

ADMINISTRATIVE DOCUMENTS

(Yellow Paper)

1. Exam Preparation Checklist ES-201-1 ✓
2. Exam Outline Quality Checklist ES-201-2 ✓
3. Exam Security Agreement(s) ES-201-3 ✓
4. Administrative Topics Outline (Final) ES-301-1 ✓
5. Control Room Systems & Facility Walk-through Test Outline
(Final) ES-301-2 ✓
6. Operating Test Quality Check Sheet ES-301-3 ✓
7. Simulator Scenario Quality Check Sheet ES-301-4 ✓
8. Transient and Event Checklist ES-301-5 ✓
9. Competencies Checklist ES-301-6 ✓
10. Written Exam Quality Check Sheet ES-401-6 ✓
11. Written Exam Review Worksheet ES-401-9 ✓
12. Written Exam Grading Quality Checklist ES-403-1 ✓
13. Post-Exam Check Sheet ES-501-1 ✓
14. Facility Submittal Letter - *BSEP07-0056* ✓
4-30-2007 [✓]
8-1-07 (BSEP07-0079) ✓
✓ *ROI-ATTACHMENTS-3* ✓

2' from Report

BRUNSWICK JULY-AUG EXAM - 325, 324/2007-301
ADMINISTRATIVE DOCUMENTS

Facility: BRUNSWICK 2007-301 Date of Examination: July 2007

Developed by: Written - Facility NRC // Operating - Facility NRC

| Target Date* | Task Description (Reference) | Chief Examiner's Initials |
|--------------|---|---------------------------|
| -180 | 1. Examination administration date confirmed (C.1.a; C.2.a and b) | MB |
| -120 | 2. NRC examiners and facility contact assigned (C.1.d; C.2.e) | MB |
| -120 | 3. Facility contact briefed on security and other requirements (C.2.c) | MB |
| -120 | 4. Corporate notification letter sent (C.2.d) | MB |
| [-90] | [5. Reference material due (C.1.e; C.3.c; Attachment 2)] | MB |
| {-75} | 6. Integrated examination outline(s) due, including Forms ES-201-2, ES-201-3, ES-301-1, ES-301-2, ES-301-5, ES-D-1's, ES-401-1/2, ES-401-3, and ES-401-4, as applicable (C.1.e and f; C.3.d) | MB |
| {-70} | {7. Examination outline(s) reviewed by NRC and feedback provided to facility licensee (C.2.h; C.3.e)} | MB |
| {-45} | 8. Proposed examinations (including written, walk-through JPMs, and scenarios, as applicable), supporting documentation (including Forms ES-301-3, ES-301-4, ES-301-5, ES-301-6, and ES-401-6, and any Form ES-201-3 updates), and reference materials due (C.1.e, f, g and h; C.3.d) | MB |
| -30 | 9. Preliminary license applications (NRC Form 398's) due (C.1.i; C.2.g; ES-202) | MB |
| -14 | 10. Final license applications due and Form ES-201-4 prepared (C.1.i; C.2.i; ES-202) | MB |
| -14 | 11. Examination approved by NRC supervisor for facility licensee review (C.2.h; C.3.f) | MB |
| -14 | 12. Examinations reviewed with facility licensee (C.1.j; C.2.f and h; C.3.g) | MB |
| -7 | 13. Written examinations and operating tests approved by NRC supervisor (C.2.i; C.3.h) | Op: MB Wri: MB |
| -7 | 14. Final applications reviewed; 1 or 2 (if >10) applications audited to confirm qualifications / eligibility; and examination approval and waiver letters sent (C.2.i; Attachment 4; ES-202, C.2.e; ES-204) | 2 Apps Audited MB |
| -7 | 15. Proctoring/written exam administration guidelines reviewed with facility licensee (C.3.k) | MB |
| -7 | 16. Approved scenarios, job performance measures, and questions distributed to NRC examiners (C.3.i) | MB |

* Target dates are generally based on facility-prepared examinations and are keyed to the examination date identified in the corporate notification letter. They are for planning purposes and may be adjusted on a case-by-case basis in coordination with the facility licensee.

[Applies only] {Does not apply} to examinations prepared by the NRC.

| Facility: | Brunswick | | Date of Examination: | July/Aug 2007 | | |
|---------------------------|---|----------|----------------------|---------------|--|--|
| Item | Task Description | Initials | | | | |
| | | a | b* | c# | | |
| WRITTEN | a. Verify that the outline(s) fit(s) the appropriate model per ES-401. | SD | MP | WMB | | |
| | b. Assess whether the outline was systematically and randomly prepared in accordance with Section D.1 of ES-401 and whether all K/A categories are appropriately sampled. | SD | MP | WMB | | |
| | c. Assess whether the outline over-emphasizes any systems, evolutions, or generic topics. | SD | MP | WMB | | |
| | d. Assess whether the justifications for deselected or rejected K/A statements are appropriate. | SD | MP | WMB | | |
| SIMULATOR | a. Using Form ES-301-5, verify that the proposed scenario sets cover the required number of normal evolutions, instrument and component failures, technical specifications, and major transients. | SD | MP | WMB | | |
| | b. Assess whether there are enough scenario sets (and spares) to test the projected number and mix of applicants in accordance with the expected crew composition and rotation schedule without compromising exam integrity; and ensure that each applicant can be tested using at least one new or significantly modified scenario, that no scenarios are duplicated from the applicants' audit test(s), and scenarios will not be repeated on subsequent days. | SD | MP | WMB | | |
| | c. To the extent possible, assess whether the outline(s) conform(s) with the qualitative and quantitative criteria specified on Form ES-301-4 and described in Appendix D. | SD | MP | WMB | | |
| W/T | a. Verify that systems walk-through outline meets the criteria specified on Form ES-301-2: (1) the outline(s) contain(s) the required number of control room and in-plant tasks, distributed among the safety functions as specified on the form (2) task repetition from the last two NRC examinations is within the limits specified on the form, (3)* no tasks are duplicated from the applicants' audit test(s) (4) the number of alternate path, low-power, emergency and RCA tasks meet the criteria on the form. | SD | MP | WMB | | |
| | b. Verify that the administrative outline meets the criteria specified on Form ES-301-1: (1) the tasks are distributed among the topics as specified on the form (2) at least one task is new or significantly modified (3) no more than one task is repeated from the last two NRC licensing examinations | SD | MP | WMB | | |
| | c. Determine if there are enough different outlines to test the projected number and mix of applicants and ensure that no items are duplicated on subsequent days. | SD | MP | WMB | | |
| GENERAL | a. Assess whether plant-specific priorities (including PRA and IPE insights) are covered in the appropriate exam section. | SD | MP | WMB | | |
| | b. Assess whether the 10CFR 55.41/43 and 55.45 sampling is appropriate. | SD | MP | WMB | | |
| | c. Ensure that K/A importance ratings (except for plant-specific priorities) are at least 2.5. | SD | MP | WMB | | |
| | d. Check for duplication and overlap among exam sections. | SD | MP | WMB | | |
| | e. Check the entire exam for balance of coverage. | SD | MP | WMB | | |
| | f. Assess whether the exam fits the appropriate job level (RO or SRO). | SD | MP | WMB | | |
| a. Author | Steven Dennis / <i>Steven Dennis</i> | | Date 7-15-07 | | | |
| b. Facility Reviewer (*) | <i>Marcus Pearson</i> / <i>Marcus Pearson</i> | | 07-19-07 | | | |
| c. NRC Chief Examiner (#) | MARK A. BATES / <i>Mark A. Bates</i> | | 08/02/07 | | | |
| d. NRC Supervisor | Ron Arellano / <i>Ron Arellano</i> | | 08/02/07 | | | |

NOTE: # Independent NRC reviewer initial items in Column "c", chief examiner concurrence required.

| Facility: | Brunswick | Date of Examination: | July/Aug 2007 | | |
|--|---|---|---------------|------------|-----|
| Item | Task Description | Initials | | | |
| | | a | b* | c# | |
| 1. ✗ WRITTEN | a. Verify that the outline(s) fit(s) the appropriate model per ES-401. | X | N/A | N/A | |
| | b. Assess whether the outline was systematically and randomly prepared in accordance with Section D.1 of ES-401 and whether all K/A categories are appropriately sampled. | | | | |
| | c. Assess whether the outline over-emphasizes any systems, evolutions, or generic topics. | | | | |
| | d. Assess whether the justifications for deselected or rejected K/A statements are appropriate. | | | | |
| 2. SIMULATOR | a. Using Form ES-301-5, verify that the proposed scenario sets cover the required number of normal evolutions, instrument and component failures, technical specifications, and major transients. | SD | N/A | N/A | |
| | b. Assess whether there are enough scenario sets (and spares) to test the projected number and mix of applicants in accordance with the expected crew composition and rotation schedule without compromising exam integrity; and ensure that each applicant can be tested using at least one new or significantly modified scenario, that no scenarios are duplicated from the applicants' audit test(s), and scenarios will not be repeated on subsequent days. | SD | N/A | N/A | |
| | c. To the extent possible, assess whether the outline(s) conform(s) with the qualitative and quantitative criteria specified on Form ES-301-4 and described in Appendix D. | SD | N/A | N/A | |
| 3. W/T | a. Verify that systems walk-through outline meets the criteria specified on Form ES-301-2: (1) ✓ the outline(s) contain(s) the required number of control room and in-plant tasks, distributed among the safety functions as specified on the form (2) ✓ task repetition from the last two NRC examinations is within the limits specified on the form, (3)* ✓ no tasks are duplicated from the applicants' audit test(s) (4) ✓ the number of alternate path, low-power, emergency and RCA tasks meet the criteria on the form. | SD | N/A | N/A | |
| | b. Verify that the administrative outline meets the criteria specified on Form ES-301-1: (1) ✓ the tasks are distributed among the topics as specified on the form (2) ✓ at least one task is new or significantly modified (3) ✓ no more than one task is repeated from the last two NRC licensing examinations | SD | N/A | N/A | |
| | c. Determine if there are enough different outlines to test the projected number and mix of applicants and ensure that no items are duplicated on subsequent days. | SD | N/A | N/A | |
| | 4. ✗ GENERAL | a. Assess whether plant-specific priorities (including PRA and IPE insights) are covered in the appropriate exam section. | SD | N/A | N/A |
| | | b. Assess whether the 10CFR 55.41/43 and 55.45 sampling is appropriate. | SD | N/A | N/A |
| | | c. Ensure that K/A importance ratings (except for plant-specific priorities) are at least 2.5. | SD | N/A | N/A |
| d. Check for duplication and overlap among exam sections. | | SD | N/A | N/A | |
| e. Check the entire exam for balance of coverage. | SD | N/A | N/A | | |
| f. Assess whether the exam fits the appropriate job level (RO or SRO). | SD | N/A | N/A | | |
| a. Author | | Printed Name / Signature | | Date | |
| Steven Dennis / <i>Steven Dennis</i> | | | | 7-2-07 | |
| b. Facility Reviewer (*) | | <i>Marche A. Pearson Sr</i> | | 070507 | |
| c. NRC Chief Examiner (#) | | <i>MARK A. BATES</i> | | 07-13-2007 | |
| d. NRC Supervisor | | <i>Robert HAAG</i> | | 7/13/07 | |

NOTE: # Independent NRC reviewer initial items in Column "c", chief examiner concurrence required.

✗ SECTIONS 1 + 4 WILL BE UPDATED WHEN WRITTEN EXAM IS FINALIZED

P-2
 P-4
 548-56/-NRB
 623 535-307 (23)

Joe Rrsweals
 62-90 60 NE WY
 621:01 20 01 JRU

Brunswick

ES-201 Examination Security Agreement Form ES-201-3

1. Pre-Examination

I acknowledge that I have acquired specialized knowledge about the NRC licensing examinations scheduled for the week(s) of 7/16/07 as of the date of my signature. I agree that I will not knowingly divulge any information about these examinations to any persons who have not been authorized by the NRC (e.g., acting as a simulator booth operator or communicator is acceptable if the individual does not select the training content or provide direct or indirect feedback. Furthermore, I am aware of the physical security measures and requirements (as documented in the facility licensee's procedures) and understand that violation of the conditions of this agreement may result in cancellation of the examinations and/or an enforcement action against me or the facility licensee. I will immediately report to facility management or the NRC chief examiner any indications or suggestions that examination security may have been compromised.

2. Post-Examination

To the best of my knowledge, I did not divulge to any unauthorized persons any information concerning the NRC licensing examinations administered during the week(s) of _____ from the date that I signed this security agreement until the completion of examination administration. I did not instruct, evaluate, or provide performance feedback to those applicants who were administered these licensing examinations, except as specifically noted below and authorized by the NRC.

| | PRINTED NAME | JOB TITLE/ RESPONSIBILITY | SIGNATURE (1) | DATE | SIGNATURE (2) | DATE | NOTE |
|-----|---------------------|---------------------------|----------------------------|---------|----------------------------|---------|------|
| 1. | Joseph Assalant | Developer | <i>Joseph Assalant</i> | 11/7/07 | <i>Joseph Assalant</i> | 8/3/07 | |
| 2. | Jacqueline Scheikis | Admin | <i>Jacqueline Scheikis</i> | 11/7/07 | <i>Jacqueline Scheikis</i> | 10/4/07 | |
| 3. | Edwin Bowles | Developer | <i>Edwin Bowles</i> | 3/16/07 | | 10/2/07 | N-1 |
| 4. | | | | | | | |
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NOTES: N-1: Edwin Bowles signed off the security agreement on October 2nd, 2007 with Steven Knotts via teleconference.

NUREG-1071, Revision 9

1. Pre-Examination

Operating Exam Only

I acknowledge that I have acquired specialized knowledge about the NRC licensing examinations scheduled for the week(s) of 7-16-07 as of the date of my signature. I agree that I will not knowingly divulge any information about these examinations to any persons who have not been authorized by the NRC chief examiner. I understand that I am not to instruct, evaluate, or provide performance feedback to those applicants scheduled to be administered these licensing examinations from this date until completion of examination administration, except as specifically noted below and authorized by the NRC (e.g., acting as a simulator booth operator or communicator is acceptable if the individual does not select the training content or provide direct or indirect feedback). Furthermore, I am aware of the physical security measures and requirements (as documented in the facility licensee's procedures) and understand that violation of the conditions of this agreement may result in cancellation of the examinations and/or an enforcement action against me or the facility licensee. I will immediately report to facility management or the NRC chief examiner any indications or suggestions that examination security may have been compromised.

2. Post-Examination

To the best of my knowledge, I did not divulge to any unauthorized persons any information concerning the NRC licensing examinations administered during the week(s) of 7-16-07 from the date that I entered into this security agreement until the completion of examination administration. I did not instruct, evaluate, or provide performance feedback to those applicants who were administered these licensing examinations, except as specifically noted below and authorized by the NRC.

Operating Exam Only

| | PRINTED NAME | JOB TITLE / RESPONSIBILITY | SIGNATURE (1) | DATE | SIGNATURE (2) | DATE | NOTE |
|-----|---------------------|----------------------------|----------------------------|----------|----------------------------|---------|------|
| 1. | Leonard R. Beller | Superintendent - Ops Trn | <i>Leonard R. Beller</i> | 7/16/07 | <i>Leonard R. Beller</i> | 7/25/07 | |
| 2. | MICHAEL K. AMATO | SR. NRC TRNG INST. | <i>Michael K. Amato</i> | 7/16/07 | <i>Michael K. Amato</i> | 7/24/07 | |
| 3. | STEVEN R. KNOTT | SUPERVISOR OPS TRNG TRN | <i>Steven R. Knott</i> | 7/16/07 | <i>Steven R. Knott</i> | 7/23/07 | |
| 4. | STEVEN D. GLASGOW | SR. NRC TRNG INST. | <i>Steven D. Glasgow</i> | 7/16/07 | <i>Steven D. Glasgow</i> | 7-24-07 | |
| 5. | DOUGLAS T. PATE | SURROGATE SRO | <i>Douglas T. Pate</i> | 07/16/07 | <i>Douglas T. Pate</i> | 7/23/07 | |
| 6. | WILLIAM D. WOODBURY | OPS TRNG REP. | <i>William D. Woodbury</i> | 7/16/07 | <i>William D. Woodbury</i> | 7/23/07 | |
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NOTES:

1. Pre-Examination

July 9, 2007 July 30, 2007
 July 16, 2007
 July 23, 2007

I acknowledge that I have acquired specialized knowledge about the NRC licensing examinations scheduled for the week(s) of July 9, 2007 July 30, 2007 as of the date of my signature. I agree that I will not knowingly divulge any information about these examinations to any persons who have not been authorized by the NRC chief examiner. I understand that I am not to instruct, evaluate, or provide performance feedback to those applicants scheduled to be administered these licensing examinations from this date until completion of examination administration, except as specifically noted below and authorized by the NRC (e.g., acting as a simulator booth operator or communicator is acceptable if the Individual does not select the training content or provide direct or indirect feedback). Furthermore, I am aware of the physical security measures and requirements (as documented in the facility licensee's procedures) and understand that violation of the conditions of this agreement may result in cancellation of the examinations and/or an enforcement action against me or the facility licensee. I will immediately report to facility management or the NRC chief examiner any indications or suggestions that examination security may have been compromised.

2. Post-Examination

To the best of my knowledge, I did not divulge to any unauthorized persons any information concerning the NRC licensing examinations administered during the week(s) of 7/26/07 7/27/07 from the date that I entered into this security agreement until the completion of examination administration, I did not instruct, evaluate, or provide performance feedback to those applicants who were administered these licensing examinations, except as specifically noted below and authorized by the NRC.

| PRINTED NAME | JOB TITLE / RESPONSIBILITY | SIGNATURE (1) | DATE | SIGNATURE (2) | DATE NOTE |
|------------------------|------------------------------------|--------------------|---------|--------------------|-----------|
| 1. KENNETH HANSON | REACTOR OPERATOR | <i>[Signature]</i> | 5/29/07 | <i>[Signature]</i> | 08/06/07 |
| 2. MARK A. DEWINE | SRO | <i>[Signature]</i> | 5/29/07 | <i>[Signature]</i> | 8/16/07 |
| 3. Leann E. Spencer | Ad. Data Management Asst | <i>[Signature]</i> | 5/29/07 | <i>[Signature]</i> | 8/13/07 |
| 4. JIM M. KESSEL | SENIOR EP SPEC | <i>[Signature]</i> | 6/14/07 | <i>[Signature]</i> | 8/13/07 |
| 5. Daniel R. Archelger | OPS TRNG INSTRUCTOR | <i>[Signature]</i> | 6-22-07 | <i>[Signature]</i> | 8-20-07 |
| 6. Ralph Mullis | Ops Trng Instructor | <i>[Signature]</i> | 6/25/07 | <i>[Signature]</i> | 8/13/07 |
| 7. Clay V. Oliver | SRO | <i>[Signature]</i> | 7/5/07 | <i>[Signature]</i> | 9/25/07 |
| 8. William A. Naylor | RO | <i>[Signature]</i> | 7/5/07 | <i>[Signature]</i> | 9/24/07 |
| 9. WILLIAM D. BOONBY | SHIFT COORDINATOR | <i>[Signature]</i> | 7/16/07 | <i>[Signature]</i> | |
| 10. MICHAEL | 7-16-07 | | | | |
| 11. Boyd S. Strickland | NAS | <i>[Signature]</i> | 7/16/07 | <i>[Signature]</i> | 8/7/07 |
| 12. STEVE KNIGHTS | Supv. Oper Initial Training | <i>[Signature]</i> | 7/24/07 | <i>[Signature]</i> | 8/16/07 |
| 13. STEVEN BOYD | REACTOR OPERATOR | <i>[Signature]</i> | 7/24/07 | <i>[Signature]</i> | 8/16/07 |
| 14. LEONARD R. BELLER | Superintendent - Operator Training | <i>[Signature]</i> | 8/1/07 | <i>[Signature]</i> | 7/16/07 |
| 15. | | | | | |

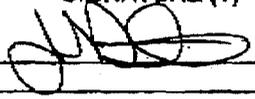
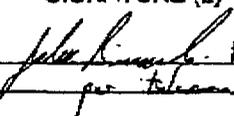
NOTES:

1. Pre-Examination

I acknowledge that I have ~~acquired~~ ^{Progress Energy, Brunswick Nuclear Plant} specialized knowledge about the NRC licensing examinations scheduled for the week(s) of ~~July 16, 2007~~ ^{July 9, 2007} as of the ~~date~~ ^{July 22, 2007} of my signature. I agree that I will not knowingly divulge any information about these examinations to any persons who have not been authorized by the NRC chief examiner. I understand that I am not to instruct, evaluate, or provide performance feedback to those applicants scheduled to be administered these licensing examinations from this date until completion of examination administration, except as specifically noted below and authorized by the NRC (e.g., acting as a simulator booth operator or communicator is acceptable if the individual does not select the training content or provide direct or indirect feedback). Furthermore, I am aware of the physical security measures and requirements (as documented in the facility licensee's procedures) and understand that violation of the conditions of this agreement may result in cancellation of the examinations and/or an enforcement action against me or the facility licensee. I will immediately report to facility management or the NRC chief examiner any indications or suggestions that examination security may have been compromised.

2. Post-Examination

To the best of my knowledge, I did not divulge to any unauthorized persons any information concerning the NRC licensing examinations administered during the week(s) of ~~7-16-07~~ ⁷⁻²²⁻⁰⁷ From the date that I entered into this security agreement until the completion of examination administration, I did not instruct, evaluate, or provide performance feedback to those applicants who were administered these licensing examinations, except as specifically noted below and authorized by the NRC.

| | PRINTED NAME | JOB TITLE / RESPONSIBILITY | SIGNATURE (1) | DATE | SIGNATURE (2) | DATE NOTE |
|-----|--------------|----------------------------|--|---------|---|-------------|
| 1. | JOHN DALTON | SNOTI / Peer Review |  | 7/13/07 |  | Per 9-22-07 |
| 2. | | | | | | |
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NOTES:

1. Pre-Examination

I acknowledge that I have acquired specialized knowledge about the NRC licensing examinations scheduled for the week(s) of July 9, 2007 to July 16, 2007 of the date of my signature. I agree that I will not knowingly divulge any information about these examinations to any persons who have not been authorized by the NRC chief examiner. I understand that I am not to instruct, evaluate, or provide performance feedback to those applicants scheduled to be administered these licensing examinations from this date until completion of examination administration, except as specifically noted below and authorized by the NRC (e.g., acting as a simulator booth operator or communicator is acceptable if the individual does not select the training content or provide direct or indirect feedback). Furthermore, I am aware of the physical security measures and requirements (as documented in the facility licensee's procedures) and understand that violation of the conditions of this agreement may result in cancellation of the examinations and/or an enforcement action against me or the facility licensee. I will immediately report to facility management or the NRC chief examiner any indications or suggestions that examination security may have been compromised.

2. Post-Examination

To the best of my knowledge, I did not divulge to any unauthorized persons any information concerning the NRC licensing examinations administered during the week(s) of 7-23-07 to 7-27-07 from the date that I entered into this security agreement until the completion of examination administration, I did not instruct, evaluate, or provide performance feedback to those applicants who were administered these licensing examinations, except as specifically noted below and authorized by the NRC.

| PRINTED NAME | JOB TITLE / RESPONSIBILITY | SIGNATURE (1) | DATE | SIGNATURE (2) | DATE NOTE |
|-------------------------|--|---------------|----------|---------------|------------------------|
| 1. John Reinsburrow | Senior Training Instructor / Exam Preparation Lead | [Signature] | 2-26-07 | [Signature] | 8/14/07 |
| 2. TERRA WILKIE | DATA MANAGEMENT POST 5 | [Signature] | 3-13-07 | [Signature] | 08/04/07 |
| 3. Tony Pearson | Supervisor OFFICER COB | [Signature] | 03/30/07 | [Signature] | 8/08/07 |
| 4. Charles VanSlyke | Simulator Support | [Signature] | 04/23/07 | [Signature] | 8/06/07 |
| 5. Edward Hawkins | Simulation Support | [Signature] | 04/23/07 | [Signature] | 8/10/07 |
| 6. STEVE DENNIS | Exam DEVELOPER - WESTERN TECHNICAL | [Signature] | 4/23/07 | [Signature] | 7-27-07 |
| 7. Edwin Bowles | Developer - Western Technical | [Signature] | 4/23/07 | [Signature] | 10-20-07 |
| 8. Robert Bolin | Senior Training Instr. / Devlop. | [Signature] | 5/11/07 | [Signature] | 8-6-07 |
| 9. M. Brubaker | SRO | [Signature] | 5/14/07 | [Signature] | 8-6-07 |
| 10. Joel Levine | CRS | [Signature] | 5-15-07 | [Signature] | 8/7/07 |
| 11. JIMMY BOOKER | RO | [Signature] | 5-15-07 | [Signature] | 8/14/07 |
| 12. Mike O'bell | SRO | [Signature] | 05/30/07 | [Signature] | 8-6-07 |
| 13. LEE CARROLL | CRS | [Signature] | 5-17-07 | [Signature] | 8-14-07 |
| 14. H. BRUCKS THOMPSON | SRO | [Signature] | 5/21/07 | [Signature] | 8/15/07 |
| 15. MICHAEL JANNANTONIO | STA | [Signature] | 5/24/07 | [Signature] | 10/4/07 per telecon |

NOTES:

Attention:

Malcolm Whitman

Brunswick Security
Agreements

~~Steve Smith~~

ES-301

Administrative Topics Outline

Form ES-301-1

| Facility: Brunswick | | Date of Examination: JULY 2007 |
|---|---------------|--|
| Examination Level (circle one): RO / SRO | | Operating Test Number: NRC 2007 |
| Administrative Topic (see Note) | Type Code* | Describe activity to be performed |
| Conduct of Operations | D | Determine Primary Containment Water Level and Evaluate PCPL-A. |
| Conduct of Operations | N | Perform a portion of Control Operator Daily Surveillance Report 2OI-03.2 and identify 4 OOS readings and appropriate TS entries. |
| Equipment Control | M | Generate a Clearance for maintenance activities on the 2C TBCCW Pump. |
| Radiation Control | D | Determine Off-Site Release Per PEP-03.4.7 and Complete Notification Form. |
| Emergency Plan | N | Evaluate plant conditions (includes security event) and classify the event. Make PAR determination as required. |

NOTE: All items (5 total) are required for SROs. RO applicants require only 4 items unless they are retaking only the administrative topics, when 5 are required.

*Type Codes & Criteria:

- (C)ontrol room
- (D)irect from bank (≤ 3 for ROs; ≤ 4 for SROs & RO retakes)
- (N)ew or (M)odified from bank (> 1)²
- (P)revious 2 exams (≤ 1 ; randomly selected)²
- (S)imulator

**2007 NRC Examination
Summary Description of Admin Tasks**

- A.1.a The candidate will determine Primary Containment Water Level and Evaluate PCPL-A This is a bank JPM.
- A.1.b The candidate will review a portion of the Control Operator Daily Surveillance Report 20I-03.2 and identify 4 OOS readings and appropriate TS entries. This is a new JPM.
- A.2 The candidate will generate a clearance for maintenance activities on the 2C TBCCW. This is a modified JPM requiring sequence and dual unit power supply tagging requirements.
- A.3 The candidate will determine the offsite release rate and fill out appropriate forms. This is a bank JPM.
- A.4 The candidate will evaluate degraded plant conditions which include a security event and make an event classification and PAR as required. This is a new JPM.

| Facility: Brunswick | | Date of Examination: 2007 |
|--|---------------|---|
| Examination Level (circle one): RO / SRO | | Operating Test Number: NRC 2007 |
| Administrative Topic (see Note) | Type Code* | Describe activity to be performed |
| Conduct of Operations | D | Hand Calculation Of APRM GAFs Per PT-01.8C |
| Conduct of Operations | N | Perform a portion of Control Operator Daily Surveillance Report 2OI-03.2 and identify 4 OOS readings. |
| Equipment Control | M | Generate a Clearance for maintenance activities on the 2C TBCCW pump. |
| Radiation Control | N | Determine Stay Time and Radiological requirements for performing work in a High Radiation Area. |
| Emergency Plan | N/A | |

NOTE: All items (5 total) are required for SROs. RO applicants require only 4 items unless they are retaking only the administrative topics, when 5 are required.

*Type Codes & Criteria:

- (C)ontrol room
- (D)irect from bank (≤ 3 for ROs; ≤ 4 for SROs & RO retakes)
- (N)ew or (M)odified from bank (> 1)^z
- (P)revious 2 exams (≤ 1 ; randomly selected)^r
- (S)imulator

**2007 NRC Examination
Summary Description of Admin Tasks**

- A.1.a This is a bank JPM. The candidate will manually calculate APRM GAFs.
- A.1.b This is a new JPM. The candidate will perform a portion of Control Operator Daily Surveillance Report 2OI-03.2 and identify 4 OOS readings.
- A.2 The candidate will generate a clearance for maintenance activities on the 2C TBCCW. This is a modified JPM requiring sequence and dual unit power supply tagging requirements.
- A.3 This is a new JPM. The candidate will be required to determine stay time and radiological requirements for performing work in a High Radiation Area

| | | | |
|---|--|----------------------|-----------------|
| Facility: | Brunswick | Date of Examination: | JULY / 2007 |
| Exam Level (circle one): | RO / SRO (U) | Operating Test No.: | NRC 2007 |
| Control Room Systems [®] (8 for RO; 2 or 3 for SRO-U, including 1 ESF) | | | |
| | System / JPM Title | Type Code* | Safety Function |
| S-1 | Uncoupled Control Rod During Startup | N, A, L, S | 1 |
| S-2 | RCIC Failure to Isolate | N, A, S, E | 5 |
| S-3 | Core Spray Pump Surveillance Min Flow Valve Failure | N, A, S | 2 |
| S-4 | Restore Shutdown Cooling following a spurious isolation IAW AOP-15 | N, A, L, S | 4 |
| S-5 | Primary Containment Venting During Personnel Entry. | D, L, S | 9 |
| S-6 | Manual Transfer of 4160 Emergency Bus Supply from the DG to the Normal Feeder IAW OOP-50.1 | N, S | 6 |
| S-7 | RWM failure to enforce rod blocks | D, S | 7 |
| S-8 (RO) | Re-Establish RBCCW For Drywell Cooling to the Blacked Out Unit Per AOP-36.2. | D, E, S | 8 |
| In-Plant Systems [®] (3 for RO; 3 or 2 for SRO-U) | | | |
| P-1 | Station Blackout: Crosstie of 4KV E-Buses | D, E | 6 |
| P-2 | Control Room Evacuation IAW AOP-32, Placing the RHR Service Water System in Operation. | D, R | 8 |
| P-3 | Staging the Reactor Recirc Pump Seals. | D, R | 1 |

| | |
|---|---|
| <p>@ All RO and SRO-I control room (and in-plant) systems must be different and serve different safety functions; all 5 SRO-U systems must serve different safety functions; in-plant systems and functions may overlap those tested in the control room.</p> | |
| <p>* Type Codes</p> | <p>Criteria for RO / SRO-I / SRO-U</p> |
| <p>(A)lternate path (C)ontrol room (D)irect from bank (E)mergency or abnormal in-plant (L)ow-Power / Shutdown (N)ew or (M)odified from bank including 1(A) (P)revious 2 exams (R)CA (S)imulator</p> | <p>4-6 / 4-6 / 2-3 ₄ / ₂ $6 \leq 9 / \leq 8 / \leq 4$ $1 \geq 1 / \geq 1 / \geq 1$ $3 \geq 1 / \geq 1 / \geq 1$ $5 \geq 2 / \geq 2 / \geq 1$ $\leq 3 / \leq 3 / \leq 2$ (randomly selected) $\geq 1 / \geq 1 / \geq 1$</p> |

**2007 NRC Examination
 Summary Description of JPMs**

- S-1 This is a new alternate path JPM in the Reactivity Control safety function area. The candidate will be pulling control rods for startup when a rod becomes uncoupled. Actions will be required to insert/re-couple the control rod.
- S-2 This is a new alternate path JPM in the Containment Integrity safety function area. The candidate will be placing RCIC in service when an exhaust diaphragm rupture occurs and RCIC will fail to isolate. Actions will be required to manually isolate RCIC .
- S-3 This is a new alternate path JPM in the Reactor Water Inventory Control safety function area. The candidate will be performing the Core Spray Operability Surveillance and the minimum flow valve will fail to function properly. This will require actions to prevent equipment damage.
- S-4 This a new alternate path JPM in the Heat Removal From Reactor Core Safety Function area. The candidate will be required to restore Shutdown Cooling following a spurious isolation signal IAW abnormal procedures and restart an RHRSW pump following a pump trip.
- S-5 This a bank JPM in the Radioactivity release safety function area. The candidate will be required to startup Primary Containment Ventilation during personnel entry, per 2OP-24 using both purge exhaust fans.
- S-6 This a new JPM in the Electrical safety function area. The candidate will be required to manually transfer the 4160 Emergency Bus Supply from the DG to the Normal Feeder.
- S-7 This a bank JPM in the Instrumentation safety function area. The candidate will perform a portion of the RWM operability check.
- S-8 This a bank JPM in the Plant Service System safety function area. The candidate will continue re-establishing Drywell Cooling per AOP-36.2
- P-1 This is a bank JPM in the Electrical safety function area. The candidate will be required to locally cross-tie the 4KV emergency buses following a station blackout.

| | | | | | | |
|--|--|-------------------------------------|--------------------------|------------------------|-------------|-------------|
| Facility: | Brunswick | Date of Examination: | July 2007 | Operating Test Number: | | |
| 1. GENERAL CRITERIA | | | | Initials | | |
| | | | | A | b* | c# |
| a. | The operating test conforms to the previously approved outline; changes are consistent with sampling requirements (e.g. 10 CFR 55.45, operational importance, safety function distribution). | | | SD | [Signature] | [Signature] |
| b. | There is no day-to-day repetition between this and other operating tests to be administered during this examination. | | | SD | [Signature] | [Signature] |
| c. | The operating test shall not duplicate items from the applicants' audit test(s) (see Section D.1.a). | | | SD | [Signature] | [Signature] |
| d. | Overlap with the written examination and between different parts of the operating test is within acceptable limits. | | | SD | [Signature] | [Signature] |
| e. | It appears that the operating test will differentiate between competent and less-than-competent applicants at the designated license level. | | | SD | [Signature] | [Signature] |
| 2. WALK-THROUGH CRITERIA | | | | - | - | - |
| a. | Each JPM includes the following, as applicable: * ✓ initial conditions * ✓ initiating cues * ✓ references and tools, including associated procedures * ✓ reasonable and validated time limits (average time allowed for completion) and specific designation if deemed to be time critical by the facility licensee * operationally important specific performance criteria that include: ✓ - detailed expected actions with exact criteria and nomenclature ✓ - system response and other examiner cues ✓ - statements describing important observations to be made by the applicant ✓ - criteria for successful completion of the task ✓ - identification of critical steps and their associated performance standards ✓ - restrictions on the sequence of steps, if applicable | | | SD | [Signature] | [Signature] |
| b. | Ensure that any changes from the previously approved systems and administrative walk-through outlines (Forms ES-301-1 and 2) have not caused the test to deviate from any of the acceptance criteria (e.g., item distribution, bank use, repetition from the last 2 NRC examinations) specified on those forms and Form ES-201-2. | | | SD | [Signature] | [Signature] |
| 3. SIMULATOR CRITERIA | | | | - | - | - |
| The associated simulator operating tests (scenario sets) have been reviewed in accordance with Form ES-301-4 and a copy is attached. | | | | SD | [Signature] | [Signature] |
| | | | Printed Name / Signature | Date | | |
| a. | Author | Steven Dennis / <u>[Signature]</u> | | 7-2-07 | | |
| b. | Facility Reviewer (*) | Marcus Pearson / <u>[Signature]</u> | | 070507 | | |
| c. | NRC Chief Examiner (#) | MARK A. BATES / <u>[Signature]</u> | | 07.13.2007 | | |
| d. | NRC Supervisor | Robert HAAG / <u>[Signature]</u> | | 7/13/07 | | |
| NOTE: * The facility signature is not applicable for NRC-developed tests. | | | | | | |
| # Independent NRC reviewer initial items in Column "c", chief examiner concurrence required. | | | | | | |

| | | | |
|---------------------|-------------------------|---------------------------|-----------------------------|
| Facility: Brunswick | Date of Exam: July 2007 | Scenario Numbers: 1 2 3 4 | Operating Test No: NRC 2007 |
|---------------------|-------------------------|---------------------------|-----------------------------|

| QUALITATIVE ATTRIBUTES | | | | | Initials | | | | | | |
|---|--|----|-----|-----|--------------------------|----------|----------|----------|---|---|---|
| | | | | | a | b* | c# | | | | |
| 1. | The initial conditions are realistic, in that some equipment and/or instrumentation may be out of service, but it does not cue the operators into expected events. | SD | MAB | MAB | | | | | | | |
| 2. | The scenarios consist mostly of related events. | SD | MAB | MAB | | | | | | | |
| 3. | Each event description consists of <ul style="list-style-type: none"> ✓ the point in the scenario when it is to be initiated ✓ the malfunction(s) that are entered to initiate the event ✓ the symptoms/cues that will be visible to the crew ✓ the expected operator actions (by shift position) ✓ the event termination point (if applicable) | SD | MAB | MAB | | | | | | | |
| 4. | No more than one non-mechanistic failure (e.g., pipe break) is incorporated into the scenario without a credible preceding incident such as a seismic event. | SD | MAB | MAB | | | | | | | |
| 5. | The events are valid with regard to physics and thermodynamics. | SD | MAB | MAB | | | | | | | |
| 6. | Sequencing and timing of events is reasonable, and allows the examination team to obtain complete evaluation results commensurate with the scenario objectives. | SD | MAB | MAB | | | | | | | |
| 7. | If time compression techniques are used, the scenario summary clearly so indicates. Operators have sufficient time to carry out expected activities without undue time constraints. | SD | MAB | MAB | | | | | | | |
| 3. | The simulator modeling is not altered. | SD | MAB | MAB | | | | | | | |
| 9. | The scenarios have been validated. Pursuant to 10 CFR 55.46(d), any open simulator performance deficiencies or deviations from the referenced plant have been evaluated to ensure that functional fidelity is maintained while running the planned scenarios. | SD | MAB | MAB | | | | | | | |
| 10. | Every operator will be evaluated using at least one new or significantly modified scenario. All other scenarios have been altered in accordance with Section D.5 of ES-301. | SD | MAB | MAB | | | | | | | |
| 11. | All individual operator competencies can be evaluated, as verified using Form ES-301-6 (submit the form along with the simulator scenarios). | SD | MAB | MAB | | | | | | | |
| 12. | Each applicant will be significantly involved in the minimum number of transients and events specified on Form ES-301-5 (submit the form with the simulator scenarios). | SD | MAB | MAB | | | | | | | |
| 13. | The level of difficulty is appropriate to support licensing decisions for each crew position. | SD | MAB | MAB | | | | | | | |
| Target Quantitative Attributes (Per Scenario; See Section D.5.d) | | | | | Actual Attributes | | | | - | - | - |
| | | | | | 1 | 2 | 3 | 4 | | | |
| 1. | Total malfunctions (5-8) | 8 | 8 | 9 | 6 | SD | MAB | MAB | | | |
| 2. | Malfunctions after EOP entry (1-2) | 3 | 3 | 3 | 2 | SD | MAB | MAB | | | |
| 3. | Abnormal events (2-4) | 3 | 2 | 3 | 2 | SD | MAB | MAB | | | |
| 4. | Major transients (1-2) | 2 | 1 | 2 | 1 | SD | MAB | MAB | | | |
| 5. | EOPs entered/requiring substantive actions (1-2) | 2 | 2 | 3 | 2 | SD | MAB | MAB | | | |
| 6. | EOP contingencies requiring substantive actions (0-2) | 1 | 1 | 1 | 0 | SD | MAB | MAB | | | |
| 7. | Critical tasks (2-3) | 2 | 4 | 4 | 3 | SD | MAB | MAB | | | |

| Facility: | | Brunswick | | Date of Exam: | | July 2007 | | Operating Test No.: | | NRC | | | | | | | |
|---|---|---------------------------|----------------|-------------------|---------------|-------------|-------------|---------------------|-------------|-------------|---------------|-------------|-------------|-----------------------|--|---|---|
| A P P L I C A N T | E V E N T T Y P E | Scenarios | | | | | | | | | | | | | | | |
| | | 1 | | | 2 | | | 3 | | | 4 | | | T O T A L | M I N I M U M (*) | | |
| | | CREW POSITION | | | CREW POSITION | | | CREW POSITION | | | CREW POSITION | | | | R | I | U |
| | | S R O | A T C | B O P | S R O | A T C | B O P | S R O | A T C | B O P | S R O | A T C | B O P | | | | |
| ✓ SROU 1 | RX | | | | | | | | | | | | 0 | 1 | 1 | 0 | |
| | NOR | 1 | | | | | | | | | | | 2 | 1 | 1 | 1 | |
| | I/C | 2,3, 6,8, 10, 11 | | | | | | | | | | | 11 | 4 | 4 | 2 | |
| | MAJ | 7,9 | | | | | | | | | | | 3 | 2 | 2 | 1 | |
| | TS | 5 | | | | | | | | | | | 3 | 0 | 2 | 2 | |
| ✓ SROU 2 | RX | | | | | | | | | | | | 0 | 1 | 1 | 0 | |
| | NOR | 1 | | | | | | | | | | | 2 | 1 | 1 | 1 | |
| | I/C | 2,3, 6,8, 10, 11 | | | | | | | | | | | 11 | 4 | 4 | 2 | |
| | MAJ | 7,9 | | | | | | | | | | | 3 | 2 | 2 | 1 | |
| | TS | 5 | | | | | | | | | | | 3 | 0 | 2 | 2 | |
| ✓ RO 1 | RX | | | | | | | | | | | 2 | 1 | 1 | 1 | 0 | |
| | NOR | | | 1 | | | | | | | | | 1 | 1 | 1 | 1 | |
| | I/C | | | 2,6, 10, 11 | | | | | | | | 3,6 | 6 | 4 | 4 | 2 | |
| | MAJ | | | 7,9 | | | | | | | | 7 | 3 | 2 | 2 | 1 | |
| | TS | | | | | | | | | | | | 0 | 0 | 2 | 2 | |
| ✓ RO 2 | RX | | | | | | | | | | | 2 | 1 | 1 | 1 | 0 | |
| | NOR | | | 1 | | | | | | | | | 1 | 1 | 1 | 1 | |
| | I/C | | | 2,6, 10, 11 | | | | | | | | 3,6 | 6 | 4 | 4 | 2 | |
| | MAJ | | | 7,9 | | | | | | | | 7 | 3 | 2 | 2 | 1 | |
| | TS | | | | | | | | | | | | 0 | 0 | 2 | 2 | |
| ✓ RO 3 | RX | | 4 | | | | | | | | | | 1 | 1 | 1 | 0 | |
| | NOR | | | | | | | | | | | 1 | 1 | 1 | 1 | 1 | |
| | I/C | | 3, 8, 11 | | | | | | | | | 5,6, 8 | 5 | 4 | 4 | 2 | |
| | MAJ | | 7,9 | | | | | | | | | 7 | 3 | 2 | 2 | 1 | |
| | TS | | | | | | | | | | | | 0 | 0 | 2 | 2 | |

| Facility: | | Brunswick | | Date of Exam: | | July 2007 | | Operating Test No.: | | NRC | | | | | | | |
|---|---|---------------|--------------------|-----------------------|---------------|-------------|-------------|---------------------|-------------------------|-------------------------|----------------|-------------|--------------|-----------------------|------------------------------------|---|---|
| A P P L I C A N T | E V E N T T Y P E | Scenarios | | | | | | | | | | | | | | | |
| | | 1 | | | 2 | | | 3 | | | 4 | | | T O T A L | M I N I M U M(*) | | |
| | | CREW POSITION | | | CREW POSITION | | | CREW POSITION | | | CREW POSITION | | | | R | I | U |
| | | S R O | A T C | B O P | S R O | A T C | B O P | S R O | A T C | B O P | S R O | A T C | B O P | | | | |
| RO 4 | RX | | | | | | | | | 2 ✓ | | | 1 ✓ | 1 ✓ | 1 | 0 | |
| | NOR | | | | | | | | | | | | 1 ✓ | 1 ✓ | 1 | 1 | |
| | I/C | | | | | | | | 5,7,9 ✓ 10 ✓ 11 ✓ | | | 3,6 ✓ ✓ | 7 ✓ 4 ✓ | 4 ✓ | 4 | 2 | |
| | MAJ | | | | | | | | | 8,12 ✓ | | | 7 ✓ | 3 ✓ | 2 ✓ | 2 | 1 |
| | TS | | | | | | | | | | | | | 0 ✓ | 0 ✓ | 2 | 2 |
| RO 5 | RX | | | | | | | | | 2 ✓ | | | | 1 ✓ | 1 ✓ | 1 | 0 |
| | NOR | | | | | | | | | | | | | 1 ✓ | 1 ✓ | 1 | 1 |
| | I/C | | | | | | | | 3,6 ✓ 7 ✓ | | | | 5,6 ✓ 8 ✓ | 6 ✓ 4 ✓ | 4 ✓ | 4 | 2 |
| | MAJ | | | | | | | | | 8 ✓ 13,12 ✓ | | | 7 ✓ | 3 ✓ | 2 ✓ | 2 | 1 |
| | TS | | | | | | | | | | | | | 0 ✓ | 0 ✓ | 2 | 2 |
| RO 6 | RX | | 4 ✓ | | | | | | | | | | | 1 ✓ | 1 ✓ | 1 | 0 |
| | NOR | | | | | | | | | | | | | 1 ✓ | 1 ✓ | 1 | 1 |
| | I/C | | 3 ✓ 8 ✓ 11 ✓ | | | | | | | 5,7,9 ✓ 10 ✓ 11 ✓ | | | | 7 ✓ 4 ✓ | 4 ✓ | 4 | 2 |
| | MAJ | | 7,9 ✓ | | | | | | | | 8,12 ✓ | | | 4 ✓ | 2 ✓ | 2 | 1 |
| | TS | | | | | | | | | | | | | 0 ✓ | 0 ✓ | 2 | 2 |
| RO 7 | RX | | | | | | | | | 2 ✓ | | | | 1 ✓ | 1 ✓ | 1 | 0 |
| | NOR | | | 1 ✓ | | | | | | | | | | 1 ✓ | 1 ✓ | 1 | 1 |
| | I/C | | | 2,6 ✓ 10 ✓ 11 ✓ | | | | | | 3,6 ✓ 7 ✓ | | | | 7 ✓ 4 ✓ | 4 ✓ | 4 | 2 |
| | MAJ | | | 7,9 ✓ | | | | | | | 8 ✓ 12,13 ✓ | | | 4 ✓ | 2 ✓ | 2 | 1 |
| | TS | | | | | | | | | | | | | 0 ✓ | 0 ✓ | 2 | 2 |

Instructions:

1. Circle the applicant level and enter the operating test number and Form ES-D-1 event numbers for each event type; TS are not applicable for RO applicants. ROs must service in both the "at-the-controls (ATC)" and "balance-of-plant (BOP)" positions; Instant SROs must do one scenario, including at least two instrument or component (I/C) malfunctions and one major transient, in the ATC position.

| | | | | | | | | | | | | | | | | |
|---|---|---------------|-------------|---------------|---------------|-------------|-------------|---------------------|-------------|-------------|---------------|-------------|-----------------------|--|--|--|
| Facility: | | Brunswick | | Date of Exam: | | July 2007 | | Operating Test No.: | | NRC | | | | | | |
| A P P L I C A N T | E V E N T T Y P E | Scenarios | | | | | | | | | | | | | | |
| | | 1 | | | 2 | | | 3 | | | 4 | | T O T A L | M I N I M U M (*) | | |
| | | CREW POSITION | | | CREW POSITION | | | CREW POSITION | | | CREW POSITION | | | | | |
| | | S R O | A T C | B O P | S R O | A T C | B O P | S R O | A T C | B O P | S R O | A T C | | | | |
| <p>2. Reactivity manipulations may be conducted under normal or <i>controlled</i> abnormal conditions (refer to Section D.5.d) but must be significant per Section C.2.a of Appendix D. (*) Reactivity and normal evolutions may be replaced with additional instrument or component malfunctions on a 1-for-1 basis.</p> <p>3. Whenever practical, both instrument and component malfunctions should be included; only those that require verifiable actions that provide insight to the applicant's competence count toward the minimum requirements specified for the applicant's license level in the right-hand columns.</p> | | | | | | | | | | | | R | I | U | | |

| Facility: Brunswick Date of Examination: July 2007 Operating Test No. | | | | | | | | | | | | |
|---|---------------------|---------------------|------------------------|-------------|------------------|--------------|-----------------|-----------------|---------------|------------------|------------------------|-------------|
| Competencies | SRO(CRS) | | | | RO (ATC) | | | | BOP/ACRO | | | |
| | SCENARIO | | | | SCENARIO | | | | SCENARIO | | | |
| | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 |
| Interpret/Diagnose Events and Conditions | 2,3,5,6,7,8,9,10,11 | 2,4,5,6,7,8,9,10,11 | 3,4,5,6,7,8,9,10,11,12 | 3,4,5,6,7,8 | 3,4,5,6,7,8,9,11 | 2,6,7,8,10 | 3,6,7,10,11,12 | 3,4,6,7,8 | 2,6,7,9,10,11 | 2,4,5,6,7,9,11 | 4,5,7,8,9,10,11,12 | 5,6,7,8 |
| Comply With and Use Procedures (1) | ALL | ALL | ALL | ALL | 3,4,5,6,7,8,9,11 | 1,2,6,7,8,10 | 2,3,6,7,8,12 | 2,3,4,6,7,8 | 1,2,6,7,9,11 | 2,3,4,5,6,7,9,11 | 1,4,5,6,7,8,9,10,11,12 | 1,5,6,7,8 |
| Operate Control Boards (2) | N/A | N/A | N/A | N/A | 3,4,5,6,7,8,9,11 | 1,2,6,7,8 | 2,3,6,7,8,12 | 2,3,6,7,8 | 1,2,6,7,9,11 | 2,3,4,5,6,7,11 | 1,5,7,8,9,10,11,12 | 1,5,6,7,8 |
| Communicate and Interact | ALL | ALL | ALL | ALL | 3,4,5,6,7,8,9,11 | 1,2,6,7,8,10 | 2,3,6,7,8,10,12 | 1,2,3,4,5,6,7,8 | 1,2,6,7,9,11 | 2,3,4,5,6,7,9,11 | 1,2,4,5,7,8,9,10,11,12 | 1,2,5,6,7,8 |
| Demonstrate Supervisory Ability (3) | ALL | ALL | ALL | ALL | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Comply With and Use Tech. Specs. (3) | 5 | 5 | 4 | 4,6 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |

Notes:

- (1) Includes Technical Specification compliance for an RO.
- (2) Optional for an SRO-U.
- (3) Only applicable to SROs.

Instructions:

Circle the applicants' license type and enter one or more event numbers that will allow the examiners to evaluate every applicable competency for every applicant.

ES-401 Written Examination Quality Checklist Form ES-401-6

| Facility: BRUNSWICK | | Date of Exam: AUG 2007 | | Exam Level: RO <input checked="" type="checkbox"/> SRO <input checked="" type="checkbox"/> | | |
|---|--|-------------------------------|---------|--|----|----|
| Item Description | Initial | | | a | b* | c* |
| | a | b* | c* | | | |
| 1. Questions and answers are technically accurate and applicable to the facility. | SD | AK | MB | | | |
| 2. a. NRC K/Aa are referenced for all questions. b. Facility learning objectives are referenced as available. | SD | AK | MB | | | |
| 3. SRO questions are appropriate in accordance with Section D.2.d of ES-401. | SD | AK | MB | | | |
| 4. The sampling process was random and systematic (If more than 4 RO or 2 SRO questions were repeated from the last 2 NRC licensing exams, consult the NRR OL program office). | SD | AK | MB | | | |
| 5. Question duplication from the license screening/audit exam was controlled as indicated below (check the item that applies) and appears appropriate: <input checked="" type="checkbox"/> the audit exam was systematically and randomly developed; or <input type="checkbox"/> the audit exam was completed before the license exam was started; or <input type="checkbox"/> the examinations were developed independently; or <input type="checkbox"/> the licensee certifies that there is no duplication; or <input type="checkbox"/> other (explain) | SD | AK | MB | | | |
| 6. Bank use meets limits (no more than 75 percent from the bank, at least 10 percent new, and the rest new or modified); enter the actual RO / SRO-only question distribution(s) at right. | Bank | Modified | New | SD | AK | MB |
| | 35/11 | 0/10 | 40/14 | | | |
| 7. Between 50 and 60 percent of the questions on the RO exam are written at the comprehension/ analysis level; the SRO exam may exceed 60 percent if the randomly selected K/As support the higher cognitive levels; enter the actual RO / SRO question distribution(s) at right. | Memory | C/A | | SD | AK | MB |
| | 36/8 | 39/17 | | | | |
| 8. References/handouts provided do not give away answers or aid in the elimination of distractors. | SD | AK | MB | | | |
| 9. Question content conforms with specific K/A statements in the previously approved examination outline and is appropriate for the tier to which they are assigned; deviations are justified. | SD | AK | MB | | | |
| 10. Question psychometric quality and format meet the guidelines in ES Appendix B. | SD | AK | MB | | | |
| 11. The exam contains the required number of one-point, multiple choice items; the total is correct and agrees with the value on the cover sheet. | SD | AK | MB | | | |
| | | Printed Name / Signature | | Date | | |
| a. Author | STEVEN DENNIS / <i>Steven Dennis</i> | | 7-30-07 | | | |
| b. Facility Reviewer (*) | STEVEN R. KNIGHTS / <i>Steven R. Knights</i> | | 7/30/07 | | | |
| c. NRC Chief Examiner (#) | MARK A. PATES / <i>Mark A. Pates</i> | | 8/2/07 | | | |
| d. NRC Regional Supervisor | RIN AULLO / <i>Rin Aullo</i> | | 8/2/07 | | | |
| Note: * The facility reviewer's initials/signature are not applicable for NRC-developed examinations. # Independent NRC reviewer Initial items in Column "c"; chief examiner concurrence required. | | | | | | |

| Q# | K/A# | B M N | L O K | L O D | Psychometric Flaws | | | | | Content Flaws | | | U E S | Comment Explanation |
|----|---------|-------------|-------------|-------------|--------------------|------|-----|-----------------------|------------------------|---------------|------------|-----------|-------------|---|
| | | | | | Stem Focus | Cues | T/F | 1 Non Cred Dist | >1 Non Cred Dist | Partial | Min B/W | Q= K/A | | |
| | GENERAL | | | | | | | | | | | | | Get a copy of the Audit Exam for review. |
| | GENERAL | | | | | | | | | | | | | Most exams will consistently use the "which ONE of the following..." terminology in every question. In this exam it is sometimes used and sometimes not used. Have the licensee evaluate if they want their applicants to see consistent wording in the exam question statements. Comment addressed |
| | GENERAL | | | | | | | | | | | | | There is inconsistent documentation for "Proposed references to be provided to applicants during examination." Many times the blank line is left with no information and sometimes it will be filled with "none" or "N/A." For consistency, place an "N/A" or "none" in the blank for all questions that do not require a reference. Comment addressed |
| | GENERAL | | | | | | | | | | | | | All Bank questions from a Brunswick Bank shall have the correct answer shuffled to a different position. I.E. if the correct answer was "A" in the BW Bank, then shuffle that answer to either position "B", "C", or "D" and move either "B", "C", or "D" to position "A". This will help reduce the possibility of an applicant simply recognizing the question and recalling that the answer for the Bank Question was in position "A". The questions do not necessary need to be changed if they are designated BANK, the answer choices just need to be shuffled. Also, the answer choices should still be listed in a logical order, so it may at times make sense to reverse the order, for instance if each answer choice contains a number. Comment addressed |
| | GENERAL | | | | | | | | | | | | | All questions shall actually ask a question in the stem. In other words (RO#53 as an example), many of the proposed questions simply have the applicant finish a sentence. All questions must explicitly ask a question. It is OK if the question does not use the "which ONE of the following" terminology, but nevertheless, a question must be presented to the applicants. Comment addressed |
| | GENERAL | | | | | | | | | | | | | This is a closed book exam. A limited number of questions (I.E. < 5), may require references to be supplied in the form of graphs. In general, mitigation of events and required operator actions will be tested in the closed book format. CE informed licensee that it may be acceptable on a limited basis to provide references, but the licensee submitted 16 questions that they are proposing that references be provided to the applicants. Comment addressed |

| Q# | K/A# | B M N | L O K | L O D | Psychometric Flaws | | | | | Content Flaws | | | U E S | Comment Explanation | |
|----------------|-----------------|-------------|-------------|-------------|--------------------|------|-----|-----------------------|------------------------|---------------|------------|-----------|-------------|--|--|
| | | | | | Stem Focus | Cues | T/F | 1 Non Cred Dist | >1 Non Cred Dist | Partial | Min B/W | Q= K/A | | | SRO Only |
| | GENERAL | | | | | | | | | | | | | <p>All K/A changes to the approved outlines will be made by the CE. If K/As were changed without the consultation or approval of the CE, then the question must be written to the original K/A, which is the K/A on the approved outline. There were also four K/A changes submitted with the draft outlines that were initially rejected. The original K/A must be used for these four K/As, unless approval is obtained from the CE. Comment addressed</p> <p>If the original K/A cannot support writing a question, then the CE should be notified. The CE, will either provide suggestions on how to attempt to match the K/A, or the CE will randomly select a new K/A. Comment addressed</p> | |
| RO EXAM | | | | | | | | | | | | | | | |
| 1 | 203000 A3.09 | B | H | 3 | | | | | | | | | | S | Question is SAT. |
| 2 | 205000 K2.02 | N | F | 1- 2 | x | | | | | | | | | E S | <p>Minimally discriminating. If the LOD on the exam as a whole is Sat, then this question's LOD will be acceptable.</p> <p>Is "Unit 1 is shutdown" in the stem necessary? Consider deleting. Phrase was deleted.</p> <p>A question must be presented to the applicant. – See GENERAL comment at beginning of 401-9. Stem was re-worded into a question: "Which ONE of the following is affected if power is lost to Panel 1-XDA?"</p> |
| 3 | 205000 A4.05 | N | F | 2 | | | | x | x | | | | | U S | <p>This valve is a flexible wedge gate valve. If the containment side disc has a hole and the other disc doesn't, then "A" and "B" are subsets of "C."</p> <p>The subset issue must be addressed to ensure plausible distractors and only one correct answer. (see comment below)</p> <p>"D" is not plausible. It is not logical for the applicant to think that the question would ask about valve leakage for a valve that had no leakage issues. "D" must be replaced. . (see comment below)</p> <p>What is the difference between leakage "along its valve disk" and "leakage through its valve disk"? If there is no difference, then "B" and "C" should use consistent wording. . (see comment below)</p> <p>Ask a different question on valve logic and expected valve response based on flow. The original question was changed from asking about designed leakage past the RHR min flow valve to asking about how the valve logic was designed.</p> |

| Q# | K/A# | B M N | L O K | L O D | Psychometric Flaws | | | | | Content Flaws | | | U E S | Comment Explanation |
|----|-----------------|-------------|-------------|-------------|--------------------|------|-----|-----------------------|------------------------|---------------|------------|-----------|-------------|--|
| | | | | | Stem Focus | Cues | T/F | 1 Non Cred Dist | >1 Non Cred Dist | Partial | Min B/W | Q= K/A | | |
| | | | | | | | | | | | | | | A question must be presented to the applicant. – See GENERAL comment at beginning of 401-9. The stem was re-worded to have which ONE of the following.... |
| 4 | 206000 K4.18 | N | F | 3 | | | | | | | | | S | Re-order words in “C” and “D” to say “discharge pressure reaches....” (vs reaches #psig discharge pressure) A question must be presented to the applicant. – See GENERAL comment at beginning of 401-9. |
| 5 | 217000 A1.05 | B | H | 3 | | | | | | | | x | U S | UNAUTHORIZED K/A CHANGE. LICENSEE CHANGED K/A WITHOUT CONSULTING WITH CE. QUESTION MUST BE WRITTEN TO MATCH ORIGINAL K/A. THEREFORE, THIS QUESTION IS UNSAT DUE TO NOT MATCHING THE K/A ON THE APPROVED OUTLINE. IF A DISCRIMINATING QUESTION CANNOT BE WRITTEN FOR THE ORIGINAL K/A, THEN DISCUSS WITH THE CE THE POSSIBILITY FOR SELECTING A DIFFERENT K/A. CE WILL SELECT ALL K/As WHEN CHANGES TO THE APPROVED OUTLINES ARE WARRANTED. Original KA 217000 K2.02 was used; unauthorized KA 217000 A1.05 was NOT used. COMMENTS BELOW DO NOT NEED TO BE ADDRESSED DUE TO THE ABOVE COMMENT. The question needs to have a “?” at the end. Comment addressed Otherwise question is SAT. |
| 6 | 209001 K1.09 | N | H | 3 | | | | x | | | | | E S | Need to split up each answer into at least two rows. Need to add F031 open to “D” to enhance credibility. Comment addressed The answer choices need to be specific on what is running and what is shutdown – pumps? Comment addressed |
| 7 | 209001 A4.09 | N | F | 2 | x | | | | | x | | x | U S | UNAUTHORIZED K/A CHANGE. LICENSEE CHANGED K/A WITHOUT CONSULTING WITH CE. QUESTION MUST BE WRITTEN TO MATCH ORIGINAL K/A. THEREFORE, THIS QUESTION IS UNSAT DUE TO NOT MATCHING THE K/A ON THE APPROVED OUTLINE. IF A DISCRIMINATING QUESTION CANNOT BE WRITTEN FOR THE ORIGINAL K/A, THEN DISCUSS WITH THE CE THE POSSIBILITY FOR SELECTING A DIFFERENT K/A. CE WILL SELECT ALL K/As WHEN CHANGES TO THE APPROVED OUTLINES ARE WARRANTED. Original KA 202002 A4.09 was used; unauthorized KA 209001 A4.09 was NOT used. |

| Q# | K/A# | B M N | L O K | L O D | Psychometric Flaws | | | | | Content Flaws | | | U E S | Comment Explanation |
|----|-----------------|-------------|-------------|-------------|--------------------|------|-----|-----------------------|------------------------|---------------|------------|-----------|-------------|--|
| | | | | | Stem Focus | Cues | T/F | 1 Non Cred Dist | >1 Non Cred Dist | Partial | Min B/W | Q= K/A | | |
| | | | | | | | | | | | | | | <p>COMMENTS BELOW DO NOT NEED TO BE ADDRESSED DUE TO THE ABOVE COMMENT.</p> <p>“C” is correct also (this is a subset of action steps used when filling the torus from the MUD tank per PCCP step SP/L-20).</p> <p>Stem focus: How did torus level get low following a MSL break outside the drywell?</p> |
| 8 | 211000 A2.04 | B | H | 2 | | | | | | | | | S | Question is SAT. |
| 9 | 212000 K6.05 | N | H | 2 | | | | x | | | | | E S | <p>“D” is the same as “C”. Change “D” to give ½ scram on “A” side: F022D and F028D. (See last comment below)</p> <p>In the stem, shouldn't MSIV 2B21-22D be 2B21-F022D instead? Comment addressed</p> <p>Question can be better if stem asked which valve(s) closure would cause a ½ scram on “B” RPS? Then have the answer choices be represented as items that will cause a ½ scram on “A” only, ½ scram on “B” only, full scram, and no full or ½ scram. Question revised to ask for additional valve closure that would cause ½ scram ONLY on “B” RPS.</p> |
| 10 | 212000 A2.09 | N | H | 2 | x | | | x | | | | | E S | <p>“C” is not plausible. There is no downscale condition that will cause a scram signal (feature does not exist). “C” must be replaced. Comment addressed</p> <p>Is there a reason for “A” to state “reset” and “B” to state “Inhibit”? If “reset” is incorrect, can this be used to develop a replacement for “C”? Comment addressed</p> <p>Question should state “...required to reset RPS in accordance with LEP-02”. This may require that “A” and “B” simply state – “Install jumpers” without the procedure name and number. Comment addressed</p> <p>The question asks for what is necessary to reset RPS – a verification is typically not a necessary action because a verification is not really an action. The other items in the question seem to represent the higher level steps in the supplied documents. Would it be better to replace the verification with ENSURE the DISCH VOL VENT & DRAIN TEST switch is in ISOLATE? It may depend on the other switch positions that can be used (NORMAL?). Comment addressed</p> |
| 11 | 215003 | N | F | 3 | | | | | | | | x | U | UNAUTHORIZED K/A CHANGE. LICENSEE CHANGED K/A |

| Q# | K/A# | B M N | L O K | L O D | Psychometric Flaws | | | | | Content Flaws | | | U E S | Comment Explanation |
|----|-------------------|-------------|-------------|-------------|--------------------|------|-----|-----------------------|------------------------|---------------|------------|-----------|--|---|
| | | | | | Stem Focus | Cues | T/F | 1 Non Cred Dist | >1 Non Cred Dist | Partial | Min B/W | Q= K/A | | |
| | K6.05 | | | | | | | | | | | | | S WITHOUT CONSULTING WITH CE. QUESTION MUST BE WRITTEN TO MATCH ORIGINAL K/A. THEREFORE, THIS QUESTION IS UNSAT DUE TO NOT MATCHING THE K/A ON THE APPROVED OUTLINE. IF A DISCRIMINATING QUESTION CANNOT BE WRITTEN FOR THE ORIGINAL K/A, THEN DISCUSS WITH THE CE THE POSSIBILITY FOR SELECTING A DIFFERENT K/A. CE WILL SELECT ALL K/As WHEN CHANGES TO THE APPROVED OUTLINES ARE WARRANTED. Original KA (215003 K6.02) was NOT used see record of rejected KAs; replacement KA 215003 K6.05 was used instead. |
| 12 | 215004 K5.01 | N | F | 1 | | | | x | | | | | U S Distractors "A" and "B" are not plausible because of the statement "inversely proportional." Ask a question related to the SRM detector movement circuitry. Comment addressed Delete the first sentence. This is not needed for the question. Question re-written to ask about SRM detector movement circuitry. A question must be presented to the applicant. Comment addressed | |
| 13 | 215005 G2.4.10 | B | H | 3 | x | | | | | | x | | U S UNAUTHORIZED K/A CHANGE. LICENSEE CHANGED K/A WITHOUT CONSULTING WITH CE. QUESTION MUST BE WRITTEN TO MATCH ORIGINAL K/A. THEREFORE, THIS QUESTION IS UNSAT DUE TO NOT MATCHING THE K/A ON THE APPROVED OUTLINE. IF A DISCRIMINATING QUESTION CANNOT BE WRITTEN FOR THE ORIGINAL K/A, THEN DISCUSS WITH THE CE THE POSSIBILITY FOR SELECTING A DIFFERENT K/A. CE WILL SELECT ALL K/As WHEN CHANGES TO THE APPROVED OUTLINES ARE WARRANTED. Original KA 215005 G2.1.20 was used; unauthorized KA 215005 G2.4.10 was NOT used. COMMENTS BELOW DO NOT NEED TO BE ADDRESSED DUE TO THE ABOVE COMMENT. Why was G 2.1.20 rejected? Typo: Flow Ref Off Normal annunciator procedure is A-06, 5-7 (vs 6-7) Typo: Listed as Tier 2 Group 2 on question worksheet. (should be Tier 2 Group 1). Need to add reference (SD 9.6) to Technical Reference List because it states that critical self test fault causes both the Upscale and Trouble Alarm together. Stem does not include OPRM enabled alarm that will also come in (A-05, | |

| Q# | K/A# | B M N | L O K | L O D | Psychometric Flaws | | | | | Content Flaws | | | U E S | Comment Explanation |
|----|-------------------|-------------|-------------|-------------|--------------------|------|-----|-----------------------|------------------------|---------------|------------|-----------|-------------|--|
| | | | | | Stem Focus | Cues | T/F | 1 Non Cred Dist | >1 Non Cred Dist | Partial | Min B/W | Q= K/A | | |
| | | | | | | | | | | | | | | 4-8). Include alarm in stem to lend credibility to "A" distractor. Suggest modifying "B" to say "one of two low voltage power supplies (LVPS) failed to zero" and modifying "A" to say recirc pump trip. A question must be presented to the applicant. |
| 14 | 217000 G2.1.33 | N | F | I | | | | x | | | | | | U S No discriminatory value. Distractors not plausible. Correct answer would not be incorrect in any circumstance. Also notifying a System Engineer is almost always a good idea and could be considered correct. This K/A should allow for a discriminating question. Question must be replaced. NRC can help develop a question if needed. Comment addressed by replacing question. LOD=1 due to above comments. |
| 15 | 218000 K4.02 | B | H | 3 | | | | | | | | | | S Question is SAT. |
| 16 | 218000 G2.4.49 | N | F | I | x | | | | x | x | | | | U S If there are procedurally directed followup actions to trip the turbine, then "D" can potentially be argued as correct. Comment addressed "B" is a subset of "D", therefore "D" is not plausible. Comment addressed "C" is a subset of "A", therefore they are not credible. Comment addressed Font size in the question stem is not the same. Comment addressed Periods appear instead of Fahrenheit degree symbols in "B" and "D". Comment addressed Stem states "Additional" – should this be "Additionally"? Comment addressed Delete "OPEN and CLOSE OR". Operators are either going to be cycling an ADS valve or a non ADS valve. Comment addressed LOD=1 due to above comments. Comment addressed A question must be presented to the applicant. Comment addressed |
| 17 | 223002 K4.05 | B | F | 3 | | | | x | | | | | | E S "D" is not plausible if all MSIVs remain open. Suggestions include modifying question to have a high steam flow instrument fail high in Mode 2. Comment addressed |

| Q# | K/A# | B M N | L O K | L O D | Psychometric Flaws | | | | | Content Flaws | | | U E S | Comment Explanation |
|----|-----------------|-------------|-------------|-------------|--------------------|------|-----|-----------------------|------------------------|---------------|------------|-----------|-------------|--|
| | | | | | Stem Focus | Cues | T/F | 1 Non Cred Dist | >1 Non Cred Dist | Partial | Min B/W | Q= K/A | | |
| 18 | 239002 K1.07 | B | F | 1- 2 | | | | | | | | | | ES The last sentence shall be deleted in all four answer choices. This information is not needed to make the answer choices unique. The only purpose that it serves is to provide extra information to allow applicants to discredit answer choices. Comment addressed LOD=1. If above comment is incorporated, then LOD will be 2. |
| 19 | 259002 K4.06 | N | F | 3 | x | | | | | | | x | | US Is there a typo on the 401-4 for the K/A number? 259000 vice 259002? K4.10 vice K3.10? UNAUTHORIZED K/A CHANGE. LICENSEE CHANGED K/A WITHOUT CONSULTING WITH CE. QUESTION MUST BE WRITTEN TO MATCH ORIGINAL K/A. THEREFORE, THIS QUESTION IS UNSAT DUE TO NOT MATCHING THE K/A ON THE APPROVED OUTLINE. IF A DISCRIMINATING QUESTION CANNOT BE WRITTEN FOR THE ORIGINAL K/A, THEN DISCUSS WITH THE CE THE POSSIBILITY FOR SELECTING A DIFFERENT K/A. CE WILL SELECT ALL K/As WHEN CHANGES TO THE APPROVED OUTLINES ARE WARRANTED. Original KA (259002 K4.10 was used; licensee's replacement KA 259002 K4.06 was NOT used instead. COMMENTS BELOW DO NOT NEED TO BE ADDRESSED DUE TO THE ABOVE COMMENT. Why was K3.10 rejected? The top portion of the stem is not needed. Just ask them which one of the following will cause shift to 1-element. |
| 20 | 261000 K1.09 | B | H | 1- 2 | | x | | | x | | | | | US "C" and "D" are not plausible since the stem picture reflects both switches aligned in the System Preferred position. There is no feature that would start only one train. Discuss with licensee. Also, the stem provides a cue because it states that a LOCA begins in the drywell. This is not necessary since the DW pressure meter reflects 2 psig already. They should be able to make determinations on the indications. 1 Information about the LOCA in the D/W should be deleted. Add to question: "Based on the above control room indications....." Comment addressed by replacing entire question with a different question. |
| 21 | 262001 A3.03 | N | F | 2 | | x | | | | | | | | ES Eliminate first sentence in the stem. S Re-word stem to say: |

| Q# | K/A# | B M N | L O K | L O D | Psychometric Flaws | | | | | Content Flaws | | | U E S | Comment Explanation |
|----|-----------------|-------------|-------------|-------------|--------------------|------|-----|-----------------------|------------------------|---------------|------------|-----------|-------------|--|
| | | | | | Stem Focus | Cues | T/F | 1 Non Cred Dist | >1 Non Cred Dist | Partial | Min B/W | Q= K/A | | |
| | | | | | | | | | | | | | | “Which ONE of the following identifies the loads and the associated signals for the Full Time Load Shed scheme on Unit 2 during normal full power operation?” Comment addressed |
| 22 | 262002 K4.01 | N | F | 1- 2 | | | | | x | | | | | U S “A” and “B” are not plausible since there is no such thing as 120VDC. A question must be presented to the applicant. Comment addressed |
| 23 | 263000 K2.01 | B | F | 2 | | x | | | | | | | | E S The stem of the question provides a cue by stating that the Division II switchboard is lost. Use 125/250 VDC Switchboard 2B. Comment addressed Add reference from SD-51 page 43/87 to Technical references List. Note that says loss of Div II causes outboard MSIVs to close. Comment addressed Modify stem to ask what immediate impact this power loss will have on the MSIVs and SRVs...(versus reactor). Comment addressed |
| 24 | 264000 K1.07 | B | H | 2 | | | | x | | | | | | E S Change question wording to: “ Which one of the following states the time that the core spray pump first auto starts?” Comment addressed “B” isn’t plausible because if you add 15 seconds to any of the timeline points, 24 seconds is not obtained. Comment addressed Add reactor pressure in the stem. Comment addressed Change “A” from “14” to “0”. Comment addressed Change “B” from “24” to “14”. Comment addressed |
| 25 | 300000 K3.02 | B | H | 3 | | | | | | | x | | | U S UNAUTHORIZED K/A CHANGE. LICENSEE CHANGED K/A WITHOUT CONSULTING WITH CE. QUESTION MUST BE WRITTEN TO MATCH ORIGINAL K/A. THEREFORE, THIS QUESTION IS UNSAT DUE TO NOT MATCHING THE K/A ON THE APPROVED OUTLINE. IF A DISCRIMINATING QUESTION CANNOT BE WRITTEN FOR THE ORIGINAL K/A, THEN DISCUSS WITH THE CE THE POSSIBILITY FOR SELECTING A DIFFERENT K/A. CE WILL SELECT ALL K/As WHEN CHANGES TO THE APPROVED OUTLINES ARE WARRANTED. Original KA (300000 K2.01) was NOT used see record of rejected KAs; replacement KA 300000 K3.02 was used instead. THIS K/A CHANGE WAS NOT APPROVED AND COMMUNICATED TO THE LICENSEE VIA PHONE AT THE TIME THE OUTLINES |

| Q# | K/A# | B M N | L O K | L O D | Psychometric Flaws | | | | | Content Flaws | | | U E S | Comment Explanation |
|----|-----------------|-------------|-------------|-------------|--------------------|------|-----|-----------------------|------------------------|---------------|------------|-----------|-------------|--|
| | | | | | Stem Focus | Cues | T/F | 1 Non Cred Dist | >1 Non Cred Dist | Partial | Min B/W | Q= K/A | | |
| | | | | | | | | | | | | | | WERE INITIALLY APPROVED. COMMENTS BELOW DO NOT NEED TO BE ADDRESSED DUE TO THE ABOVE COMMENT. Be consistent with periods in answer choices. Is there an extra "s" prior to all commas in the answer choices. |
| 26 | 400000 A3.01 | B | H | I | | | | x | | | | x | | U S "A" is not plausible because these valves only have an auto-"throttle" feature (40 psig for 70 seconds) vs an auto-close feature. See comments below "B" is not plausible since the normal supplies only shut when there isn't sufficient pressure...not enough information in stem to determine. See comments below "C" is not plausible because there is no auto-open feature associated with 2-SW-V111. See comments below Question stem can be enhanced to allow for more of the details surrounding valve operation to be tested, thus allowing more plausible distractors to be developed. See comments below K/A Match: It appears that the question is written to test knowledge of the SWS, vice CCW system. Discuss with licensee. Comments addressed by re-writing question to match the KA |
| 27 | 201002 A4.02 | B | H | 3 | x | | | | | | | | | E S The stem was confusing. Need to reword the stem to ask: Which one of the following actions will stop the rod prior to reaching position "06"? Comment addressed Need to include the name & number of the Rod Out Notch switch in the stem. Comment addressed |
| 28 | 201003 K5.01 | B | F | 2 | | | | x | | x | | x | | U S UNAUTHORIZED K/A CHANGE. LICENSEE CHANGED K/A WITHOUT CONSULTING WITH CE. QUESTION MUST BE WRITTEN TO MATCH ORIGINAL K/A. THEREFORE, THIS QUESTION IS UNSAT DUE TO NOT MATCHING THE K/A ON THE APPROVED OUTLINE. IF A DISCRIMINATING QUESTION CANNOT BE WRITTEN FOR THE ORIGINAL K/A, THEN DISCUSS WITH THE CE THE POSSIBILITY FOR SELECTING A DIFFERENT K/A. CE WILL SELECT ALL K/As WHEN CHANGES TO THE APPROVED OUTLINES ARE WARRANTED. Original KA (201003 A1.02) was NOT used see record of rejected KAs; replacement KA 201003 K5.01 was used instead. |

| Q# | K/A# | B M N | L O K | L O D | Psychometric Flaws | | | | | Content Flaws | | | U E S | Comment Explanation |
|----|-----------------|-------------|-------------|-------------|--------------------|------|-----|-----------------------|------------------------|---------------|------------|-----------|-------------|---|
| | | | | | Stem Focus | Cues | T/F | 1 Non Cred Dist | >1 Non Cred Dist | Partial | Min B/W | Q= K/A | | |
| | | | | | | | | | | | | | | <p>THE K/A CAN BE REPEATED FROM A PREVIOUS NRC EXAM, BUT THE QUESTIONS MUST BE DIFFERENT.</p> <p>COMMENTS BELOW DO NOT NEED TO BE ADDRESSED DUE TO THE ABOVE COMMENT.</p> <p>Applicant could argue that "A" is correct based on the SD-8, Section 2.11.3 wording that the rod may not fully insert with only the accumulator assist at reactor pressures above 1000 psig. Modify stem to ensure that this argument cannot be successful. Comment addressed</p> <p>"C" is not plausible ...how could this ball valve failure make the rod move faster? Comment addressed</p> <p>Clarify the stem wording to be "As the control rod 10-11 is scrambling inward, the ball check valve fails to re-position." This is clearer. Comment addressed</p> <p>A question must be asked to the applicants. Comment addressed</p> |
| 29 | 201006 K6.01 | N | F | 2 | | | | | | | | | S | A question must be asked to the licensee. Comment addressed |
| 30 | 202001 K3.06 | N | F | 3 | x | | | | | | | | E S | <p>The stem wording "...LPCI Initiation Logic Division I has failed high" may be confusing. Consider rewording the stem to ensure that applicants understand what is being asked. Comment addressed</p> <p>"D": B32-F032A should also be included. Comment addressed</p> <p>The question is worded to ask how the system <u>will</u> (Future) be affected, but the answers are worded in a manner that states how the system <u>was</u> (past) affected. Maintain a consistency of tense in sentence structure. Comment addressed</p> |
| 31 | 202002 K4.02 | B | H | 3 | x | | | | | | | | E S | <p>Top of stem should be that Unit 1 WAS operating with the following conditions. Comment addressed</p> <p>The Reactor Level Hi/Lo alarm is irrelevant since the next sentence states that level drops to scram setpoint and goes to +110". Delete unnecessary information. Comment addressed</p> <p>Write in disclaimer ..."Assuming all other equipment operated properly and all operator scram actions performed correctly, what will be the final status of the recirc pumps after the scram?" Comment addressed</p> |

| Q# | K/A# | B M N | L O K | L O D | Psychometric Flaws | | | | | Content Flaws | | | U E S | Comment Explanation | |
|----|-----------------|-------------|-------------|-------------|--------------------|------|-----|-----------------------|------------------------|---------------|------------|-----------|-------------|------------------------|--|
| | | | | | Stem Focus | Cues | T/F | 1 Non Cred Dist | >1 Non Cred Dist | Partial | Min B/W | Q= K/A | | | SRO Only |
| | | | | | | | | | | | | | | | "D" distractor...remove reason for trip. Comment addressed |
| 32 | 204000 K1.05 | B | H | 3 | | | | | x | | | x | | U S | <p>SAMPLE PLAN STATES K5.05 FOR THE K/A, YET QUESTION STATES K1.05? THE K/A STATEMENT SPELLED OUT IN THE QUESTION DOCUMENTATION DOES NOT APPEAR TO MATCH THE K1.05 STATEMENT IN THE K/A CATALOG. HAVE LICENSEE EXPLAIN. THE APPROVED OUTLINE REQUIRES THE QUESTION TO BE WRITTEN TO K5.05 (FLOW CONTROLLERS). Original KA (204000 K1.05) was NOT used see record of rejected KAs; replacement KA 204000 K5.05 was used instead.</p> <p>K/A asks for the operational implication of <u>flow controllers</u> on the RWCU system. The question asks for how a loss of air affects RWCU (not the flow controller). Suggestion: Ask a question related to remote manual/automatic controller G31-FHC-R606 reject blowdown controller isolation, etc. Comment addressed</p> <p>"A" and "D" are not plausible because there are no auto start features associated with RWCU pumps. It appears that none of that information is needed to make the answer choices unique anyway. This information is unnecessary and supplies applicants with additional methods to discredit answer choices. Comment addressed</p> <p>Need a space after "100" in the stem. Comment addressed Need a space after "0" in the stem. Comment addressed</p> |
| 33 | 241000 A1.14 | B | H | 3 | | | | | | | | | | E S | <p>A question must be presented to the applicants. Comment addressed Suggest: Which ONE of the following describes how the control valves and bypass valves will respond if the "pressure setpoint decrease pushbutton" is held in the depressed position? Comment addressed</p> <p>Need to change "D" to same format as the other answer choices. Comment addressed</p> |
| 34 | 202001 A1.09 | B | H | 3 | | x | | | | | | x | | U S | <p>UNAUTHORIZED K/A CHANGE. LICENSEE CHANGED K/A WITHOUT CONSULTING WITH CE. QUESTION MUST BE WRITTEN TO MATCH ORIGINAL K/A. THEREFORE, THIS QUESTION IS UNSAT DUE TO NOT MATCHING THE K/A ON THE APPROVED OUTLINE. IF A DISCRIMINATING QUESTION CANNOT BE WRITTEN FOR THE ORIGINAL K/A, THEN DISCUSS WITH THE CE THE POSSIBILITY FOR SELECTING A DIFFERENT K/A. CE WILL SELECT ALL K/As WHEN CHANGES TO THE APPROVED OUTLINES ARE WARRANTED.). Original KA (256000 A1.09) was NOT used see record of rejected KAs; replacement KA 202001</p> |

| Q# | K/A# | B M N | L O K | L O D | Psychometric Flaws | | | | | Content Flaws | | | U E S | Comment Explanation |
|----|-----------------|-------------|-------------|-------------|--------------------|------|-----|-----------------------|------------------------|---------------|------------|-----------|-------------|---|
| | | | | | Stem Focus | Cues | T/F | 1 Non Cred Dist | >1 Non Cred Dist | Partial | Min B/W | Q= K/A | | |
| | | | | | | | | | | | | | | <p>A1.09 was used instead.</p> <p>COMMENTS BELOW DO NOT NEED TO BE ADDRESSED DUE TO THE ABOVE COMMENT.</p> <p>Is question piece of stem worded appropriately? Comment addressed</p> <p>Re-word stem to say: Given these conditions, which ONE of the following is indicated? Comment addressed</p> <p>“A” is capitalized whereas “B” is not. (make the same). Comment addressed</p> <p>Why is Unit 1 seal staging alarm different? I.E. Unit 1 does not have a LO Flow Alarm Setpoint. Comment addressed</p> <p>Delete in stem, “All other indications are normal.” Comment addressed</p> |
| 35 | 268000 A4.01 | N | F | 2 | | | | | | | | x | | <p>U S</p> <p>K/A Match: Question does not test the ability to manually operate and/or monitor, the sump integrators in the control room. Question tests knowledge of plant location of equipment and leakage tech specs. Comment addressed</p> <p>The middle sentence in each answer choice is not needed to make the answer choice unique and can be deleted from the question. Comment addressed</p> <p>Write a question pertaining to the leak detection timers, i.e., 1st timer starts when pump is manually started. If still running when timer times out this causes alarm...OR write a question where applicant is provided last integrator reading and asked to identify whether the identified or unidentified limit was reached. Comment addressed</p> |
| 36 | 286000 K4.01 | B | F | 2 | | | | | | | | x | | <p>U S</p> <p>Approved sample plan states K2.03. ES-401-4 states K2.02. Is this a typo?</p> <p>UNAUTHORIZED K/A CHANGE. LICENSEE CHANGED K/A WITHOUT CONSULTING WITH CE. QUESTION MUST BE WRITTEN TO MATCH ORIGINAL K/A. THEREFORE, THIS QUESTION IS UNSAT DUE TO NOT MATCHING THE K/A ON THE APPROVED OUTLINE. IF A DISCRIMINATING QUESTION CANNOT BE WRITTEN FOR THE ORIGINAL K/A, THEN DISCUSS WITH THE CE THE POSSIBILITY FOR SELECTING A DIFFERENT K/A. CE WILL SELECT ALL K/As WHEN CHANGES TO THE</p> |

| Q# | K/A# | B M N | L O K | L O D | Psychometric Flaws | | | | | Content Flaws | | | U E S | Comment Explanation |
|----|-----------------|-------------|-------------|-------------|--------------------|------|-----|-----------------------|------------------------|---------------|------------|-----------|-------------|--|
| | | | | | Stem Focus | Cues | T/F | 1 Non Cred Dist | >1 Non Cred Dist | Partial | Min B/W | Q= K/A | | |
| | | | | | | | | | | | | | | <p>APPROVED OUTLINES ARE WARRANTED. Original KA (286000 K2.02) was NOT used see record of rejected KAs; replacement KA 286000 K4.01 was used instead.</p> <p>COMMENTS BELOW DO NOT NEED TO BE ADDRESSED DUE TO THE ABOVE COMMENT.</p> <p>Why was K2.03 deselected? (power supply to fire detection is not minutia) Comment addressed</p> <p>AOP 36.2 is Station Blackout procedure which directs EOP-01-LEP-01 (Alternate Coolant Injection) which directs to maintain FP tank level greater than 27'6". If cannot be maintained, then go to OP-41 to used MUD tank. How is level maintained before using MUD tank? Comment addressed</p> |
| 37 | 290001 A3.02 | N | F | 3 | | | | x | | | | | U S | <p>"A" and "D" are not plausible because the feature of only one SBTG auto-starting doesn't exist. Comment addressed</p> <p>"C" is not plausible because the feature of only the outboard BFIVs closing doesn't exist. Comment addressed</p> <p>Also, "B" and "C" including Purge fan stopping - - these fans are not normally in service. Comment addressed</p> <p>Also every answer includes the same statement that the Rx Bldg fans stop. Can this be deleted? Comment addressed</p> <p>Suggestion: Write a question testing their knowledge of how the building delta P is normally maintained (vs what happens following a LL2 isolation signal) since this will be a better KA match. Comment addressed</p> |
| 38 | 214000 K1.05 | B | H | 2 | | | | | | | x | | U S | <p>UNAUTHORIZED K/A CHANGE. LICENSEE CHANGED K/A WITHOUT CONSULTING WITH CE. QUESTION MUST BE WRITTEN TO MATCH ORIGINAL K/A. THEREFORE, THIS QUESTION IS UNSAT DUE TO NOT MATCHING THE K/A ON THE APPROVED OUTLINE. IF A DISCRIMINATING QUESTION CANNOT BE WRITTEN FOR THE ORIGINAL K/A, THEN DISCUSS WITH THE CE THE POSSIBILITY FOR SELECTING A DIFFERENT K/A. CE WILL SELECT ALL K/As WHEN CHANGES TO THE APPROVED OUTLINES ARE WARRANTED. Original KA (290002 K1.05) was NOT used see record of rejected KAs; replacement KA 214000 K1.05 was used instead.</p> |

| Q# | K/A# | B M N | L O K | L O D | Psychometric Flaws | | | | | Content Flaws | | | U E S | Comment Explanation |
|----|-------------------|-------------|-------------|-------------|--------------------|------|-----|-----------------------|------------------------|---------------|------------|-----------|-------------|--|
| | | | | | Stem Focus | Cues | T/F | 1 Non Cred Dist | >1 Non Cred Dist | Partial | Min B/W | Q= K/A | | |
| | | | | | | | | | | | | | | Why was 290002 K1.05 rejected? This is not minutia and importance is 3.1. |
| 39 | 295001 A2.05 | B | F | 2 | | x | | | x | | | | | U S Provide before and after values for recirc pump speeds, core plate dP, jet pump loop flows, etc. and let applicant identify what changed and then diagnose the failure. This will allow more plausible distractors, i.e., recirc speed control failure, APRM flow transmitter failure, entry to Low Core Flow AOP, etc. Comment addressed "A" is not plausible since the stem indicates that recirc speeds have not changed. (remove sentence saying speeds have not changed). ("C" and "D" are not plausible for a similar reason) Comment addressed |
| 40 | 295003 AK1.03 | B | H | 3 | | | | | | | | | | S Distractor Analysis states that "C" is incorrect – this may be a typo. |
| 41 | 295004 G2.1.30 | B | F | 2 | | x | | | | | | | | E S Cue exists in the stem because Panel 9A is being transferred and the correct answer contains Panel 9A. Incorporate the following suggestion and this concern can be resolved. Comment addressed First paragraph – can everything after the comma be deleted? If the below suggestion is incorporated, can the first paragraph be eliminated? Comment addressed Which ONE of the following identifies the location and the method for transferring Distribution Panel 9A to its alternate source? A. Turbine building 4160 V BOP bus area; close alternate supply before opening the normal B. Turbine building 4160 V BOP bus area; open normal supply first then close the alternate supply C. Battery Room in Cable Spread; close alternate supply before opening the normal D. Battery Room in Cable Spread; open normal supply first, then close the alternate supply. |
| 42 | 295005 AK2.01 | B | F | 3 | | x | | x | | x | | | | E S The stem of the question asks for the MINIMUM that must be sensed...this could allow applicants to appeal since "D" would also be a true answer. Be a little more specific by asking for the MINIMUM NUMBER OF TCVs and coincident logic that would produce the scram. Modifying the question slightly should resolve the issue. Comment addressed The stem of the question tells the applicants that a "turbine control valve fast closure occurs." Why can't we allow them to recognize the load reject via plant parameters or alarms? The stem of the question tells the applicants that "low disc dump oil |

| Q# | K/A# | B M N | L O K | L O D | Psychometric Flaws | | | | | Content Flaws | | | U E S | Comment Explanation |
|----|------------------|-------------|-------------|-------------|--------------------|------|-----|-----------------------|------------------------|---------------|------------|-----------|-------------|--|
| | | | | | Stem Focus | Cues | T/F | 1 Non Cred Dist | >1 Non Cred Dist | Partial | Min B/W | Q= K/A | | |
| | | | | | | | | | | | | | | pressure is sensed on....” – delete the parameter that is sensed – applicants should know this. Comment addressed “A” is not plausible because one trip channel can never cause a full scram. Consider changing “A” to TCVs: 1 and 3 OR 2 and 4? Discuss. Comment addressed |
| 43 | 295006 AA2.01 | B | H | 3 | | | | | | x | | | | U S According to APRM downscale alarm (A-6, 2-7), the downscale light will illuminate at 2.4%. Technically this is greater than 2%. What is the setpoint for the downscale lights? SD-9.6, Table 9.6-3 lists 2.4%. OI-37.5 page 80 of 90 (for step RQ/6 in level power control) states that power is less than downscale setpoint. Comment addressed “C”: Are the indications “in” the back panels, or “on” the back panels? Comment addressed |
| 44 | 295016 AK2.01 | B | F | 2 | | | | | x | | | | | U S AOP-32, Section 4.0 (pg 35 of 72) states that this procedure assumes no other accident occurs when the control room evacuation is required. “C” and “D” are not plausible since these are EOP actions and beyond the design of AOP-32 and the remote shutdown panel. Use list of equipment in SD-62, page 10 of 38, to obtain new plausible distractors and modify answers to include actions such as: A. operate RCIC B. Reject suppression pool water to radwaste C. Operate HPCI D. Cool the drywell Comment addressed Consider writing question without the words “and related stations”. This opens up the question to many items other than RSDP items. Comment addressed Is there a typo in distractor analysis? – Is “b” the correct answer, or is “A” the correct answer. Comment addressed |
| 45 | 295018 AA2.04 | B | H | 3 | | | | | | | | x | | U S KA does not match for two reasons: 1. The KA is for component cooling water, i.e., closed cooling water system (versus service water) And 2. The KA requires the applicant to determine and interpret system flow following a partial or complete loss of CCW. Instead, this question requires the applicant to understand the service water valve logic instead of interpreting system flow given system parameters. Comment addressed |

| Q# | K/A# | B M N | L O K | L O D | Psychometric Flaws | | | | | Content Flaws | | | U E S | Comment Explanation |
|----|-------------------|-------------|-------------|-------------|--------------------|------|-----|-----------------------|------------------------|---------------|------------|-----------|-------------|--|
| | | | | | Stem Focus | Cues | T/F | 1 Non Cred Dist | >1 Non Cred Dist | Partial | Min B/W | Q= K/A | | |
| | | | | | | | | | | | | | | A question must be presented to the applicants. Comment addressed |
| 46 | 295019 AA1.01 | B | H | 3 | x | x | | | | | | | | <p>E S</p> <p>RB INSTR AIR RECEIVER 1B PRESS LOW (UA-01, 1-2) setpoint is 95 psig and states that 1B compressor will start and SV-5481 will auto-open. This is testable knowledge, therefore, the stem should not state that 1B compressor is running because this diminishes the plausibility of distractor 'A.' Comment addressed</p> <p>The first sentence in the stem "The RX Bldg Standby Compressors have been returned to service." may not be necessary. Consider deleting. Comment addressed</p> <p>Also, for instrument and service air pressures listed in the stem, provide the meter numbers and noun names of the meters (instead of "at the RTGB") since these pressure locations are needed to eliminate distractor "B" as correct answer. Comment addressed</p> <p>Modify the question portion of the stem to read: Based on these plant conditions, what action(s) will occur? Comment addressed</p> |
| 47 | 295021 AK2.03 | B | F | 2 | | | | | | | | | | <p>E S</p> <p>Reword the stem:</p> <p>Suggest wording the question as follows: Which ONE of the following is the preferred alternate shutdown cooling lineup in accordance with AOP-15.0, including the reason? Comment addressed</p> |
| 48 | 295023 AK2.03 | B | H | 3 | | x | | | | x | | | | <p>U S</p> <p>"D" is only incorrect because of the word "auto actions" in the stem. Suggest: and CAC vent and purge valves auto isolate <u>and</u> CREV System auto starts. Comment addressed</p> <p>The stem provides cues to a portion of the answer (CAC vent/purge) since it states that these valves are open. Instead, list the equipment that's running, i.e., 2A Purge Fan, etc. and the name and section of the procedure that's being used to ventilate the drywell while personnel entry is in progress. (they should know which valves are open based on this information) Comment addressed</p> <p>Shorten the stem by removing the information that SBTG initiated and the Rx Bldg isolated. They should be able to predict these auto actions based on the radiation alarms. Comment addressed</p> |
| 49 | 295024 G2.2.25 | N | F | 3 | x | | | x | | | | | | <p>E S</p> <p>Suggested wording: Which ONE of the following tech spec requirements ensures that the peak drywell pressure following a design basis accident will not exceed the</p> |

| Q# | K/A# | B M N | L O K | L O D | Psychometric Flaws | | | | | Content Flaws | | | U E S | Comment Explanation |
|-----------|-------------------|-------------|-------------|-------------|--------------------|------|-----|-----------------------|------------------------|---------------|------------|-----------|-------------|--|
| | | | | | Stem Focus | Cues | T/F | 1 Non Cred Dist | >1 Non Cred Dist | Partial | Min B/W | Q= K/A | | |
| | | | | | | | | | | | | | | design pressure? Comment addressed "C" is not plausible. Suggest including the tech spec requirement for the rx bldg-to-torus vacuum breakers instead of the PCIV spec. Comment addressed |
| 50 | 295025 G2.1.23 | B | F | 2 | | | | | | | | | S | Reword the stem to ask a question. |
| 51 REF | 295026 G2.1.2 | B | H | 2 | | | | | | X? | | | U S | It is permissible to provide the HCTL graph to the applicants as the <u>only</u> reference. EOP-02-PCCP shall not be supplied to the applicants. They should know that if they get into the UNSAFE region on the HCTL curve that they must ED. Comment addressed Distractors are plausible and K/A is matched. Is "B" a correct answer per RC/P-12 thru -17 of LPC chart? Comment addressed |
| 52 | 295028 EK3.01 | N | H | 2 | | | | | x | | | | U S | Do the parameters in the stem unequivocally require ED? If DW Spray is started, step DW/T-19 allows restoring less than 300 deg. Need to add something to stem to say that DW sprays are unavailable. "A" and "B" are not reasons. (like "C" and "D") Modify as: A. Prevent chugging, i.e., fatigue fracture of downcomer due to cyclic condensation of the steam at the downcomer openings. B. Prevent exceeding the PCPL "A" C. Prevent exceeding the suppression chamber design temperature D. Prevent exceeding the SRV maximum qualification temperature Comment addressed If we aren't providing charts on this question, then why don't we simply ask the reason for emergency depressurization when DW temperature cannot be restored and maintained below 300 deg? (instead of providing plant data) Comment addressed |
| 53 REF | 295028 EA1.04 | N | H | 2 | x | | | | | | | | E S | EOP-02-PCCP shall not be provided to the applicant. Only the DWSIL graph shall be supplied to the applicant. Comment addressed A question is not presented to the applicants. Comment addressed The 7.5 psig DW pressure in the stem is too close to the line -- make it 9 psig (don't make it close to 11.5 psig) Comment addressed The stem needs to have a torus pressure provided to help with making "A" wrong. -- Add torus pressure of 7.5 psig to the stem Comment addressed |

| Q# | K/A# | B M N | L O K | L O D | Psychometric Flaws | | | | | Content Flaws | | | U E S | Comment Explanation |
|----|------------------|-------------|-------------|-------------|--------------------|------|-----|-----------------------|------------------------|---------------|------------|-----------|-------------|--|
| | | | | | Stem Focus | Cues | T/F | 1 Non Cred Dist | >1 Non Cred Dist | Partial | Min B/W | Q= K/A | | |
| | | | | | | | | | | | | | | <p>Change stem to Unit 2 to minimize the number of charts being distributed. (already have several Unit 1 questions requiring charts.) Comment addressed</p> <p>Remove the words "and steady" from the drywell average air temperature in the stem because this could preclude "D" being correct. Comment addressed</p> <p>Change "A" and "D" as follows:</p> <ul style="list-style-type: none"> A. Spray the drywell to lower drywell pressure below 1.7 psig. (this makes "A" wrong since SEP-10 requires stopping sprays at 2.5 psig.) D. Spray the drywell to maintain drywell temperature less than 300 deg (this is more correct since current temperature is not currently exceeding the design.) Comment addressed |
| 54 | 295030 EK1.01 | B | F | 2 | | | | x | | | | | E S | <p>Question could be considered LOK=F. Comment addressed</p> <p>Two points to make on reference material:</p> <ol style="list-style-type: none"> 1. If PCCP is distributed for another test item, then this becomes a direct lookup 2. If containment graphs are not provided, then applicant will not be able to eliminate "A." <p>Comment addressed</p> <p>Remove the phrase "terminate HPCI operation" from all choices. Comment addressed</p> <p>Re-word "C" and "D" as follows to enhance plausibility:</p> <ul style="list-style-type: none"> B. only if adequate core cooling can be assured. C. Only if PCPL-A is exceeded. <p>Comment addressed</p> |
| 55 | 295031 EK1.02 | N | F | 2 | | | | | | x | | x | U S | <p>Question is written at the (F)undamental LOK. Question only requires the applicant to know what to do when SDC inadvertent isolation occurs. This can be answered using "memory" level knowledge, without much, if any, analytical thought process. Comment addressed</p> <p>KA requires applicant knowledge of the operational implications (i.e., cannot use recirc loop temps or bottom head temperatures for vessel coolant monitoring, etc.) while at natural circulation RPV level (i.e., what is the lowest level that we can assure natural circulation is occurring). Question as written is testing loss of decay heat removal mitigation strategies. Comment addressed</p> <p>Is there any possibility that the SS could direct performance of any of the other distractors? The NOTE in the AOP states "or as directed by SS"</p> |

| Q# | K/A# | B M N | L O K | L O D | Psychometric Flaws | | | | | Content Flaws | | | U E S | Comment Explanation |
|-----------|------------------|-------------|-------------|-------------|--------------------|------|-----|-----------------------|------------------------|---------------|------------|-----------|-------------|--|
| | | | | | Stem Focus | Cues | T/F | 1 Non Cred Dist | >1 Non Cred Dist | Partial | Min B/W | Q= K/A | | |
| | | | | | | | | | | | | | | based on plant conditions.” “C” is correct to maintained below 212 deg IAW AOP-15 step 3.2.12 feed and bleed using the MSL’s (OP-32) Comment addressed |
| 56 REF | 295037 EA2.06 | N | H | 2 | | | | x | | x | | | | E S No references shall be provided to the applicant. Comment addressed As written, “D” is true under ALL conditions. Comment addressed |
| 57 | 295038 EK1.01 | N | F | 2 | | | | | x | | | | | U S Is this question written at the RO knowledge level? This material is almost exclusively reserved for SRO-only questions. Have the licensee justify the reasons for asking this on the RO exam. Also ensure the licensee understands that a consistent application of this reasoning must also be applied when the SRO exam is reviewed. Comment addressed “A” and “D” not plausible: Using common sense for a BWR, the Main Steam and Reactor Coolant fluids are one-in-the-same. If the MSLs run outside of containment, why would a LOCA, which occurs inside containment, be plausible? Comment addressed KA requires knowledge of operational implications of internal exposure concerns. Looks like a good question for HVAC controls, RWP items, etc. |
| 58 | 600000 AK1.02 | N | F | 2 | | | | | x | | | | | E S K/A statement may be incorrect. “applications” vice “implications”? Comment addressed For “C” and “D” to be plausible, the licensee must supply information that states that other rooms containing safety related pumps do actually contain sprinkler systems. If the licensee can justify plausibility, then “C” and “D” will be satisfactory from a plausibility standpoint. Comment addressed Delete the second part of “C” and “D”. This information is not needed to make these answer choices unique. Therefore, “C” and “D” also do not test any precautions that are necessary – which the question asks for in the stem. Comment addressed Answer choice format provides the applicant with three different fire suppression systems and four possible answer choices. The answer choices would be better if four different suppression systems were being used with no precautions; or two different suppression systems were being used with two different precautions. This comment is why the second part of “C” and “D” can be deleted. Comment addressed Need a copy of the PFP procedures to look at for RCIC and RHR room fire protection systems. Comment addressed |

| Q# | K/A# | B M N | L O K | L O D | Psychometric Flaws | | | | | Content Flaws | | | U E S | Comment Explanation | |
|-----------|------------------|-------------|-------------|-------------|--------------------|------|-----|-----------------------|------------------------|---------------|------------|-----------|-------------|------------------------|---|
| | | | | | Stem Focus | Cues | T/F | 1 Non Cred Dist | >1 Non Cred Dist | Partial | Min B/W | Q= K/A | | | SRO Only |
| 59 REF | 295010 AK2.05 | B | H | 3 | | | | | | x | | | | E S | <p>Degree F symbol did not print correctly. Comment addressed</p> <p>No references will be provided to the applicants for this question. Applicants should know that they need to maintain D/W temp below 152 F and that they need to defeat the LOCA lockout. As written, I agree. Comment addressed</p> <p>Question is SAT if the "References to be supplied to applicants" is changed to <u>none</u>. Comment addressed</p> <p>PC/P-4, & -6 allow torus sprays per SEP-03 (answer "C") since drywell pressure is above 1.7 psig. "C" may not be wrong. Discuss with licensee. Comment addressed</p> |
| 60 REF | 295015 AK1.02 | N | F | 2 | | | | x | | | | | | U S | <p>No reference shall be provided to the applicants. Comment addressed</p> <p>Proposed question wording does not read correctly. The word "directs" should be changed to "informs". Comment addressed</p> <p>Question statement should state, "In accordance with whatever basis document is being used to support the answer." For example, "Which one of the following is the reason for the above requirement, as stated in "Basis Document Title." Comment addressed</p> <p>"A" can be argued as incorrect, even though it is quoted from the reference. The reactivity effects are very predictable for a cooldown - <i>A cooldown will predictably add positive reactivity</i>. It could be that the concern is whether the reactor will remain shutdown if the rate of positive reactivity addition from the cooldown exceeds the rate of negative reactivity addition from the boron addition. The answer verbiage must be specific to the actual concern to ensure that the correct answer cannot be argued as incorrect. Comment addressed</p> <p>Is "partially borated core" a common terminology? Would it be better to state that the reactivity effects of a cooldown are unpredictable when Cold Shutdown Boron weight has not yet been established? Comment addressed</p> <p>"C" is not credible. Unless "controlled" vice "uncontrolled" reactivity manipulation is defined in plant procedures (I.E. Conduct of Ops Procedure). If there is plant documentation to support plausibility, then the distractor plausibility acceptable. Comment addressed</p> |
| 61 | 295020 AK1.01 | B | H | 2 | x | | | | | | | | | E S | <p>Is there any way that "A" can be successfully argued as correct? Comment addressed</p> |

| Q# | K/A# | B M N | L O K | L O D | Psychometric Flaws | | | | | Content Flaws | | | U E S | Comment Explanation |
|-----------|------------------|-------------|-------------|-------------|--------------------|------|-----|-----------------------|------------------------|---------------|------------|-----------|-------------|--|
| | | | | | Stem Focus | Cues | T/F | 1 Non Cred Dist | >1 Non Cred Dist | Partial | Min B/W | Q= K/A | | |
| | | | | | | | | | | | | | | <p>Is there any way that "B" can be successfully argued as correct? If the Main Condenser is part of the condensate system and the Main Condenser is not available, then the part of the condensate system is not available. "B" could potentially be worded better if it were more specific to what part of the condensate system is unavailable. Comment addressed</p> <p>Reword the stem question: "Which ONE of the following plant conditions means that the condenser is NOT available? Comment addressed</p> <p>Suggest changing "C" (correct answer) to "All 4KV BOP busses are de-energized. Comment addressed</p> |
| 62 | 295022 AA1.01 | N | F | 2 | | | | x | | | | | | <p>E S</p> <p>"D" states for the operator to start a CRD -- do they actually want to start a Control Rod Drive? Or do they want to start a Pump or a System? Double check the wording. Comment addressed</p> <p>"C" is not plausible. Lowering power to 26% would require rod insertion, which is not credible with CRD issues. Comment addressed</p> |
| 63 REF | 295029 EA2.02 | B | H | 2 | | | | | | x | | x | | <p>U S</p> <p>Question does not match KA: KA requires the applicant to determine/interpret REACTOR pressure as it applies to a high torus level condition, e.g., when emergency depressurization is or is not required; SRV Tail Pipe Level Limit, etc. Instead, this question is incorrectly written for DRWELL PRESSURE. Comment addressed</p> <p>EOP-02-PCCP shall not be provided to the applicants. Comment addressed</p> <p>Is it possible to change the D/W pressure to something above the limit of the curve regardless of level (I.E. 80 psig)? This would allow the question to be asked in a closed book format. It would not be expected for the applicants to have the curve memorized, but they should know that if pressure exceeds 77 psig, that the limit has been violated. Comment addressed</p> <p>A question must be asked to the applicants. The question cannot be implied. Comment addressed</p> <p>"A" could be correct. There is nothing in the stem that would indicate that release rates would be exceeded; therefore, if containment was vented, then it is possible that ODCM release rates would not be violated. A wording change can likely salvage the distractor. Comment addressed</p> <p>"C": should "assure" be changed to "ensure"? Comment addressed</p> |
| 64 | 295033 EK3.04 | B | F | 2 | | | | | | | | x | | <p>U</p> <p>If the reference material can be used to validate the question, then the question should be SAT. Comment addressed</p> |

| Q# | K/A# | B M N | L O K | L O D | Psychometric Flaws | | | | | Content Flaws | | | U E S | Comment Explanation | |
|----|------------------|-------------|-------------|-------------|--------------------|------|-----|-----------------------|------------------------|---------------|------------|-----------|-------------|------------------------|--|
| | | | | | Stem Focus | Cues | T/F | 1 Non Cred Dist | >1 Non Cred Dist | Partial | Min B/W | Q= K/A | | | SRO Only |
| | | | | | | | | | | | | | | S | KA mismatch: KA pertains to reasons for evacuating the RX BLDG (not turbine building). Suggest writing a EOP-03-SCCP question which involves 2-UA-03, 2-7 or AOP-5. Comment addressed |
| 65 | 295035 EK3.01 | N | F | 2 | | | | | | x | | | | U S | <p>"D" may be correct (see step SCCP-12) Comment addressed</p> <p>"A" is correct because if the blowout panel operates, then SBTG will not maintain the negative pressure in the reactor building. Comment addressed</p> <p>Suggest changing the stem as written below and replacing distractors with erroneous information from the 0EOP-04-RRCP. Comment addressed</p> <p>Which ONE of the following is the basis for entering 0EOP-03-SCCP when a positive pressure condition exists in the reactor building? Comment addressed</p> |
| 66 | G2.1.32 | B | F | 2 | | | | | | | | | | S | <p>Would it be possible for the question stem to be worded: "In Mode 3, OP-10 prohibits venting the drywell and the suppression pool chamber simultaneously because the action could result in...."? Comment addressed</p> <p>If the above comment is acceptable for incorporation, can the first paragraph be eliminated? Comment addressed</p> <p>A question is not presented to the applicants. Comment addressed</p> |
| 67 | G2.1.1 | B | F | 1- 2 | | | | x | | | | | | E S | <p>Question is at the Fundamental LOK. Recall of OI-01.02 is all that is necessary to arrive at the correct answer. The question really could be worded to test the recall of Section 5.1.4.a.</p> <p>"D" is not plausible. There are no other plant conditions when 5 ROs are required to be in the control room. One suggestion would be to test some aspect of the Tech Spec requirement as well. For instance, TS 5.2.2.b states that at least one RO shall be in the control room when fuel is in the reactor. Maybe each answer choice could be a two part format with one part being Admin Requirements and the other part being Tech Spec requirements? Discuss with licensee. Comment addressed</p> <p>LOD = 1 to 2. LOD will rise to a 2 if question can be modified to contain 3 plausible distractors. Comment addressed</p> <p>Eliminate confusion by adding words to the question: "What is the MINIMUM number of operators required....to be in the combined U1 and U2 main control rooms....." Comment addressed</p> <p>A question is not presented to the applicants. Comment addressed</p> |

| Q# | K/A# | B M N | L O K | L O D | Psychometric Flaws | | | | | Content Flaws | | | U E S | Comment Explanation | |
|----|---------|-------------|-------------|-------------|--------------------|------|-----|-----------------------|------------------------|---------------|------------|-----------|-------------|------------------------|--|
| | | | | | Stem Focus | Cues | T/F | 1 Non Cred Dist | >1 Non Cred Dist | Partial | Min B/W | Q= K/A | | | SRO Only |
| 68 | G2.2.34 | N | H | 2 | | x | | | | x | | | | U S | <p>Is it necessary to state the reason and effect of bypassing the feedwater heaters. This is teaching in the stem. The applicants should be able to conclude that FW temp will lower if the HP heaters are bypassed. Discuss removing "to achieve an 84F equivalent reduction in final feedwater temperature. Comment addressed</p> <p>Suggest adding "thermal hydraulic" prior to "instability" in the correct answer. Comment addressed</p> <p>"D" is correct also. 0GP-13, P&L 3.4 states "Reduced Feedwater heating increases the core inlet subcooling which shifts flux shape toward the bottom of the core. This may challenge thermal limits in this region." Comment addressed</p> <p>A question is not presented to the applicants. Comment addressed</p> |
| 69 | G2.2.3 | N | F | 1- 2 | | | | | | | | | | U S | <p>This question is a collection of TRUE / FALSE statements. Comment addressed</p> <p>Consider rewording the question as follows: "Which ONE of the following is a difference between the Unit 1 and Unit 2 condensate and feedwater systems?" Comment addressed</p> <p>GP-05 was not provided to allow the CE to validate the question. Question is UNSAT because of this until it can be properly validated – otherwise, the question will be rated an "E". Comment addressed</p> <p>Change "A" and "B" to stay with the theme of manual start logic for the condensate pumps. Include items such as Cond Pump discharge header pressure being either < 110 psig or < 130 psig. Comment addressed</p> <p>If "A" and "B" are enhanced, then the LOD will rise to an acceptable level (2). Comment addressed</p> |
| 70 | G2.3.10 | B | F | 1- 2 | | | | x | | | | x | | U S | <p>UNAUTHORIZED K/A CHANGE. LICENSEE CHANGED K/A WITHOUT CONSULTING WITH CE. QUESTION MUST BE WRITTEN TO MATCH ORIGINAL K/A. THEREFORE, THIS QUESTION IS UNSAT DUE TO NOT MATCHING THE K/A ON THE APPROVED OUTLINE. IF A DISCRIMINATING QUESTION CANNOT BE WRITTEN FOR THE ORIGINAL K/A, THEN DISCUSS WITH THE CE THE POSSIBILITY FOR SELECTING A DIFFERENT K/A. CE WILL SELECT ALL K/As WHEN CHANGES TO THE APPROVED OUTLINES ARE WARRANTED. Original KA G 2.3.2 was used instead of licensee's replacement G 2.3.10</p> <p>THIS K/A CHANGE WAS NOT APPROVED AND COMMUNICATED TO THE LICENSEE VIA PHONE AT THE TIME THE OUTLINES</p> |

| Q# | K/A# | B M N | L O K | L O D | Psychometric Flaws | | | | | Content Flaws | | | U E S | Comment Explanation |
|----|--------|-------------|-------------|-------------|--------------------|------|-----|-----------------------|------------------------|---------------|------------|-----------|-------------|--|
| | | | | | Stem Focus | Cues | T/F | 1 Non Cred Dist | >1 Non Cred Dist | Partial | Min B/W | Q= K/A | | |
| | | | | | | | | | | | | | | WERE INITIALLY APPROVED. COMMENTS BELOW DO NOT NEED TO BE ADDRESSED DUE TO THE ABOVE COMMENT. "A" and "D" are not plausible because placing TIPS under clearance while allowing the mode switch to be in a position where TIPS can still be moved is not a reasonable misconception. I would compare it to tagging a pump and stating that the breaker be placed in a position where the pump could still be started. This aspect of "A" and "D" must be addressed for the question to be SAT. Different question used. LOD will rise when above comment is incorporated. |
| 71 | G2.3.1 | B | F | 1 | | | | x | | | | x | U S | <p>A question is not presented to the applicants. Comment addressed</p> <p>"A" is not credible. 30 Rem does not correspond to any other limit that could be incorrectly linked to the correct answer. Comment addressed</p> <p>"C" and "D" are not credible because 75 Rem and 250 Rem do not have any context to dose limits (even though 250 is 10 times 25). Comment addressed</p> <p>Question is written at the SRO-only level. The supporting reference contains information that supports this being SRO-only knowledge, in that it is the SRO's responsibility to approve any dose expected to exceed Part 20 limits. Discuss with the licensee. Comment addressed</p> <p>PROPOSED QUESTION (VOGTLE 2005): An operator began work at Vogtle in May 2004. The current date is May 2005. The operator has the following dose history (TEDE):</p> <ul style="list-style-type: none"> - Year 2004 = 3000 mrem - Year 2005 = 1427 mrem (Accumulated through May 2005) <p>The worker is directed to perform a job with an estimated dose of 1156 mrem.</p> <p>Which ONE of the following correctly states the required approval, if any, needed prior to beginning the work?</p> <ul style="list-style-type: none"> A. Vice President B. HP/C Manager C. NRC D. No approval needed <p><u>K/A</u> G2.3.1 Knowledge of 10 CFR: 20 and related facility radiation control requirements.</p> |

| Q# | K/A# | B M N | L O K | L O D | Psychometric Flaws | | | | | Content Flaws | | | U E S | Comment Explanation |
|----|---------|-------------|-------------|-------------|--------------------|------|-----|-----------------------|------------------------|---------------|------------|-----------|-------------|--|
| | | | | | Stem Focus | Cues | T/F | 1 Non Cred Dist | >1 Non Cred Dist | Partial | Min B/W | Q= K/A | | |
| | | | | | | | | | | | | | | <p><u>K/A MATCH ANALYSIS</u> Question tests the knowledge of plant admin and 10 CFR 20 requirements and what level of approval is needed to perform the work. The applicant must know how to calculate his projected dose, he must know the Admin limits (4500 mrem) and must know that he is not projected to exceed the admin limit, thus not needing approval.</p> <p><u>ANSWER / DISTRACTOR ANALYSIS</u> A. Incorrect. Plausible because if the applicant does not understand that the dose limits are on a calendar year, then this would be the correct answer because the limit of 4500 mrem would be exceeded when looking at the previous 12 months. B. Incorrect. Plausible because the HP/C manager is responsible for the conduct of HP. C. Incorrect. Plausible because if the applicant makes the assumption that it is a rolling 4 quarters, then NRC would be required to be notified for exceeding the 10 CFR 20 limits. D. Correct. This is less than 10 CFR 20 limits for TEDE for the calendar year, thus requiring no approval to perform the work.</p> <p><u>REFERENCES</u> 1. LO-LP-63920-C-08, Radiation Exposure Limits, Rev. 08, 12/14/2000. 2. 00920-C, Radiation Exposure Limits and Administrative Guidelines, Rev. 14, dated 01/22/2004.</p> |
| 72 | 2.4.27 | N | ? | 2 | | | | x | | | | | U S | <p>0PFP-013 was not provided, therefore not allowing the CE to review all aspects of the question. Comment addressed</p> <p>Are radios used for fire communications? If so, then "C" potentially could be successfully argued as a correct answer. Comment addressed</p> <p>Why do "A" and "B" state that the PA is "restricted to fire communications", yet "C" and "D" only state that the use of the PA is "restricted."? It appears that this piece of each answer choice is the same and could be deleted because it does not add anything to make the answer choices unique. Comment addressed</p> <p>A question is not presented to the applicants. Comment addressed</p> <p>"B" and "D" are not plausible since the SLC system is in the reactor building. This doesn't test the applicants knowledge of PFP-13. It tests their knowledge of plant equipment location. Comment addressed</p> |
| 73 | G2.4.21 | B | F | I | | | | x | | | | | U S | <p>The first part of "C" and "D" are not plausible because the indication has changed from "NO SCRAM" to "SCRAM RODS". Is there any plant condition where the "SCRAM RODS" could be displayed without a scram signal? Comment addressed</p> <p>Suggest modifying "C" and "D" to include some aspect of rod scram time met or not met and eliminate portion saying scram signal has not occurred. Comment addressed</p> |

| Q# | K/A# | B M N | L O K | L O D | Psychometric Flaws | | | | | Content Flaws | | | U E S | Comment Explanation |
|-----------------|---------|-------------|-------------|-------------|--------------------|------|-----|-----------------------|------------------------|---------------|------------|-----------|-------------|---|
| | | | | | Stem Focus | Cues | T/F | 1 Non Cred Dist | >1 Non Cred Dist | Partial | Min B/W | Q= K/A | | |
| | | | | | | | | | | | | | | As constructed, question may be too simple to allow for plausible distractors. Comment addressed A question is not presented to the applicants. Comment addressed |
| 74 REF | G2.4.23 | N | F | 2 | | | | | | x | | | | U S "D" contains a typo – missing "s" on "allow". Comment addressed "B" is worded generically as compared to "C". Should the specific procedure that is to be entered be stated in "B"? Discuss with licensee. Comment addressed "D" is correct. It is true that the operators MAY return to step 14. Discuss with the licensee. Comment addressed No reference should be provided to the applicants for this question. Comment addressed |
| 75 | G2.4.15 | N | F | 1 | | | | | x | | | | | U S "D" reads awkwardly -- potentially punctuation is incorrect? Comment addressed "B" is not plausible unless there is a phone system at the plant where a dial tone is not present (in a context where it would sometimes be present). Comment addressed Analysis for answer choice "B" states that there is no "beep" for this system. If that is the case, then how can "A" be correct? Comment addressed Only one portion of "B" should be incorrect – there should not be multiple pieces of knowledge that can be used to discredit this distractor. Change "three" to "two" if two is correct. Comment addressed Change "C" and "D" to pertain to the Selective Signaling System. "C" and "D" contains information that is clearly intended for radio use of some kind. Comment addressed LOD=1 due to above comments. Is there an administrative procedure which prescribes communications protocol for alarms, directives, etc during EOP implementation? Comment addressed |
| SRO EXAM | | | | | | | | | | | | | | |
| 76 | 295001 | B | F | 2 | | x | | x | | x | | x | x | U S KA Mismatch: Question does not require the applicant to interpret the |

| Q# | K/A# | B M N | L O K | L O D | Psychometric Flaws | | | | | Content Flaws | | | U E S | Comment Explanation |
|----|--------|-------------|-------------|-------------|--------------------|------|-----|-----------------------|------------------------|---------------|------------|-----------|-------------|--|
| | | | | | Stem Focus | Cues | T/F | 1 Non Cred Dist | >1 Non Cred Dist | Partial | Min B/W | Q= K/A | | |
| | AA2.01 | | | | | | | | | | | | | <p>S</p> <p>power/flow map. Question requires fundamental knowledge of which value of core flow to use for determining stability region compliance. Comment addressed</p> <p>The word “valid” beside the U2CPWTCF 44.6 Mlbm/hr is a cue that prompts the correct answer “A”, i.e., use U2CPWTCF (delete the word “valid”). If needed, state what color each parameter is, or better yet, print the exam in color so that each parameter is accurately stated. Comment addressed</p> <p>“B” and “D” are the same distractor (safe graph), i.e., both state use the recorder. See suggestion below, which would also address this comment. Comment addressed</p> <p>The question is not SRO-only because it doesn’t require the applicant to select appropriate procedure actions. It only requires the applicant to know that when U2CPWTCF is valid, use that point on the power-to-flow map. In order to make question SRO only, provide COLR power to Flow Map Figures to applicant for the following question:</p> <p>Unit 2 is operating at rated power with OPRMs operable, when the field breaker for 2A Reactor Recirc Pump trips OPEN due to a malfunction. Plant conditions have been stabilized and are as follows:</p> <p>Total Core Flow Recorder (R613)..... 44 Mlbm/hr Core Plate dP (R613) ?? Jet Pump Flow Loop A (R611A)..... 13 Mlbm/hr Jet Pump Flow Loop B (R611B).... 57 Mlbm/hr Computer Point B018 (total core flow) ... ?? Computer Point U2NSSWDP..... ?? Computer Point U2CPWTCF ??</p> <p>Using the attached Power-to-Flow Maps, which ONE of the following is the correct point on the map and the appropriate actions to take?</p> <p>A. OPRM Enabled Region above the rod block line; Perform xyz B. Scram Avoidance Region above the rod block line; Perform abc C. OPRM Enabled Region below the rod block line; Perform xyz D. Scram Avoidance Region below the rod block line; Perform abc</p> <p>Comment addressed</p> <p>If the appropriate actions are tested based on plant conditions, then the above suggestion can be written at the SRO level. For instance, simple procedure entry conditions would be RO knowledge, but specific actions, or internal procedure transitions could be considered SRO-only knowledge.</p> <p>Similar to Q#95.</p> |

| Q# | K/A# | B M N | L O K | L O D | Psychometric Flaws | | | | | Content Flaws | | | U E S | Comment Explanation |
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| | | | | | Stem Focus | Cues | T/F | 1 Non Cred Dist | >1 Non Cred Dist | Partial | Min B/W | Q= K/A | | |
| 77 | 295003 G2.1.14 | N | F | 2 | | | | | | x | | x | | <p>U S</p> <p>This question does not test the KA because it does not require the applicant to have knowledge of system status criteria. To match the KA for an SRO, write a question testing knowledge of <u>what the system status criteria</u> is for classifying an official "station blackout" (on one unit) and knowledge of the required notifications in accordance with AOP-36.2. Comment addressed</p> <p>From general discussion section of AOP-36.2 (pg 148 of 180): The term "Station Blackout" refers to the complete loss of AC power to the essential (emergency) and nonessential (BOP) switchgear busses in a nuclear power plant. Station Blackout, therefore involves a Loss of Off-Site Power concurrent with a turbine trip, and the failure of the On-Site Diesel Generator Emergency Power System, but not the loss of available AC power to busses fed by 125 VDC batteries through inverters, or the loss of power from alternate AC power sources. Comment addressed</p> <p>Suggestion: Test above knowledge and ask the applicant to evaluate the appropriate supplementary actions listed in Table 1 on page 5 of 180. Comment addressed</p> <p>"A" is also partially correct (or at least as correct as "D") because AOP-36.2 only requires two notifications: Dispatcher & Security. A SBO will place them in the E-Plan, which would require NRC notification. Comment addressed</p> <p>CE performed word searched to try to validate "D" as correct, but referenced procedure does not appear to support the correct answer. Comment addressed</p> <p>Question stem asks for AOP-36.2 required notifications yet "D" is listed as the answer, i.e., Dispatcher, Security, & Mgr Ops. Per AOP-36.2, "D" is not a correct answer. Comment addressed</p> |
| 78 | 295024 G2.4.31 | B | H | 2 | | | | x | | | | | | <p>E S</p> <p>"C" is not plausible because AOP's never direct SEPs. Comment addressed</p> <p>Consider adding torus venting to two distractors since the torus is required to be vented first in SEP-01. Comment addressed</p> |
| 79 REF | 295025 G2.1.27 | B | H | 2 | | | | | x | | | x | | <p>U S</p> <p>UNAUTHORIZED K/A CHANGE. LICENSEE CHANGED K/A WITHOUT CONSULTING WITH CE. QUESTION MUST BE WRITTEN TO MATCH ORIGINAL K/A. THEREFORE, THIS QUESTION IS UNSAT DUE TO NOT MATCHING THE K/A ON THE APPROVED OUTLINE. IF A DISCRIMINATING QUESTION</p> |

| Q# | K/A# | B M N | L O K | L O D | Psychometric Flaws | | | | | Content Flaws | | | U E S | Comment Explanation |
|-----------|------------------|-------------|-------------|-------------|--------------------|------|-----|-----------------------|------------------------|---------------|------------|-----------|-------------|--|
| | | | | | Stem Focus | Cues | T/F | 1 Non Cred Dist | >1 Non Cred Dist | Partial | Min B/W | Q= K/A | | |
| | | | | | | | | | | | | | | <p>CANNOT BE WRITTEN FOR THE ORIGINAL K/A, THEN DISCUSS WITH THE CE THE POSSIBILITY FOR SELECTING A DIFFERENT K/A. CE WILL SELECT ALL K/As WHEN CHANGES TO THE APPROVED OUTLINES ARE WARRANTED. Original KA (295025 G2.1.27) was NOT used see record of rejected KAs; replacement KA 295025 G2.4.6 was used instead.</p> <p>COMMENTS BELOW DO NOT NEED TO BE ADDRESSED DUE TO THE ABOVE COMMENT.</p> <p>Question proposes to distribute the RVCP flow chart to use on this question. Comment addressed</p> <p>“C” is not plausible because emergency depressurization is not performed in steam cooling mode. In steam cooling, no emergency depressurization is performed - - only attempts to regain an injection system is performed while level is below TAF until LL5 is reached. Comment addressed</p> <p>“D” is not plausible since OP’s aren’t used in RVCP EOP space. Comment addressed</p> |
| 80 REF | 295028 EA2.01 | N | H | 2 | | x | | | | x | | | | <p>Question proposes distributing the PCCP flowchart to answer this question. Comment addressed</p> <p>“B” could be successfully argued as a correct answer since RPV level and pressure are not provided in the stem. i.e., SEP-10 (restarting the drywell coolers) can only be performed when a LOCA signal does not exist. Comment addressed</p> <p>The stem provides a cue that a “small break LOCA” has occurred. Let the applicants determine that LOCA signal does not exist by providing RPV level and pressure in the stem. Comment addressed</p> |
| 81 REF | 295030 EA2.02 | N | H | 3 | | | | x | | | | | | <p>“A” is not plausible. Core Spray is not violating vortex limitations. Comment addressed</p> <p>Add additional explanation in the justification for “C” as right answer: RHR is currently violating vortex limit. Comment addressed</p> <p>Will require distributing the vortex and NPSH graphs. Comment addressed</p> <p>Two periods after “D”. Comment addressed</p> <p>Delete parts of distractors that are not needed to make the answer choices unique. Comment addressed</p> |

| Q# | K/A# | B M N | L O K | L O D | Psychometric Flaws | | | | | Content Flaws | | | U E S | Comment Explanation | |
|-----------|-------------------|-------------|-------------|-------------|--------------------|------|-----|-----------------------|------------------------|---------------|------------|-----------|-------------|------------------------|---|
| | | | | | Stem Focus | Cues | T/F | 1 Non Cred Dist | >1 Non Cred Dist | Partial | Min B/W | Q= K/A | | | SRO Only |
| 82 | 295038 G2.1.23 | B | H | 2 | | | | x | | x | X B/W | | | U S | <p>“D” can be argued as correct IF the MSIVs are still open (but required to be closed). RVCP step RC/P-05 bypasses the questions related to fuel failure and steam line break when anticipation of emergency depressurization occurs. Comment addressed</p> <p>“C” is not past tense like the other answer choices. Comment addressed</p> <p>Backward logic (“C”): Status of the MSIVs need to be provided in the stem to avoid any reverse logic concerns. This will require some modification to question and answer choices. Comment addressed</p> <p>“A” is not plausible because all piping penetrations are required to be closed when the vessel is flooded. Comment addressed</p> |
| 83 | 295008 AA2.02 | N | H | 1 | | x | | | x | | | x | | U S | <p>The stem cues the applicant that a steam flow/ feed flow mismatch has caused transfer to 1-element. The applicant should be able to interpret that the flow transmitter failure will cause a transfer to 1-element because of a mismatch. Eliminate this and the other two items below will be fixed. Comment addressed</p> <p>“A” is not plausible since the stem already tells the applicant that the system automatically shifted to 1-element for automatic functions. Comment addressed</p> <p>“D” is not plausible because 1-element control does not require the steam flow transmitters operable. Comment addressed</p> <p>K/A Match: Is any knowledge of a high reactor water level being tested? Comment addressed</p> |
| 84 | 295029 G2.1.32 | B | F | 2 | | | | | | | | | | S | Question is SAT. |
| 85 REF | 295032 EA2.02 | B | H | 3 | | | | | | | | | | E S | <p>Why is ONLY capitalized in “A” and not in “C”? Emphasis on words in the answer choices must be consistently applied. Comment addressed</p> <p>The correct answer is worded to “consider” performing an action. It is never incorrect to consider performing an action. The answer needs to be worded in a more precise manner. (same comment holds true for “D” also) -- maybe deleting the word “consider” will fix it. Comment addressed</p> <p>Are references needed? Comment addressed Exactly what references are to be supplied to the applicant? Can Table 1 be the only reference that is supplied? Comment addressed</p> |

| Q# | K/A# | B M N | L O K | L O D | Psychometric Flaws | | | | | Content Flaws | | | U E S | Comment Explanation | |
|----|-------------------|-------------|-------------|-------------|--------------------|------|-----|-----------------------|------------------------|---------------|------------|-----------|-------------|------------------------|---|
| | | | | | Stem Focus | Cues | T/F | 1 Non Cred Dist | >1 Non Cred Dist | Partial | Min B/W | Q= K/A | | | SRO Only |
| 86 | 203000 G2.1.23 | B | H | 3 | | | | | | | | x | x | U S | <p>K/A Match: This question tests system valve logic knowledge and flowpaths for the different modes of the RHR system. (vs knowledge of system procedures and integrated plant procedures (on RHR/LPCI) during the different modes of plant operation.(shutdown, refueling, etc.) Comment addressed</p> <p>Similarly, the question does not include any of the SRO only criteria listed in 10CFR55.43. Knowledge that is specifically required of the SRO (and not of the RO) must be tested in order for this question to be written at the SRO level. Comment addressed</p> |
| 87 | 212000 A2.02 | N | H | 3 | x | | | | | x | | | | U S | <p>Stem is unclear with respect to the current status of RPS. Actual electrical line-ups need to be supplied in the stem. Comment addressed</p> <p>If E7 is de-energized in accordance with OOP-50.1, Section 7.7 and ZOP-03, Section 8.1 and 8.5, then the alternate RPS path must be powered from E8. (this is procedure prerequisite to preclude de-energizing "A" RPS when E7 is removed from service). Comment addressed</p> <p>Stem is unclear with respect to what the following phrase means: "if it becomes necessary to supply power to RPS A." Does this mean what if E8 subsequently becomes de-energized? If so, then "A" is correct. Comment addressed</p> |
| 88 | 215003 A2.01 | N | H | 1 | x | | | | | | | | | U S | <p>No correct answer because IRMs A, E, G (trip system "A") all indicate correctly. (note: IRM "C" and "F" are in different trip systems) Comment addressed</p> <p>Stem is confusing because it initially states that "All IRMs are operable and on Range 1" whereas the later portion of the stem states" IRMs "C" and "F" are downscale with "All other IRMs are responding as expected. Comment addressed</p> <p>Suggest providing pre-startup count levels for SRMs and IRMs and then let applicant determined what is wrong and what procedure action should be taken for either:</p> <ol style="list-style-type: none"> 1. an overlap problem OR 2. a voltage pre-amp problem between Range 6 & 7. <p>Comment addressed</p> |
| 89 | 215004 G2.4.11 | B | H | 2 | x | | | | | | | | x | U S | <p>An RO is required to know when fuel movement is required to be halted. Comment addressed</p> <p>Where in FH-11 does it state that fuel movement must be stopped if CRs rise by a factor of 3? Step 4.29.2 does not appear to exist. Word searches in FH-11 did not identify the requirement either. Comment addressed</p> |

| Q# | K/A# | B M N | L O K | L O D | Psychometric Flaws | | | | | Content Flaws | | | U E S | Comment Explanation |
|-----------|------------------|-------------|-------------|-------------|--------------------|------|-----|-----------------------|------------------------|---------------|------------|-----------|-------------|--|
| | | | | | Stem Focus | Cues | T/F | 1 Non Cred Dist | >1 Non Cred Dist | Partial | Min B/W | Q= K/A | | |
| | | | | | | | | | | | | | | <p>The answer key refers to a factor of 3 increase whereas 0FH-11, Rev 82 , P&L 4.39 states: "Fuel movement should be suspended....if an SRM increases by an OVERALL factor of 5 relative to the baseline SRM count rate obtained after the initial loading of fuel bundles around each SRM centered 4-bundle cell is complete." Which is correct? Comment addressed</p> <p>Does answer "B" mean that step 521 was okay to complete and then quit? Or quit at the end of step 520? (similarly for "C" and "D") Comment addressed</p> <p>Does the stem imply that 520 bundles have been loaded? Or is this simply step # 520? Comment addressed</p> <p>Is this type of core reload performed often? Is the core completely offloaded? Comment addressed</p> <p>Delete the 1st sentence in the second paragraph: "Refuel operations are in progress." This has already been established in paragraph 1. Comment addressed</p> <p>Delete the parts of the answer choices that are not needed to make those answer choices unique – "and the reactor engineer contactd" Comment addressed</p> |
| 90 | 300000 G2.4.6 | N | H | 2 | | | | | | | | x | U S | <p>Distractors can be eliminated using systems knowledge? Comment addressed</p> <p>This question is not tied to 10CFR55.43 (5) because the correct answer can be determined without knowing which section of the procedure to use. Because the stem provides the name of the correct procedure, there is no assessment of facility conditions and selection of procedures required. Comment addressed</p> <p>Suggest providing them with P603 indications which led to determination that HCU solenoids were de-energized and scram valves were not open, i.e., don't tell them that "it has been determined that the air is NOT being ported ...". Let them figure that out. Comment addressed</p> <p>I could not find the reference to validate this question. Comment addressed</p> |
| 91 REF | 206000 G2.4.7 | N | H | 2 | x | x | | x | | | | x | U S | <p>No references shall be provided. Comment addressed</p> <p>Delete periods after degree symbols. Comment addressed</p> |

| Q# | K/A# | B M N | L O K | L O D | Psychometric Flaws | | | | | Content Flaws | | | U E S | Comment Explanation |
|----|------------------|-------------|-------------|-------------|--------------------|------|-----|-----------------------|------------------------|---------------|------------|-----------|-------------|--|
| | | | | | Stem Focus | Cues | T/F | 1 Non Cred Dist | >1 Non Cred Dist | Partial | Min B/W | Q= K/A | | |
| | | | | | | | | | | | | | | <p>Question is not written at the SRO-only level. Comment addressed</p> <p>“A” can be eliminated using systems knowledge. “C” can be eliminated using system knowledge. “D” can be eliminated using systems knowledge. “B” is the only answer choice that cannot be eliminated using systems knowledge. Suggest wording the stem: Which ONE of the following procedures is currently required to maintain RPV level > LL4?</p> <p>A. SEP-10, Circuit Alteration Procedure B. SEP-09, CRD Flow Maximization C. LPCI hard card D. HPCI hard card</p> <p>Stem provides cue that 2B CRD pump is not available with the following sentence: “E4 is de-energized due to an electrical fault AND THE 2A CRD pump is under clearance.” Make this sentence two sentences and remove the words “and the.” Comment addressed</p> <p>“A” is not plausible since RCIC injection is accomplished with a “hard card” The circuit alteration procedure is not ever used to inject. Comment addressed</p> |
| 92 | 290001 A2.03 | B | F | 2 | | | | | | | | | S | Question is SAT. |
| 93 | 226001 G2.1.9 | N | F | 2 | x | | | | | x | | | U S | <p>Two answer choices are labeled “C”. Comment addressed</p> <p>Do not state “required” in the stem. Just state how many ADS valves are inoperable. Comment addressed</p> <p>A question must be presented to the applicants. In this instance, the action statements listed in the distractors are correct because a concise question has not been presented to the applicants. Comment addressed</p> <p>This question is documented as having no references supplied to the applicants. Was there another question where the licensee stated that TS 3.5.1 should be supplied to the applicants? Have licensee double check. Comment addressed</p> <p>Distractors do not discriminate at the appropriate level if a reference is supplied. Comment addressed</p> <p>Punctuation: “you sent to investigate” needs to have commas before and after.</p> <p>K/A Match: This K/A requires testing knowledge of the Containment</p> |

| Q# | K/A# | B M N | L O K | L O D | Psychometric Flaws | | | | | Content Flaws | | | U E S | Comment Explanation | |
|-----------|---------|-------------|-------------|-------------|--------------------|------|-----|-----------------------|------------------------|---------------|------------|-----------|-------------|------------------------|---|
| | | | | | Stem Focus | Cues | T/F | 1 Non Cred Dist | >1 Non Cred Dist | Partial | Min B/W | Q= K/A | | | SRO Only |
| | | | | | | | | | | | | | | | Spray Mode Tech Specs. How is this question testing Tech Specs for Containment Spray? Is it possible to write a question to this K/A at BW? Comment addressed |
| 94 | G2.1.12 | B | H | 2 | | | | | | | | | x | ES | <p>Tech Spec Entry Conditions are required closed book knowledge items. Comment addressed</p> <p>Tech Spec Entry Conditions are also RO required knowledge items, but the application of TS 3.0.6, which is being implemented in this question, makes the question SRO-only knowledge. Comment addressed</p> <p>This question must be revised to allow it to be asked with no references provided to the applicants. The question should be revised to simply test which LCOs require action statements to be entered (I.E. which LCO Requirements are not met) – in this fashion, the question can be tested with no references provided. Comment addressed</p> <p>Did this question come from Example 4 in the TRM SFDP Bases? Comment addressed</p> |
| 95 REF | G2.1.25 | N | H | 2 | | | | | | | | | X? | US | <p>Question must be presented to the applicants. Comment addressed</p> <p>What makes this question SRO-only? Why would an RO not be expected to figure out if the plant is in an unacceptable region of the Power – Flow Map and then know what actions are required based on that? Comment addressed</p> <p>Discuss which references are going to be provided to the applicants. Only these references shall be listed in the documentation portion of the question (Must be specific on proposed references). Licensee should always attached the proposed references when submitting a question for review. (This comment applies to other questions that require references.)</p> <ul style="list-style-type: none"> • Why is supplying an entire procedure necessary (0ENP-24.0)? • 2AOP-03.0 is listed as a reference to be provided to the applicants, yet this reference was not attached to the question and it was not provided electronically. Comment addressed <p>Can “D” be successfully argued as correct? Can “D” be made the same as “B” except to perform actions IAW a different procedure? (I.E. GP-12?) This may help strengthen the SRO-only aspects of the question. Comment addressed</p> <p>Too similar to SRO question # 76 Consider fixing this question and using it for Q #76, then develop a new question for this K/A. Comment addressed</p> |
| 96 | G2.2.7 | B | H | 1 | | | | | | | | | x | U | Question does not match the K/A. The K/A requires testing knowledge of the process for conducting tests (or experiments) not described in the safety |

| Q# | K/A# | B M N | L O K | L O D | Psychometric Flaws | | | | | Content Flaws | | | U E S | Comment Explanation | |
|-----------|---------|-------------|-------------|-------------|--------------------|------|-----|-----------------------|------------------------|---------------|------------|-----------|-------------|------------------------|--|
| | | | | | Stem Focus | Cues | T/F | I Non Cred Dist | >1 Non Cred Dist | Partial | Min B/W | Q= K/A | | | SRO Only |
| REF | | | | | | | | | | | | | | S | <p>analysis. This question only tests knowledge of Tech Spec entry conditions. Question must be replaced with a question that tests knowledge of the <u>process</u> for conducting tests (or experiments) not described in the safety analysis. Comment addressed</p> <p>As stated in conversations with the licensee, this is a closed book exam and references will only be allowed on a limited basis (I.E. 2 or 3 questions). Each question will be evaluated to determine if a reference is warranted. This is a K/A that is conducive to writing a closed book question on the process for conducting tests and experiments not described in the FSAR. Comment addressed</p> <p>In an open book format, the construct of this question does not provide for discrimination at the appropriate level for an SRO-only question. Comment may be moot because the question must be replaced due to not matching the K/A. Comment addressed</p> |
| 97 REF | G2.2.25 | B | F | 2 | | | | | | | | | | E S | <p>No reference is needed to answer the question of what a comprises a subsystem during shutdown conditions. Therefore, no references are needed to determine if the conditions of the LCO are met. Tech Spec Entry conditions are required closed book knowledge items. Question may require a little more work to modify the second part of all the distractors. Comment addressed</p> <p>In the stem, don't use terminology "Loop 2A"; either use Loop 1 or Loop A. (same comment for Loop 2B term) Discuss this with the licensee because the question should be presented to the applicant in the manner that is easiest for them to understand. Comment addressed</p> |
| 98 | G2.3.3 | B | F | 2 | | x | | | x | | | | X? | U S | <p>Question statement needs clarification to ensure that a correct answer is elicited. Currently, the question asks for which one of the following is required. - The question should be more direct and explicitly ask for what is required prior to moving fuel and what is required prior to rod testing. (OR, ask: Given these conditions, which ONE of the following identifies whether control rod timing and core reload can be performed concurrently?) Comment addressed</p> <p>Also Q statement should state In accordance with 0FH-11. Comment addressed</p> <p>"B" is not plausible. In a situation as stated in the stem, it is not a reasonable misconception for the SRO to believe that fuel assemblies would be required to be unloaded. Comment addressed</p> <p>One suggestion may be to state in the stem that three fuel assemblies have been placed around the SRMs. Then more options may be available to test whether or not a neutronic bridge has been established,</p> |

| Q# | K/A# | B M N | L O K | L O D | Psychometric Flaws | | | | | Content Flaws | | | U E S | Comment Explanation |
|------------|--------|-------------|-------------|-------------|--------------------|------|-----|-----------------------|------------------------|---------------|------------|-----------|-------------|---|
| | | | | | Stem Focus | Cues | T/F | 1 Non Cred Dist | >1 Non Cred Dist | Partial | Min B/W | Q= K/A | | |
| | | | | | | | | | | | | | | <p>or has not been established. I think the procedure states that four fuel assemblies are required for the bridge to be in place, iaw 0FH-11.</p> <p>The stem states that a core reload sequence is <u>in progress</u>. Therefore any answer choice that states "authorize fuel movement" or "fuel moves may occur" is not testing any required knowledge – the stem provides this cue. Comment addressed</p> <p>Because it takes movement of fuel to establish the bridge, it is not credible to think that fuel movement cannot be approved prior to a bridge being established. Comment addressed</p> <p>Does an RO perform a Checklist that is used to determine if conditions are met for performing fuel movement? Comment addressed</p> <p>Do ROs perform the Rod Timing Tests? What procedure do they use? Are the same requirements from FH-11 also in the rod timing procedure? Comment addressed</p> <p>When fuel is moved and when rod timing is performed, are the operators performing these tasks responsible for Precautions and Limitations? Comment addressed</p> <p>Too similar to another FH-11 question # 89. Comment addressed</p> <p>"C" has misspelled word "insure"</p> |
| 99 | G2.3.4 | B | F | 2 | | | | | | | | | E S | <p>Delete extra period at the end of "C". Comment addressed</p> <p>Delete the reasons in "B" and "C". They do not add necessary information. Simply state that exceeding EPA-400 limits cannot be authorized. Comment addressed</p> <p>10 CFR 20 limits are a subset of EPA-400 limits. The question would be better if the first part of each answer choice iterated on whether or not EPA-400 limits are exceeded. Then have the second part of the answer choices iterate on whether or not the SEC is allowed to authorize the dose. Comment addressed</p> |
| 100 REF | G2.4.4 | B | H | | | | | | | | x | | U S | <p>K/A not matched: K/A requires testing knowledge of entry-level conditions for EOPs and AOPs. This question tests knowledge of what classification to assign to the plant conditions and what classification to report. Comment addressed</p> <p>Answer choice construction: I understand what is trying to be accomplished with the use of the word "only" in the answer choices. The</p> |

| Q# | K/A# | B M N | L O K | L O D | Psychometric Flaws | | | | | Content Flaws | | | U E S | Comment Explanation |
|----|------|-------------|-------------|-------------|--------------------|------|-----|-----------------------|------------------------|---------------|------------|-----------|-------------|---|
| | | | | | Stem Focus | Cues | T/F | 1 Non Cred Dist | >1 Non Cred Dist | Partial | Min B/W | Q= K/A | | |
| | | | | | | | | | | | | | | <p>problem is that this results in the applicants having to read the other answer choices to see what is not being done in the correct s answer. Good question construction allows for an applicant to read the stem and then read and understand the correct answer, without having any reliance on the distractors to clarify what that correct answer is trying to state. Each answer choice should state explicitly what is meant. Comment addressed</p> <p>For this question, it would be better to state in "A" and "B" what is required to be done and what is not required to be done iaw Pep-02.1. Comment addressed</p> <p>The use of the word "only" was used many times throughout the exam. Attention should be paid to ensure that no ambiguity results and that the licensee is comfortable with the answer choices being presented in that manner. Comment addressed</p> <p>Providing a 24 page reference is not in the spirit of a closed book exam. The following suggestion would allow a question to be asked Comment addressed</p> |

| Facility: <u>BRUNSWICK</u> | | Date of Exam: <u>08/03/2007</u> | | Exam Level: RO <input type="checkbox"/> SRO <input checked="" type="checkbox"/> | |
|--|---------------------------------------|---------------------------------|-------------------|---|--|
| Item Description | Initials | | | | |
| | a | b | c | | |
| 1. Clean answer sheets copied before grading | <u>BRK</u> | <u>N/A</u> | <u>MB</u> | | |
| 2. Answer key changes and question deletions justified and documented <u>N/A</u> | <u>BRK</u> | <u>N/A</u> | <u>MB</u> | | |
| 3. Applicants' scores checked for addition errors (reviewers spot check > 25% of examinations) | <u>BRK</u> | <u>N/A</u> | <u>MB</u> | | |
| 4. Grading for all borderline cases (80 ±2% overall and 70 or 80, as applicable, ±4% on the SRO-only) reviewed in detail | <u>BRK</u> | <u>N/A</u> | <u>MB</u> | | |
| 5. All other failing examinations checked to ensure that grades are justified | <u>BRK</u> | <u>N/A</u> | <u>MB</u> | | |
| 6. Performance on missed questions checked for training deficiencies and wording problems; evaluate validity of questions missed by half or more of the applicants | <u>BRK</u> | <u>N/A</u> | <u>MB</u> | | |
| | Printed Name/Signature | | Date | | |
| a. Grader | <u>BRUNO CABALLERO / B. Caballero</u> | | <u>8/24/07</u> | | |
| b. Facility Reviewer(*) | <u>N/A</u> | | <u>N/A</u> | | |
| c. NRC Chief Examiner (*) | <u>MARK A. BATES / Mark A. Bates</u> | | <u>08/24/2007</u> | | |
| d. NRC Supervisor (*) | <u>Robert HAAG / Robert Haag</u> | | <u>8/10/07</u> | | |
| (*) The facility reviewer's signature is not applicable for examinations graded by the NRC; two independent NRC reviews are required. | | | | | |

| Facility: <u>BRUNSWICK</u> | | Date of Exam: <u>08/03/2007</u> | | Exam Level: RO <input checked="" type="checkbox"/> SRO <input type="checkbox"/> | |
|--|--------------------------------------|---------------------------------|-------------------|---|--|
| Item Description | Initials | | | | |
| | a | b | c | | |
| 1. Clean answer sheets copied before grading | <u>BAC</u> | <u>N/A</u> | <u>MB</u> | | |
| 2. Answer key changes and question deletions justified and documented <u>N/A</u> | <u>BAC</u> | <u>N/A</u> | <u>MB</u> | | |
| 3. Applicants' scores checked for addition errors (reviewers spot check > 25% of examinations) | <u>BAC</u> | <u>N/A</u> | <u>MB</u> | | |
| 4. Grading for all borderline cases (80 ±2% overall and 70 or 80, as applicable, ±4% on the SRO-only) reviewed in detail | <u>BAC</u> | <u>N/A</u> | <u>MB</u> | | |
| 5. All other failing examinations checked to ensure that grades are justified | <u>BAC</u> | <u>N/A</u> | <u>MB</u> | | |
| 6. Performance on missed questions checked for training deficiencies and wording problems; evaluate validity of questions missed by half or more of the applicants | <u>BAC</u> | <u>N/A</u> | <u>MB</u> | | |
| | Printed Name/Signature | | Date | | |
| a. Grader | <u>BRUNO CABALLERO / B Caballero</u> | | <u>8/24/07</u> | | |
| b. Facility Reviewer(*) | <u>N/A</u> | | <u>N/A</u> | | |
| c. NRC Chief Examiner (*) | <u>MARK A. BATES / Mark A. Bates</u> | | <u>08/24/2007</u> | | |
| d. NRC Supervisor (*) | <u>Robert HAAG / Robert Haag</u> | | <u>9/12/07</u> | | |
| (*) The facility reviewer's signature is not applicable for examinations graded by the NRC; two independent NRC reviews are required. | | | | | |

| Post-Examination Check Sheet | |
|---|--|
| Facility: BRUNSWICK | Date of Examination: 01-22-2007 W: 08-03-2007 |
| Task Description | Date Complete |
| 1. Facility written exam comments or graded exams received and verified complete | 08/24/2007 |
| 2. Facility written exam comments reviewed and incorporated and NRC grading completed, if necessary | 08/24/2007 |
| 3. Operating tests graded by NRC examiners | 09/06/2007 |
| 4. NRC chief examiner review of operating test and written exam grading completed | 09/06/2007 |
| 5. Responsible supervisor review completed | 09/07/2007 |
| 6. Management (licensing official) review completed | 09/07/2007 |
| 7. License and denial letters mailed | 09/10/2007 |
| 8. Facility notified of results | 09/10/2007 |
| 9. Examination report issued (refer to NRC MC 0612) | 09/12/2007 |
| 10. Reference material returned after final resolution of any appeals | Not Requested By Licensee |

6/1/07



James Scarola
Vice President
Brunswick Nuclear Plant
Progress Energy Carolinas, Inc.

SERIAL: BSEP 07-0056

U. S. Nuclear Regulatory Commission, Region II
ATTN: Mr. Mark Bates
Senior Operations Engineer
Sam Nunn Atlanta Federal Center
61 Forsyth Street, SW, Suite 23T85
Atlanta, GA 30303-8931

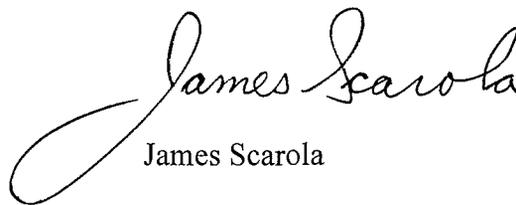
Subject: Brunswick Steam Electric Plant, Unit Nos. 1 and 2
Docket Nos. 50-325 and 50-324/License Nos. DPR-71 and DPR-62
Integrated Examination Materials

Dear Mr. Bates:

The purpose of this letter is to submit integrated examination materials in support of initial license examinations scheduled to be conducted at the Brunswick Steam Electric Plant, beginning the week of July 9, 2007. A list of the integrated examination materials is provided in Enclosure 1. A copy of the integrated examination materials is provided in Enclosure 2. Enclosure 3 provides reference materials associated with the examination.

Please refer any questions regarding this submittal to Mr. John Reinsburrow, Senior Nuclear Operations Training Instructor, at (910) 457-3558.

Sincerely,


James Scarola

WRM/wrm

Enclosures:

1. List of Integrated Examination Materials and Reference Materials
2. Examiner Standard Forms and Associated Checklists
3. Written Examination Questions and supporting documentation
4. Simulator Scenarios and Job Performance Measures (JPMs)
5. Reference Materials

P.O. Box 10429
Southport, NC 28461

T> 910.457.3698
F> 910.457.2803

Mr. Mark Bates
BSEP 07-0056 / Page 2

cc (with Enclosure 1 only):

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555-0001

U. S. Nuclear Regulatory Commission, Region II
ATTN: Dr. William D. Travers, Regional Administrator
Sam Nunn Atlanta Federal Center
61 Forsyth Street, SW, Suite 23T85
Atlanta, GA 30303-8931

U. S. Nuclear Regulatory Commission, Region II
ATTN: Mr. Robert C. Haag, Chief
Operations Branch, Division of Reactor Safety
Sam Nunn Atlanta Federal Center
61 Forsyth Street, SW, Suite 23T85
Atlanta, GA 30303-8931

U. S. Nuclear Regulatory Commission
ATTN: Mr. Eugene M. DiPaolo, NRC Senior Resident Inspector
8470 River Road
Southport, NC 28461-8869

U. S. Nuclear Regulatory Commission **(Electronic Copy Only)**
ATTN: Mr. Stewart N. Bailey (Mail Stop OWFN 8B1)
11555 Rockville Pike
Rockville, MD 20852-2738

Chair - North Carolina Utilities Commission
P.O. Box 29510
Raleigh, NC 27626-0510

Brunswick Steam Electric Plant, Unit Nos. 1 and 2
Docket Nos. 50-325 and 50-324/License Nos. DPR-71 and DPR-62
Integrated Examination Materials

The following documents, developed in accordance with NUREG-1021, "Operator Licensing Examination Standards for Power Reactors," Revision 9, are provided in Enclosure 2.

| | |
|---------------|--|
| Form ES-201-2 | Examination Outline Quality Checklist |
| Form ES-201-3 | Examination Security Agreement (copy) |
| Form ES-301-1 | Administrative Topics Outline |
| Form ES-301-2 | Control Room/In-Plant Systems Outline |
| Form ES-301-3 | Operating Test Quality Checklist |
| Form ES-301-4 | Simulator Scenario Quality Checklist |
| Form ES-301-5 | Transient and Event Checklist |
| Form ES-301-6 | Competencies Checklist |
| Form ES-401-1 | BWR Examination Outline |
| Form ES-401-3 | Generic Knowledge and Abilities Outline (Tier 3) |
| Form Es-401-4 | Record of Rejected K/As |
| Form ES-401-6 | Written Examination Quality Checklist |

The following documents are provided in Enclosure 3:

Written examination questions (100) and supporting documentations
75 "Common" Questions
25 SRO Questions

The following documents are provided in Enclosure 4:

Examination Simulator Scenarios 1, 2, 3, and 4
RO JPM A-1-A
RO/SRO ADMIN JPM A-1-B
RO/SRO JPM A-2
RO JPM A-2
RO JPM A-3
SRO ADMIN JPM A-1-A
SRO ADMIN JPM A-3
SRO ADMIN JPM A-4
PLANT JPM P-1
PLANT JPM P-2
PLANT JPM P-3
SIM JPM S-1
SIM JPM S-2
SIM JPM S-3
SIM JPM S-4
SIM JPM S-5
SIM JPM S-6
SIM JPM S-7
SIM JPM S-8

The following reference material, in part or in whole, are provided in Enclosure 5:

List of Reference Materials

“Hard Copy” Format

1(2)-EOP-01-RSP (Reactor Scram Procedure)
1(2)EOP-01-RVCP (Reactor Vessel Control Procedure)
1(2)EOP-01-LPC (Level Power Control)
0EOP-01-RXFP (Reactor Flooding Procedure)
0EO-01-STCP (Steam Cooling Procedure)
0EOP-02-PCCP (Primary Containment Control Procedure)
0EOP-03-SCCP (Secondary Containment Control Procedure)
0EOP-04-RRCP (Radioactive Release Control Procedure)
Operator Aid 1(2)/1241 Containment Limits/Vortex and HPSF Limits
Operator Aid 1/1071 Unit 1 Caution 1
Operator Aid 2/1039 Unit 2 Caution 1

Digital Format (Compact Disc)

Abnormal Operating Procedures (AOPs)
Administrative Instructions (AIs)
Administrative Procedures (APs)
Alternate Safe Shutdown Procedures (ASSDs)
Annunciator Procedures (APPs)
Brunswick Big Notes
Engineering Procedures (0ENP-24)
Fuel Handling Procedures (FHs)
Nuclear Generation Group Procedures (NGGCs)
Operating Instructions (OIs)
Operating Procedures (OPs)
Operations Work Packages (OWPs)
Periodic Tests (PTs)
Plant Emergency Procedures (PEPs)
Pre-Fire Plans (PFPs)
System Descriptions (SDs)
Technical Specifications (T.S.)
Plant Off-Site Dose Calculation Manual (ODCM) is located in the Technical Specification folder.

05/04/07



Progress Energy

James Scarola
Vice President
Brunswick Nuclear Plant
Progress Energy Carolinas, Inc.

April 30, 2007

U. S. Nuclear Regulatory Commission, Region II
ATTN: Mr. Mark Bates
Senior Operations Engineer
Sam Nunn Atlanta Federal Center
61 Forsyth Street, SW, Suite 23T85
Atlanta, GA 30303-8931

Subject: Brunswick Steam Electric Plant, Unit Nos. 1 and 2
Docket Nos. 50-325 and 50-324/License Nos. DPR-71 and DPR-62
Integrated Examination Materials

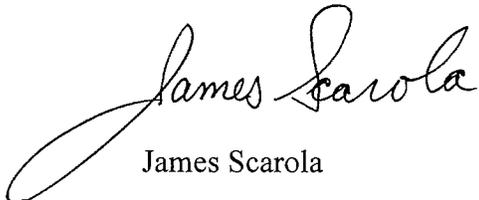
Dear Mr. Bates:

Enclosed are integrated examination materials in support of the Initial License Examination at the Brunswick Steam Electric Plant, scheduled to be administered in July 2007. The following documents, developed in accordance with NUREG-1021, "Operator Licensing Examination Standards for Power Reactors," Revision 9, are enclosed.

- | | |
|---------------|--|
| Form ES-201-2 | Examination Outline Quality Checklist |
| Form ES-201-3 | Examination Security Agreement (3) |
| Form ES-301-1 | Administrative Topics Outline |
| Form ES-301-2 | Control Room/In-Plant Systems Outline |
| Form ES-301-5 | Transient and Event Checklist |
| Form ES-D-1 | Scenario Outline (4) |
| Form ES-401-1 | BWR Examination Outline |
| Form ES-401-3 | Generic Knowledge and Abilities Outline (Tier 3) |
| Form ES-401-4 | Record of Rejected K/As |

Please refer any questions regarding this submittal to Mr. John Reinsburrow at (910) 457-3222.

Sincerely,


James Scarola

MAT/mat
Enclosures

P.O. Box 10429
Southport, NC 28461

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F > 910.457.2803



10 CFR 55.40(b)(4)

SERIAL: BSEP 07-0079

U. S. Nuclear Regulatory Commission, Region II
ATTN: Dr. William D. Travers, Regional Administrator
Sam Nunn Atlanta Federal Center
61 Forsyth Street, SW, Suite 23T85
Atlanta, GA 30303-8931

Subject: Brunswick Steam Electric Plant, Unit Nos. 1 and 2
Docket Nos. 50-325 and 50-324/License Nos. DPR-71 and DPR-62
Request for Approval of Operator License Examination

Dear Dr. Travers:

10CFR 55.40(b)(4) states that a power reactor facility licensee must receive NRC approval of their proposed written examination and operating tests for an NRC reactor operator license. 10 CFR 55.40(a) requires that the examinations meet the criteria in NUREG-1021, "Operator Licensing Standards for Power Reactors," in effect six months before the examination date. Accordingly, Carolina Power & Light Company (CP&L), now doing business as Progress Energy Carolinas, Inc., requests NRC review and approval of the enclosed examination outline and proposed examination for NRC operator licenses at the Brunswick Steam Electric Plant. This operator license examination is currently scheduled to be conducted beginning August 3, 2007. Mr. Leonard R. Beller, as an authorized facility representative, has approved the examination outline and proposed examination.

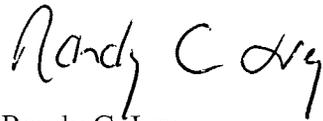
In accordance with 10 CFR 55.49, "Integrity of Examinations and Tests" and NUREG-1021, Revision 9, "Operator Licensing Examination Standards for Power Reactors," Section ES-201, Attachment 1, "Examination Security and Integrity Considerations," CP&L requests that the enclosed material be withheld from public disclosure until after the examinations are complete.

Progress Energy Carolinas, Inc.
Brunswick Nuclear Plant
PO Box 10429
Southport, NC 28461

Dr. William D. Travers, Regional Administrator
BSEP 07-0079 / Page 2

No regulatory commitments are contained in this letter. Please refer any questions regarding this submittal to Mr. Leonard R. Beller, Superintendent - Operator Training, at (910) 457-2073.

Sincerely,



Randy C. Ivey
Manager - Support Services
Brunswick Steam Electric Plant

WRM/wrm

Enclosure

Dr. William D. Travers, Regional Administrator
BSEP 07-0079 / Page 3

cc (without enclosure):

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555-0001

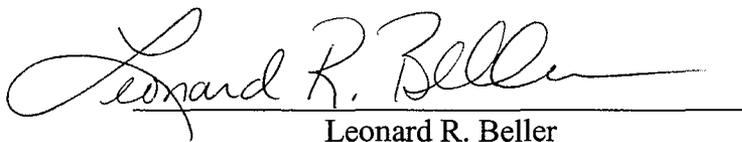
U. S. Nuclear Regulatory Commission
ATTN: Mr. Eugene M. DiPaolo, NRC Senior Resident Inspector
8470 River Road
Southport, NC 28461-8869

U. S. Nuclear Regulatory Commission **(Electronic Copy Only)**
ATTN: Mr. Stewart N. Bailey (Mail Stop OWFN 8B1)
11555 Rockville Pike
Rockville, MD 20852-2738

Chair - North Carolina Utilities Commission
P.O. Box 29510
Raleigh, NC 27626-0510

In accordance with NUREG-1021, Revision 9, "Operator Licensing Examination Standards for Power Reactors," Section ES-401.D.1.b, I hereby state that the method for developing the written examination outline was as described in Attachment 1 of that section of the NUREG.

In accordance with NUREG-1021, Revision 9, "Operator Licensing Examination Standards for Power Reactors," Section ES-401.C.1.f, I hereby state that as part of the examination submittal there is no question duplication between Carolina Power & Light Company's audit and the written examinations.



Leonard R. Beller
Superintendent - Operator Training

08/01/2007
Date

| | |
|--|-------------------|
| Exam Start Date (from annual letter to licensees): | 07/13/2007 |
| Written Exam Date (from Corporate Notification Letter): | 07/16/2007 |
| Operating Test Start Date (from Corporate Notification Letter): | 07/16/2007 |
| Exam End Date: | 07/27/2007 |

← Changed to 08/03/2007

This schedule assumes that the exit meeting occurs before both the administration of the written exam and the receipt of facility post-exam comments.

| Task # | Description | Target Date | Notes | Completion Date | Variance (days) |
|------------------------------------|---|-------------|--|---------------------|-----------------|
| Examination Planning | | | | | |
| N/A | Examination Administration Date Confirmed | 01/14/2007 | ES-201-1 #1 (-180 days) | 01/30/2007 | -39096 |
| N/A | NRC Examiners and Facility Contact Assigned | 03/15/2007 | ES-201-1 #2 (-120 days) | 01/30/2007 | -39156 |
| 1 | Contact Facility | 03/15/2007 | ES-201-1 #3 (-120 days) | 01/30/2007 | -39156 |
| 3 | Send Corporate Notification Letter | 03/15/2007 | ES-201-1 #4 (-120 days) | 01/31/2007 | -39156 |
| 4 | Reference Material Due | 04/14/2007 | ES-201-1 #5 (-90 days) | 04/30/2007 | -39186 |
| 5 | Develop Written Examination Outlines | | ES-201-1 #6 (-75 days) | 04/30/2007 | -39201 |
| 6-7 | Outlines Reviewed / Feedback Provided to Facility | | ES-201-1 #7 (-70 days) | 05/01/2007 | -39206 |
| 8 | Develop Draft Written Examination | | ES-201-1 #8 (-45 days) | 06/01/2007 | -39231 |
| 10 | Draft Examination Approved by NRC Supervisor | | ES-201-1 #11 (-14 days) | 06/15/2007 | -39262 |
| 11-12 | Examination Reviewed with Facility Licensee | | ES-201-1 #12 (-14 days) | 08/02/2007 | -39262 |
| 13 | Written Examination Approved for Administration | | ES-201-1 #13 (-7 days) | 08/02/2007 | -39269 |
| Operating Test Development | | | | | |
| 14, 21 | Develop Operating Test Outlines | 05/02/2007 | ES-201-1 #6 (-75 days) | 04/30/2007 | -39204 |
| 16, 23 | Outlines Reviewed / Feedback Provided to Facility | 05/07/2007 | ES-201-1 #7 (-70 days) | 05/01/2007 | -39209 |
| 17, 24 | Develop Draft Operating Test | 06/01/2007 | ES-201-1 #8 (-45 days) | 06/01/2007 | -39234 |
| 19, 26 | Operating Test Approved by NRC Supervisor | 07/02/2007 | ES-201-1 #11 (-14 days) | 07/03/2007 | -39265 |
| 33 | Operating Test Approved for Administration | 07/09/2007 | ES-201-1 #13 (-7 days) | 07/12/2007 | -39272 |
| Examination Preparation | | | | | |
| 28 | Preliminary License Applications Due | 06/13/2007 | ES-201-1 #9 (-30 days) | 06/14/2007 | -39246 |
| N/A | Final License Applications Due | 06/29/2007 | ES-201-1 #10 (-14 days) | 07/09/2007 | -39262 |
| 35-36 | Final Applications Approved | 07/06/2007 | ES-201-1 #14 (-7 days) | 07/09/2007 | -39269 |
| Examination Administration | | | | | |
| 38 | Administer Written Examination | | Contact NRR for concurrence if written and operating exams will be administered more than 30 days apart. | 08/03/07 09/05/2006 | -311 |
| 39 | Administer Operating Test | 07/16/2007 | | 07/22/2007 | -39279 |
| 40 | Conduct Exit Meeting | | | | |
| Post-Examination Activities | | | | | |
| 41 | Receive Facility Post-Examination Comments | | ES-501-1 (+5 days) | 8/14/2007 | -38970 |
| 48 | Issue Exam Report | 08/26/2007 | ES-501-1 (+30 days) | 9/12/2007 | -39320 |
| N/A | Complete licensing / denial actions | | ES-501-1 (+30 days) | 9/7/2007 | -39000 |

Operator Licensing Examination Record Retention Checklist

FACILITY NAME: BRUNSWICK
 EXAM DATE: 08/03/2007
 INSPECTION REPORT NO.: 2007-301
 CHIEF EXAMINER: MABATES

| Exam Plan Task # | Form # | Document | |
|--|---------------|---|-----|
| EXAMINATION PREPARATION – YELLOW COVER SHEET | | | |
| N/A | N/A | Examination Folder Assembly | N/A |
| ✓ | ES-201 Att. 3 | Corporate Notification Letter | MB |
| ✓ | ES-201-1 | Examination Preparation Checklist | MB |
| | ES-201-3 | Examination Security Agreement | MB |
| ✓ | ES-201-4 | List of Applicants | MB |
| DRAFT EXAMINATION MATERIAL – PINK COVER SHEET | | | |
| N/A ✓ | N/A | Licensee Transmittal Letter(s) | MB |
| ✓ | ES-401-1,2,3 | Draft Written Examination Outlines | MB |
| ✓ | ES-401-4 | Record of Rejected K/As | MB |
| ✓ | N/A | Draft RO Written Examination | MB |
| ✓ | N/A | Draft SRO Written Examination | MB |
| ✓ | ES-301-1 | Draft Administrative Topics Outline | MB |
| ✓ | N/A | Draft Administrative JPMs | MB |
| ✓ | ES-301-2 | Draft Control Room/In-Plant Systems Outline | MB |
| ✓ | N/A | Draft Control Room/In-Plant JPMs | MB |
| ✓ | ES-D-1 | Draft Scenario Outlines | MB |
| ✓ | ES-D-1, 2 | Draft Simulator Scenarios/Required Operator Actions | MB |
| ✓ | ES-201-2 | Examination Outline Quality Checklist | MB |

| Exam Plan Task # | Form # | Document | |
|---|---------------|--|----|
| REVIEW COMMENTS – GREEN COVER SHEET | | | |
| ✓ | ES-401-9 | Written Examination Review Worksheet | MB |
| | N/A | Operating Test Comments (if applicable) | MB |
| QUALITY CHECKLISTS – YELLOW COVER SHEET | | | |
| ✓ | ES-201-2 | Final Examination Outline Quality Checklist | MB |
| ✓ | ES-301-3 | Final Operating Test Quality Checklist | MB |
| ✓ | ES-301-4 | Final Simulator Scenario Quality Checklist | MB |
| ✓ | ES-301-5 | Final Transient and Event Checklist | MB |
| ✓ | ES-301-6 | Final Competencies Checklist | MB |
| ✓ | ES-401-6 | Final Written Examination Quality Checklist | MB |
| ADMINISTERED EXAMINATION MATERIAL – BLUE COVER SHEET | | | |
| ✓ | ES-401-1,2,3 | Final Written Examination Outlines | MB |
| ✓ | N/A | Final RO Written Examination (as administered) | MB |
| ✓ | N/A | Final SRO Written Examination (as administered) | MB |
| ✓ | N/A | Final RO/SRO Combined Written Examination with Analysis and Answers. | MB |
| ✓ | N/A | RO/SRO Written Examination Reference Package | MB |
| ✓ | ES-D-1,2 | Final Simulator Scenarios/Required Operator Actions | MB |
| ✓ | ES-301-1 | Final Administrative Topics Outline | MB |
| ✓ | N/A | Final Administrative Topics JPMs | MB |
| ✓ | ES-301-2 | Final Control Room/In-Plant Systems Outline | MB |
| ✓ | N/A | Final Control Room/In-Plant Systems JPMs | MB |
| EXAMINATION DOCUMENTATION – YELLOW COVER SHEET | | | |
| ✓ | ES-501 Att. 1 | Facility Comments and NRC Resolutions | MB |
| ✓ | ES-201-4 | List of Applicants | MB |
| ✓ | ES-201 Att. 4 | Examination Approval Letter | MB |
| ✓ | ES-403-1 | Written Examination Grading Quality Checklist | MB |
| ✓ | ES-501-2 | Power Plant Examination Results Summary | MB |

| Exam Plan Task # | Form # | Document | |
|---|----------|--|----|
| EXAMINATION DOCUMENTATION – YELLOW COVER SHEET | | | |
| ✓ | N/A | Examination Report (with comment resolution) | MB |
| ✓ | ES-501-1 | Post-Examination Check Sheet | MB |

| APPLICANT EXAMINATION PACKAGE – NO COVER SHEET | | | |
|---|------------|--|-----|
| ✓ | ES-303-1 | Individual Examination Report | MB |
| ✓ | ES-303-2 | Operating Test Comments | MB |
| ✓ | ES-D-1 | Simulator Scenarios (as administered) | MB |
| ✓ | N/A | Failed JPMs (if applicant failed Administrative or Control Room/In-Plant portions) | MB |
| ✓ | ES-D-2 | Required Operator Actions (if applicant failed Simulator Operating Test) | N/A |
| ✓ | ES-401-7/8 | RO/SRO Site-Specific RO/SRO Written Examination Cover Sheet (signed by applicant) | MB |
| ✓ | N/A | Applicant's Original Written Examination Answer Sheet | MB |

Examination Logistics Planning Checklist

| ✓ | Topic | Notes |
|---|---|---|
| CONTACT FACILITY SIX MONTHS BEFORE EXAMINATION (ES-201 C.2b) | | |
| ✓ | • • Remind your point of contact (POC) of the requirements and guidelines for submitting license applications. | (Per ES-201.C.2c) See 10CFR55.31 and ES-202 |
| ✓ | • • Determine the number of applicants. | Remind your POC to keep you informed of any changes as the class progresses. You are responsible for updating RPS with the number of applicants and for informing the BC when the number of applicants or exam weeks changes. |
| ✓ | • • Ask your POC if they anticipate requesting any waivers. | It is best to discuss waivers as far in advance as possible to allow time for interaction with headquarters. |
| ✓ | • • Determine mutually acceptable dates for prep week and exam week. | Ensure adequate <u>day shift</u> simulator time is available (at least three days for one JPM set and three scenarios). If the written and operating examinations are going to be more than 30 days apart, contact NRR staff for concurrence (ES-402.C.2.b). |
| ✓ | • • Verify your POC is using the current version of NUREG-1021. | |
| ✓ | • • Determine which revision of plant procedures will be used for the exam. | The licensee may impose a "freeze" date for procedure changes or may choose to incorporate some revisions between the delivery date and the exam date. As we have a larger lead time on some exams, this may require another validation by the facility just before the exam. |
| ✓ | • • Determine, by name, who has responsibility for developing each element of all examination materials. | Be as detailed as possible, especially on shared examinations. |
| ✓ | • • Determine delivery dates for outlines and exam materials that the facility is preparing. | Set realistic dates based on your respective schedules instead of defaulting to the 60 day and 30 day delivery dates. You can ask them for an earlier delivery date to conform to the reviewer's work schedule. |
| ✓ | • • Discuss the facility specific division of responsibility between the Reactor Operator (at the controls) and Balance of Plant positions. | |

Examination Logistics Planning Checklist

| ✓ | Topic | Notes |
|--|--|---|
| CONTACT FACILITY 120 DAYS BEFORE EXAMINATION (ES-201 C.2.c) | | |
| • • ✓ | Determine a rough exam week schedule, especially the number of weeks and number of on-site examiners. | <ul style="list-style-type: none"> • • Examination length should be determined by the number of applicants as well as the type of applicants being examined. The maximum number of applicants for a one week examination should be 9. If the number of applicants is greater than 9, the chief examiner and the exam team should discuss options, (i.e. a 10 day exam where the team stays the weekend). • Do not schedule an exam day to last more than 10 hours. Doing so does not allow for unanticipated scheduling delays (e.g. simulator malfunctions) or poor applicant performance. • You should get input from all exam team members. Travel outside of normal work hours must be acceptable to all members of the examination team and discussed with the BC. • You should consider the experience level of each examiner and the composition of the exam team, as well as the need to perform an audit of license applications (ES-202), to determine who must attend the prep week. |
| • • ✓ | Remind your POC that they need to deliver the exam outlines to you about 75 days before the scheduled exam date. | (Per ES-201.C.2.c) |
| • • ✓ | Remind your POC that we need reference material in hand at least 75 days (and preferably 90 days) before the scheduled exam date in order to develop the exam. | (Per ES-201.C.2.c) |
| • • ✓ | Remind your POC that we need examinations and reference materials in hand about 45 days before the scheduled exam date. | (Per ES-201.C.2.c) |
| • • ✓ | If we (NRC) are writing the exam many months in advance of administration, obtain another POC to answer technical questions. | The exam schedule may dictate that we write an examination many months in advance. In these cases the licensee will need to provide a point of contact <u>on the security agreement</u> to answer questions about the procedures and systems. This point of contact does <u>not</u> need to be someone familiar with the exam process -- just someone to answer technical questions. |
| • • ✓ | Remind your POC that an authorized representative of the facility licensee must approve the exam outlines and exams before they are submitted to the NRC for review. | (Per ES-201.C.2.c) |

| ✓ | Topic | Notes |
|--|---|---|
| CONTACT FACILITY 120 DAYS BEFORE EXAMINATION (ES-201 C.2.c) | | |
| | | |
| • • ✓ | Point out that the licensee may find it advantageous to submit some sample test items (e.g. 5-10 written questions, 1 scenario, 1-2 JPMS) for preliminary NRC review and comment. | (per ES-201.C.2.c) This may increase the efficiency of the exam review process by allowing early identification and correction of generic exam development concerns. |
| • • ✓ | Discuss guidelines for developing, administering, and grading the written exams, as applicable. | (per ES-201.C.2.c) See ES-401, 402, 403. |
| • • ✓ | Discuss guidelines for developing and administering the operating tests. | (per ES-201.C.2.c) See ES-301, 302 |
| • • ✓ | Get a list of uncorrected simulator performance deficiencies and deviations from the reference plant and ensure an updated list is available at the time of the operating tests. | (per ES-201.C.2.c) Verify simulator fidelity in accordance with 10CFR55.46(c)(1)(I). |
| • • ✓ | Determine a mutually acceptable format for providing exam reference material (electronic or hard copy). | Hard copies of EOPs and AOPs are beneficial but not required. Conduct a detailed review of the items in ES201 Attachment 2. Don't just ask for "the usual stuff." Be cognizant of the scope of your request. Discuss the availability of indices and cross-reference documents (they have been omitted in the past). |
| • • ✓ | Ensure the format of exam submittals is compatible with entry into ADAMS. | Refer to Task 49, Compile Exam Documentation, and Attachment 2. It is important to ensure the written examination will contain all of the required information for documentation. |
| • • ✓ | Remind your POC about exam integrity and security. Ensure all facility personnel are aware of exam security requirements. | (per ES-201.C.2.c) See ES-201 Attachment 1 and Appendix D, section F. There are special considerations for shared exams. For example if Plant X is going to convert the written from Plant Y, individuals from both plants will need to be on both security agreements. |
| • • ✓ | Agree on a method to transmit examination material electronically. | The Senior Resident staff can transmit information via the NRC e-mail system without potential compromise. |
| • • ✓ | Ask your POC if he/she will agree to provide copying services for the exam. | If they agree, let them know that this will be documented in the 120-day letter. |