

PROCESSING REQUESTS FOR ADMINISTRATIVE REVIEWS AND HEARINGS

A. PURPOSE

To provide additional guidance to the staff on the implementation of the requirements contained in NUREG-1021, "Operator Licensing Examination Standards for Power Reactors," Section ES-502, concerning the processing of applicant-requested administrative reviews and hearings.

B. BACKGROUND

NUREG-1021, "Operator Licensing Examination Standards for Power Reactors," Section ES-502, "Processing Requests for Administrative Reviews and Hearings After Initial License Denial", describes the process to be followed for reconsidering proposed license denials. If there is a disagreement between this manual chapter and ES-502, ES-502 will provide the acceptable practice.

The appeal process typically starts when an applicant transmits a request (within 20 days of the date on the denial letter) for an informal review of the proposed examination failure (or application denial) to the Director, Division of Inspection Program Management (DIPM).

C. OVERVIEW OF THE PROCESS

1. Informal Reviews

Upon receipt of the applicant's request for an informal review, the NRR Operator Licensing and Human Performance Section (IOHS) staff will take certain administrative actions (e.g., send an acknowledgment letter to the applicant), and coordinate with the affected region to determine who will perform the review (region, IOHS, or a panel). IOHS will typically perform these reviews and document the results, taking into account any regional and/or examiner of record input. When the informal review is complete, the results of the review will be approved by IOHS, and signed out by the DIPM Director, taking into account regional input. In accordance with NUREG-1021, informal reviews associated with examination failures are to be completed within 75 days of receipt of the applicant's request, and informal reviews of a denied application for other reasons (e.g., eligibility) are to be completed within 60 days.

If the informal review overturns the original denial, IOHS will instruct the affected region to issue the applicant a license. If the informal review sustains the original denial, the applicant may request a hearing, by sending a letter to the Secretary of the Commission (SECY) and the Office of General Counsel (OGC).

2. Hearings

The applicant may request a hearing, by sending a letter to SECY and OGC, within 20 days of any license denial. Upon receipt of a hearing request, the Atomic Safety and Licensing Board (ASLB) will appoint a presiding officer (administrative law judge) to hear the case, OGC will assign an administrative lawyer to represent the NRC staff, and OGC will notify IOHS of the hearing request. The presiding officer will review the applicant's hearing request, and will typically direct the NRC staff to submit its position(s) and supporting documentation (i.e., an affidavit and hearing file) in response to the applicant's contentions by a specific deadline or deadlines.

After the affidavit and hearing file have been reviewed by OGC and by IOHS, these documents are delivered to the presiding officer. The presiding officer may have additional questions for the NRC staff or the applicant, which will typically require drafting additional affidavits. After the presiding officer has considered the facts, he or she will render a decision. If the NRC staff disagrees with the presiding officer, the staff can request that the Commission review the presiding officer's decision consistent with 10 CFR 2.786. For more details on the hearing process, see 10 CFR Part 2, Subpart L.

D. RESPONSIBILITIES AND DETAILED PROCESS INSTRUCTIONS - See also ES-502, Section C

1. NRR Operator Licensing Program Office (IOHS)

- a. Upon receipt of an applicant's request for an informal review, IOHS will perform the following administrative actions:
 - (i) Notify the appropriate NRC regional office of the informal review request, and transmit a complete copy of the applicant's request to that region.
 - (ii) Prepare a letter for signature by the Director, DIPM, notifying the applicant that his or her request has been received and is being reviewed (sample letter provided as Attachment 1).
 - (iii) Take actions to open a TAC number for the informal review.
- b. The Chief, IOHS, in consultation with the affected region and the IOHS staff, will determine whether to: (1) have the affected region perform the review; (2) have IOHS perform the review; or (3) convene a three-person appeal panel to perform the review. Since all informal review results are subject to a review by IOHS, in order to enhance efficiency, IOHS will typically perform the review and document the results, taking into account any regional/examiner of record input.

- c. If it is determined that IOHS will conduct the review, then IOHS shall conduct and document the review in accordance with the guidance in Section E. IOHS will also establish and maintain communications with the affected region, in order to ensure that the review results include regional input.
- d. If it is determined that an appeal panel will be used for the review, then the Chief, IOHS, in consultation with all the NRC Regions, will determine the makeup of the panel. Note that an appeal panel shall consist of two certified examiners (or subject matter experts) and a designated chairperson (usually a regional branch chief or a senior examiner). The panel shall be impartial - it may include a representative from the affected region, but it will not include individuals involved with the applicant's licensing examination.
- e. Regardless of who performs the review, it is expected that IOHS will be familiar with the circumstances of any contested examination failure and with the contents of any applicant request for an informal review or hearing.
- f. The results of all informal reviews will be reviewed by IOHS and signed out by the Director, DIPM, taking into account any input from the affected region. If a proposed license denial is overturned as a result of an informal review, IOHS will instruct the affected region to issue the applicant a license.
- g. Upon completion of the review, IOHS will take actions to close the applicable TAC number.
- h. For hearings, similar responsibilities for IOHS apply: A new TAC number will be opened, a copy of the applicant's request will be sent to the affected region, and the new TAC number will be closed upon completion of the hearing process.
- i. Similar to the informal review process, the Chief, IOHS, in consultation with the IOHS staff and the affected region will determine who will be responsible for conducting the hearing review and preparing any NRC affidavits and/or hearing files. Due to the extensive amount of effort required to draft affidavits and construct hearing files, it is imperative that IOHS and the affected region quickly evaluate their personnel resources and establish these responsibilities. It is generally expected that the affected region will conduct the review and prepare any affidavits and hearing files. However, if the affected region does not have the necessary personnel resources, IOHS will perform the review and prepare the documents but only for hearings involving contested written exam failures. For contested operating test failures, the examiner of record, since he

directly observed the applicant during the exam, is expected to prepare any hearing documents.

- j. IOHS shall review all hearing related documents drafted by the NRC technical staff.

2. Affected Region

- a. In consultation with IOHS, determine who will perform the review (region, IOHS, or a panel). Typically, IOHS will perform and document informal reviews. If an appeal panel is to be used, all regions (including the affected one) should examine their personnel resources, and determine who would be available to serve as panel members (see D.1.d above for panel membership restrictions).
- b. Regardless of who performs the review, it is expected that the affected region will be familiar with the circumstances of any contested examination failure and with the contents of any applicant request for an informal review or hearing.
- c. If IOHS or a panel conducts the review, the affected region will be responsible for answering questions and providing assistance as requested by IOHS or the panel. This assistance may include providing preliminary assessments for some of the contested test items, assisting in the selection of a facility licensee point of contact for obtaining technical references, and providing certain examination documents (see Sections E.1.c and E.1.f for a list of documents).
- d. If the affected region conducts the review, the affected region shall:
 - (i) Ensure that the review is not performed by any examiners involved with the applicant's original licensing examination. This will ensure that the review is conducted in an impartial fashion.
 - (ii) Conduct and document the review in accordance with Section E.
 - (iii) Establish and maintain communications with IOHS during the review, in order to ensure that the review results include IOHS input.
 - (iv) Upon completion, forward their draft results to IOHS for review.
- e. If a proposed license denial is overturned as a result of an informal review, the affected region, as directed by IOHS, will proceed with actions to issue the applicant a license.

- f. Following the DIPM Director's approval of the informal review results (regardless of who performed the review), the affected region will: (1) review the examination results of the other applicants to determine if any of the licensing decisions are affected; (2) update the master examination file to reflect any test item deletions or answer key changes; and (3) consider the need to correspond with the facility licensee regarding the quality of the examination (see Section C.2.c of ES-501).
 - c. Similar to the informal review process, for hearings the affected region and IOHS will determine who will be responsible for conducting the review and preparing any NRC affidavits and/or hearing files. Due to the extensive amount of effort required to draft affidavits and construct hearing files, it is imperative that the affected region and IOHS quickly evaluate their personnel resources and establish these responsibilities. It is generally expected that the affected region will conduct the review and prepare any affidavits and hearing files as discussed in D.1.i, above.
 - h. The affected region will ensure that a hard copy of all informal review and hearing documents is placed in the applicant's Part 55 docket file. Although some documents may exist electronically, as wordperfect files, e-mails, or ADAMs files, the Official Agency Record is always a hard copy placed in the individual's Part 55 docket file. If the affected region is uncertain as to what hard copy documents should be placed in the individual's Part 55 docket file, they should contact IOHS for guidance.
3. Appeal Panel
- a. During an appeal panel review, the panel should conduct and document the review in accordance with the guidance contained in Section E.
 - b. During an appeal panel review, the panel will establish and maintain communications with the affected region and IOHS, in order to ensure that the review results include regional and IOHS input.
 - c. Upon completion, the appeal panel will forward their draft results to IOHS for review.
4. OGC
- a. Upon receipt of a hearing request, OGC assigns an attorney from their staff to represent the NRC in the case, and notifies IOHS of the request.
 - b. During a hearing, the assigned OGC attorney carries out all communications (acknowledgment letters, phone calls, etc.) with the applicant and all communications with the presiding officer. All communications between the NRC technical staff and the applicant and

between the NRC technical staff and the presiding officer must go through the assigned OGC attorney.

- c. In accordance with the above, the assigned OGC attorney reviews all NRC drafted hearing documents (affidavits, hearing files) prior to the documents being submitted to the presiding officer or sent to the applicant.

3. Facility Licensee

During an informal review or hearing, the facility licensee is expected to designate a single point of contact to provide answers and reference materials for detailed technical questions, as necessary. Establishing the facility point of contact will be arranged with input from the affected region.

E. REVIEW GUIDANCE AND DOCUMENTATION

1. Review Guidance

- a. When an applicant requests that the Director, DIPM, conduct an informal review, the NRC is responsible to ensure a timely review is performed. Informal reviews associated with examination failures are to be completed within 75 days of receipt of the applicant's request, and informal reviews of a denied application for other reasons (e.g., eligibility) are to be completed within 60 days.
- b. In all cases, each of the applicant's contentions shall be reviewed and addressed in the results documentation.
- c. For reviews involving written examinations, the following items shall be reviewed:
 - (i) a copy of the applicant's request for an informal review, including all applicant contentions and applicant-supplied reference material;
 - (ii) a copy of the contested written exam questions with answer key;
 - (iii) any documentation and technical references supporting the bases for the correct answers and why the distractors are incorrect;
 - (iv) as required, any other technical references for the contested questions; and
 - (v) a copy of the applicant's original answer sheet.

The material should be obtained from the affected region, if available, or from the facility licensee point of contact.

- d. In conducting a review of written exam grading, the reviewer(s) should carefully examine each of the contested questions and associated materials. For each contested question, the following is a list of typical possible outcomes:
- (i) Delete the question, due to a psychometric-related problem (e.g., unclear, not appropriate as a closed referenced test item, not appropriate to the license level, not linked to job requirements);
 - (ii) Delete the question, due to technical problems (e.g., no correct answer or more than two correct answers);
 - (iii) Keep the question, but change the correct answer choice;
 - (iv) Keep the question as is, with no change in grading; or
 - (v) Accept an additional answer choice as correct (note: a question is considered valid with up to two correct answer choices).

See NUREG-1021, ES-401 and Appendix B for more details on psychometrics, and ES-403 on written exam grading.

- e. Upon determining an outcome for each contested question, the reviewer(s) shall re-calculate the applicant's overall examination score. For an example recalculation, see the "Summary" Section of Attachment 4. If multiple applicants have asked for a review of the same written examination, the outcome of each contested question for each applicant shall be determined first, and the outcomes for all of the contested questions applied to each of the applicants' exams.
- f. For reviews involving operating examinations, the following items shall be reviewed:
- (i) a copy of the applicant's request for an informal review, including all applicant contentions and applicant-supplied reference material;
 - (ii) a copy of the contested test items (JPMs, scenarios) with answer keys;
 - (iii) any documentation, procedures, or technical references that provide the basis for the correct operator actions;

- (iv) as required, any other technical references for the contested test items;
 - (v) a copy of the applicant's original operating test grade report (ES-303-1 and 2 forms), and if the scenario grading is being contested, a copy of the applicant's crew members' grade reports;
 - (vi) a copy of all materials that document the applicant's performance on the contested test items (i.e., examiner notes, notes/procedure markups/calculations made by the applicant, simulator strip chart recordings, etc.); and
 - (vii) if the applicant's version of the events disagrees with the examiner of record's version, a signed written statement by the examiner of record reiterating and detailing exactly what the applicant did may be required.
- g. In cases where the applicant's version of the events disagrees with the examiner of record's version, the reviewer(s) is/are generally expected to utilize the NRC examiner's version of events in conducting the review, unless there is overwhelming and impartial (e.g., simulator recordings) evidence to the contrary.
- h. If necessary, the reviewer(s) may request the facility to make the simulator available and the reviewer(s) may travel to the site to review the applicable scenarios or JPMs on the plant-referenced simulator. If the simulator software has been modified since the examination, then IOHS will evaluate the extent of the change, how it would modify the validity of the contentions and if a trip to the site would still provide the necessary information.
- i. Upon determining the applicant's actual actions during the contested test items, the reviewer(s) shall utilize the operating test grading policies contained in NUREG-1021, ES-303. In particular, the reviewers shall determine for Category A and B whether any critical steps were incorrectly performed; for Category C whether the competencies were appropriately scored; and the appropriateness, accuracy, and applicant performance on any follow-up questions. In addition, the reviewer(s) shall examine the validity of the contested operating test items, including whether critical steps were in fact critical, and whether the associated JPM guides/scenario guides were technically and psychometrically correct. For each contested test item, the following is a list of typical possible outcomes:
- (i) Delete the test item, due to a psychometric-related problem (e.g., JPM cue unclear, not an appropriate test item);

- (ii) Delete the test item, due to technical problems (e.g., no truly correct actions);
- (iii) Keep the test item as is, with no change in grading; or
- (iv) Keep the test item, but change the applicant's grading or accept additional actions as correct.

Upon determining an outcome for all contested test items, the reviewer(s) shall utilize NUREG-1021, ES-303 to determine the applicant's overall operating test score.

2. Documenting Informal Review Results

- a. All informal review documents that contain personal information about the applicant (name, docket number, home address, grades, review results, etc.) are not to be made publically available. During a hearing, OGC will provide guidance concerning the public availability of any documents.
- b. There are only two possible outcomes for any informal review - either the original license denial is sustained or the original denial is overturned. Depending on the overall results, the reviewer(s) shall prepare a cover letter transmitting the review results to the applicant, as shown in Attachments 2 (overturn) or 3 (sustained denial).
- c. The details of the review will be presented as an enclosure or enclosures to the cover letter. In all cases, each of the applicant's contentions will be addressed.
- d. To enhance clarity, the review details should contain an overall summary section including the exam dates, the date of the applicant's review request, the applicant's original score, and the applicants revised score. This section also could contain a table that summarizes the reviewer's conclusions for each contested exam item (written question, JPM, or simulator event).
- e. The following information should be included for each contested item in the review details:

FOR WRITTEN EXAMS and CATEGORY A ("Administrative Topics")
QUESTIONS, provide the -

- Question number.
- K/A number and importance rating.

- The full text of the question, as it appeared on the original exam.
- The answer key answer choice.
- The applicant's answer choice.
- The full text of the applicant's contentions or a well-constructed summary of the applicant's contention(s) if the applicant's contentions are excessively lengthy.
- The NRC's analysis, response, and resolution of the applicant's contention(s).

Examples of written review details are presented in Attachment 4.

FOR OPERATING TEST JPMs, provide the -

- JPM number (e.g., facility bank reference, exam reference, etc.).
- JPM title.
- Initial conditions.
- Initiating cue.
- Expected operator actions/summary of how the JPM should have been performed for all improperly performed or contested steps, per the facility licensee's procedures.
- Applicant actions as documented in the original grading.
- The full text of the applicant's contentions or a well-constructed summary of the applicant's contention(s) if the applicant's contentions are excessively lengthy.
- The NRC's analysis, response, and resolution of the applicant's contention(s). If the NRC analysis does not agree with the applicant's contention(s) and sustains the original grading, the analysis should include the adverse consequences caused by the applicant's incorrect actions, and the lack of knowledge or ability that the applicant demonstrated.

For OPERATING TEST SCENARIO EVENTS, provide the -

- Scenario number and event number.

- Event title.
- The applicant's position on the crew during the event (e.g., RO, BOP, SRO, etc.)
- Important/relevant plant conditions prior to or coincident with the event.
- Expected operator actions/summary of how the scenario event should have been performed, per the facility licensee's procedures.
- Applicant actions as documented in the original grading.
- The full text of the applicant's contentions or a well-constructed summary of the applicant's contention(s) if the applicant's contentions are excessively lengthy.
- The NRC's analysis, response, and resolution of the applicant's contention(s). If the NRC analysis does not agree with the applicant's contention(s) and sustains the original grading, the analysis should include the adverse consequences caused by the applicant's incorrect actions, and the lack of knowledge or ability that the applicant demonstrated.

Examples of operating test review details are presented in Attachment 5.

3. Hearing Documentation

This section provides a *brief* introduction to the two documents or collections of documents drafted by the NRC technical staff during a hearing: (a) the affidavit, and (b) the hearing file. These documents will be required if the staff still believes that the applicant should not be granted a license. This section does not contain the details necessary to actually draft these documents. If these documents are to be actually drafted, contact IOHS and/or OGC for past examples.

- a. The affidavit is a legal document prepared by the technical staff and reviewed by OGC and IOHS, which presents the NRC's *position* that the applicant should not be granted a license. The affidavit is prepared in a "running narrative" format (as if the preparer were actually talking to the judge), and is therefore *much* different in *style* than an informal review. The affidavit also must be written for an audience that is *not* knowledgeable of the operator licensing process - the affidavit must include explanations and details when discussing NUREG-1021, 10 CFR 55, or other operator

licensing requirements. When referring to references or other documents, the affidavit will reference the hearing file by document number.

The first part of the affidavit contains an introduction of the preparer, including the preparer's qualifications and his or her involvement in the case to date. The affidavit will then contain a "running narrative" chronology of events, which presents in detail the events which have taken place up to the applicant's hearing request, including the resolution of any informal NRC reviews. This chronology will include such items as when the license application (398 Form) was submitted and approved, when and how the exam was developed, how the exam was administered, the results of the applicant's original grading, the results of any informal review, etc. Finally, the affidavit will contain the NRC's analysis and resolution of the applicant's hearing contentions. The resolution of the contentions will be similar in *substance*, but not in *style*, to an informal review.

- b. The Hearing File is an indexed collection of all documents, communications, and references associated with the applicant's case. As a part of the hearing file, a table of contents is required, which identifies the documents by name and assigned item number. Documents contained in a typical hearing file include: the applicant's 398 Form, all or selected parts of NUREG-1021, all or selected parts of 10 CFR 55, that portion of the exam (written, Category A, B, or C) in contention with answer key(s), the applicant's grade report (operating test failure) or written exam answer sheet (written exam failure), the original license denial letter, the applicant's request for an informal review, the NRC's informal review acknowledgment letter, the NRC's informal review results and subsequent license denial letter, the applicant's request for a hearing, and all facility technical references that support the NRC's analyses and overall decision to not grant the applicant a license.

D. ATTACHMENTS

- Attachment 1, "Acknowledgment of an Applicant's Request for an Informal Review"
- Attachment 2, "Overturned License Denial and License Notification - Cover Letter"
- Attachment 3, "Sustained License Denial - Cover Letter"
- Attachment 4, "Sample Review Details for a Sustained Written Exam Failure"
- Attachment 5, "Sample Review Details for a Sustained Operating Test Failure"

ATTACHMENT 1: Acknowledgment of an Applicant's Request for an Informal Review

NRC Letterhead
(Date)

(Applicant's name)
(Street address)
(City, State, Zip Code)

Dear (Name):

I am acknowledging receipt of your letter (dated, postmarked on date), requesting an informal NRC staff review of our proposed denial of your (reactor operator, senior reactor operator) license application. We will review the information and the material you provided and inform you of our decision.

Please be advised that the informal review is described in section ES-502.D of NUREG-1021, "Operator Licensing Examination Standards for Power Reactors." The review process encompasses reconsideration of the grading of the identified examination items and may also include consideration of the items by a multi-person board selected from other regional offices and headquarters staff. We endeavor to complete the review process in a timely manner, typically within 75 days.

Sincerely,

(Name), Director
Division of Inspection Program Management
Office of Nuclear Reactor Regulation

Docket No. 55-(number)

ATTACHMENT 2: Overturned License Denial and License Notification - Cover Letter

NRC Letterhead
(Date)

(Applicant's name)
(Street address)
(City, State, Zip Code)

Dear (Name):

In response to your letter of (date), the staff of the U. S. Nuclear Regulatory Commission (NRC) has reviewed the grading of the (written examination and/or operating test) administered to you on (date(s)) and reconsidered the proposed denial issued to you on (date).

In light of the additional information you supplied, the staff has determined that you passed the (written examination and/or operating test) and satisfy the requirements of Title 10, Section 55.33(a), of the *Code of Federal Regulations* (10 CFR 55.33(a)) for approval of your license application. Region (number) will issue your (reactor operator, senior reactor operator) license pursuant to 10 CFR 55.51 and forward it to you under a separate cover letter.

For your information, I am enclosing a copy of the staff's resolution of each of your (written examination and/or operating test) comments. If you have any questions, please contact (name (NRR Operator Licensing Section Chief)) at (telephone number).

Sincerely,

(Name), Director
Division of Inspection Program Management
Office of Nuclear Reactor Regulation

Docket No. 55-(number)

Enclosure: As stated

cc: (Facility representative who signed the applicant's NRC Form 398)

ATTACHMENT 3: Sustained License Denial - Cover Letter

NRC Letterhead
(Date)

(Applicant's name)
(Street address)
(City, State, Zip Code)

Dear (Name)

In response to your letter of (date), the staff of the U.S. Nuclear Regulatory Commission (NRC) has reconsidered the proposed denial issued to you on (date) and reviewed the grading of the (written examination and/or operating test) administered to you on (date(s)). In spite of the additional information you supplied, the staff finds that you did not pass the (written examination and/or operating test). The results of our review are enclosed.

Consequently, the proposed denial of your license application is sustained. If you accept the proposed denial and decline to request a hearing within 20 days as discussed below, the proposed denial will become a final denial. You may then reapply for a license in accordance with Title 10, Section 55.35, of the *Code of Federal Regulations* (10 CFR 55.35), subject to the following conditions:

- a.¹ Because you passed (a written examination, an operating test) on (date(s)), you may request a waiver of that portion.
- b.¹ Because you did not pass the (written examination, operating test) administered to you on (date(s)), you will be required to retake that portion.
- c.¹ You may reapply for a license two months from the date of this letter.
- a.² Because this is your (second, subsequent) examination failure, you will be required to retake both the written examination and the operating test.
- b.² You may reapply for a license (6, 24) months from the date of this letter.
- a.³ Because you did not pass either the written examination or the operating test administered on (date(s)), you will be required to retake both the written examination and the operating test.
- b.³ You may reapply for a license (2, 6, 24) months from the date of this letter.

If you do not accept the proposed denial, you may, within 20 days of the date of this letter, request a hearing in accordance with 10 CFR 2.103 (b)(2). Submit your request in writing to the Secretary of the Commission, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, with a copy to the Associate General Counsel for Hearings, Enforcement, and Administration, Office of the General Counsel, at the same address.

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August 2002

Failure on your part to request a hearing within 20 days constitutes a waiver of your right to demand a hearing. For the purpose of reapplication under 10 CFR 55.35, such a waiver renders this letter a notice of final denial of your application, effective as of the date of this letter.

If you have any questions, please contact (name (NRR Operator Licensing Section Chief)) at (telephone number).

Sincerely,

(Name), Director
Division of Inspection Program Management
Office of Nuclear Reactor Regulation

Docket No. 55-(number)

Enclosure: As stated

cc: (Facility representative who signed the applicant's NRC Form 398)

CERTIFIED MAIL, RETURN RECEIPT REQUESTED

¹ Use for initial RO or SRO license applicants who passed either the written examination or the operating test, but failed the other.

² Use for second and subsequent retake applicants.

³ Use for applicants who failed both the written examination and the operating test.

ATTACHMENT 4: Sample Review Details for a Sustained Written Exam Failure

INFORMAL REVIEW RESULTS - ROBERT C. NUCLEAR
SENIOR REACTOR OPERATOR APPLICANT - PWR UNITS 1 and 2

In response to the applicant's letter of April 2, 2000, the U.S. Nuclear Regulatory Commission (NRC) reconsidered the proposed denial issued on March 24, 2000, and reviewed the grading of the written examination administered to the applicant on March 5, 2000. In spite of the information supplied by the applicant, the NRC has determined that the applicant did not pass the written examination. The results of NRC's review are outlined below.

OVERALL SUMMARY

The applicant originally received a score of 75.8% (75 correct out of 99 questions - one question was already deleted during the original grading). The applicant requested a review of the grading for written examination questions 12, 14, 22, 45, and 62. The table below summarizes the results of this review:

Q No.	NRC Resolution	Affect on score
12	Agree with applicant. Both answer choices B and D will be accepted as correct answers	Increase to: 76/99 (76.8%)
14	Disagree with applicant; sustained original grading	No change: 76/99 (76.8%)
22	Disagree with applicant; sustained original grading	No change: 76/99 (76.8%)
45	Agree with applicant. Question has no correct answer and will be deleted.	Increase to: 76/98 (77.6%)
62	Disagree with applicant AND the original answer key. Question has no correct answer and will be deleted.	Increase to: 76/97 (78.4%)

As a result of this review, the applicant's score increased to 78.4%. This is still less than the NUREG-1021 required passing score of 80%. The NRC has therefore determined that the applicant did not pass the written examination.

Examination Question #12: (K/A 076K3.01 (3.4/3.6))

Given the following plant conditions:

- Unit #1 is operating at 100%.
- All systems aligned normal.
- Loss ERCW Supply header 2A occurs due to a rupture in the yard.

Which ONE (1) of the following describes indications the Unit 1 operator would see in the main control room in this event? (Assume no operator actions).

- A. Ice condenser chillers trip.
- B. Immediate containment pressure increase.
- C. General ventilation chillers trip.
- D. CCS surge tank level increasing with auto makeup valve closed.

Answer Key: D

Applicant's Answer: B

Applicant Comment(s):

"Candidate contends that answer B is also correct. Since the 1A & 2A ERCW supply trains are crosstied (Attachments 12b & 12c), the cooling water to the Unit 1 containment coolers will be interrupted, and resulting in a prompt rise in containment temperature and pressure. The scenario of the 2A ERCW yard rupture was performed on the simulator on 4/01/00, with facility instructors and myself in attendance. Containment pressure began to increase immediately when the rupture occurred (Attachments 12d). Containment pressure is constantly monitored on PNL 1-M-6 to maintain compliance with T.S. 3.6.1.4 (Attachment 12e), which has a one hour action statement that is applicable in Modes 1-4. This is what the Unit 1 operator would see while remaining in his area of responsibility (Attachment 12f)."

NRC CONCLUSION:

The NRC agrees with the applicant's contention. The question will be retained, with both answer choices B and D accepted as a correct answer.

NRC ANALYSIS:

Based on a review of system drawings, procedure AOP-M.01, "Loss of Essential Raw Cooling Water," and the information provided by the applicant, the NRC agrees with the applicant. The 1A and 2A ERCW supply trains are cross connected, such that a yard rupture on the 2A supply train would result in flow out the rupture from BOTH the 1A and 2A ERCW supply trains. This would result in a reduction in the heat removal capability provided by BOTH the 1A and 2A ERCW trains. Since the Unit 1 "A" and "C" Upper and Lower Containment coolers are cooled by the 1A ERCW train, a reduction in Unit 1 containment cooling could occur, depending on which containment coolers were in service at the time. A reduction in Unit 1 containment cooling would result in an increase in Unit 1 containment temperature and pressure.

Examination Question #14: (K/A 103G2.1.12 (2.9/4.0))

Which ONE (1) of the following conditions represents a loss of primary containment integrity per Technical Specification 3.6.1.1, Containment Integrity?

- A. With the reactor at 100% power, an electrician opens the outer airlock door.
- B. With the RCS average coolant temperature 250°F, an inspection of the equipment hatch determines that the hatch is NOT sealed.
- C. During an operability test of two normally open, redundant containment isolation valves at 100% power, one of the valves fails to close.
- D. During an Integrated Leakage Rate Test in Mode 5, containment leakage exceeds the maximum allowable Technical Specification leakage rate.

Answer Key: B

Applicant's Answer: C

Applicant Comment(s):

"The candidate contends that C is also correct for the following reasons:

The definition of containment integrity per the Tech Spec definitions (Attachment 14b) states that 'All penetrations required to be closed during accident conditions are ... Capable of being closed by an operable containment isolation valve system ...' and 'all equipment hatches are closed and sealed.'

So, by definition, both B & C are correct. The one hour action of TS 3.6.1.1 (Attachment 14c) only states that 'without primary containment integrity, restore containment integrity within 1 hour or be in hot standby within the next six hours and in cold shutdown within the next 30 hours.'"

NRC CONCLUSION:

The NRC does not agree with the applicant's contention, and sustained the question's original grading. The question will be retained, with only answer choice B accepted as the correct answer.

NRC ANALYSIS:

Based on a review of the applicable Technical Specifications (TS), TS definitions, TS bases (TS 3.6.1.1, 3.6.3, 1.7) and discussions with facility personnel, the NRC has determined that the conditions of answer choice C do not represent a loss of primary containment integrity. Since only one of the redundant containment isolation valves failed to close, the penetration can still

be closed by the other redundant valve. The penetration is therefore capable of being closed by an operable containment automatic isolation valve system. If answer choice C conditions existed, TS 3.6.1.1, "Containment Integrity," would not be entered, and TS 3.6.1.1 actions within one hour would not be required. Instead, TS 3.6.3, "Containment Isolation Valves," would be entered, and would require the isolation of the "penetration within 4 hours by use of at least one closed deactivated automatic valve, closed manual valve, blind flange, or check valve with flow through the valve secured..."

ATTACHMENT 5: Sample Review Details for a Sustained Operating Test Failure

INFORMAL REVIEW RESULTS - ROBERT C. NUCLEAR
SENIOR REACTOR OPERATOR APPLICANT - PWR UNITS 1 and 2

In response to the applicant's letter of April 2, 2000, the U.S. Nuclear Regulatory Commission (NRC) reconsidered the proposed denial issued on March 24, 2000, and reviewed the grading of the operating test administered to the applicant on March 6 - 9, 2000. In spite of the information supplied by the applicant, the NRC has determined that the applicant did not pass the operating test. The results of NRC's review are outlined below.

OVERALL SUMMARY

The applicant requested a review of his performance on Job Performance Measure (JPM) NRC-ADMIN-JPM-01A/SRO, "Perform a Shutdown Margin with a Dropped Rod." The findings of this review agreed with the original grading. The applicant's performance on this JPM was determined to be UNSATISFACTORY. Since the applicant demonstrated unsatisfactory performance on both topics A.1 and A.4, his overall performance on the Administrative Topics section of the examination was determined to be UNSATISFACTORY.

REVIEW DETAILS FOR JPM NRC-ADMIN-JPM-01A/SRO, "Perform a Shutdown Margin with a Dropped Rod"

This administrative JPM required the applicant to perform a shutdown margin (SDM) calculation. The applicant was provided the necessary references, a calculator, and the following initial conditions and initiating cue:

Initial Conditions:

"Unit One is stable at 90% power.
A dropped rod occurred 5 minutes ago.
RCS temperature is stable at 567 °F.
Core age is 7521 MWD/MTU.
'D' bank rod height is currently 191 steps.
RCS boron concentration is 900 ppm as measured 2 hours ago, no borations or dilutions have occurred since."

Initiating Cue:

"The Unit One SRO has requested you perform an independent shutdown margin to verify the Shutdown Margin calculated by the shift STA. Here is a verified current copy of 1-OP-RX-001, SHUTDOWN MARGIN (CALCULATED AT POWER). You are requested to perform an at-power shutdown margin calculation."

Original Grading:

The applicant was expected to calculate that the SDM was -2453.9 pcm, with an allowed error band of ± 37.5 pcm (i.e., allowed SDM between **-2491.4 and 2416.4 pcm**).

However, Mr. Nuclear determined that the SDM was **-2512.9 pcm**, which was outside the JPM's allowed range. Mr. Nuclear's calculated SDM was outside the JPM allowed SDM band, due to an error in his determination of power defect.

APPLICANT'S CONTENTION:

The applicant contends that this JPM was graded too severely, in that the allowed band for SDM was too restrictive. The applicant provided the following paragraphs to support his position:

"In the initiating cues of the JPM the following statement was made, 'The Unit One SRO has requested you to perform an independent shutdown margin to verify the shutdown margin calculated by the Shift STA.', this implies that the applicant was to corroborate the general correctness of the STA's calculation. The shutdown margin was for a dropped rod, which requires a SDM to be performed within one hour, and the STA would have already consumed a portion of that clock. Therefore, with this in mind, a quick verification of the accuracy of the STA's results would be prudent in order to meet the T.S. [Technical Specification] requirement. If the SDM had been close to or below the requirement, the correct action would be to increase the SDM and not take the time to pinpoint the exact numerical value of the SDM at that time. The deviation between the acceptable value, -2453.9 pcm, and the calculated -2512.9 pcm, is negligible when considering the deviation from the limit of -1770 pcm.

1-OP-RX-001, 'Shutdown Margin Calculated at Power' allows for a greater deviation for Power Defect than was allowed for the examination. On Page 6 step 5.1.1 in 1-OP-RX-001 (enclosed), the boron concentration is allowed to be within ± 50 ppm of actual boron concentration. This allowance in boron concentration can translate to a difference of ± 50 pcm for the power defect and has been deemed acceptable for determining a shutdown margin. Applying the allowed deviation for boron concentration to the presented boron concentration would give a +32 and -44 pcm range (derived from Power Defect Curve in 1-DRP-003 PWR Unit 1 Cycle 17 enclosed- see pg. 64). Procedurally this sets the range from -1792 pcm to -1716 pcm for the Power defect. In reading the graph there is the allowed ± 25 pcm for interpolation variances, which will then set the band from -1817 pcm to -1691 pcm. This band represents a band both accepted from a procedural tolerance and a graph reading tolerance. The answer of -1700 pcm now falls within the more accurate and fair band. The final shutdown margin's band, with the new band for Power Defect, would then be -2535.4 pcm to -2384.4 pcm, which would make -2512.9 pcm a correct answer.

The applicant only deviated from the calculated shutdown margin of -2453.9 pcm by 46.5 pcm. This represents a 1.89 percentage deviation that would have no adverse impact on the operation of the plant. The deviation of 46.5 pcm is also less than the

allowed deviation due to boron concentration, which could represent a 100 pcm difference.”

The applicant summarized his contention in his last paragraph:

“It is the applicants view that the requirements of 10CFR55.45(a)(12), ‘Demonstrate the knowledge and ability as appropriate to the assigned position to assume the responsibilities associated with the safe operation of the facility,’ was clearly met with the performance of the shutdown margin correctly and as accurately as allowed by procedure and available material.”

NRC CONCLUSION AND ANALYSIS:

The NRC does not agree with the applicant’s contention. The NRC agrees with this JPM’s original grading. The applicant’s performance on this JPM remains UNSATISFACTORY.

The applicant’s contention, that his calculated SDM should be considered acceptable, can be summarized into three arguments:

1. Only a quick verification or a corroboration of the STA’s SDM was required. Due to the one-hour technical specification (TS) requirement to calculate SDM, an exact numerical calculation of SDM was not required.
2. The JPM’s allowed band for SDM was overly restrictive. The procedure for calculating SDM (1-OP-RX-001) allows for a larger band for SDM.
3. The deviation between my calculated value of SDM (-2512.9 pcm) and the allowed band for SDM (-2491.4 and 2416.4 pcm) was negligible. My calculation would result in no adverse impact to plant operations.

The NRC, however, does not agree with the merit of these arguments. Each argument is discussed below.

Argument #1: Only a quick verification or a corroboration of the STA’s SDM was required.

The applicant argues, that due to the one-hour time constraint contained in TS, that only a quick verification of SDM was required. The applicant further argues that part of this clock has already been consumed during the STA’s calculation. The NRC disagrees with this argument, based on three counter-arguments:

1. This JPM was not time critical, i.e., there was no preset time limit for satisfactory completion of this JPM. As long as the applicant was making progress, he would have been allowed to continue. Any time pressure perceived by the applicant was *created* by the applicant.
2. Even if the applicant did perceive time pressure (due to the one-hour TS clock), he would have had 55 minutes to complete his calculation, which was ample time to accurately calculate SDM. Although the STA may have already consumed a portion

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of the one-hour TS clock, the initial conditions clearly state that “a rod dropped 5 minutes ago,” which indicated that there were 55 minutes left on the one-hour clock.

3. The JPM's initiating cue clearly states, on two occasions, to perform a SDM calculation:

"The Unit One SRO has requested you perform an independent shutdown margin..."

"You are requested to perform an at-power shutdown margin calculation."

The JPM did not ask the applicant to perform a "quick verification" or "corroboration."

Argument #2: The JPM's allowed band for SDM was overly restrictive. The procedure allows for a larger band for SDM.

The applicant supports this argument based on the following:

1. The procedure (1-OP-RX-001) allows for the boron concentration to be used in the calculation to be within ± 50 ppm of actual boron. This allowance for boron concentration can translate into a ± 50 pcm deviation in power defect.
2. In reading the power defect graph, there is an allowed variance of ± 25 pcm.

By adding the variances of 1 and 2 above, the applicant argues for a larger band for allowed SDM.

The NRC disagrees with this argument, based on two counter-arguments:

1. The allowed error in boron concentration of ± 50 ppm is exactly that - an allowed error in boron concentration. The allowed error in boron concentration does not somehow translate into other allowed operator calculation errors, such as errors associated with reading the power defect graph. If it was assumed that the operator miscalculated power defect by the equivalent of 50 ppm boron, then there would be no margin for error in allowed boron concentration, which is contrary to the ± 50 ppm boron error allowed in procedure 1-OP-RX-001.
2. The JPM's original band for allowed SDM was properly determined. The JPM properly accounted for all graph reading tolerances ($\pm 1/2$ division), including reading the power defect graph (± 25 pcm).

Argument #3: The applicant's calculated SDM should be graded as acceptable, since there was no adverse impact to plant operations associated with his calculation.

The applicant supported this argument by stating that:

1. His calculated value differed from the allowed value by a negligible amount (46.5 pcm or 1.89%).
2. Given that the TS limit on SDM is -1770 pcm, there was no adverse impact associated with his determination of SDM (-2512.9 pcm).

The NRC agrees with part of this argument - there was no adverse impact on the plant due to his calculation. However, the NRC disagrees that this should make the applicant's calculated SDM acceptable:

1. As stated above in argument #2, the JPM's original band for allowed SDM was properly determined. The JPM properly accounted for all graph reading tolerances ($\pm\frac{1}{2}$ division) and interpolations.
2. Both the NRC Chief Examiner and facility licensee personnel agreed upon the JPM's allowed SDM band prior to exam administration.
3. The applicant did incorrectly determine power defect. Based on a careful examination of the power defect graph, the applicant's determination of -1700 pcm for power defect was clearly in error.
4. If "adverse plant impact" was the only grading basis, then an applicant could be in error by several hundred pcm. Allowing a several hundred pcm error would clearly not be a proper criteria for determining operator competence, and would not allow the JPM to discriminate between competent and non-competent operators.

Summary:

The NRC does not agree with the merit of the applicant's contention. The JPM was originally graded fairly, using a properly determined allowed band for SDM. In no way did the JPM ask the applicant to only perform a quick verification of SDM, nor did the JPM contain any time constraints. Although in this particular case the applicant's error would not result in an adverse impact to the plant, there could be other situations where his error would result in adverse effects. This JPM, as written and including its original grading criteria, was a proper measure of operator competence.