

Course: License Examiner Techniques
Lesson Title: Administration of Operating Tests

I. SPECIAL INSTRUCTIONS AND TRAINING AIDS

A. Special Instructions

- 1. None

B. Training Aids Needed

1. Transparencies

- a. Purpose and Objective sheet
- b. Effective Communications
- c. Efficient and Accurate Note Taking
- d. Examiner Professionalism
- e. Examples of Poor Professionalism
- f. Poor Professionalism Possible Repercussions
- g. Dealing With an Argumentative Applicant
- h. Common Rater Errors
- i. General Guidelines
- j. Administering Simulator Tests
- k. Administering Walk-through Tests
- l. NRR Performance Expectations

2. Handouts

- a. Transparencies
- b. Examiner Performance Expectations

3. Video tape

- a. "You're Not Listening"

II. REFERENCES

- A. Operator Licensing Examination Standards for Power Reactors, NUREG-1021, Revision 8, Supplement 1 [WITH DRAFT REVISION 9 NOTES]

III. OBJECTIVES

A. Terminal

Apply the principles and guidelines contained herein while administering a simulator and walk-through examination to produce a valid and reliable (consistent) basis for assessing applicant competence.

B. Enabling

1. State the principles involved in effective oral communications.
2. State the principles / guidelines involved in effective note taking.
3. Discuss the ways of achieving appropriate examiner demeanor.
4. Discuss the ways of dealing with a tense or argumentative applicant.
5. Discuss factors which can result in unacceptable rater errors.
6. Explain the guidelines and techniques for administering the walk-through and dynamic simulator tests.

NOTE: BEFORE STARTING THE LESSON, REVIEW THE SCHEDULE WITH THE STUDENTS AND ENSURE THEY DO NOT HAVE ANY QUESTIONS REGARDING THE OPERATING TEST DEVELOPMENT OBJECTIVES OR PROCESS.

IV. PRESENTATION

A. Introduction

(SLIDE-A)

1. Review the learning objectives with class

B. Effective communications

1. Show the "You're Not Listening" video
2. Discuss applicability to examination process and possible communications breakdowns

(SLIDE-B)

- a. Avoid distractions (maintain eye contact)

Noise, activities in the control room

- b. Use your thinking speed wisely

Use the time gap to concentrate and determine whether you need to follow-up?

- c. Control your mouth - listen and observe

Let (make) the applicant do most of the talking

- d. Maintain an open mind
- e. Don't jump to conclusions
Hear the applicant completely before judging
- f. Avoid prejudice
- g. Use clear and concise language when sending messages
Use terms familiar to candidate
Avoid jargon that could be vague
Avoid abbreviated or shortened words
Use technical terms appropriately

C. Note taking and documentation (SLIDE-C)

1. Efficiency and accuracy are essential
Enhances your recall during evaluation phase
It's better to write too much than to get back to the office and have to guess what happened
Use quotes whenever possible to minimize misinterpretation of notes during review and evaluation
2. Preparation is the key
Well-prepared and sequenced tasks, questions and responses
All JPMs and admin questions must be prescribed
Make sure you understand JPMs in advance and can ask follow-up questions if necessary to confirm applicant's understanding of the task at hand
Complete and accurate Form 4's
Anticipated responses can just be checked
3. They are not just for documenting failures
Essential for all walk-through and simulator exams

NRC management review and oversight in making licensing decisions
(response to IG findings)

4. Conceal your notes

You don't want applicant to see, but you also don't want it to interfere with
note taking

5. Avoid value-laden terms

Don't take a chance on the applicant seeing your notes or on having to
surrender your notes during FOIA request

Good reason to destroy rough notes after documentation is finalized
(after Branch Chief review is complete)

6. Finalize documentation as soon as possible after the exam

After just a few hours the average listener remembers only 20 to 25% of
what was heard

Review and edit notes

Ensure you can separate multiple applicants' performance

D. Examiner professionalism

(SLIDE-D)

1. Establish a professional rapport

Introduce yourself and greet the applicant

Also introduce any observers or auditors and ensure their
presence does not bother applicant

Explain the process using the Appendix E Attachment

Answer any questions they may have about methodology

Ensure they understand your questions

Note-taking does not equate to performance

Offer breaks if necessary, etc.

2. Give the applicant every reasonable opportunity to succeed

The applicant should feel that he's been treated fairly

- Be firm, but fair in dealings with licensees and applicants
3. Show basic forms of courtesy and respect
Treat the applicant as you would like to be treated
Pay attention and don't cut the applicant off
 4. Be aware of your body language and gestures
Don't: Appear distracted or fidget
 Frown, sigh, etc.
 Stand too close

Do: Maintain good eye contact
 Use moderate rate of speech
 It's even ok to smile occasionally
 5. Try to minimize applicant anxiety

If the applicant is obviously nervous, try to open the exam with some easier tasks or questions, if the rotation schedule permits

Switch topics and revisit later

Take a short break; get a drink of water

Avoid joking to relax the applicant; they could backfire

Try not to give indications that the applicant is doing poorly (they probably already know anyway)
 6. Close the exam properly

Answer questions applicant may have

Thank the applicant

Indicate that the results should be out in about 30 days, but do NOT reveal predecisional results, either to the applicant or to a facility representative
 7. Review NRR examiner performance expectations and provide a copy to students **(SLIDE-L)**

[NOTE: BRIEFLY REVIEW SLIDES E AND F BUT DON'T DWELL ON THEM.]

- Examples of poor professionalism (SLIDE-E)
- 8. Repercussions of poor professionalism (SLIDE-F)
- E. Dealing with an argumentative applicant (SLIDE-G)

Does not happen often, and may be response to poor performance, frustration, test anxiety. It is something to be prepared for; the following strategies may help.

1. Remain calm; don't become hostile or defensive; do not threaten the applicant with examination failure; don't become sarcastic even if the applicant does
 - May lead to escalation
 - May unfairly challenge validity of your evaluation
2. Listen openly; don't engage in an argument or debate
3. Ask questions. It denies him an object to attack, and invites him to justify his position or vent his feelings.
 - "What?" questions invite factual responses, whereas "Why?" questions invite judgements that may make him defensive.
4. Calmly write down the concern and restate for clarification
 - Document any disagreements so they can be confirmed or refuted later
5. State your position nondefensively; try to regain control
 - "I'm sorry, we can't take any more time to discuss this topic, we need to move forward so we can cover all required areas."
6. Use the silent treatment; it gives him nothing to push against. Calm silence communicates power and will make him feel uncomfortable.
7. Do a sidestep. Act as if you didn't hear what the person said.
8. Take a break to let tempers cool and, if all else fails, consult the chief examiner about reassignment.

F. Recognizing common rater errors

(SLIDE-H)

1. Similar-to-me-effect

Tendency to be more lenient in rating those for whom you feel a common bond.

2. Emotional bias (sympathy / toughness)

If a applicant is doing poorly, you may begin to feel sorry for him and it may result in "subconscious helping." Conversely, you should not be excessively cruel or tough.

3. Contrast effect

Tendency to evaluate applicant relative to other individuals, rather than against performance based standards.

4. Observation by anticipation

Take care to prevent excessive organization from clouding observations. With carefully prepared operator action pages it becomes possible, in the flow of the situation for observation to cease and anticipation to take over.

5. First impressions

Tendency to form an initial favorable or unfavorable judgement of an individual during the first few minutes, and ignoring or distorting information gained thereafter.

6. Stereotyping

Being influenced by one's preconceptions about the types of people who should and shouldn't do well on the job and therefore on the exams. Recall the example of the comptroller in the video seen earlier.

G. Administration policies and guidelines

1. General

(SLIDE-I)

a. Don't interfere with shift operations

b. Observers

- No applicants allowed
- CE may approve other examiners / auditors / NRC personnel
- Facility management and other personnel deemed necessary by the licensee should generally be allowed access under security agreements if there is room and no impact on the applicants
- Outsiders (e.g., INPO) with OLB approval
- Operator right of refusal (other NRC/outside)

c. Applicant briefings per Appendix E; individual or group; answer any questions they may have regarding process

d. Maximize efficiency

- Integrate whenever possible; do Categories B and C first and cover whatever administrative topics you can (e.g., emergency plan classification after the major transient)
- Determine the best sequence for JPMs and logistics (e.g., plant locations)
- Run scenarios and JPMs back-to-back; but protect security
- Divide test parts (but not simulator) if necessary and SC approves; CE must ensure complete coverage and documentation
- JPMs may be done in station-keeping mode if agreed to by facility licensee (security/escorts, coordination, etc.)

e. Follow the exam plan; substitute only when necessary

f. Use of prompts / probe questions

Major advantage of walk-through exam format

1. What is a prompt?

Use when you want the applicant to tell you more

Examples: "uh-huh", "go on", "anything else", "tell me more about that", etc.

Avoid giving the applicant performance feedback (e.g., "right", "ok", etc.)

Be careful not to coach or lead the applicant.

2. What is a probe question ?

Specific question to focus further on a topic

Maintain a questioning attitude when things go awry and the applicant or crew head off in a direction that is not expected; try to determine whether the applicant(s) are in error or the test item is flawed

Follow same guidelines as for pre-written questions

Avoid yes / no
Focus on higher levels, etc.

Examples: "What happens after...?"
"Then what would you do?"
"With regard to the related system of..."
"How do you know that?"

All follow-up questions should be fully documented for post-examination review and validation

g. Focus on documentation

- Use efficient note taking procedures and use easy to read abbreviations
- Do not attempt to evaluate the applicant (i.e., P / F) while administering the exam; simply evaluate individual responses for possible follow-up

2. Simulator exam

(SLIDE-J)

a. Preparation

Validate ("Dry run") scenarios whenever possible

Ensure the instructor knows what you want and his or her responsibilities

If surrogate operators will be used, make sure they know their responsibilities and limitations (this has created numerous problems in the past; particularly during test appeals); per Supplement 1, surrogates need not be licensed but must be knowledgeable; they shall be briefed on the scenario content and their expected actions for every event

STAs may be used consistent with facility operating practices but shall not take a proactive role; run additional scenarios if necessary; they shall also be briefed on the scenario content and their expected actions

Work out a communications system for initiating events

Decide who will test whom; it's usually best for the author to evaluate the SRO applicant

SRO-U applicants, while in an RO position, do not have to be individually monitored by an NRC examiner, but they will, nevertheless, have to be evaluated on Competency 5 if they fill such a position

Review the scenario with other examiners; ensure everyone understands the sequence of events

Check out the simulator (recorder paper, lamps, etc.) and mark recorders with date, time, and initials

Confirm with the licensee that the simulator instructor's station, programmer's tools, and external interconnections do not compromise security during the tests (also a concern during prep.); Appendix D describes a number of vulnerabilities

b. Applicant briefings / shift turnover

Address process IAW Appendix E

Ensure position assignments and rotation are appropriate for the applicant's license level

Plant conditions / desired actions

Panel familiarization

Coordinate with simulator instructor

c. Avoid discussions with other examiners during the exam

Whispering (or laughing) in the corner during simulator exam can be very distracting

Compare notes and observations after the scenario (set) is complete to ensure consistency and adequacy of coverage; ensure all competencies have been covered

d. Optimize observation position

Stay with your applicant - if he goes to a back panel, you go too;
BUT do not interfere with his ability to operate the controls

Avoid leaving the simulator floor to talk to the simulator instructor;
agree upon a timing / cuing system before the exam

e. Maintain security and integrity

Discuss recent incidents, as appropriate

Be on the alert for the simulator instructor giving important cues to
the applicants

Make sure initial conditions are clear if instructor gives turnover

Monitor phone communications if possible

Be careful not to discuss applicant performance in front of the
instructor

Ensure crews do not mingle during breaks if scenarios are in
common

Collect operating logs and advance recorders if the same
scenarios are used for successive crews

f. Avoid questioning the applicant during the scenario; hold
questions until simulator is frozen

Be sure to follow-up on problems and reasons for unexpected
actions

g. Take great care in timing the insertion of malfunctions. The pace
at which malfunctions are entered can adversely affect the way a
crew responds.

If the time is too brief, it may cut short a normal evolution (they will
often stop what they are doing and could invalidate an event that
you had planned) or obscure the effects of a particular
malfunction.

It is generally better to cue events based on parameters rather
than predetermined times.

If the time is extended too much, the waiting time may cause

undue stress on the applicants.

Time compression can be used as long as it does not preclude the applicants from performing tasks that they would typically perform.

To prevent negative training, the examiners should inform the applicants that time compression may be used during the scenarios.

Be careful to control the timing of instructor cues and reports from operators, etc. in the field

- h. Do not alter the simulator model to obtain a desired effect during a scenario
- i. Establish a time standard with other examiners; this is particularly important to ensure consistent documentation of time-critical tasks
- j. Observe and Document

Monitor the applicant's performance during each of the planned events, keeping in mind the 6/8 (RO/SRO) competencies that will have to be evaluated, and take notes, as appropriate

Video taping is NOT allowed on initial exams (at facility discretion on requal); detail of recordings does not support individual licensing decisions; the practice was considered intrusive to the applicants and examiners, and several facility licensees expressed concern over how the video tapes would be used.

If the simulator is capable of doing so, have the instructor record designated parameter traces/trends

If any of the applicants did not perform as expected (and it is possible that one or more of the crew members may fail) obtain a copy of the applicable recordings and encourage the simulator instructor to retain a copy as well

It is helpful to collect the operators' logs and other documents / forms for record purposes

- k. Be prepared for the unexpected

Simulator disasters; unplanned events; unanticipated actions or trips; extra scenarios come in handy if it is not possible to reinitialize and start over

Document any changes from the planned sequence of events so they can be used in final documentation

If the simulation facility should become inoperable and cause excessive delay of the operating tests, the chief examiner should discuss the situation with the facility licensee and the responsible regional supervisor so that management can make a decision regarding the conduct of the operating tests. It may be necessary to reschedule the simulator examinations for a later date.

The simulator should be considered inoperable under any of the following conditions:

- The simulator exhibits a mass/energy imbalance, erratic logic, or inexplicable panel indications during model execution.
- The simulator exhibits unplanned and unexplained events or malfunctions that cause the applicants to divert from the expected responses and success path of the planned scenario.
- The simulator automatically goes to the "freeze" state during a scenario or a "beyond simulated limits" alarm is received on the instructor station.
- The simulator instructor informs the examination team that a software module has halted or "kicked out."

Occurrence of any of these abnormal simulator operating conditions during an examination constitutes sufficient cause to stop the scenario. Evaluations of the applicants' performance during any of these simulator malfunction conditions may be unreliable.

When the simulator has been restored to full operability, the chief examiner will determine if the scenario requires replacement, may be resumed in progress, or may be restarted from the beginning.

3. Walk-through (SLIDE-K)

- a. Thorough preparation and knowledge of the JPM are essential for detecting errors and developing appropriate, performance-based follow-up questions

Review all JPMs and dry run complex JPMs when possible, particularly if they were developed by the NRC.

Be careful not to change the initiating cue or initial conditions from what was validated unless you fully understand the consequences; it may elicit a response that is different from that prescribed and lead to an incorrect grade. A recent failure was overturned on appeal because the examiner had changed the the BWR MSL rad monitor indications for a steam leak with a stuck open MSIV from all high to one high and three low. This was incorrect because the monitors were not associated with individual steam lines. The applicant's answer did not match the key, so the examiner marked him wrong even though his answer was correct based on the indications provided.

Validate the JPM against the current procedure to ensure it hasn't been changed. Particularly important for time-critical tasks.

Ensure that all of the required operator actions preceding the start point of the JPM are completed unless the action is purposely omitted as part of an alternate path JPM

If you have difficulty keeping up with the operator ask him or her to describe the actions as they complete them. [The briefing sheet in Appendix E (Part D, Item 8) directs applicants to verbalize their actions and observations while performing tasks.]

b. Applicant cuing

JPMs should be performed on the simulator whenever possible; eliminates many problems

Be careful only to provide verbal cues of what applicant would readily observe

Watch out for nonverbal cues; keep a poker face

Be careful not to lapse into the training mode.

c. Do not manipulate controls for the applicant (e.g., silencing alarms)

d. Critical steps

Encourage the applicant to use the procedure as he or she would in the plant.

Need not be performed flawlessly, but essential to complete IAW associated standard

e.g., if a critical step is missed but the operator later comes back to it and performs it correctly, then credit should be given provided the plant was not placed in a degraded status

- e. Do not tell the applicant the time "limit" for the JPM prior to performing it; simply creates stress and delays completion of the task

Per Sup. 1, if the applicant exceeds twice the validated time estimate for any JPM (including time-critical) because he or she has selected an incorrect procedure or operated the wrong equipment (despite being presented with sufficient plant feedback to correct the error), the examiner should stop the JPM, document the circumstances, and proceed with the next JPM. However, if the applicant is on the correct path but has simply stopped making progress toward completing a non-time-critical JPM, the examiner should ask the applicant to describe the work to be done and how long it should take to complete the JPM. If the applicant does not then make timely progress toward completing the described actions, the examiner should inform the applicant that the allowed time for the JPM has elapsed and the applicant will be evaluated on the work completed. The examiner should then proceed with the next JPM.

- f. JPM questions

Avoid asking during JPM; may be distracting or result in prompting or leading the applicant

Be prepared to ask follow-up questions to clarify the applicant's understanding of the task that was performed; remember to document

Limit JPM follow-up questions to those aspects of system design and operation that relate to the task that was performed. If the applicant correctly performs a JPM (including both critical and noncritical steps) and demonstrates familiarity with the equipment and procedures, the examiner should infer that the applicant's understanding of the system/task is adequate and refrain from asking follow-up questions. However, if the applicant fails to accomplish the task standard for the JPM, exhibits behavior that demonstrates a lack of familiarity with the equipment and procedures, or is unable to locate information, control board indications, or controls, the examiner should ask performance-based follow-up questions as necessary to clarify or confirm the applicant's understanding of the system as it relates to the task that was performed.

Similarly, if the applicant gives an ambiguous answer to a prescribed administrative question, the examiner is expected to ask probing questions to ensure that the applicant understood the original question and the applicable knowledge or ability. The examiner shall document all performance-based questions and answers for later evaluation.

If an applicant volunteers additional or corrected information after having completed a task or question, the examiner shall offer the applicant the opportunity to take whatever actions would be required in a similar situation in the plant. The examiner will record any revisions to previously performed tasks or answers for consideration when grading the operating test per ES-303.

Once the applicant has completed the JPM, he or she can not go back and start over, but the examiner will consider any corrected information provided when grading the operating test.

Although exam is "open reference," the prescribed questions are designed to evaluate knowledge beyond just being able to find information in control room documents. The applicant should ask to use a reference if he or she think it necessary, but it is up to you to inform him/her whether it is appropriate. Although there is no specific time limit to answer a question, you may evaluate an applicant as UNSAT on a question if he/she is unfamiliar with the subject and unable to answer in a reasonable period of time. Unlimited searches are not acceptable.

Applicant can be handed a copy of the questions to read. This is particularly helpful in high noise areas.

4. Peer Checks
 - a. Interim policy was issued on the web in June 2002 after being raised by and discussed with the regions
 - b. Guidance to the applicants was incorporated into Appendix E
 - c. During the dynamic simulator portion of the operating test (i.e., Category C), the operating team or crew (including license applicants and surrogates, if applicable) should perform peer checks in accordance with the facility licensee's conduct of operations and training procedures and practices. Additional facility staff may not be stationed or called upon for peer checks, nor will the NRC examiners perform this function. Pursuant to Instruction E.4 of Appendix E of NUREG-1021, if an applicant serves as a "peer checker" during a simulator scenario and misses another applicant's error, then both applicants will be

graded accordingly. However, if an applicant intends to commit an error but is prevented from doing so by the peer checker, the applicant will, nevertheless, be held accountable for the consequences of the intended error without regard to mitigation by the crew.

- d. During the walk-through portion of the operating test (i.e., Categories A and B), NRC license examiners will fulfill the "peer checker" role if it is required by the facility licensee's conduct of operations and training procedures and practices. However, the NRC examiners' role will be limited to **acknowledging** the applicant's intended or completed actions, regardless of their accuracy. If the applicant's intended actions are erroneous, the examiner will simply acknowledge the applicant's request for a peer check, agree with the intended actions, and grade the error in accordance with ES-303 of NUREG-1021. Pursuant to Section D.1.j of ES-302 and Instruction C.3 of Appendix E of NUREG-1021, facility staff may not be used as "peer checkers."

ADMINISTERING OPERATING TESTS

OBJECTIVES

A. Terminal

1. Administer simulator and walk-through examinations.

B. Enabling

1. State oral communications principles.
2. State note taking principles.
3. Discuss appropriate examiner demeanor.
4. Discuss how to deal with an argumentative applicant.
5. Discuss rater error factors.
6. Explain operating test administration techniques.

EFFECTIVE COMMUNICATIONS

1. Avoid distractions
2. Use your thinking speed wisely
3. Control your mouth - listen and observe
4. Maintain an open mind
5. Don't jump to conclusions
6. Avoid prejudice
7. Use clear and concise language
8. Be a good listener

TAKING NOTES

1. Efficiency and accuracy are essential
2. Preparation is the key
3. They are not just for documenting failures
4. Conceal your notes
5. Avoid value-laden terms
6. Finalize documentation as soon as possible

EXAMINER PROFESSIONALISM

1. Establish a professional rapport
2. Give the applicant every reasonable opportunity to succeed
3. Show basic forms of courtesy and respect
4. Be aware of your body language and gestures
5. Minimize applicant anxiety
6. Close the exam properly

EXAMINER EXPECTATIONS

1. Maintain focus on safety
2. Alert resident staff of concerns
3. Identify and stop unsafe practices
4. Apply agency-wide standards, NOT personal desires
5. Document evaluations clearly and accurately
6. Evaluations must stand on technical excellence, NOT authority as a regulator
7. Communicate concerns accurately, promptly, and within regulatory framework
8. Adhere to agency backfit policies
9. Promptly involve NRC management
10. Resolve comments/appeals promptly and fairly
11. Maintain qualifications and skills
12. Professional standards must match our expectations for licensee personnel

EXAMINER PROFESSIONALISM EXAMPLES

1. Don't violate plant rules
2. Avoid inappropriate "small talk"
3. Avoid too casual an attitude
4. Don't play "gotcha"
5. Pay attention
6. Don't create undue stress
7. Conduct a complete exam
8. Treat applicant as professional
9. Don't hinder the applicant
10. Present a united front at
the exit briefing
11. Don't violate ethical standards

EXAMINER PROFESSIONALISM POSSIBLE REPERCUSSIONS

1. Increased incidence of exam appeals
2. Loss of licensee respect for NRC and examiners
3. Increased adversarial relationship between licensee and NRC
4. Increased costs in time and resources
5. Personal repercussions

DEALING WITH AN ARGUMENTATIVE APPLICANT

1. Remain calm
2. Don't be sarcastic
3. Don't be defensive
4. Ask questions
5. Listen openly and document concerns
6. Do a sidestep; use silent treatment
7. Take a break

COMMON RATER ERRORS

1. Similar-to-me-effect
2. Emotional bias
3. Contrast effect
4. Observation by anticipation
5. First impressions
6. Stereotyping

GENERAL GUIDELINES

1. Minimize interference
2. Observers
3. Applicant briefings
4. Be efficient
5. Follow the plan
6. Follow up when required
7. Focus on documentation

ADMINISTERING SIMULATOR TESTS

1. Make final preparations
2. Brief applicants
3. Avoid examiner caucusing
4. Stay with your applicant
5. Maintain security and integrity
6. Hold your questions
7. Time events carefully
8. Do not alter model
9. Establish time standard
10. Observe and document
11. Prepare for the unexpected

ADMINISTERING WALK-THROUGH TESTS

1. Prepare thoroughly
2. Applicant cuing
3. Keep your hands off
4. Critical steps
5. Time limits
6. JPM questions

PEER CHECKS

- Interim clarification to Rev. 8
- Applicant briefing
- Simulator
- Walk-through

DRAFT REV 9 ADMIN CHANGES

- Questions will only be asked “for cause”
- “Peer check” guidance included
- Protect pre-decisional performance information