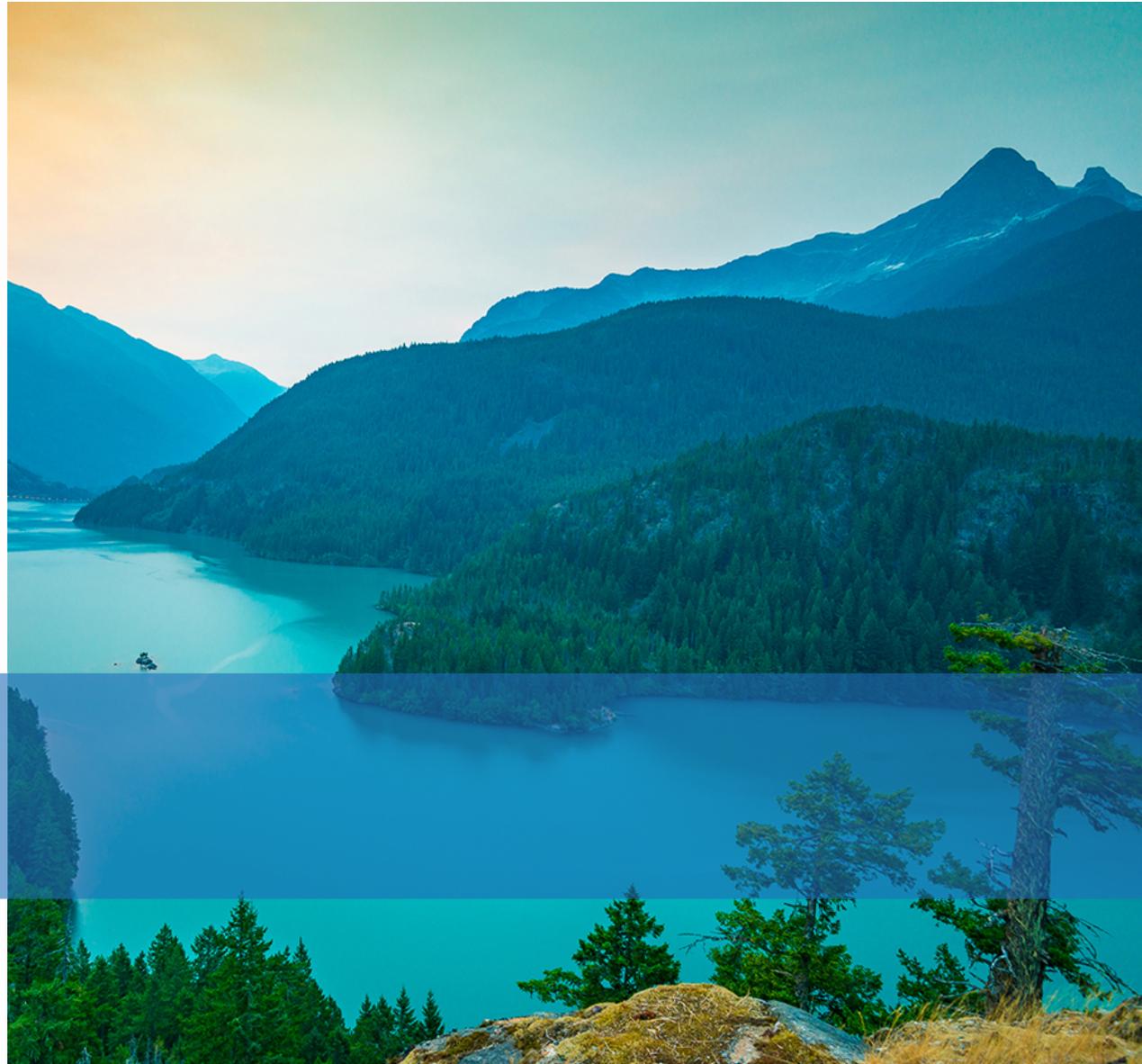
# NEI 23-01

## Operator Cold License Training Plan for Advanced Nuclear Reactors

December 14, 2023



©2023 Nuclear Energy Institute



# Purpose

---



- Discuss NEI 23-01, Operator Cold Licensing Training Plan for Advanced Nuclear Reactors
    - Focus on the differences between NEI 06-13A and NEI 23-01
  - Discuss how proposed changes to hot and cold licensing requirements for advanced reactor operator licensing and training programs will be reviewed
-



# Cold Licensing Requirements - background

Different requirements are needed for licensing operators during new construction and initial operation (cold licensing)

- Normal “in-field” SAT program elements can’t be done until after the plant is built
- Additional non-traditional work experience and observation program method needed

Vogtle 3&4 and VC Summer 2&3 cold license plan

- Developed in NEI 06-13A, Template for an Industry Training Program
  - Entire document was completely incorporated by reference in associated COL
  - Included all training programs required by 10 CFR 50.120 (All required SAT based programs), and 10 CFR 55.4 (Licensed Operators)
  - For operator licensing the guidance also included both hot and cold licensing guidance

# NEI 06-13A, Template for an Industry Training Program Description

---



- NEI 06-13A (continued)
    - Endorsed by NRC SER, and incorporated by reference into their COL
      - Created Hot Plant Observations, Practical Work Experience, Site Layout Course and Participation in Pre-Operational Test Program requirements
      - Added a Crew Cumulative Work Experience requirement during plant startup
    - Evolutions in plant design and operator staffing no longer align with last revision to NEI 06-13A
      - Drawbacks
        - » Design specific control room staffing size
        - » Did not cover “Alternate Cold License Methods for OJT/TPE”
  - NEI 23-01 is a stand-alone companion guide to NEI 06-13A
    - Allows 06-13A to remain in place for any COL that chooses to use it
    - Developed by an NEI joint working group, Operational Aspects of Advanced Reactors (OAAR)
    - Improved alignment to Advance Nuclear Reactors (ANRs)
    - Intended to cover cold licensing phase for ANRs
      - Defer hot licensing requirements to NANT Guidance (ACAD 10-001)
-

# Industry Guidance Document Changes

---



- **NEI 23-01, Operator Cold License Training Plan for Advanced Nuclear Reactors**
  - New document to provide specific guidance for ANR operator licensing during cold licensing phase
    - Eliminate hot license training program descriptions
      - Differed to NANT guidance document ACAD 10-001
  - Add a specific definition for Advance Nuclear Reactors
  - Revise the Crew Cumulative Nuclear Power Plant Experience requirements to meet smaller crew sizes
  - Create a path for direct SRO eligibility crediting BS academic degree to HS diploma + POSS test
  - Revise the standard to include flowcharts to establish eligibility, to better align with other guidance
-



# Reactor Operator program entry requirements

## Retain the same minimum education requirement

- High school diploma or equivalent

## Update the experience requirement

### • Existing Fleet Guidance

- At least 18 months nuclear experience
- or -
- 27 months of power plant experience

- ❖ Additional specific requirements based on type of nuclear facility and type of duties: 6 – 18 months

### • Proposed ANR Guidance

- At least 6 months design specific nuclear experience
- or -
- 12 months of power plant experience (includes experience at other nuclear designs)



# Senior Reactor Operator Cold Licensing program entry requirements

## Existing Fleet Guidance

- Education
  - BS degree
- or -
- Experience
  - HS diploma or equivalent – AND – one of the following:
    - Previous RO or SRO license
    - 24 months Military RO Equivalent
    - SRO Instructor time – evaluated by NRC on a case-by-case basis

## Proposed ANR Guidance for

- Education
  - HS diploma or equivalent – AND –
  - Internal Hiring Criteria Testing
- or -
- Experience
  - HS diploma or equivalent – AND – one of the following:
    - Previous RO or SRO license
    - 24 months Military RO Equivalent
    - SRO Instructor time

(NEI White Paper discussing education change)

# Additional Cold Licensing training, & watchstanding requirements



## Existing NEI 06-13A Guidance

### Cold License Training program:

- Site Layout Course
- 6 months Practical Work Experience
- Alternate Cold License method qual. guide (using Exemption)

### Experience Equivalency (one of the following):

- 6 months of previous Hot Plant experience
- 6 week Plant Operational Excellence Course (greenfield sites)
- 6 weeks of Preoperational testing experience
- 6 weeks of Hot Plant Observation (at similar design)

### Crew Cumulative Nuclear Power Plant Experience:

- 13 years cumulative power plant experience, including 6 years of cumulative nuclear plant experience (w/ at least 1 crew member w/ Hot Plant experience)

## Proposed ANR Guidance

### Cold License Training program:

- Site Layout Course
- **3 months** Practical Work Experience
- Alternate Cold License method qual. guide

### Experience Equivalency (one of the following):

- 6 months of previous Hot Plant experience
- 6 week Plant Operational Excellence Course (greenfield sites)
- 6 weeks of Preoperational testing experience
- 6 weeks of Hot Plant Observation (at similar design)

### Crew Cumulative Nuclear Power Plant Experience:

- **24 months** cumulative nuclear plant experience (w/ at least 1 crew member w/ Hot Plant experience)

# Path Forward/Questions

---



- Solicit stakeholder feedback
  - Update NEI 23-01, approve document
  - Provide to NRC for endorsement
  - Publish for the industry to use
-



# Acronyms

---

ACAD	National Academy for Nuclear Training Academy Document
ANR	Advanced Nuclear Reactors
CFR	Code of Federal Regulations
COL	Combined license
COLA	Combined License Application
INPO	Institute of Nuclear Power Operations
NANT	National Academy for Nuclear Training
NEI	Nuclear Energy Institute
NRC	The U.S. Nuclear Regulatory Commission
POSS	Plant Operator Selection System
SER	Safety Evaluation Report
RO	reactor operator
SRO	senior reactor operator

---