



Operator Licensing Program Briefing

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Agenda

- **Overview (Ho Nieh, NRR)**
- **Operating Reactors (Jack McHale, NRR)**
- **New Reactors (Mike Junge, NRO)**
- **Regional Perspectives (Mark Haire, R-IV)**

Operator Licensing Program Goals and Objectives

- **Only safe, competent operators are licensed**
- **Reliable, valid exams support making confident licensing decisions**
- **Respond to operating experience**

Initial Licensing Examinations

- **Written examination**
 - **multiple choice format: 75 RO questions, 25 “SRO only” questions**
 - **Random and systematic sampling of Knowledge and Abilities (NUREG)**
 - **Content, operational & discrimination validity; examination reliability**
 - **Facility prepared, NRC approved and administered**

Initial Licensing Exam Structure (cont.)

- **Job Performance Measures (JPM)**



Initial Licensing Exam Structure (cont.)

- **Simulator operating test**



Requalification Program

- **Industry accredited programs**
- **Administered by licensees and inspected by NRC**
- **Recent changes to NRC inspection procedure emphasize operator in-plant performance**

Post-Fukushima Impacts

- **NTTF Recommendations**
- **Key elements: new equipment, procedures, command & control, training/qualification/exercises**
- **Considerations:**
 - **Leverage current training and expertise**
 - **Cumulative effect on operators**
 - **Initial and requalification training**
 - **Exercises and performance monitoring**

Key New Reactor Staff Activities

- **Technical Training**
 - **Classroom**
 - **Simulator**
- **Qualified Operator Licensing Examiners**
 - **Regions**
 - **Technical Training Center**
 - **NRR**
 - **NRO**

Approach to Initial Licensing for New Reactors

- **Same Process as Operating Reactors**
 - **Minor changes to accommodate highly integrated control rooms**
- **Design Specific Knowledge and Abilities Catalogs**
- **Operator Examinations**

Plans to Address Key Challenges

- **Job Performance Measures**
- **Plant Reference Simulators**
 - **Reactivity Manipulations**
 - **Examination**





Regional Perspective – Value of Examiners: Exam Quality

- **Our Goal: Ensure Exam Distinguishes Between Applicants Well-Prepared for Safe Operation and Those that Are Not**
- **One Way Examiners Add Significant Value is Through Science of Knowledge Measurement**
- **An Example:**

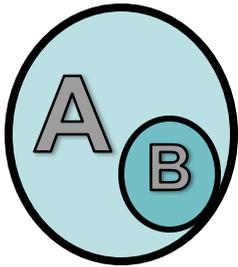
Value of Examiners: Exam Quality

**Given, [technical plant conditions]...
What should you do?**

- A. Exit EOP-20 immediately and enter AOP-17.**
- B. Exit EOP-20 immediately and enter AOP-17.
Reenter EOP-20 when you reach the AOP-17 exit conditions.**
- C. Complete the actions in EOP-20, and then enter AOP-17 when you reach the EOP-20 exit conditions.**
- D. Perform AOP-17 actions in parallel with EOP-20.**

Value of Examiners: Exam Quality

Given, [technical plant conditions]...
What should you do?



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- B. Exit EOP-20 immediately and enter AOP-17.
Reenter EOP-20 when you reach the AOP-17 exit conditions.
- C. Complete the actions in EOP-20, and then enter AOP-17 when you reach the EOP-20 exit conditions.
- D. Perform AOP-17 actions in parallel with EOP-20.

'B' is a subset of 'A' and therefore 'B' is not credible as written.

Value of Examiners: Plant Procedures



- Exam Reviews = procedure quality review
- Recent 2012 exam in RIV yielded 16 NCVs

Example: Starting a Main Feed Pump requires starting an Aux Lube-Oil Pump, but procedure didn't direct the Lube-Oil Pump to be started; affected 8/10 applicants

Value of Examiners: Operator Performance

- **Effective Operator Licensing results in competent operators**
- **Example: 2009 Electrical Fire at CGS = licensed operators performed as trained.**



Conclusion

- **NRC is licensing safe, competent operators**
- **Operator licensing staff making broad contributions to NRC safety mission**
- **Programs are responsive to emerging issues, such as new reactors and Fukushima lessons-learned**

List of Acronyms

- **AOP – Abnormal Operating Procedure**
- **CGS – Columbia Generating Station**
- **DCIP – Division of Construction Inspection and Operational Programs**
- **DIRS – Division of Inspection and Regional Support**
- **DRS – Division of Reactor Safety**
- **EOP – Emergency Operating Procedure**
- **FY – Fiscal Year**
- **JPM – Job Performance Measure**

List of Acronyms (cont.)

- **NCV – Non-Cited Violation**
- **NRC – Nuclear Regulatory Commission**
- **NRR – Office of Nuclear Reactor Regulation**
- **NRO – Office of New Reactors**
- **NUREG – NRC technical report designation**
- **NTTF – Near Term Task Force**
- **RIV – NRC Region 4**
- **RO – Reactor Operator**
- **SRO – Senior Reactor Operator**