

# NRC Efforts to Enhance Consistency in the Operator Licensing Process

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# Discussion Topics

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- Background
  - *Independent Review Team report*
  - *Commission direction*
  - *NRC consistency review working group*
- Issues considered
  - *12 specific items reviewed*
- Findings and recommendations
  - *Potential actions to improve consistency*

# Background

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## ***NEI Independent Review Team***

“The IRT noted that there are some inconsistencies in the implementation of the IOL process among regions and license examiners within a region. For the most part, these inconsistencies did not result in issues with the validity of the examination but create some frustration with the process among utility personnel.”

- IRT report , June 3, 2011

# Background (cont.)

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## ***Commission direction***

“The staff should consider the variation across the Regions in their approach to operator examinations and licensing and whether there are best practices that should be adopted by all Regions leading to a more consistent approach.”

- Staff Requirements Memorandum, Dec. 6, 2012

# Background (cont.)

## ***Consistency Working Group Formed***

- Members from each NRC regional office and headquarters
- Reviewed 12 specific issues (6 from IRT + 6 others)
- Operator licensing staff (Regional and HQ) surveyed for broad input
- Recommendations were developed

# Specific Issues

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1. ***Written exam **sample plan** – generated by the region or the licensee?***
2. ***Limitations on use of exam **bank questions** (per NUREG-1021 allowed  $\leq 75\%$  from bank)***
3. ***Philosophy/limitations on **open reference questions*****

# Specific Issues (cont.)

4. ***Practices for **informal review** of written questions/scenarios/JPMs by region prior to full exam development***
5. ***Practice of **bank questions** no longer being considered “higher cognitive level” for future exams***
6. ***Guidance provided at **regional exam workshops*****

# Specific Issues (cont.)

7. **Operating test *grading criteria* for non-critical errors**
8. **Exam *crew make-up*: chosen by Chief examiner or licensee?**
9. **Adequacy of *reactivity manipulations*, limitations on simulator-performed manipulations**



# Specific Issues (cont.)

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- 10. Use of “*SRO Only*” guidance from OL website**
- 11. Handling of written exam *time extensions***
- 12. Exams *authored by NRC* – written, operating or both?**

“A foolish consistency is a hobgoblin of little minds adored by little statesman, philosophers and devines.”

Ralph Waldo Emerson  
(from ‘Self Reliance,’ 1841)

# 1. Written Exam Sample Plans

## Program Recommendation:

- Regional differences exist, but both practices are allowed by NUREG-1021.
- NUREG-1021 is changing
- Changes are forthcoming in the future

## Regional Implementations:

- Sample plans to be generated by NRC.
- Sample plans to be submitted to exam author when requested (~1 year prior to exam)

## 2. Bank Question Limitations

### Program Recommendations:

- No significant discrepancies noted regarding use of limits
- No changes to NUREG 1021 needed. Recognize that  $\leq 75\%$  from ANY bank (includes questions from other plants, INPO, etc.)

### Regional Implementation:

- Written exam bank questions will be  $\leq 75\%$  as required by ES-401-6 form.
- Judicious use of “1 out of 2 taken twice”-type questions.

# 3. Written Exam References

## Program Recommendations:

- Some variations noted between regions
- Reinforce adherence to guidance in OL Program Feedback (FAQ 401-42) – “judicious and sparing,” References can’t compromise closed reference portion of exam, can’t be memory questions, no direct lookups... (ES-301, Att 1)
- Consider additional NUREG-1021 guidance/clarification

## Regional Implementations:

- Contact Chief Examiner due to preferences

## 4. Informal Exam Material Reviewed by NRC

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### Program Recommendations:

- Majority of staff believe practice is beneficial
- Licensee may submit some sample items for Chief review that should NOT be counted towards “unsat exam submittal” (unless not corrected prior to official submittal)

### Regional Implementations:

- RIII will review a sample of operating test and written exam questions.

## 5. Bank Questions are “Higher Cognitive Level”?

### Program Recommendations:

- Widespread understanding that all questions (including from bank) are to be considered at “face value”
- Reinforced during NRC examiner training April 2014

### Regional Implementation:

- Chief Examiners review written exam for LOK during exam submittal (9 weeks prior to exam).
- LOK documented on Form 401-9

## 6. Regional Exam Workshops

### Program Recommendations:

- Variety in frequency for conducting workshops
- Continue on “as needed” basis (OpEx, licensee request, new exam writers)

### Regional Implementations:

- RIII conducts annual workshops with licensee’s typically in June/July.



# 7. Simulator Grading Criteria

## Program Recommendations:

- Some variations in applying current criteria (0=3, 1=2, 2=1, 2-1=2, >2=1) for non-critical tasks
- NUREG-1021 clarification to require stronger documentation for grading 2 errors (why a “1” or “2”)
- NRC is revisiting Scenario grading

## Regional Implementations:

- RII extensively documents weaknesses on applicants
- RII expects applicant weaknesses to be remediated

## 8. Exam Crew Make-up

### Program Recommendations:

- Some variations in approach (NRC assign vs. licensee assign), but all in accordance with NUREG-1021, ES-201, C.3.j
- Sensitive to crews having sufficient prep time together
- No changes to NUREG 1021 are planned

### Regional Implementations:

- Continue to have licensee's pick crews.

## 9. Reactivity Manipulations

### Program Recommendations:

- No uniform definitions of “significant” and “appropriate feedback”
- Clarify/enhance guidance in NUREG-1021 and FAQs (ex. #202.1).

### Regional Implementation:

- 5 significant reactivity manipulations
- Significant defined in 55.59.c.3.i.E (BWR) as  $\geq 10\%$  (simulator)
- Plant manipulations, “clearly observable.”

# 10. Use of “SRO only” Guidance

## Program Recommendations:

- Guidance document being consistently used
- Was added to NUREG-1021, Rev 10. See ES-401, Att 2.

## Regional Implementations:

- Support your SRO-only question by referencing applicable paragraph from SRO Guidance document

# 11. Written Exam Time Extensions

## Program Recommendations:

- A few instances where Chief Examiner has not allowed unlimited time extensions
- Reinforced with NRC examiners April 2014 that time extensions should not be denied to take the exam

## Regional Implementations:

- Extensions granted to take the exam, not review the exam!

## 12. Exams Authored by NRC

### Program Recommendations:

- All regions develop written exam annually, not all developed an operating test!
- NRC evaluating the need to continue developing exams for proficiency reasons

### Regional Implementations:

- Must write the operating exam and written test.
- NRC-authored exams will require a pre-OV site visit to develop operating test with facility assistance.
- Pre-OV will be about 1 month prior to OV visit.

## 12. Exams Authored by NRC

### Regional Expectations (Cont'd):

- After pre-OV visit, licensee makes changes to operating exam and validates on simulator
- To allow for more timely written exam reviews, chief may submit 'partial' a written exam
- You are notified that NRC is writing your exam via RIS response letter. (DAEC 2015, Monticello 2016)

# Closing thoughts

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- **Communication is key**
  - *Talk with your Chief Examiner early & often*
  - *Get clarification when needed*
  - *Don't let issues become problems*



# Enhancing Consistency

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## Questions or Comments??