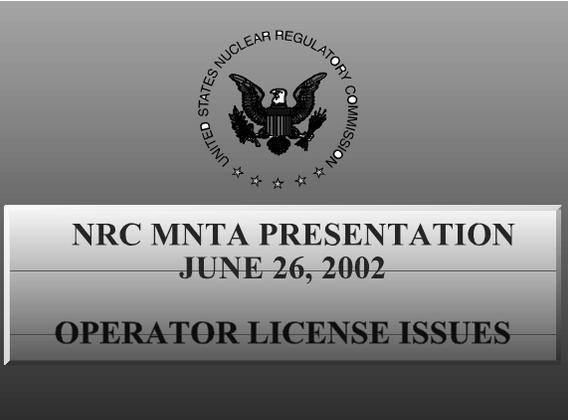
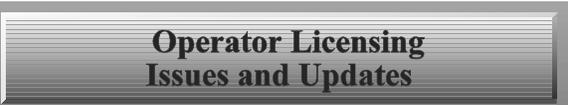


 <p><b>NRC REGION III</b></p> <p>Hironori Peterson Senior Operations Engineer</p>	<p><b>Slide 1</b> <span style="float: right;"><b>NRC REGION III</b></span></p> <p>NOTES:</p>
 <p><b>NRC MNTA PRESENTATION</b> <b>JUNE 26, 2002</b></p> <p><b>OPERATOR LICENSE ISSUES</b></p>	<p><b>Slide 2</b> <span style="float: right;"><b>NRC MNTA PRESENTATION</b></span></p> <p>NOTES:</p>
 <p><b>Operator Licensing Issues and Updates</b></p> <p><b>AGENDA</b></p> <ul style="list-style-type: none"> <li>○ Initial Operator License Examination <ul style="list-style-type: none"> <li>▷ Written Exams</li> <li>▷ Operating Exams</li> </ul> </li> <li>○ Licensed Operator Requalification Program <ul style="list-style-type: none"> <li>▷ Recent Requal Inspection Issues</li> <li>▷ Cooper Station - White Finding</li> <li>▷ Indian Point 2 - Yellow Finding</li> </ul> </li> <li>○ Upcoming Issues (As Time Permits)</li> </ul>	<p><b>Slide 3</b> <span style="float: right;"><b>Operator Licensing</b></span></p> <p>NOTES:</p>
 <p><b>WRITTEN EXAM</b></p> <p>CONSISTENT FORMAT FOR EXAM MATERIAL</p> <ul style="list-style-type: none"> <li>○ NRC WILL SUBMIT EXAMS TO INPO</li> <li>○ REQUEST ELECTRONIC COPIES <ul style="list-style-type: none"> <li>▷ MICROSOFT WORD</li> <li>▷ MICROSOFT ACCESS</li> <li>▷ WORDPERFECT</li> </ul> </li> <li>○ REQUESTED INFORMATION <ul style="list-style-type: none"> <li>▷ GUIDANCE IN ES-401-6</li> <li>▷ QUESTIONS NUMBERED 1-125+</li> <li>▷ STILL NEED SEPARATE RO AND SRO EXAMS</li> </ul> </li> </ul>	<p><b>Slide 4</b> <span style="float: right;"><b>WRITTEN EXAM</b></span></p> <p>NOTES:</p>

## REQUESTED QUESTION INFO

- EXAM OUTLINE CROSS-REFERENCE
- EXPLANATION OF ANSWER
- TECHNICAL REFERENCE(S)
- PROPOSED REFERENCES TO BE GIVEN TO APPLICANT DURING EXAM
- LEARNING OBJECTIVE
- QUESTION SOURCE & HISTORY
- QUESTION COGNITIVE LEVEL

## Slide 5 REQUESTED QUESTION INFO

### NOTES:

Cross Reference Includes:  
exam level (RO/SRO); Tier #; Group #; K/A #; K/A Importance Rating.

Explanation: Justification of the answer; and why distractors are incorrect  
(Optional - but if at all possible it would help us to perform an efficient review)

Tech Ref: List the references and revisions. If pertinent sections of reference to support the answer is attached - it would be greatly appreciated and help us in expediting the review

Question Source Includes: Bank #; Modified (note the changes and attach the parent question); New

Question History: If it was on a previous NRC exam

Cognitive Level : memory/fundamental or comprehension/analysis

**REMINDER !!! WE STILL REQUIRE SEPARATE RO AND SRO EXAMS FOR ADMINISTRATION**

## QUALITY OF EXAM MATERIAL

- IN GENERAL: QUALITY HAS IMPROVED
- COMMON CHALLENGES TO QUALITY
  - SRO ONLY QUESTIONS
  - QUESTIONS THAT DO NOT MATCH K/A's
  - MULTIPLE OR NO CORRECT ANSWERS

## Slide 6 QUALITY OF EXAM MATERIAL

### NOTES:

## SRO ONLY QUESTIONS

- NEW FAQ ON NRC WEB SITE
  - ▷ QUESTION NUMBERS 37a & 37b
  - ▷ #37a: Is it correct to say that an “SRO-level” question is simply different from the questions on the RO examination and related to one of the seven items listed in 10 CFR 55.43(b)?
  - ▷ #37b: ES-401 does not address using a K/A that references 10 CFR 55.43 for testing on the RO written examination; is that acceptable?

## Slide 7 SRO ONLY QUESTIONS

### NOTES:

In general, yes.

Questions that test knowledge and abilities per 10 CFR 55.43(b) can be considered SRO level questions, even though your training program requires the same level of knowledge for the ROs.

Ensure that SRO only questions evaluate knowledge and abilities at a level that is unique to the SRO job position as determined by your learning objectives.

You still must have at least 25 SRO only level questions for the SRO.

## SRO ONLY QUESTIONS

- AVOID GENERIC SYSTEMS QUESTIONS
- FOCUS ON THE 7 ADDITIONAL ITEMS IN 10 CFR 55.43(b)
- BIG PICTURE - IS IT APPROPRIATE FOR THE JOB LEVEL BEING EXAMINED?

## Slide 8 SRO ONLY QUESTIONS

### NOTES:

## QUALITY OF EXAM MATERIAL

- QUESTIONS THAT DO NOT MATCH K/A
  - ▷ TWO PARTS TO K/A
    - PART A & PART B (Note: A question could require knowledge of Part A based on info in the question stem and then the question asks for the answer as Part B.)
  - ▷ BIG PICTURE CHECK - DOES THE QUESTION ASK OR INVOLVE WHAT THE K/A REQUIRES?
- MULTIPLE OR NO CORRECT ANSWERS

## Slide 9 QUALITY OF EXAM MATERIAL

### NOTES:

## POST EXAM COMMENTS

- CONCERNS FOR POST EXAM CHANGES & WHAT WILL BE NOTED IN NRC REPORT
  - WHO IDENTIFIES POST EXAM COMMENTS
  - 5% AND 10% THRESHOLDS FOR POST EXAM COMMENTS
  - 20% THRESHOLD FOR QUALITY DOCUMENTATION IN REPORTS

## Slide 10 POST EXAM COMMENTS

NOTES:

## OPERATING EXAM

- PEER CHECKS
- INCREASING NUMBER OF APPLICANTS COMPARED TO THE NUMBER OF SETS OF EXAM MATERIAL NEEDED

## Slide 11 OPERATING EXAM

NOTES:

## OPERATING EXAM PEER CHECKS

- NEW GUIDANCE ISSUED
  - Peer Check Policy - web location?
  - Two Possible Cases
- HOW WILL AN APPLICANT BE GRADED
  - Consistent with Guidance - ES 303 ....
  - Consistent with Competency Grading Anchors

## Slide 12 OPERATING EXAM

NOTES:

## OPERATING EXAM PEER CHECKS

**POLICY INFO:** On OL web site,  
[www.nrc.gov/reactors/operator-licensing/regs-guides-comm.html](http://www.nrc.gov/reactors/operator-licensing/regs-guides-comm.html)

1. During Categories A and B of the operating test the NRC examiners will fill the “peer checker” role, if requested. However, only limited to acknowledging the applicant’s actions, regardless of their accuracy. At no time will the examiner correct the applicant. Facility staff may not be used as “peer checkers.”

## Slide 13 OPERATING EXAM

NOTES:

## OPERATING EXAM PEER CHECKS

### POLICY INFO:

2. During Category C of the operating test, the operating team or crew (including applicants and surrogates, if applicable) may perform the actions of a “peer checker.” At no time will the NRC examiners or additional facility staff, stationed or called upon, serve as “peer checkers.” The applicant or surrogate who serves as a peer checker will be held accountable for their actions.

Slide 14

OPERATING EXAM

NOTES:

## OPERATING EXAM PEER CHECKS

**CASE 1: APPLICANT SELECTS WRONG EQUIPMENT AND PEER CHECK IDENTIFIES AND CORRECTS THE ERROR.**

### How will an applicant be graded?

Only the applicant is held responsible, down graded with respect to the potential problem caused by the error. Actual severity in grading would depend on the potential consequences of the error. Consistent with ES 303 D.2.c guidance, grading would be based on the competency anchors, and the grade would probably be either 1 or 2.

Slide 15

OPERATING EXAM

NOTES:

In each case: depending on the focus of the peer check, the grading would depend on which competency best fits the situation. Most probably, the applicant would be graded under competency 5.b (Control Board Operation) and the peer checker under competency 6 a or b (communication and interaction with crew).

## OPERATING EXAM PEER CHECKS

**CASE 2: APPLICANT SELECTS WRONG EQUIPMENT AND PEER CHECK DOES NOT IDENTIFY THE ERROR.**

### How will an applicant be graded?

Both the applicant and the peer checker would be held responsible for the error. Both would be down graded, and severity of the grading would depend on frequency and consequences of the error. Consistent with ES 303 D.2.c guidance, grading would be based on the competency anchors, and the grade would probably be either 1 or 2.

Slide 16

OPERATING EXAM

NOTES:

## EXAM MATERIAL & NUMBER OF APPLICANTS

EVER INCREASING NUMBER OF APPLICANTS  
&  
ONE SET OR MULTIPLE SETS OF EXAM MATERIAL

- BETTER SCREENING OF APPLICANTS - IN GENERAL LOOKS SATISFACTORY
- SUBMITTING EXAM OUTLINE - TIMELY
- ONE SET OF EXAM MATERIAL COMPARED TO MULTIPLE SETS OF EXAM MATERIAL

## Slide **EXAM MATERIAL & NUMBER OF APPLICANTS**

### NOTES:

Concerning large number of applicants, we would encourage that you continue with your diligent screening of applicants before submitting them to the NRC exam.

With the recent exams, screening looks good.

Concerning exam outlines: I would encourage you that your staff get in contact with the assigned chief examiner as soon as you receive the exam confirmation letter (not the 120 day letter) and negotiate a date for submitting the exam outline.

Submit the exam outline as early as possible to allow for ample time to develop the exam.

Note: It is not advisable to develop the exam before the outline is submitted to and approved by us. This would avoid significant rewriting of exam material which may not be approved after the our outline review.

Main focus is resource requirements and efficiency.

## EXAM MATERIAL & NUMBER OF APPLICANTS

ONE SET VERSUS MULTIPLE SETS

- **One Set of Exam Material - Potential Benefits**
  - Less Exam Development Effort
  - Less Exam Material Review and Validation Effort
  - Potentially Less Stress on Applicants (Subjective)
    - Only for 1 to 3 hours a day, with some days not examined at all.
    - However, examined over a period of two weeks.

## Slide **EXAM MATERIAL & NUMBER OF APPLICANTS**

### NOTES:

## EXAM MATERIAL & NUMBER OF APPLICANTS

### MULTIPLE SETS VERSUS ONE SET

- **Multiple Sets of Exam Material - Pros & Cons**
  - Each Applicant Examined Only for 2 or 3 Days
  - Extensive Exam Development Effort
  - Extensive Exam Review and Validation Effort
  - Limited Use of Exam Material on Next NRC Exam
  - Potentially More Stress on Applicants (Subjective)
    - Examined for only 2 to 3 days, but potentially long days over 8 hours.
    - Required to perform potentially all 15 JPMS in one day, compared to 2 or 3 JPMS per day.

## Slide ~~EXAM~~ EXAM MATERIAL & NUMBER OF APPLICANTS

NOTES:

## EXAM MATERIAL & NUMBER OF APPLICANTS

However, if licensee proposes multiple sets of exam material, the NRC will consider it on a case-by-case basis. We would allow it ONLY if we have the available resources to support the exam review and validation processes.

**NOTE:** We reserve the right (per ES 201) to reject the multiple exam material approach based on resources and efficiency.

## Slide ~~EXAM~~ EXAM MATERIAL & NUMBER OF APPLICANTS

NOTES:

## LICENSED OPERATOR REQUALIFICATION INSPECTION PROGRAM

### RECENT REQUAL INSPECTION ISSUES

- EXAM SECURITY
- EXAM MATERIAL DUPLICATION
- REQUAL OPERATING EXAM EVALUATION & FAILURE RATE

## Slide 21 LICENSED OPERATOR REQUALIFICATION INSPECTION PROGRAM

NOTES:

## RECENT REQUAL INSPECTION ISSUES

### EXAM SECURITY

- **POTENTIAL MATERIAL COMPROMISE**
  - Exams Left Unattended - Both Licensee & NRC
  - Exam Material Briefing - Who, When, & Where
- **Exam Room Security**
  - Level of Security - Locked Doors, but who has the keys and/or combinations?
  - Room Design - NEW FAQ #34

## Slide 22 RECENT REQUAL INSPECTION ISSUES

NOTES:

## EXAM MATERIAL DUPLICATION

- **PERCENTAGE DUPLICATION ???**
  - White Paper - proposed policy being discussed with NEI & INPO. (Adams ML 021490522)
  - Proposed Policy for Written Exam - No more than 50% of items appearing on any single exam should be repeated from any previous exams within the same requl training cycle (either one or two year cycle).
  - Discussion is still ongoing. Nothing is yet final.

## Slide ~~EXAM~~ MATERIAL DUPLICATION

### NOTES:

Part of exam material duplication, also addresses in general the integrity of exams based on the validation process

## EXAM MATERIAL DUPLICATION

### VALIDATION VERSUS PREDICTABILITY COOPER STATION

- **YEAR 2000 BIENNIAL WRITTEN EXAM**
  - Compromised due to validation process
  - Indication of predictability through statistical evaluation and gained advantage through the validation process
  - Originally identified by licensee in August 2000 and 2001 through problem identification report -NRC inspection finding in October 2001 requl inspection

## Slide ~~EXAM~~ MATERIAL DUPLICATION

### NOTES:

## EXAM VALIDATION COOPER STATION

- **FINAL ASSESSMENT - WHITE FINDING**
  - Examination was not administered in an equitable and consistent manner and thereby compromised.
  - Specifically, the licensee used inappropriate validation process.
- **LICENSEE DID IDENTIFY THE CONCERN**
  - Failed to comprehend the significance of the concern.
  - No compensatory actions were taken.
- **FINAL REPORT ISSUED MARCH 26, 2002  
EA-01-298**

## Slide 25

## EXAM VALIDATION

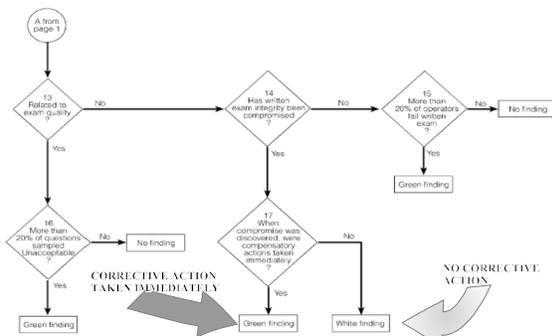
### NOTES:

If Cooper followed up on its own PIR and took appropriate compensatory actions, i.e., re-exam select operators, etc., would most likely result in a GREEN finding.

Because the licensee failed to appropriately follow up on the concern and no compensatory actions were taken, the issue was a WHITE finding.

Per MC 0609 APPENDIX i , SDP flow chart

Operator Requalification Human Performance SDP  
(February 15, 2002)  
Page 2



## Slide 26

### NOTES:

## REQUAL FAILURE RATE

- REQUAL OPERATING EXAM SDP
- STATISTICS OF PASS/FAIL RESULTS
- GREEN FINDINGS IN THE REGION
- INDIAN POINT 2 - YELLOW FINDING

Slide 27

REQUAL FAILURE RATE

NOTES:

## SDP

### SIGNIFICANCE DETERMINATION PROCESS

- MC 0609, Appendix I, Rev. 03/27/2002
- Simulator Operational Evaluation - SDP Metrics for simulator crew evaluation results

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SDP

NOTES:

### Simulator Operational Evaluation

September 21, 2000

Number of Crews  
with  
UNSAT Performance in the  
Annual Operating Test

	1	2	3	4	5	6	7	8
4	G	W	Y	Y	NA	NA	NA	NA
5	G	W	Y	Y	Y	NA	NA	NA
6	NF	G	W	Y	Y	Y	NA	NA
7	NF	G	W	Y	Y	Y	Y	NA
8	NF	G	W	W	Y	Y	Y	Y
9	NF	G	G	W	Y	Y	Y	Y
10	NF	G	G	W	W	Y	Y	Y
11	NF	NF	G	W	W	Y	Y	Y
12	NF	NF	G	G	W	W	Y	Y
13	NF	NF	G	G	W	W	Y	Y
14	NF	NF	G	G	W	W	W	Y
15	NF	NF	G	G	G	W	W	Y
16	NF	NF	NF	G	G	W	W	W

NF = < 20% Failure Rate - No Finding  
G = 20 - 34% Failure Rate  
W = >34 - 50% Failure Rate (NUREG-1021, Rev 8 - UNSAT Requalification Program)  
Y = >50% Failure Rate  
NA = Not Applicable

Note: If more than 16 crews are tested, or more than 8 crews are UNSAT in a given cycle, use the percentages above to determine the appropriate color.

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NOTES:

## REQUAL PASS/FAIL RESULTS

### REGION III STATS - LATE 2000 TO MID 2002

- CREW - 93.7% PASS RATE
  - ▷ TWO BELOW 80% - GREEN FINDINGS
- WRITTEN - 96% PASS RATE
- INDV OP TEST - 96.4% PASS RATE

Slide 30 REQUAL PASS/FAIL RESULTS

NOTES:

## INDIAN PT 2 - YELLOW FINDING

- 4 OUT OF 7 CREWS FAILED 2001 ANNUAL OPERATING EXAM (2 Staff and 2 Operating)
- 2 CREWS FAILED ON CRITICAL TASKS
- 2 CREWS FAILED ON COMPETENCY
- NRC FINAL ASSESSMENT - YELLOW REPORT ISSUED FEBRUARY 28, 2002  
EA 01-294 - ML020590217

## Slide 3 INDIAN PT 2 - YELLOW FINDING

NOTES:

## INDIAN PT 2 - YELLOW FINDING

Common Themes  
The "BIG 5" Knowledge/Ability Deficiencies

- Adherence to and use of procedures
- Knowledge of Plant and Systems Responses
- Diagnosis of Events and Conditions
- Control Board Operations
- Reactivity Management

## Slide 3 INDIAN PT 2 - YELLOW FINDING

NOTES:

## INDIAN PT 2 - YELLOW FINDING

Underlying Causes

- Prior remediation efforts were narrowly focused
- Some areas of training were enhanced, but instructional delivery, trainee evaluation, and feedback processes needed improvement
- High turn-over of operations training management and instructional staff
- Limited operations department involvement with Operations Training Activities and Initiatives

## Slide 3 INDIAN PT 2 - YELLOW FINDING

NOTES:

## UPCOMING ISSUES

NEW 10 CFR 55.46

- **SIMULATION FACILITIES**
  - Based on reactivity manipulation rule change, to allow the use of simulators for the 5 reactivity manipulations for initial license eligibility
  - Adding this change to existing requal inspections
  - Possible pilot inspections - possible inspection plan changes to add the simulator facility review
  - This is still under discussion, for approach, and scope of requal inspection

## Slide 34

## UPCOMING ISSUES

NOTES:

## UPCOMING ISSUES

NUREG 1021 REV 9  
(ONLY TENTATIVE NOTHING APPROVED)

- NRC LOOKING INTO PROPOSED CHANGES TO INITIAL EXAM PROCESS
- NRC WEB SITE - OPERATOR LICENSING PUBLIC MEETINGS
  - [www.nrc.gov/reactors/operator-licensing/meetings.html](http://www.nrc.gov/reactors/operator-licensing/meetings.html)
- ANY QUESTIONS OR CONCERNS CONTACT YOUR NEI REPRESENTATIVE

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UPCOMING ISSUES

NOTES:

The two public meeting summaries are August 2001 and February 2002.

## CLOSING REMARKS

- E-MAIL ADDRESS [hxp1@nrc.gov](mailto:hxp1@nrc.gov)
- Phone Number 630-829-9707
- Any questions please feel free to contact me at any time.
- Please fill out the feedback form.

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CLOSING REMARKS

NOTES:

KEEP UP THE GOOD WORK!!

It is a cooperative effort.

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NOTES:

## THANK YOU

- E-MAIL ADDRESS [hxp1@nrc.gov](mailto:hxp1@nrc.gov)
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THANK YOU

NOTES: