

OPERATING PRACTICES FOR INITIAL EXAMINATIONS, Revision 2

B. Action

<u>Step</u>	<u>Responsibility</u>	<u>Actions</u>
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NOTE: For NRC prepared examinations the licensee must submit a written request in accordance with ES-201, Section C.1.a. This may be accomplished through either separate correspondence or included in correspondence associated with a specific examination.

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| 1 | Branch Chief/
Site Coordinator | Confirms examination dates, examination authors, and expected number of applicants with licensee approximately 1 to 2 years before examinations in accordance with ES-201, Section B. |
| 2 | Branch Chief | Assigns examiners in accordance with the guidance in Appendix A and has examination entered in RPS/IP. Assigns examiner author, if NRC written. |
| 3 | Branch Chief | Issues "Ops Branch Assignment Check Sheet" (Appendix I) to chief examiner. |

NOTE: The outline should be submitted 4 to 6 months prior to the examination date; the draft examination should be submitted approximately 2 months before the examination date, depending on availability of NRC reviewers; and the onsite validation should be performed 3 to 4 weeks prior to examination date to allow the author ample time to make any required changes. For examinations having split development responsibilities, use the 500 hour version of the announcement letter (Appendix L). To facilitate entry into ADAMS, electronic backup copies of all submittals should be requested.

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| 4 | Chief Examiner | Approximately 6 months and not less than 120 days prior to the examination date, confirms examination date and number of applicants with the licensee. Also establishes dates for submittal of examination outlines and draft examinations and onsite validation. If the NRC will prepare the examination, establishes dates for submittal of reference materials per ES-201, Attachment 2 and licensee examination review. Discusses requirements specified in ES-201 with the licensee and initiates the corporate letter (Appendix L). Advises the licensee that the outline and examination needs are not fixed until a detailed examination schedule has been established. |
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NOTE: NRR guidance is that each examination set be charged to a unique TAC. DRMA will open a new TAC for each initial examination set when requested. This will normally be done by the branch chief, when the examination is requested by the licensee. It must be done before scheduling the examination in RPS/IP. Examiners involved in an examination must ensure their time is charged to the appropriate TAC code.

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NOTE: Reference material and draft outline and examinations may be submitted electronically, with a separate formal submittal letter. Internet transmission of electronic copies is allowed, if the files are properly password-protected, as described in <http://www.nrc.gov/NRC/REACTOR/OL/OLfaq.html>, question 21. Electronic reference material must be adequately organized and indexed to allow appropriate use.

- 5 Chief Examiner Discusses task expectations, issues, standards, and examiner assignments with branch chief.

NOTE: As a minimum, schedule the following activities with interested parties:

1. Week for initial review,
2. Week for peer review (normally the following week),
3. Week for onsite preparation,
4. In-office preparation week,
5. Operating test administration weeks,
6. Day of written examination and assigned examiner (if not administered while examiners are on site), and
7. Examination documentation week.

Also, for RPS/IP, enter the examination activities for one unit only on multiple unit sites. Enter the number and type of applicants only for the operating test administration week. Finally, ensure the chief examiner is not scheduled for PIR inspection preparation before the 3rd week after the end of examination administration.

- 6 Chief Examiner Ensures administering examiners and exam author, if applicable, are appropriately scheduled in weekly schedule. In particular, ensures the designated examination reviewer is available to review the draft submittal upon receipt. If reviewer cannot support the draft submittal date, adjusts schedule or review assignment to ensure a timely review.

NOTE: The OLA can supply tabs consistent with Appendix H, upon request.

- 7 Chief Examiner Begins examination file in accordance with ES-501, Section F. Uses "Examination File Guide for the ADAMS Environment" (Appendix H).
- 8 Chief Examiner Coordinates and reviews detailed operating test schedule with licensee, considering the number of examiners assigned, expected examination duration, and materials required, as discussed in Appendix A and Appendix B.
- 9 Chief Examiner Solicits the senior reactor analysts for risk insights and provides this information to the examination developers for consideration. Incorporation of any specific issue is not required.
- 10 Chief Examiner Ensures licensee submits reference material to region by agreed date if examiner author is to prepare examination.

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| 11 | Exam Author | Develops examination outlines per guidance in Appendix C and submits to the chief examiner, with Form ES-201-2, by the date agreed to in Step 4 in accordance with ES-201. If NRC written, obtains an independent review and attaches comments and resolutions to outline prior to submittal to the chief examiner. |
| 12 | Chief Examiner | Reviews examination outlines in accordance with Form ES-201-2 and notes any comments. |
| 13 | Chief Examiner | Obtains peer review of licensee prepared outline when serious problems are identified. |
| 14 | Chief Examiner | Signs concurrence on Form ES-201-2 and forwards outline with comments to branch chief for approval. |
| 15 | Branch Chief | Notes any additional outline comments and signs approval on Form ES-201-2, if appropriate. |
| 16 | Chief Examiner | Advises exam author of outline approval status and negotiates resolution of comments. If written comments are forwarded to licensee, retains copy for PDR. |
| 17 | Exam Author | Develops written examination and operating test in accordance with guidance provided in Appendix D. |

NOTE: ES-201, Attachment 2 provides reference material guidelines for initial examinations. However, this material list may be modified at the chief examiner's discretion. For licensee-developed written examinations, the separate reference materials required for review of the examinations may be significantly reduced if excerpts from references justifying the answer and distractors are included with each question. Also, as discussed in ES-401, Section D.2.g, a short narrative statement justifying the answer and distractors can substantially expedite the review and reduce the number of comments.

ES-201, Section C.1.f establishes the quality checklists which are required to be submitted, i.e., Forms ES-201-2, -301-3, -301-4, and -401-7. Note that Form ES-301-4 also references Forms ES-301-5 and 6, which must be included. It is preferred that one Form ES-401-7 cover both the RO and SRO examinations. Separate forms are acceptable.

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| 18 | Exam Author | Submits the examinations together with reference materials to chief examiner in accordance with ES-201, Sections C.1e, f, g, and h. If NRC written, obtains peer review, resolves comments, and submits examination with comment resolutions to chief examiner. |
| 19 | Chief Examiner | Reviews the examination package to ensure it is complete and forwards a copy to the assigned reviewer, if examination was prepared by licensee. |

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20	Chief Examiner	Files copies of the submittal as described in Appendix H.
21	Assigned Reviewer	Reviews examinations in accordance with guidance in Appendix G.
22	Assigned Reviewer	Documents all comments electronically and forwards them to chief examiner.
23	Chief Examiner	Reviews comments and asks for clarification on any comment which he does not understand. If possible, resolves any disagreements on comments with assigned reviewer. Otherwise, refers any comment disagreements to branch chief for resolution.
24	Chief Examiner	Assures peer (independent) review is performed and initialed as complete on Appendix I in accordance with guidance in Appendix G and that any additional comments are noted.
25	Chief Examiner	If quality requirements discussed in ES-301, Section E and ES-401, Section E have been satisfied, signs and dates all QA forms.
26	Chief Examiner	Forwards examination package with composite comments to branch chief for supervisory review.
27	Branch Chief	Performs supervisory review in accordance with ES-301, Section E.3 and ES-401, Section E.3 and notes any additional comments.
28	Branch Chief	If appropriate, signs all QA forms and authorizes chief examiner to forward comments to licensee.
29	Branch Chief	If comments are of the nature to prevent approval of the examination or any of the QA forms, develops a resolution plan with the chief examiner and licensee.
30	Chief Examiner	Forwards comments and resolution plan, if applicable, to the licensee for resolution.

NOTE: If both parties agree, the licensee may provide the chief examiner with verbal comment resolutions and the chief examiner will document them. It may be necessary to resolve certain comments during the NRC onsite review week. All comments should be resolved 2 weeks before the first scheduled examination date.

31	Exam Author	Resolves comments on examinations and forwards results to chief examiner.
32	Chief Examiner	Ensures licensee submits preliminary, uncertified license applications to the NRC regional office at least 30 days before the first examination date.
33	Chief Examiner/ OLA	Review and process preliminary applications in accordance with ES-202, Section C.2.

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- 34 OLA Initiates Form ES-501-2 and forwards to chief examiner.
- 35 OLA Prepares Assignment Sheet (ES-201, Attachment 4), obtains branch chief approval, and distributes paper or electronic copies to assigned examiners and others in accordance with standard distribution list, as appropriate.

NOTE: The purpose of the onsite review is to resolve any outstanding comments on the written examination and perform a hands on walkdown of the operating test. The chief examiner should discuss the review schedule prior to his/her arrival onsite (e.g., whether back shift work is required). Qualified personnel are required to perform the dynamic scenarios in real time and to act as surrogate examinees for other operating test items. Verification of the examination validation times will be a part of this review.

- 36 Chief Examiner Ensures licensee schedules resources to support NRC onsite examination review.
- 37 Chief Examiner Performs an onsite review of examination materials and examination scheduling about 3 weeks before the first operating test examination date. Exams for a small number of applicants may be validated during examination week. For written-only examinations, no onsite review may be necessary. Provides licensee with any further comments. Informs branch chief if serious examination deficiencies are identified.
- 38 Chief Examiner Finalizes the schedule and administrative requirements for the examination during the onsite review. In particular, reviews examination security arrangements. Establishes examination package preparation responsibility.
- 39 Chief Examiner Conducts brief meeting with available applicants, during the onsite review, normally. Covers topics in Appendix J.
- 40 Chief Examiner Ensures licensee submits final applications and requests administration of the examinations in accordance with ES-202, Section C.1.d.
- 41 Exam Author Resolves any comments resulting from the onsite review and finalizes examination packages.
- 42 Exam Author Makes any required changes to outline and ensures signed copies of the following forms are included with the examination package: Form ES-301-1, Form ES-301-2, Form ES-301-3, Form ES-301-4, Form ES-301-5, Form ES-301-6, and Form ES-401-7.
- 43 Exam Author Forwards final approved examination package to chief examiner.

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| 44 | OLA/
Chief Examiner | Process final applications in accordance with ES-202, Section D.2.d. For NRC prepared examinations, verifies that the licensee's written request for NRC to develop the examinations is on file. |
| 45 | Chief Examiner | Ensures all comments have been appropriately incorporated into examination package. |
| 46 | Chief Examiner | Approves/ensures approval of all QA sheets and examination outline cover sheets. |
| 47 | Chief Examiner | Forwards examination package to branch chief for final approval in accordance with ES-201, Section C.3.h. |
| 48 | Branch Chief | Ensure comments have been properly resolved and approves examination for administration in accordance with ES-201, Section C.2.i. Initials Item 14 of Ops Branch Assignment Check Sheet (Appendix I). |
| 49 | Chief Examiner | Advises licensee of examination approval and requests it to proceed with compilation of the examination packages as arranged. |
| 50 | Chief Examiner | Provides approved copies of outline cover sheets and QA sheets to licensee. |
| 51 | Chief Examiner | Files QA sheets and final approved examinations per Appendix H. |
| 52 | Chief Examiner | If appropriate, covers proctor rules for written examination in accordance with ES-201, Section C.3.k. |
| 53 | Chief Examiner | Makes examination materials available to team. |
| 54 | Chief Examiner | Finalizes examination schedule with licensee. Makes arrangements for badging, site tours, etc. as required, per Appendix A. |
| 55 | Chief Examiner | Initiates Form ES-303-1 for each applicant. |
| 56 | Exam Proctor | Administers written examination in accordance with ES-201, Section C.3.j&k and ES-402. |
| 57 | Exam Grader | Completes post-examination reviews in accordance with ES-402, Section E and grades examinations in accordance with ES-403. |
| NOTE: To avoid the potential for prejudging applicants, individual written examination grades will ordinarily not be reviewed by examiners until completion of the operating test. | | |
| 58 | Chief Examiner | Ensures examination grader, which may be the licensee, as applicable, submits applicants' proposed grades (Form ES-401-8), Form ES-403-1, any analysis performed, and justifications for any changes proposed to the chief examiner in accordance with ES-403 and ES-501, Section C.1.a. |

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NOTE: Entrance meetings are not required by NRC for site visits for only initial operator license examinations. An entrance meeting should be offered as an option to the licensee.

- 59 Chief Examiner Conducts brief entrance meeting upon arrival onsite, if applicable.
- 60 Chief Examiner Ensure applicant operating test briefing is conducted. Briefing should cover any issues which will facilitate operating test administration, such as special considerations for protected area and RCA ingress/egress. Also, discuss any special interaction with support staff expected during the examinations. Remind examiners that applicants should be told during briefing that closed reference questions allow use of local instrument panels, annunciator windows, or equipment tags. Ensure examiners get needed site and simulator tours with focus on significant or problematic test areas/items, per Appendix A.
- 61 Chief Examiner Ensure applicants are briefed in accordance with NUREG-1021, Appendix E, "Policies and Guidelines for Taking NRC Examinations."

NOTE: Follow guidance provided in ES-302, Section D.1.j when selecting and briefing surrogates. Surrogates may not be applicants currently being examined. Similarly, applicants may not fill nonoperator positions for other crews during the examinations. Surrogates need not be licensed, but they must be considered competent by the licensee for the positions they are filling.

It should be explained to surrogate operators that they are expected to operate competently at their assigned positions. However, they should not take actions which preclude evaluation of specific expected performance by applicants by performing beyond that expected of a competent operator in their assigned position.

If a surrogate is filling the command position, the surrogate's actions and decisions should be based on the information gained during the scenario. The surrogate must not allow knowledge of the scenario to affect directions to applicants or direct actions.

Surrogates should review the scenarios, but should not retain copies during the examination.

- 62 Chief Examiner Ensures surrogates are briefed on the scenarios in their entirety and the roles they should play before they begin. Stress that they should perform a specific role and are not allowed to compensate for inadequate performances by applicants.

NOTE: Examiners should be familiar with the briefing information and confirm applicants understand it before starting each section of the examination. See Appendix M for a condensed copy.

Do not ask questions which are not germane to performance of the assigned task.

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| 63 | Examiners | Administer operating test in accordance with ES-302. |
| 64 | Chief Examiner | Conducts exit meeting and solicits feedback in accordance with PG 2006, "Conducting Exit Meetings," and, "General Topic Outline for Operations Branch Exits," (Appendix K). |
| 65 | Examiners/
Chief Examiner | Document and grade operating test in accordance with ES-303 while meeting timeliness goal of Appendix I. Complete Form ES-303-1 and Form ES-303-2. |
| 66 | Examiners/
Chief Examiner | Complete grading of written examination in accordance with ES-501, Section D, sign Form ES-403-1, "Written Examination Quality Checklist," and make pass/fail recommendation for each applicant in accordance with ES-303, Section D.4 and ES-501, Section D.2.f. |
| 67 | Examiners/
Chief Examiner | Review examination results to identify test item performance and validity issues. |

NOTE: Form ES-D-1 shall include applicant names and positions and examiner names.

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| 68 | Chief Examiner | Completes Form ES-501-2 and assembles final results package consisting of Form ES-501-2, Form ES-403-1, and the following forms for each applicant in accordance with ES-501, Section F.2.a: <ul style="list-style-type: none">☞ Form ES-303-1, Individual Examination Report☞ Form ES-303-2, Operating Test Comments☞ Form ES-D-1, Scenario Outline☞ Form ES-D-2, Operator Actions (if applicant failed Cat. C)☞ Original written examination cover and answer sheets |
| 69 | Chief Examiner | Forwards results package to branch chief. |
| 70 | Branch Chief | Approves examination results in accordance with ES-501, Section D.3 and forwards package to OLA. |
| 71 | OLA | Prepares license, denial, or notification letter for each applicant in accordance with branch chief direction. |
| 72 | OLA | Forwards copy of Form ES-501-2 to the NRR operator licensing program office. |
| 73 | Branch Chief | Signs letters to applicants. |
| 74 | OLA | Provides a list of license numbers and effective dates for successful applicants to chief examiner. |
| 75 | OLA | Forwards letters and other documentation as specified in ES-501, Section E.1. |
| 76 | Chief Examiner | Notifies licensee of results. Provides a copy of Form ES-501-2 and/or a written list of license numbers, if requested. |

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77 Chief Examiner Updates RPS/IP for number of examinees.

NOTE: ES-501, Section E.3.b, requires that the technical justification for each examination change after administration be explicitly documented in the inspection report.

78 Chief Examiner Prepares PIM in accordance with PG 4091, "Plant Issues Matrix (PIM)," and inspection report in accordance with ES-501, Section E.3, PG 4090, "Inspection Reports," and the current version of IMC 0610*, "Reactor Inspection Reports."

79 Chief Examiner Debriefs branch on lessons learned.

80 Branch Chief Briefs licensee management (may be performed by Chief Examiner) and operator licensing program office on examination outcome and lessons learned in accordance with ES-501, Section E.1.d.

81 Branch Chief Processes requests for administrative reviews and hearings in accordance with ES-502.

82 Chief Examiner Forwards all examination records to OLA in accordance with Initial Examination Record Retention form (Appendix H).

83 Chief Examiner Completes Ops Branch Assignment Check Sheet (Appendix I), forwards copy to branch chief, and files original with examination records.

84 Chief Examiner Returns reference material to facility, if requested, in accordance with ES-501, Section E.2.

Appendix A - Guidance for Resource Assignment and Schedule Development

Appendix B - Typical Examination Schedule

Appendix C - Guidance for Preparing Examination Outlines

Appendix D - Guidance for Preparing Examinations

Appendix E - Operating Test Job Performance Measure Quality Review Matrix

Appendix F - Operating Test Question Quality Review Matrix

Appendix G - Examination Review Guidance

Appendix H - Examination File Guide for the ADAMS Environment

Appendix I - Operations Branch Assignment Check Sheet

Appendix J - Pre-Exam Briefing

Appendix K - General Topic Outline for Operations Branch Exits

Appendix L - Corporate Notification Letter

Appendix M - Condensed Examination Briefing Guidance

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<u>LIST OF REFERENCES</u>	<u>PAGE(S)</u>	<u>LIST OF REFERENCES</u>	<u>PAGE(S)</u>
Appendix A	2, 3, 7, 8	ES-501, Section E.3,	10
Appendix B	3	ES-501, Section F	3
Appendix C	4	ES-501, Section F.2.a	9
Appendix D	4	ES-502	10
Appendix G	5	Form ES-201-2	4
Appendix H	3, 5, 7, 10	Form ES-201-3	1
Appendix I	2, 5, 7, 9, 10	Form ES-301-1	6
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ES-201, Sections C.1e, f, g, and h.	4	Form ES-403-1	7
ES-201, Section C.1.f	4	Form ES-403-1	9
ES-201, Section C.2.h.	1	Form ES-501-2	6, 9
ES-201, Section C.2.i.	7	Form ES-D-1	9
ES-201, Section C.3.h.	7	Form ES-D-1, Scenario Outline	9
ES-201, Section C.3.j&k	7	Form ES-D-2, Operator Actions	9
ES-201, Section C.3.k.	7	Forms ES-201-2, -301-3, -301-4, and -401-74	
ES-202, Section C.1.d	6	Forms ES-301-5 and 6	4
ES-202, Section C.2	5	IMC 0610*	10
ES-202, Section D.2.d	7	NUREG-1021, "Operator Licensing Examination Standards for Power Reactors," Revision 8, Supplement 1	1
ES-301, Section E	5	NUREG-1021, Appendix E	8
ES-301, Section E.3	5	PG 2006, "Conducting Exit Meetings,"	9
ES-302	9	PG 4090, "Inspection Reports,"	10
ES-302, Section D.1.j	8	PG 4091, "Plant Issues Matrix (PIM)"	10
ES-303	9		
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ES-501, Section C.1.a.	7		
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ES-501, Section D.3	9		
ES-501, Section E.1	9		
ES-501, Section E.1.d	10		
ES-501, Section E.2	10		

APPENDIX A - GUIDANCE FOR RESOURCE ASSIGNMENT & SCHEDULE DEVELOPMENT

Guidance for scheduling the examinations is provided in ES-201, Section C.3.j. The Chief Examiner should begin specific schedule negotiations with the designated facility contact about six months before the scheduled examinations. As a rule of thumb, 12 examiner contact hours should be allowed to administer a reactor operator or instant senior operator operating test and 8 examiner contact hours should be allowed to administer an upgrade senior operator operating test. Scheduled examiner hours should not exceed 10 hours per day. If possible, allow time for travel within the regular scheduled work week. This equates to about a 35 hour work week per examiner. Assuming a normal mixed level license class, the chief examiner should expect 1 examiner to be assigned for every 3 applicants. For applicant classes with all reactor operator or senior operator (upgrade) applicants, the examiner requirements are highly dependent on the examination plan.

The licensee (via the designated facility contact) should be reminded that a detailed operating test schedule is essential to determine the examination outline and material requirements. The number of test items required for each class of applicants is specified in ES-301. The detailed operating test should be scheduled to minimize the amount of examination materials and number of examiners required, while maintaining test integrity. If possible, plan to administer the same segment(s) of the operating test to all applicants in a single day, to minimize material required.

To enable examiner witnessing of all required events and competencies for individual applicants during the dynamic scenarios, instant senior operator applicants must each participate in at least two scenarios (one as primary operator, one as senior operator). Upgrade senior operator applicants need only be in the command position for one scenario. Reactor operators normally perform at least two scenarios. If only one operator is being examined (because each operator must act as the primary operator), one scenario may be sufficient. However, it is often necessary for applicants to participate in more than the minimum number of scenarios to minimize the use of surrogate operators. A list of examination materials for the operating test should be generated as a by-product of schedule development. Note that in accordance with ES-301D.1.a, the same JPMs and simulator scenarios shall not be repeated on following or subsequent days of the examination. However, they may be repeated in a single day if adequate examination security measures are implemented.

Allow approximately 2 hours for administration of each dynamic scenario, 30 minutes for each system JPM, and 20 minutes for each administrative JPM/pair of questions, including travel and setup time. Administer simulator JPMs in pairs to extent that appropriate initial conditions can be established for both JPMs and the applicants do not interfere with or cue each other during performance. Pursuant to ES-302D.2.b, 6 of a set of 10 system JPMs should normally be performed in the simulator. Administrative JPMs or questions may be integrated with the dynamic scenarios or system JPMs. Avoid scheduling operating test items on the same day that the written examination is administered. The written examination may be scheduled before or after the operating test. The actual administration times should be validated by the examiners during the onsite validation week.

Allow sufficient time for badging and tours for examiners. Consider the recommendations in ES-201, Section C.2.f in determining the necessity for examiner preparatory visits and site orientation. As a minimum, all examiners who have not administered examinations at the site within the last 2 years will receive a site tour which should include simulator, control room, and general plant spaces, including RCA entry. The Chief, OB, shall concur in any use of escorted access during the examinations. Attachment B is an example schedule based on 4 NRC examiners and 17 applicants.

APPENDIX B

SAMPLE NRC EXAM SCHEDULE

NOTE: ES-302D.1.g recommends that Categories B and C of the operating test be scheduled first. To optimize examiner scheduling, Categories A and B were scheduled first for this examination. Normal Region IV practice is to integrate Part A into Parts B and C, rather than performing it separately.

Assignments: (4 examiners, E1-E4)

TUE - JPM C1(Rs and Is only) Note: E1 and E2 will work in simulator. E3 will work in Unit 1 control room and E4 will work in Unit 2 control room.

1400-1500 ☞ I1,I2,I3,I4[E1,E2,E3,E4]
1500-1600 ☞ R1,R2,R3,R4[E1,E2,E3,E4]
1600-1700 ☞ R5,R6,R7,R8[E1,E2,E3,E4]

WED - JPMs S5 and S6 (All); A3 and A5 (Rs); A8 and A10 (Is, Us)

0700-0900 ☞ I1,I2,I3,I4[E1,E2,E3,E4]
0900-1100 ☞ R1,R2,R3,R4[E1,E2,E3,E4]
1100-1130 Lunch
1130-1330 ☞ R5,R6,R7,R8[E1,E2,E3,E4]
1330-1530 ☞ U1,U2,U3,U4[E1,E2,E3,E4]
1530-1700 ☞ U5[E1]

**THU - JPMs S1, S2 (Rs and Is only); P2, P3, A1 (Rs); P2, P3, A6 (Is); P3, P4, A6 (Us)
Note: Perform admin task in simulator for Rs and Is and in plant for Us.**

0700-0820 ☞ I1,I2[E1,E2] Simulator
☞ I3,I4[E3,E4] Plant
0820-0940 ☞ I3,I4[E3,E4] Simulator
☞ I1,I2[E1,E2] Plant
0940-1100 ☞ R1,R2[E1,E2] Simulator
☞ R3,R4[E3,E4] Plant
1100-1220 ☞ R3,R4[E3,E4] Simulator
☞ R1,R2[E1,E2] Plant
1220-1300 Lunch
1300-1420 ☞ R5,R6[E1,E2] Simulator
☞ R7,R8[E3,E4] Plant
1420-1540 ☞ R7,R8[E3,E4] Simulator
☞ R5,R6[E1,E2] Plant
1540-1700 ☞ U1,U2,U3,U4[E1,E2,E3,E4] Plant
1700-1820 ☞ U5[E1] Plant

**FRI - JPMs S3, S4 (Rs and Is only), P1 for ALL; A4, A2 (Rs); A4, A7 (Is and Us) Note:
Perform A4 on RCA entry and A2 & A7 in control rooms**

0700-0800 ☞ I1,I2[E1,E2] Simulator
☞ I3,I4[E3,E4] Plant
0800-0900 ☞ I3,I4[E3,E4] Simulator

0900-1000	☞	I1,I2[E1,E2] Plant
	☞	R1,R2[E1,E2] Simulator
	☞	R3,R4[E3,E4] Plant
1000-1100	☞	R3,R4[E3,E4] Simulator
	☞	R1,R2[E1,E2] Plant
1100-1130		Lunch
1130-1230	☞	R5,R6[E1,E2] Simulator
	☞	R7,R8[E3,E4] Plant
1230-1330	☞	R7,R8[E3,E4] Simulator
	☞	R5,R6[E1,E2] Plant
1330-1430	☞	U1,U2,U3,U4[E1,E2,E3,E4] Plant
1430-1530	☞	U5[E1] Plant]

TUE - Scenario 4

0715-0915	☞	Crew A [U,I,2R]
0915-1115	☞	Crew B [2I,R]
1115-1145	☞	Lunch
1145-1345	☞	Crew C [U,I,R]
1345-1545	☞	Crew E [U,2R]

WED - Scenario 2

0715-0915	☞	Crew B
0915-1115	☞	Crew C
1115-1145	☞	Lunch
1145-1345	☞	Crew D [2U,2R]
1345-1545	☞	Crew A

THU - Scenario 3

0700-0900	☞	Crew D
0900-1100	☞	Crew E
1100-1130	☞	Lunch
1100-1330	☞	Crew A
1330-1530	☞	Crew B
1530-1545	☞	Exit

MATERIALS:

- 4 scenarios (includes one backup)
- 2 sets admin. tasks or questions (some tasks may be duplicated between SRO and RO exams)
- 1 set system JPMs

NOTES:

1. JPM P1 should involve an RCA entry and JPM A4 should be a radiation control task.
2. Must be able to perform all Admin JPMs without a dynamic simulator for this schedule.
3. Simulator may be used for C1.
4. 17 total candidates: 5 - SROUs, 4 - SROIs, and 8 ROs.

APPENDIX C

GUIDANCE FOR PREPARING EXAMINATION OUTLINES

GENERAL GUIDANCE

- Before starting the outlines, the exam author should be familiar with all relevant personnel restrictions and examination security considerations, as discussed in ES-201; 10 CFR Part 55, Subpart E; NRC Information Notices 98-15 and 98-28.
- The exam author should be familiar with the overall examination process, as discussed in ES-201, and initiate Forms ES-201-3, "Examination Security Agreement," and ES-201-2, "Examination Outline Quality Checklist."
- Instructions for preparing the outline are contained in ES-301, ES-401, and ES-701. Comply with one of the criterion in ES-401C.1.f for avoiding compromise between the audit examination and the licensing examination. As discussed in ES-401D.1.b, the licensee should describe in the outline submittal the methodology used for outline development in sufficient detail for the NRC to confirm it meets the systematic and random selection criteria. The outline submittal should also document any changes to the random sampling and their bases, as discussed in ES-401D.1.e.
- The outline should consist of the following completed forms, or equivalent, for each set of examinations: ES-301-1, ES-301-2, and ES-D-1. It is recommended that draft copies of Forms ES-301-4 and ES-301-5 be provided to facilitate chief examiner review.

SCENARIO OUTLINES

- When constructing the scenarios, risk insights and possible accident sequences of risk significance at the site should be considered.
- NUREG-1021, Appendix A, section C.2.d, on page 7, discusses the reduction in test validity due to excessive predictability. Although not explicitly required by NUREG-1021, the exam author should consider whether the scenario content and sequence is sufficiently similar to other scenarios so as to reduce the validity of the examination due to predictability. Consideration should be given to factors such as:
 - Are initial conditions or initial out of service equipment predictive of later events?
 - Have malfunctions and events been arranged in a predictable sequence (e.g., RO/BOP/RO/BOP)?
 - Does the time sequencing of events and malfunctions allow linear crew response, versus requiring allocation of crew resources to competing priorities?
 - Are malfunctions overused, or are some unusual or infrequent malfunctions, especially those that restrict crew information, included (e.g., some form of computer or annunciator failure)?

While no specific factor above is essential, scenario sets should be constructed to minimize applicant predictability and maximize examination validity.

APPENDIX D

GUIDANCE FOR PREPARING EXAMINATIONS

GENERAL GUIDANCE

- Item discrimination or difficulty, as well as job-content, item construction, etc. should be considered for each test item. For example, although no specific minimum or maximum number of JPM critical steps is established in NUREG-1021, JPMs with an unusually small or large number identified, such as only 1 or 2 critical steps, should be carefully reviewed to ensure that they discriminate at the proper license level.
- Exercise diligence to ensure that identical knowledge or ability is not required to complete more than one test item [e.g., the same tasks, events, or specific knowledges and abilities should not appear on both Category B and C of the operating test (ES-301D.1.i)].
- For the 70 percent of test items that may not be repeated from the previous NRC examination, predictability is minimized if different skills or abilities are tested in administrative areas and JPM systems compared to the last examination. For example, if a clearance tagging question or performance measure was used in the previous examination, testing a different specific knowledge will minimize predictability.
- Tasks should not be needlessly repetitive, but also should not be so fragmented as to be unrealistic. Examples of potentially fragmented or overly repetitive tasks which are to be avoided are:

Fragmented: Filling out part of a surveillance form or one element of a calculation.

Repetitive: Extensive verifications and setup to prepare for a task - such as getting the EDG running at speed in preparation for synchronizing to the grid.

- For JPMs, care needs to be exercised in differentiating what is a system task and what is an administrative task. One useful mechanism is to review the substance of the task. If the substance of a task requires taking panel data or adjusting controls, it is likely a system evolution. If the substance of a task is to use the data to perform a calculation, such as performing an operability determination or calibration, it is likely an administrative task. If it involves both, such as an NI calibration, each part may be credited separately, assuming they meet the test outline and adequately discriminate as individual tasks.
- For the operating test, information which is to be handed to the applicant can be differentiated by color coding or otherwise visual marking. Also, applicant handouts should be consistently placed in the same location in the test package for each test item (the front appears most effective). This will reduce the instances of inadvertently compromising a test item by handing the applicant the wrong page.
- Follow guidelines on repeatability of test items provided in ES-301D.1.a. Note that in accordance with ES-301D.1.a, the same JPMs and simulator scenarios shall not be repeated on following or subsequent days of the examination. However, they may be repeated in a single day if adequate examination security measures are implemented.

- Consider the guidance in ES-301D.1.e when differentiating between RO and SRO examinations.
- Revisions should be clearly marked on all examination pages which are changed following the initial submittal.

WRITTEN EXAMINATION

- Follow guidance provided in ES-401 and Appendix B.
- Form ES-401-7 should be used for critiquing the overall content of the examinations. Form ES-401-9 shall be used for critiquing individual questions.
- SRO-examination only questions should be at the SRO level (10 CFR 55.43b), not RO-level questions on different topics. Pursuant to ES-401D.2d, questions related to 10 CFR 55.41(b) topics may also be appropriate if they evaluate knowledge and abilities at a level that is unique to the SRO job position, e.g., questions related to 10 CFR 55.41(b) topics which have SRO-only learning objectives.
- Do not use distractors, which are true, but incomplete; in other words, a subset of the correct answer.
- Distractors must be plausible (i.e., they must be related to topic/conditions of the stem and represent a reasonable case for the stated conditions). Another way to view plausibility of each distractor is to ask yourself “Would I reasonably expect someone to choose this answer?”
- A distractor must be wrong, not just more or less conservative than the correct answer.
- Words common to the beginning of all answer/distractors should be part of the stem and not the answer/distractors.

CATEGORY A, ADMINISTRATIVE TOPICS

- Follow ES-301 and Appendix C in preparing this part of the examination. Also, ES-602, Attachment 1 may be used for development of open reference questions.
- NUREG-1021, Appendix A, section C.2.d, on page 7, discusses the reduction in test validity due to excessive predictability. It is important to minimize predictability from one examination to the next. Types of test items which have been reused to the point that their predictability may be of concern include radiation control area entry, equipment tagouts, and emergency plan classifications.
- The following checklists may be used for critiquing JPMs or questions, respectively:
 - Region IV Operating Test Job Performance Measure Quality Review Matrix (Attachment D)
 - Region IV Operating Test Question Quality Review Matrix (Attachment F)

- Although some Category A test items may be used on both the RO and SRO examination, there must be some test items that test at the SRO level on the SRO examination.
- For administrative JPMs, include a correctly completed copy of relevant forms, procedures, etc. marked "KEY" for examiner use.
- Review-type JPMs shall have critical errors inserted in the documentation for the applicant to find. Critical errors have a regulatory basis or a basis in personnel or equipment safety. The cue shall define what is required for satisfactory completion of the JPM. Typographical, editorial, format, etc. mistakes shall not count and this shall be stated in the cue. Simple approve/reject criteria for grading review JPMs is not acceptable.
- Administrative tasks must be carefully time validated. The discriminatory validity versus time required must be carefully considered for any individual task validated at less than 5 or more than 30 minutes, given the expected overall time of 1~1.5 hours for 5 tasks (implying an average individual task time of 12~18 minutes) given in ES-301, Section D.2.e.
- Linkage of administrative tasks/questions to other parts of the operating test is preferred and should be encouraged.
- The designated task must be discriminatory. For example, in the radiation control topic, a simple radiation control area entry/exit is usually insufficient; some complication requiring explicit applicant actions is expected.

CATEGORY B, CONTROL ROOM SYSTEMS AND FACILITY WALKTHROUGH

- Follow ES-301 and Appendix C in preparing this part of the examination.
- Region IV Operating Test Job Performance Measure Quality Review Matrix (Attachment E) may be used in conjunction with evaluating JPMs.
- Be aware of the restrictions on the types of JPMs specified in ES-301D.3.a & b. In particular, there shall be no duplication of safety function within subcategories and upgrade applicants must be evaluated on five different safety functions.
- Normally, it is not necessary for the applicant to find a copy of the procedure for performing a task. This ability is usually adequately tested during the dynamic scenarios. If required, this should be an explicit step in the JPM.

CATEGORY C, INTEGRATED PLANT OPERATIONS

- Follow ES-301 and Appendix D in preparing this part of the examination.
- Be familiar with the security considerations for simulator operating tests as discussed in Section F of Appendix D of the NUREG-1021.

- Evaluate each set of scenarios in accordance with the requirements in Forms ES-301-4, -5, and -6 as they are developed.
- Each applicant's simulator examination should contain malfunctions which, if responded to incorrectly, will support a "1" rating factor in each competency factor.
- Operator actions for normal evolutions in scenarios should include limiting criteria, such as administrative limits for power changes or the validated amount of boron or demineralized water required.
- Applicant confusion during multiple scenarios can be minimized by using identical out-of-service equipment in a scenario set. Most out of service equipment should be related to some part of the scenario set actions.
- Scenario objectives are not required. If provided they should be description of what and how the scenario tests, not a summary of events.
- Although not explicitly required by NUREG-1021, the exam author should consider whether the scenario content and sequence is sufficiently similar to other scenarios so as to reduce the validity of the examination due to predictability. Consideration should be given to factors such as:
 - Are initial conditions or initial out of service equipment predictive of later events?
 - Have malfunctions and events been arranged in a predictable sequence (e.g., RO/BOP/RO/BOP)?
 - Does the time sequencing of events and malfunctions allow linear crew response, versus requiring allocation of crew resources to competing priorities?
 - Are malfunctions overused, or are some unusual or infrequent malfunctions, especially those that restrict crew information, included (e.g., some form of computer or annunciator failure)?

While no specific factor above is essential, scenario sets should be constructed to minimize applicant predictability and maximize examination validity.

- Design time and resource constraints into the scenarios. A timeline shall be developed and validated for each scenario and it should be administered in accordance with this timeline. This timeline should include malfunctions or events cued from plant parameters or time, as appropriate. The objective is to minimize the examiner cuing requirements during the scenario and ensure the scenarios are consistently administered to all crews.
- Scenario sets should be planned so that each senior operator applicant must apply the Technical Specification (TS) during the set by directing observable actions. If, during administration, an SRO applicant does not exercise TS to the level required to evaluate the competency, due to press of other events or distractions, the examiner should

ensure that the competency is evaluated on another scenario. If no future scenario for the applicant as senior operator is planned, the examiner may carefully question the applicant about the TS that were entered during the scenario and the specific actions that were required, rather than involving the whole crew in an additional scenario just for this issue. The performance standards for the expected actions should be as described in Form ES-D-2. This decision shall be discussed with the Chief Examiner.

- When completing Form ES-D-2, describe immediate and other significant actions for ARPs, ABNs, Off-Normal, or similar procedures, rather than only listing the procedure. In addition, ensure that specific Technical Specification actions are listed for each senior operator candidate.
- To facilitate grading and filing, Form ES-D-1 should be completed electronically for each crew composition for which an individual scenario is used. List the crew assignment for each applicant.

APPENDIX G

EXAMINATION REVIEW GUIDANCE

GENERAL

- Our goal is high quality examinations. Exams should be enhanced through the comment process where we can identify such. Remember that comments must clearly differentiate between suggested enhancements and required changes. However, do not make arbitrary comments. All comments should have valid bases in NUREG-1021.
- The reviewers must challenge examination quality and content with respect to:
 - Written/simulator/walk-through overlap & how determined & controlled.
 - Where is the analysis or comprehension in questions.
 - References to learning objectives, K/As, & procedures are valid.
 - Item discrimination or difficulty, as well as job content, item construction, etc
 - Facility forms used in place of NRC forms are complete to current NRC versions.
- Review the examinations for overall balance and duplication of test items among the parts. For example, reactivity change is usually covered adequately in the dynamic scenarios, therefore, this task should not be included as a JPM as well. PWR system tasks that involve manipulating boration or dilution controls are likely to inappropriately overlap with the scenarios.
- When the schedule of other work permits, the detailed initial review of draft examinations should be performed by the lead examination reviewer. Normally, the chief examiner will be the peer (independent) reviewer, unless another peer reviewer is assigned. As a minimum, the peer reviewer will review all written and operating test questions and tasks for which the assigned reviewer had no comments.
- To facilitate forwarding to the licensee and filing, document all comments electronically. Because they will be available to the licensee and public, adhere to agency language and plain English guidance.
- Be aware of the thresholds for discussing test item deficiencies in the inspection report as discussed in ES-501, Section E.3.a..

WRITTEN EXAMINATIONS

- Perform the review in accordance with ES-401E.2.
- Compare question selection with approved outlines. Note any discrepancies.
- Initiate Form ES-401-9 and select a sample of 30 questions for review in accordance with ES-401, Section E.2.c. After discussing comments on sample questions with chief examiner and branch chief, review remainder of questions, if the sample results are acceptable. Note the additional options outlined in ES-401 Section E.3.b if 20 percent of the sampled questions are unacceptable. Document all comments on Form ES-401-9.
- Verify that licensee representatives have properly completed Form ES-401-7 and

independently verify and initial items in Column c as appropriate.

- ES-401, Section E.2.c requires reviewing at least 30 test items, with an emphasis on bank items, to ensure that they adequately match the referenced K/A. The reviewer should identify the items reviewed for the K/A accuracy on Form ES-401-9. Any test items not matching the K/A should be identified as unacceptable, requiring replacement before administration, and counted as an unacceptable test item.
- Explicitly evaluate each written test item identified as SRO-only to determine whether it tests SRO-specific knowledge. If it does not, identify it as an unacceptable item requiring replacement and include it in the sample count as an unacceptable item.

OPERATING TEST

- Verify that the licensee has properly completed Form ES-301-3.
- Verify that the parts of the operating test conform to the approved outline.
- Conduct the review in accordance with ES-301.E.2.
- Initial items on Form ES-301-3, Column c, as appropriate, upon completion of the operating test review.

CATEGORY A, ADMINISTRATIVE TOPICS

- Document comments on the following forms, as appropriate:
 - Region IV Operating Test Job Performance Measure Quality Review Matrix (Attachment E)
 - Region IV Operating Test Question Quality Review Matrix (Attachment F)
- Ensure that there are sufficient differences between the RO and SRO examinations to demonstrate that each tests at the proper license level. Although not explicitly required by NUREG-1021, if at least 2 of the 5 topic areas are not different between RO and SRO examinations, including A.4, a careful review of the examination validity for RO and SRO applicants is expected.
- Check validation times to ensure that expected examination administration time is appropriate. Tasks should average approximately 10-20 minutes for administration and questions should average less than approximately 10 minutes for administration. As described in ES-301, Section D.2.e, the estimated time for section A for RO's is under 1 hour and for SRO's is under 1.5 hours.

CATEGORY B, CONTROL ROOM SYSTEMS AND FACILITY WALK-THROUGH

- Document comments on Form Region IV Operating Test Job Performance Measure Quality Review Matrix (Attachment E).
- Although no specific minimum or maximum number of critical steps is established in

NUREG-1021, JPMs with an unusually small or large number identified, such as only 1 or 2 critical steps, should be carefully reviewed to ensure that they test at the proper level for the license applicant.

CATEGORY C, INTEGRATED PLANT OPERATIONS

- Review the dynamic scenarios in accordance with Form ES-301-4.
- Ensure Forms ES-301-5 and -6 are included to cover all applicants. One set of forms may cover several applicants if they participate in the same scenarios.
- Document any comments electronically or document that there are no comments.

APPENDIX H - EXAMINATION FILE GUIDE FOR THE ADAMS ENVIRONMENT

Examination Material:

1. Draft outline (for licensee prepared) {public}[electronic preferred]
2. Final outline {public}[electronic preferred]
3. Draft written and operating exam (only for licensee prepared) {public}[electronic preferred]
4. Final reference examination, including {public}[electronic preferred]
 - a. The final written examination and answer key with all changes incorporated (referenced in inspection report), showing
 - i. The examination approved for administration,
 - ii. **ALL** subsequent changes (during or post-administration) annotated so that they are evident,
 - iii. In a form containing questions, answers, references, and K/A's, and
 - iv. Either the form distributed to the applicants or a cross reference between the question numbers in the form retained and the examination distributed to the applicants..
 - b. Form ES-D-1, "Scenario Outline," **NOT** showing applicants' names,
 - c. Form ES-D-2, "Operator Actions," for each scenario set administered,
 - d. Form ES-301-1, "Administrative Topics Outline,"
 - e. Form ES-301-2, "Individual Walk-Through Test Outline,"and
 - f. As-administered operating test parts A, B, & C for each walk-through test (reflecting the "as run" test conditions).
 - g. All final materials shall have the appropriate approvals and signatures shown per NUREG-1021.
5. All docketed correspondence (May already be entered with accession number){public}
 - a. ES-201, Attachment 3, "Corporate Notification Letter."
 - b. Examination report.
6. NRC draft exam comments, including comments forms such as Appendix E, Appendix F, and Form ES-401-9, or equivalents){public}[electronic preferred]
7. Licensee postexamination comments, with transmittal letter, if any (referenced in inspection report){public}[electronic preferred]
8. Required forms (as one ADAMS document){public}[paper with signatures preferred]
 - a. RIV Pre/Post Exam Assignment Check Sheet (equivalent to Forms ES-201-1, & ES-501-1).
 - b. Form ES-201-2, "Examination Outline Quality Assurance Checklist,"
 - c. Form ES-401-7, "Written Examination Quality Assurance Checklist,"
 - d. Form ES-301-3, "Operating Test Quality Assurance Checklist," and
 - e. Form ES-301-4, "Simulator Scenario Quality Assurance Checklist," per exam trip.
 - f. Form ES-301-5, "Transient and Event Checklist," and
 - g. Form ES-301-6, "Competencies Checklist," for each set of operating tests.
 - h. Form ES-403-1, "Written Examination Grading Quality Assurance Checklist"
 - i. RPS/IP Report 21 printout showing actual number of examinees (**BEFORE** issuing inspection report).

- j. Form ES-201-3, "Examination Security Agreements," w/ pre/post signatures.
- 9. Required forms (as one ADAMS document){not public}[paper with signatures preferred]
 - a. ES-201, Attachment 4, "Examination Assignment Sheet," (memo) with any changes clearly annotated.
 - b. Form ES-501-2, "Power Plant Examination Results Summary Sheet"

Individual Examination Records

- 1. Individual Applicant/Licensee Docket Files:
 - a. Form ES-303-1, "Operator Licensing Examination Report."
 - b. Form ES-303-2, "Operating Test Comments" (original copies, all pages).
 - c. Form ES-D-1, "Scenario Outline," showing assigned crew and position for the applicants (Note that this can be by either a D-1 showing applicant names or a cross reference showing names/positions/scenarios.)
 - d. Form ES-D-2, "Operator Actions," if the applicant failed Category C of the operating test (all record copies should have the required signatures and reflect the "as run" test conditions; pen-and-ink markups of the original, approved forms are acceptable)
- 2. All correspondence with the applicant.
- 3. The applicant's original written examination cover and answer sheets.

Administrative Instructions

- 1. The branch secretary will create the package when the corporate notification letter is signed out and put the letter in it and should be the primary resource for adding examination material to ADAMS.
- 2. The Chief Examiner should put electronic material into ADAMS as draft documents upon receipt in timely manner. Based on resources and timing, this may be delegated to the branch secretary. In either case, the Chief Examiner should clearly identify each document using the guidance of item 7 below.
- 3. For paper copies, the branch secretary (or the licensing assistant, if the secretary is not available) will handle getting it scanned in and put in ADAMS as draft document.
- 4. Examination material items 4.a and 7 must be entered into ADAMS and declared official agency records before the inspection report is issued, so the accession # may be referenced in the report.
- 5. All documents entered in ADAMS by branch technical staff shall be entered as draft and assigned ownership to the branch group defined in ADAMS, which includes the branch secretary and licensing assistant. Only the branch secretary and licensing assistant are allowed to complete the OAR profile and declaration as part of the processing.
- 6. The preferred electronic format for submittals or working documents is as follows (this would result in 4~8 files and corresponding ADAMS documents):
 - a. One file for each part of the examination, i.e., separate files for each of the following:
 - i. RO/SRO written exam (one for each license type also appropriate),
 - ii. All operating test Part A and B (separate files also appropriate),
 - iii. All operating test Part C (scenario and operator actions), and
 - iv. Complete outline (separate for written and operating also appropriate)
 - b. Material in a software format readable by WordPerfect®, Word®, or Acrobat®

7. Package/document naming convention:

- a. Package: SITEABBR - INIT EXAM - MO/YYYY (Month #)
- b. Documents named as, associated with Examination Material items above:
 - i. SITEABBR - INIT EXAM - MO/YYYY - DRAFT OUTLINE,
 - ii. SITEABBR - INIT EXAM - MO/YYYY - FINAL OUTLINE,
 - iii. SITEABBR - INIT EXAM - MO/YYYY - DRAFT EXAM,
 - iv. SITEABBR - INIT EXAM - MO/YYYY - FINAL REFERENCE EXAM (RO/SRO and/or WRITTEN/OPERATING if separate documents),
 - v. SITEABBR - INIT EXAM - MO/YYYY - {CORRESPONDENCE TITLE}
 - vi. SITEABBR - INIT EXAM - MO/YYYY - NRC DRAFT EXAM COMMENTS
 - vii. SITEABBR - INIT EXAM - MO/YYYY - LICENSEE POSTEXAM RECOMMENDATIONS
 - viii. SITEABBR - INIT EXAM - MO/YYYY - PUBLIC FORMS
 - ix. SITEABBR - INIT EXAM - MO/YYYY - NONPUBLIC FORMS

Individual Results Records: Individual license application results are not entered into ADAMS.

APPENDIX I**Operations Branch Assignment Check Sheet:**
(Includes ES-201-1 & ES-501-1 Rev. 8 information)

as of: 10/27/00

Chief:

Facility/Task:

Task Start Date: 5/22/00

ITEM DESCRIPTION		DUE DATE	INIT	DATE
0	Exam/Inspection Schedule Agreement	Nov 24, 1999	JLP	10/27/2000
1	NRC Staff & Fac. Contact Assigned	Nov 24, 1999	JLP	10/27/2000
2	Facility contact briefed on security & other issues	Nov 24, 1999	JLP	10/27/2000
3	Corp. Notification Letter Sent	Nov 24, 1999		
3a	Inspection Announcement Letter Sent (PIR & LORT if req'd)	Apr 7, 2000		
4	Task Expectations, Issues, & Standards Discussed w/ BC	Feb 22, 2000		
5	[Reference Material Due]	Jan 23, 2000		
6	Integrated Exam Outlines Due	Jan 23, 2000		
7	Outlines reviewed by NRC & Feedback Sent	Feb 6, 2000		
8	Preliminary Applications Due	Apr 22, 2000		
9	Draft Exams w/ Doc./Ref. Due	Mar 23, 2000		
10*	Independent Reviewer Initials As Reviewed All Parts	Apr 2, 2000		
11*	NRC Supervisor. Initials Approving for Fac. Rev.	Apr 2, 2000		
12	Exams Reviewed w/ Fac.	Apr 2, 2000		
13	Final Appl. Due & Assign. Sheet Prepared	May 8, 2000		
14*	NRC Supervisor Approved Final Exams	May 15, 2000		
15	Final Appl. Rec'd & Waivers Sent	May 15, 2000		
16	Proctor Rules Reviewed w/ Fac. & Written Authorized	May 15, 2000		
17	Exam/Insp Material to Team	May 15, 2000		
18	Fac. graded exam & Comments Rec'd	Jun 3, 2000		
19	NRC Written Grading Completed	Jun 6, 2000		
20	Examiners Finished Grading Op. Tests	Jun 6, 2000		
21	NRC Ch. Ex. Review Completed	Jun 16, 2000		
22*	NRC BC Review Completed	Jun 17, 2000		
23	RPS/IP Examinees Updated Before Report Issued	Jun 22, 2000		
24	License/Denials Signed & Report Issued	Jun 22, 2000		
25	Package Closed Out	Jul 13, 2000		
	Final Inspection Report Issued, Exam Package to OLA, Facility. Contact Notified of Results			

* Note Supervisor or Independent Reviewer initials required in for lines 10, 11, 14, & 22.

[] Required NRC-auth. exams only for line 5.

APPENDIX J

INITIAL APPLICANTS PRE-EXAMINATION BRIEFING

INTRODUCTION

- Introduce examiners/observers. State their function.
- State purpose of meeting.
- Exams per NUREG-1021, Rev. 8.
- Outline exam schedule.
- When to expect results. (Approx. 30 days)

WRITTEN EXAMINATION

- Describe written exam content and conduct.
- 5 hours exam. Additional time may be available if request of NRC during the examination.
- 80% passing grade.

WALK THROUGH EXAM - JPMS

- Number JPMs for Instant SROs, ROs, and SRO Upgrades.
- Types of JPMs they may expect.
 - Standard JPM
 - Dynamic JPM
- Describe alternate path JPM and time critical JPM and conduct expected.
- Discuss JPM questions as required.
- Discuss Administrative topics (Section A).
- Discuss passing criteria (3 or 4 right on part A, 80 % on part B)

SIMULATOR EXAM

- Discuss crew composition and rotation policies (refer to schedule) and use of surrogates.
- Describe scenario conduct, timeliness, communication, use of time compression, etc.
- Discuss grading criteria & show form.

**APPENDIX K
 GENERAL TOPIC OUTLINE FOR OPERATIONS BRANCH EXITS**

The following topics should be reviewed as potential topics for each exit meeting. The exit meeting should focus on the message to the senior licensee official. The general outline for any exit should be 1) introduction and inspection scope, 2) safety and regulatory findings, 3) program observations and findings appropriate for direct communication to the senior licensee official, and 4) summary of items covered. These topics below are strongly encouraged to be part of informal discussions with training staff.

Also, during the week, solicit:

- ✓ **initial examination demand and requalification cycle information and**
- ✓ **any feedback on the examination or inspection process and conduct.**

Program Areas	Requalification Inspection	Inspection or Exams	Initial Exams
1. Introduction	<ul style="list-style-type: none"> • Introduce NRC participants • State purpose • Note pre-brief held before • Report # 		
2. Compliance or Safety Issues	<ul style="list-style-type: none"> • VIO, NCV, URI 		
3.a. Operator Performance		<ul style="list-style-type: none"> • Generic weaknesses • System knowledge • Communications • Oversight • Crew performance 	<ul style="list-style-type: none"> • No individual results
3.b. Exam Material		<ul style="list-style-type: none"> • Draft Exams • Written Bank • Scenario Bank • JPM Bank 	<ul style="list-style-type: none"> • Exam outlines • Exam submittal
3.c. Exam Administration	<ul style="list-style-type: none"> • Exam team members • Evaluator <ul style="list-style-type: none"> • observations • judgement 	<ul style="list-style-type: none"> • Ops support • HP support • Procedures • Housekeeping • Material Condition • Exam Security 	<ul style="list-style-type: none"> • Pre-reviews • Written exam
3.d. Training Program	<ul style="list-style-type: none"> • Ops involvement in <ul style="list-style-type: none"> • Prg content • Exams • Crew status • Program content • Program feedback from: <ul style="list-style-type: none"> • Trainees • Operating History • Industry Events • License conditions 	<ul style="list-style-type: none"> • Simulator fidelity 	
4. Summary	<ul style="list-style-type: none"> • Overall results • Changes from last inspection 	<ul style="list-style-type: none"> • Generic observations • Safety issues • Time frame for results 	



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
611 RYAN PLAZA DRIVE, SUITE 400
ARLINGTON, TEXAS 76011-8064

S:\DRS\OB\Exam Good Practices\goodprac-app-l-rev2.wpd

APPENDIX L - SAMPLE CORPORATE NOTIFICATION LETTER

[Copy appropriate address from R:\#50ADD\ppltr.add, where pp is 2 or 3 letter plant designator]

SUBJECT: NRC INITIAL OPERATOR LICENSING EXAMINATIONS

{Use this title until we determine if the OL effort will use integrated reports}

Note that in the body of the sample letter, brackets are used as follows:

[] Include only for examinations to be prepared by the facility licensee.

[[]] Include only for examinations to be prepared by the NRC.

In a telephone conversation on (date) between Mr./Ms. (Name, Title {optional}) and Mr./Ms. (Name, Title {optional}), arrangements were made for the administration of licensing examinations at (facility name) during the week(s) of (date).

[As agreed during the telephone conversation, your staff][[The NRC]] will prepare the examinations based on the guidelines in Revision 8 of NUREG-1021, "Operator Licensing Examination Standards for Power Reactors." [The NRC regional office will discuss with your staff any changes that might be necessary before the examinations are administered.][[Your staff will be given the opportunity to review the examinations during the week of (date).]]

To meet the above schedule, it will be necessary for your staff to furnish the [examination outlines by (date). The written examinations, operating tests, and the supporting] reference materials identified in Attachment 2 of ES-201 [will be due] by (date). [Pursuant to 10 CFR 55.40(b)(3), an authorized representative of the facility licensee shall approve the outlines, examinations, and tests before they are submitted to the NRC for review and approval. All materials shall be complete and ready-to-use.] Any delay in receiving the required [examination and] reference materials, or the submittal of inadequate or incomplete materials, may cause the examinations to be rescheduled.

In order to conduct the requested written examinations and operating tests, it will be necessary for your staff to provide adequate space and accommodations in accordance with ES-402, and to make the simulation facility available on the dates noted above. In accordance with ES-302, your staff should retain the original simulator performance data (e.g., system pressures, temperatures, and levels) generated during the dynamic operating tests until the examination results are final.

Appendix E of NUREG-1021 contains a number of NRC policies and guidelines that will be in effect while the written examinations and operating tests are being administered.

To permit timely NRC review and evaluation, your staff should submit preliminary reactor operator and senior reactor operator license applications (Office of Management and Budget

(OMB) approval number 3150-0090), medical certifications (OMB approval number 3150-0024), and waiver requests (if any)(OMB approval number 3150-0090) at least 30 days before the first examination date. If the applications are not received at least 30 days before the examination date, a postponement may be necessary. Signed applications certifying that all training has been completed should be submitted at least 14 days before the first examination date.

This letter contains information collections that are subject to the *Paperwork Reduction Act of 1995* (44 U.S.C. 3501 et seq.). These information collections were approved by the Office of Management and Budget, approval number 3150-0018, which expires on April 30, 2003.

The public reporting burden for this collection of information is estimated to average [500] [[50]] hours per response, including the time for reviewing instructions, gathering and maintaining the data needed, [writing the examinations,]and completing and reviewing the collection of information. Send comments on any aspect of this collection of information, including suggestions for reducing the burden, to the Information and Records Management Branch (T-6 F33), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by Internet electronic mail at BJS1@NRC.GOV; and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202, (3150-0018), Office of Management and Budget, Washington, DC 20503.

The NRC may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number.

Thank you for your cooperation in this matter. (Name) has been advised of the policies and guidelines referenced in this letter. If you have any questions regarding the NRC's examination procedures and guidelines, please contact (name of regional contact) at (telephone number), or (name of responsible regional supervisor) at (telephone number).

Sincerely,

John L. Pellet, Chief
Operations Branch
Division of Reactor Safety

Docket No.: 50-(Number)
License No.: NPF-(Number)

cc: [Copy appropriate distribution list from R:\#50ADD\ppdist.add, where pp is 2 or 3 letter plant designator; then add person contacted and operations training manager, if different]

APPENDIX M

NUREG-1021, Rev. 8, Suppl. 1, APPENDIX E: POLICIES AND GUIDELINES FOR TAKING NRC EXAMINATIONS

Each examinee shall be briefed on the policies and guidelines applicable to the examination category (written and/or operating test) being administered. The applicants may be briefed individually or as a group. Facility licensees are encouraged to distribute a copy of this appendix to every examinee before the examinations begin. All items apply to both initial and requalification examinations, except as noted.

PART D - WALK-THROUGH TEST GUIDELINES (CATEGORIES A AND B)

1. The walk-through test covers control room systems, local system operations, and administrative requirements. The examiner will evaluate these areas using a combination of job performance measures (JPMs) and specific questions.

The initial walk-through consists of ten JPMs for RO and SRO(I) applicants and five for SRO(U) applicants. Seven of the JPMs (two or three for upgrade applicants) will be conducted in the control room or simulator and the remainder will be conducted in the plant.

The requalification walk-through consists of five JPMs total, with at least two in the control room/simulator and at least two in the plant.

PART A - GENERAL GUIDELINES

1. **[Read Verbatim]** Cheating on any part of the examination will result in a denial of your application and/or action against your license.
2. If you have any questions concerning the administration of any part of the examination, do not hesitate asking them before starting that part of the test.
4. SRO applicants will be tested at the level of responsibility of the senior licensed shift position (i.e., shift supervisor, senior shift supervisor, or whatever the title of the position may be).
5. You must pass every part of the examination to receive a license or to continue performing license duties. Applicants for an SRO-upgrade license may require remedial training in order to continue their RO duties if the examination reveals deficiencies in the required knowledge and abilities.
6. The NRC examiner is not allowed to reveal the results of any part of the examination until they have been reviewed and approved by NRC management. Grades provided by the facility licensee are preliminary until approved by the NRC. You will be informed of the official examination results about 30 days after all the examinations are complete.

PART B - WRITTEN EXAMINATION GUIDELINES

1. **[Read Verbatim]** After you complete the examination, sign the statement on the cover sheet indicating that the work is your own and you have not received or given assistance in completing the examination.
2. To pass the examination, you must achieve a grade of 80.00 percent or greater; grades will not be rounded up to achieve a passing score. Every question is worth one point.

3. For an initial examination, the nominal time limit for completing the examination is five hours; extensions will be granted if anyone needs more time to complete the exam.

For a requalification examination, the time limit for completing both sections of the examination is three hours. If both sections are administered in the simulator during a single three-hour period, you may return to a section of the examination that was already completed or retain both sections of the examination until the allotted time has expired.

4. You may bring pens, pencils, and calculators into the examination room. Use black ink to ensure legible copies; dark pencil should be used only if necessary to facilitate machine grading.
5. Print your name in the blank provided on the examination cover sheet and the answer sheet. You may be asked to provide the examiner with some form of positive identification.
6. Mark your answers on the answer sheet provided and do not leave any question blank. Use only the paper provided and do not write on the back side of the pages. If you are using ink and decide to change your original answer, draw a single line through the error, enter the desired answer, and initial the change.
7. If you have any questions concerning the intent or the initial conditions of a question, do *not* hesitate asking them before answering the question. Ask questions of the NRC examiner or the designated facility instructor *only*. When answering a question, do *not* make assumptions regarding conditions that are not specified in the question unless they occur as a consequence of other conditions that are stated in the question. For example, you should not assume that any alarm has activated unless the question so states or the alarm is expected to activate as a result of the conditions that are stated in the question. Finally, answer all questions based on actual plant operation, procedures, and references. If you believe that the answer would be different based on simulator operation or references, you should answer the question based on the *actual plant*.
8. Restroom trips are permitted, but only one applicant at a time will be allowed to leave. Avoid all contact with anyone outside the examination room to eliminate even the appearance or possibility of cheating.
9. When you complete the examination, assemble a package including the examination questions, examination aids, answer sheets, and scrap paper and give it to the NRC examiner or proctor. Remember to sign the statement on the examination cover sheet indicating that the work is your own and that you have neither given nor received assistance in completing the examination. The scrap paper will be disposed of immediately after the examination.
10. After you have turned in your examination, leave the examination area as defined by the proctor or NRC examiner. If you are found in this area while the examination is still in progress, your license may be denied or revoked.
11. Do you have any questions?

PART C - GENERIC OPERATING TEST GUIDELINES (CATEGORIES A, B, AND C)

1. If you are asked a question or directed to perform a task that is unclear, you should not hesitate to ask for clarification.
2. The examiner will take notes throughout the test to document your performance, and sometimes the examiner may take a short break for this reason. The amount of note-taking does not reflect your level of performance. The examiner is required to document satisfactory as well as less than satisfactory performance.
3. The operating test is considered "open reference." The reference material that is normally available to operators in the facility and control room (including calibration curves, previous log entries, piping and instrumentation diagrams, calculation sheets, and procedures) is also available to you during the operating test. However, you should know from memory certain automatic actions, set points, interlocks, operating characteristics, and the immediate actions of emergency and other procedures, as appropriate to the facility. If you desire to use a reference, you should ask the examiner if it is acceptable to do so for the task or question under consideration.

You may *not* solicit technical information from other operators, engineers, or technical advisors.
4. You must not discuss any aspect of your operating test with any other examinee until after all the examinations are complete.

2. The examiner is a visitor at this facility. When you enter the plant, you may be expected to escort the examiner and ensure that he or she complies with safety, security, and radiation protection procedures.

3. You should not operate plant equipment without appropriate permission from the operating crew. Nothing the examiner says or asks will be intended to violate this principle.

4. Before beginning each JPM, the examiner will describe the initial conditions, explain the task that is to be completed, indicate whether the task is time-critical, and explain which steps are to be simulated or discussed. You should perform or simulate the required actions as if directed by plant procedures or shift supervision. Do not assume that the examiner will accept an oral description of the required action unless the examiner indicates otherwise.

5. Time-critical JPMs have been validated by your facility and must be completed within the predetermined time interval in order to obtain a satisfactory grade for that JPM. You will be permitted to take whatever time is necessary to complete those JPMs that are not time-critical, provided you are making reasonable progress toward achieving the task standard.

6. When performing JPMs, you are expected to make decisions and take actions based on the facility's procedural guidance and the indications available. Some of the tasks that the examiner asks you to perform will require the implementation of an alternative method directed by plant procedures.

7. As part of the examination, the examiner may ask questions to investigate your knowledge of an administrative topic, system, or task. Many of the questions will require you to use plant reference material, while others should be answered without the use of references. If you need to consult a reference to answer a question, ask the examiner if it is acceptable to do so. There is no specific time limit for any question, however, you may be evaluated as unsatisfactory on a question if you are unfamiliar with the subject or reference material and are unable to answer the question in a reasonable period of time. You will not be permitted to conduct unlimited searches of the plant reference material during the examination.

8. To facilitate the examination and better enable the examiner to assess your level of understanding, please verbalize your actions and observations while performing the JPMs. Also, please inform the examiner when you consider your performance of each JPM and your answer to each question to be complete.

9. If you need a break during the test, you should ask the examiner.

10. Do you have any questions before we begin the walk-through test?

PART E - SIMULATOR TEST GUIDELINES (CATEGORY C)

1. Your primary responsibility is to operate the simulator as if it were the actual plant. If you believe that the simulator is not responding properly, you should make decisions and recommendations on the basis of the indications available, unless directed otherwise by the examiner.

2. If the examiner asks you a question, you should answer it *only if* doing so will not interfere with simulation facility operations.

3. Teamwork and communications are evaluated. You can enhance the evaluation process by vocalizing your observations, analyses, and the bases for your actions.

Requalification examinations evaluate the crew's ability to safely operate the plant and the performance of both the individuals and the crew.

4. If you recognize but fail to correct an erroneous decision, response, answer, analysis, action, or interpretation made by the operating team or crew, the examiner may conclude that you agree with the incorrect item.

5. You should keep a rough log during each scenario that would be sufficient to complete necessary formal log entries.

6. A designated facility instructor (or an examiner) will act as the auxiliary operators, radiation health and chemistry technicians, maintenance supervisors, plant management, and anyone else needed outside the control room.

7. The facility instructor (or examiner) will provide a shift turnover briefing before the scenario begins. The briefing will cover present plant conditions, power history, equipment out of service, abnormal conditions, surveillances due, and instructions for the shift.

8. Control board switches may be purposely misaligned to enhance a scenario or transient where appropriate. You will not be required to locate misaligned switches as part of the evaluation. If a switch is misaligned, it will be tagged or otherwise highlighted as appropriate to the facility and will be noted during the turnover briefing. The examiners will not misalign switches during the scenario.

9. Time compression may be used to expedite the sequence of events in some scenarios, but it will not preclude you from performing the actions that you would typically be required to perform in response to the events. If time compression is used, you will be so informed during and after the scenario.

10. You will be given sufficient time (normally about five minutes) to familiarize yourselves with plant conditions before starting each simulator scenario.

11. The initial test will normally consist of two or three scenarios lasting a total of three to four hours. The requalification test will normally consist of two scenarios lasting about one hour each. You will be given a short break between scenarios.

12. SRO upgrade applicants who fill the role of an RO or balance of plant (BOP) operator during a scenario will be evaluated on their ability to manipulate the controls even though an examiner may not be assigned to directly monitor their performance.

13. Do you have any questions before we begin the simulator test?