

I. General Grading Approach

United States Nuclear Regulatory Commission Official Hearing Exhibit Charlyssa C. Smith (Denial of Senior Reactor Operator License)	
In the Matter of: 	ASLBP #: 13-925-01-SP-BD01 Docket #: 05523694 Exhibit #: CCS-101-00-BD01 Admitted: 7/17/2013 Rejected: Other:
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NUREG-1021 provides pertinent guidance that was used as a basis for the exam team’s evaluation of the applicant’s performance in the various Competencies. ES-303, section D.2.b, states:

- a. Using Form ES-303-3 or ES-303-4, depending on the applicant’s license level, and the following generic guidance, evaluate any deficiencies coded for the simulator test to determine a grade for every applicable rating factor (RF) and competency. Keep in mind that the simulator test is generally graded based on competencies rather than consequences; every error that reflects on an operator’s competence is considered equal unless it is related to the performance of a critical task (as determined in accordance with ES-301 and Appendix D).

Applying the above guidance, the exam team acknowledged that some of the errors that were documented contained minimal consequences; however, the items documented were errors, and the errors did reflect deficiencies in the applicant’s competency within the assigned rating factor. Documenting these errors is required by NUREG-1021.

- b. NUREG-1021, ES-303, Section D.1.d, states:
 ...Whenever possible, attempt to identify the root cause of the applicant’s deficiencies and code each deficiency with no more than two different rating factors. However, one significant deficiency may be coded with additional rating factors if the error can be shown, consistent with the criteria in Section D.3.b, to be relevant to each of the cited rating factors.

Applying the above guidance, in an effort to be fair to the applicant, the exam team went to great lengths to identify the root cause of the applicant’s deficiencies and attempted to assign each error to ONLY the rating factor that most closely reflected the underlying deficiency observed during the error. It was acknowledged during discussions held among the exam team, independent reviewers, and the branch chief that some of these errors could be documented under two or more rating factors. However, these errors were each assigned to only one rating factor, even though NUREG-1021 clearly allows an error to be documented under two rating factors under normal circumstances and more than two rating factors for more significant deficiencies. This approach should be noted as a response to the applicant’s appeal that the exam team graded her exam in an overly critical manner.

Another point worth noting is that errors were not double-counted for any applicant, including Carla. If we had double-counted (assigned an error to more than one rating factor) errors only for Carla, then we would have been applying a different standard to Carla as compared to the other applicants. The exam team applied the exact same criteria to Carla for what was considered an error and for how those errors were assigned to only the root cause rating factor. In an unofficial capacity, within this document, we will show how a more critical approach could have been taken during the grading process. This more critical approach is also consistent with the guidelines of NRUEG-1021. It is worth re-iterating that even though errors were not assigned to more than one rating factor, elements of these errors were taken into account implicitly during the original grading when assigning scores of “2” to rating factors when only two errors were documented on Form 303.

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During this re-grade of the applicant's exam, it will be shown that the results of the dynamic simulator operating exam could have been documented to reflect additional weaknesses within several of the competency areas. This documentation could have been performed while remaining consistent with NUREG-1021 grading requirements.

- c. NUREG-1021, ES-303, Section D.2.b, reads as follows:
If an applicant makes two errors related to a rating factor, circle an "RF Score" of "1" for that rating factor unless a score of "2" can be justified (and documented as discussed in Section D.3, below) based on correctly performing another activity (or activities) related to the same rating factor; three or more errors generally require a score of "1," regardless of the applicant's compensatory actions.

In an effort to make an accurate assessment of the applicant's performance, the exam team could not justify a score of "2" for some rating factors when only two errors associated with the root cause of the applicant's deficiency were documented. Although the examiners only documented errors on the applicant's original Form 303 under the rating factor most closely associated with the root cause of the applicant's deficiency, the examiners considered the elements of other errors and their relationship to these rating factors as justification for not assigning a score of "2" when only two rating factors were documented. These other errors will be discussed in the re-grade of the applicant's performance (corresponding Section B for each rating factor). Furthermore, the applicant is not contending that a point should be added back to any of the rating factors. The applicant is mainly contending that her performance did not contain errors, or when errors were made that they did not contain sufficient consequences to warrant a reduction in the rating factor score.

Two other points are pertinent in this area for correct application of NUREG-1021.

1. The NUREG clearly states, "...unless a score of "2" can be justified..." The implication is that if a score of "2" will be assigned when two errors are present in a single rating factor, the score of "2" must be justified on the applicant's Form 303. NUREG-1021 does NOT state that scores of "1" must be explicitly justified on Form 303.
2. Almost ALL scenario sets are designed to allow more than two opportunities for the applicant to apply skills and abilities within each rating factor. This is evident by viewing Form ES-301-6 for almost any exam administered in Region II, and likely for all exams across all regions. Therefore, in most usual circumstances, each applicant would always do something correctly in each rating factor when two errors are documented in that rating factor. If the intent of NUREG-1021 was to assign a "2" when two errors are made in almost all circumstances, then the NUREG requirement would have been written much differently. If that were the case, the NUREG requirement would more precisely state that when two errors are made within a rating factor, then a score of "2" should be assigned, unless a score of "1" can be justified. It makes sense that the "justification" needs to be documented when stepping outside of the normally accepted practice – not when working within the normally accepted practice. The NUREG appears to be informed in this manner when it clearly states to justify adding a point back and does not state to justify the "expected" score of "1" when two errors are made.

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Even working within the current wording for this requirement in the NUREG, the exam team remained consistent with the NUREG requirement when a point was not added back because that point could not be justified as required by the NUREG. Additional errors within these relevant rating factors were considered when making the determination to not add a point back and assign a “2” instead of a “1”. It was a choice to not document an error in multiple rating factors, but rather to only document an error under the root cause rating factor. The NUREG allowed more than one rating factor to be assigned for errors that warranted documentation under more than one rating factor. Even though the exam team chose to not assign an error to multiple rating factors, the NUREG also allowed these errors to be considered when making the determination to not add a point back and assigned a “2” to rating factors when only two errors were documented in that rating factor.

- d. NUREG-1021, Appendix E, Part E, item 4, states: Members of the operating team or crew (whether applicants or surrogates) should perform peer checks in accordance with the facility licensee’s procedures and practices; non-crew members and NRC examiners will not perform this function. However, if you begin to make an error that is corrected by a peer checker, you will be held accountable for the consequences of the potential error without regard to mitigation by the crew.

Therefore, when corrected by her teammates when a direction or mis-operation was performed, the examiners were required to downgrade Carla and hold her accountable for the consequences of the potential error without regard to mitigation by the crew. This answers another point in Carla’s appeal when she claims that she should not be marked down when an error was avoided because she was corrected by a teammate.

Lastly, the exam team noted that NUREG-1021 acknowledges Competency 4 – Communications as being less significant than the other Competencies when singularly evaluated. This is addressed in NUREG-1021 by allowing lower scores in Competency 4 to result in a passing grade as long as certain performance criteria are met in all of the other competencies. Therefore, NUREG-1021 explicitly acknowledges that communications errors are less significant than errors in other competencies. Combining this application with the guidance that applicants are graded on competencies rather than consequences, requires all communications errors to be documented as it relates to their ability to communicate.

II. Competency 1: Interpretation / Diagnosis

A. Original Scoring of Competency 1

Competencies/ Rating Factors (RFs)	RF Weights	RF Scores	RF Grades	Comp. Grades	Comment Page No. from original 303
1. Interpretation/Diagnosis					
a. Recognize & Attend	0.20	3	0.60	1.70	8, 10 12, 14 16
b. Ensure Accuracy	0.20	1	0.20		
c. Understanding	0.30	1	0.30		
d. Diagnose	0.30	2	0.60		

a. Originally Documented Errors

1. Page 8 of Form 303 (RF 1.b: Ensure accuracy error for misdiagnosing a standby EHC pump failing to auto start)

See originally graded Form 303.

2. Page 10 of Form 303 (RF 1.b: Ensure accuracy error for misdiagnosing SI/SLI Block)

See originally graded Form 303.

3. Page 12 of Form 303 (RF 1.c: Understanding error for misdiagnosing proper operation of the pressurizer heaters)

See originally graded Form 303.

4. Page 14 of Form 303 (RF 1.c: Understanding error for misdiagnosing operation of FIC-121)

See originally graded Form 303.

5. Page 16 of Form 303 (RF 1.d: Misdiagnosis of Automatic Control Rod operation)

See originally graded Form 303.

b. Original Evaluation of Scores for Each Rating Factor

1. Rating Factor 1.a: Recognize & Attend

- The original Form 303 contained a score of “3” for Rating Factor 1.a (no errors documented in this rating factor).
- The applicant’s error documented on page 18 (Rating Factor 3.a) of the original Form 303 was originally documented only under Rating Factor

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3.a because it was determined that the applicant's root cause was most closely associated with her ability to operate the controls in a timely manner. However, the error contained elements of not recognizing and attending: the off-normal trend of RCS temperature slowly drifted toward the limit (2 °F Tave vs Tref) specified by the SRO and then eventually drifted outside of that limit for almost five minutes prior to being recognized by the applicant. This error was not documented in Rating Factor 1.a because the exam team determined that the root cause most closely associated with this deficiency was Rating Factor 3.a, and elected to not document this error a second time under Rating Factor 1.a in the interest of fairness.

2. Rating Factor 1.b: Ensure Accuracy

- The original Form 303 contained a score of "1" for Rating Factor 1.b for two explicit errors under this rating factor, as well as the exam team determining that a "2" could not be justified.
- The applicant's error documented on page 8 was associated with a misdiagnosis of the standby EHC pump failing to automatically start. The applicant clearly made an error that reflects a competency weakness in Rating Factor 1.b. As previously stated in Section I, "...the simulator test is generally graded based on competencies rather than consequences; every error that reflects on an operator's competence is considered equal unless it is related to the performance of a critical task." A debate may exist on the "consequences" of this error, but the facts reflect that the applicant misdiagnosed the failure of an automatic start of the standby EHC pump, when in fact an automatic start of that pump had not been demanded by the control system. This was an error that reflected the applicant's ability to ensure accuracy within the Interpretation/Diagnosis competency.
- The applicant's error documented on page 10 was associated with a misdiagnosis of when plant conditions allow the blocking of SI/SLI. Similar to the above discussion, the applicant made an error that reflects a competency weakness in Rating Factor 1.b. A debate may exist over the consequences, but NUREG-1021 clearly states that errors are graded based on competencies rather than consequences. This was an error that reflected the applicant's ability to ensure accuracy within the Interpretation/Diagnosis competency.
- The applicant's error documented on page 16 (Rating Factor 1.d) of the original Form 303 was originally documented only under Rating Factor 1.d because the correct information (Tave & Tref) was being analyzed and the applicant understood how the automatic control rod system was designed to respond. However, this error contained elements of not ensuring accuracy and could have also been documented in Rating Factor 1.b in addition to Rating Factor 1.d because the applicant still misdiagnosed, for a period of time, that control rods were not functioning properly in automatic. The details of this error are documented in the original Form 303, and the exam team still believes that Rating Factor 1.d is most closely related to the root cause of the deficiency. (This error is

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not being contested by the applicant.) There is an element of not ensuring accuracy (Rating Factor 1.b) associated with the misdiagnosis. The applicant and the RO had multiple temperature indications on the control panels that could have been used to verify that RCS temperature was actually colder than Tref, and as a result control rods should not have been inserting in automatic (the applicant and the RO incorrectly thought that rods should have been inserting in automatic). Therefore, the applicant did not ensure the collection of CORRECT, ACCURATE, and COMPLETE information on which to base a diagnosis of the proper functioning of automatic rod control. Once again, the exam team determined that the root cause most closely associated with this deficiency was Rating Factor 1.d, and elected to not document this error a second time under Rating Factor 1.b in the interest of fairness.

- The error described on page 16 was used to support the fact that a score of “2” could not be justified in this Rating Factor. Although this error was not explicitly listed under Rating Factor 1.b in the original grading, it did contain elements of “ensure accuracy”, and supported assigning a score of “1” in this rating factor. In fact, explicit justification for assigning a score of “1” on Form 303 was not required in accordance with NUREG 1021.
- The applicant’s error documented on page 24 (Rating Factor 4.a) of the original Form 303 was originally assigned only to Rating Factor 4.a because the applicant responded during post-scenario questioning that she simply misspoke. However, this error may also have contained elements of Rating Factor 1.b. when the applicant directed Immediate Operator Actions even though no Immediate Operator Actions existed. The exam team was left with the question of whether the applicant really only communicated incorrectly, or whether she did not ensure that correct and complete information was collected on which to base a diagnosis. The applicant’s actions suggested that she may have directed immediate operator action be performed because she had not collected the correct information and therefore misdiagnosed the malfunction. Post-scenario questions were used in an attempt to address this, but at that point, her teammates had already educated her on the actual malfunction.
 - The error described on page 24, and the fact that complete and accurate information may not have been collected prior to diagnosing the malfunction, was used in evaluating whether it was appropriate to assign a score of “2” in this Rating Factor. The exam team determined that a score of “1” was warranted, rather than a score of “2”.

3. Rating Factor 1.c: Understanding

- The original Form 303 contained a score of “1” for Rating Factor 1.c for two explicit errors under this rating factor, as well as the exam team determining that a “2” could not be justified.
- The applicant’s error documented on page 12 of the original Form 303 was associated with a misunderstanding of how the pressurizer heaters

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were designed to operate with the pressure control system in automatic. The exam team determined that the rating factor most closely associated with the deficiency was Rating Factor 1.c.

- The applicant's error documented on page 14 of the original Form 303 was associated with a misunderstanding of how FIC-121 was designed to operate when placed back into automatic after a substantial amount of integration had accumulated in the controller that was still present at the time the controller was taken back to automatic. The exam team determined that the rating factor most closely associated with the deficiency was Rating Factor 1.c.
- The applicant's error documented on page 21 (Rating Factor 3.c) of the original Form 303 was originally assigned only to Rating Factor 3.c because the exam team determined the root cause of the deficiency was associated with the applicant's ability to manually control an automatic function. However, this error contained elements of not understanding how TIC-0130 operated, in that the applicant also did not understand what corrective actions could be taken to regain control and place the system back in a normal alignment. This error could have also been documented in Rating Factor 1.c, in addition to documenting in Rating Factor 3.c. The applicant's actions did not demonstrate an understanding of how the plant systems and components operate and interact. Her misunderstanding, as it relates to diagnosis, is exemplified by her standing in front of the controller for approximately seven minutes without doing anything (not making a recommendation, not pulling a procedure, not taking an action) and then by making the statement that there was nothing that could be done except contacting Clearance & Tagging (C&T). This several minute period of inaction was followed first by the SRO directing the applicant to place the controller in manual, and then the SRO instructing the applicant on how the controller operated after another mis-operation error. It is true that the applicant recognized that there was a failure with TE-0130, which my examiner notes reflect, but her actions do not reflect an understanding of how that failure affected TIC-0130 and what operator actions could be attempted to correct the abnormal letdown alignment that resulted from the failure.
 - The error described on page 21 was used to support the fact that a score of "2" could not be justified in this Rating Factor. Although this error was not explicitly listed under Rating Factor 1.c in the original grading, it did contain elements of "understanding", and supported assigning a score of "1" in this rating factor. Explicit justification for assigning a score of "1" on Form 303 was not required in accordance with NUREG 1021.

4. Rating Factor 1.d: Diagnose

- The original Form 303 contained a score of "2" for Rating Factor 1.d for one explicit error under this rating factor.
- The applicant's error documented on page 16 was associated with a misdiagnosis of automatic rod control. The exam team still believes that

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the root cause of the applicant's deficiency is most closely associated with Rating Factor 1.d. The applicant was monitoring parameters that were sufficient to inform her that rod control was working properly. However, this error could also be documented in Rating Factor 1.b as noted above, because other instruments were readily available to confirm any diagnosis that was made, and those instruments were not used to ensure the accuracy of that diagnosis.

B. Potential Scoring of Competency 1 (Re-evaluation in response to appeal)

Competencies/ Rating Factors (RFs)	RF Weights	RF Scores	RF Grades	Comp. Grades	Cross Ref Below
1. Interpretation/Diagnosis					
a. Recognize & Attend	0.20	2	0.40	1.50	A
b. Ensure Accuracy	0.20	1	0.20		B, C, D
c. Understanding	0.30	1	0.30		E, F, G
d. Diagnose	0.30	2	0.60		H

The above grades could be assigned within the guidelines of NUREG-1021. The following list is used as a cross-reference to the errors above:

- A. See explanation in Section II.A.b.1 above for the error originally documented on page 18 of Form 303.
- B. See explanation in Section II.A.b.2 above for the error originally documented on page 8 of Form 303.
- C. See explanation in Section II.A.b.2 above for the error originally documented on page 10 of Form 303.
- D. See explanation in Section II.A.b.2 above for the error originally documented on page 16 of Form 303.
- E. See explanation in Section II.A.b.3 above for the error originally documented on page 12 of Form 303.
- F. See explanation in Section I.A.b.3 above for the error originally documented on page 14 of Form 303.
- G. See explanation in Section II.A.b.3 above for the error originally documented on page 21 of Form 303.
- H. See explanation in Section II.A.b.4 above for the error originally documented on page 16 of Form 303.

The above grading could have been documented on the original Form 303 because errors are allowed to be assigned to two rating factors under normal circumstances and more than that for more significant errors. As discussed above, each error originally was only assigned to the one rating factor that most closely related to the root cause for each of the applicant's deficiencies.

III. Competency 2: Procedures

A. Original Scoring of Competency 2

Competencies/ Rating Factors (RFs)	RF Weights	RF Scores	RF Grades	Comp. Grades	Comment Page No. from original 303
2. Procedures					
a. Reference	0.30	3	0.90	3.00	
b. EOP Entry	0.30	3	0.90		
c. Correct Use	0.40	3	1.20		

a. Originally Documented Errors

The original grading of the applicant’s exam did not contain documented errors in Competency 2 because errors in this competency were assigned to the root cause of the applicant’s deficiency. These errors will be discussed in Section III.B below. There were errors associated with this competency, but it was determined that the failure to either correctly reference or comply with procedures was closely related to the applicant’s inability to understand as it related to the competency of Interpretation/Diagnosis. This point should be considered when evaluating whether the examiner of record was overly critical in grading the exam.

b. Original Evaluation of Scores for Each Rating Factor

See the above explanation.

B. Potential Scoring of Competency 2 (Re-evaluation in response to appeal)

Competencies/ Rating Factors (RFs)	RF Weights	RF Scores	RF Grades	Comp. Grades	Cross Ref Below
2. Procedures					
a. Reference	0.30	2	0.60	2.30	A
b. EOP Entry	0.30	3	0.90		
c. Correct Use	0.40	2	0.80		B

The above grades could be assigned within the guidelines of NUREG-1021. The following list is used as a cross-reference to the errors above:

- A. The error originally documented on page 14 of Form 303 contained elements of not correctly referencing procedures. The applicant claims that she simply misspoke when directing Immediate Operator Actions to be performed, even though no Immediate Operator Actions existed, for the failure of pressurizer level transmitter LT-459. During the scenario the other applicant educated her on the fact that no Immediate Operator Actions existed, therefore making it difficult to ascertain the elements of the deficiency. The error was documented under clarity of communications based on the applicant’s

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response to a follow-up question, but the question and answer came after the scenario and after the RO had trained her that no Immediate Operator Actions existed. There is certainly a question of whether the correct procedure was truly being referenced when she directed the Immediate Operator Actions.

- B. The error originally documented on page 12 of Form 303 contained a clear procedure usage error. The examiner's notes (Capehart and Bates) both show that during the response to the failure of controlling pressurizer pressure channel PT-455, the applicant did not comply with the procedure when deciding not to place pressurizer heaters to AUTO as directed by the procedure. The error was not initially documented in Rating Factor 2.c because the root cause of the error was, and still is, believed to be a misunderstanding of the pressurizer pressure control system.

The above grading could have been documented on the original Form 303 because errors are allowed to be assigned to two rating factors under normal circumstances and more than that for more significant errors. As discussed above, each error originally was only assigned to the one rating factor that most closely related to the root cause for each of the applicant's deficiencies.

IV. Competency 3: Control Board Operations

A. Original Scoring of Competency 3

Competencies/ Rating Factors (RFs)	RF Weights	RF Scores	RF Grades	Comp. Grades	Comment Page No. from original 303
3. Control Board Operations					
a. Locate & Manipulate	0.34	1	0.34	1.99	18, 19, 20
b. Understanding	0.33	3	0.99		
c. Manual Control	0.33	2	0.66		21

a. Originally Documented Errors

1. Page 18 of Form 303 (Rating Factor 3.a: Applicant failed to manipulate controls, in a TIMELY manner, to maintain Tave within the band directed by the SRO).

See originally graded Form 303.

2. Page 19 of Form 303 (Rating Factor 3.a: Applicant failed to Manipulate in an ACCURATE manner to close the PORV in response to a pressurizer pressure failure).

See originally graded Form 303.

3. Page 20 of Form 303 (Rating Factor 3.a: Applicant failed to Locate and Manipulate RWST sludge mixing valves in a timely manner).

See originally graded Form 303.

4. Page 21 of Form 303 (Rating Factor 3.c: Applicant failed to manually control cooling water through the letdown heat exchanger, a function that was being controlled automatically by the controller prior to the TE-0130 failure).

See originally graded Form 303.

b. Original Evaluation of Scores for Each Rating Factor

1. Rating Factor 3.a: Locate & Manipulate

The original Form 303 contained a rating factor score of “1” for Rating Factor 3.a due to three errors being assigned to this rating factor.

The error on Page 18 of the original Form 303 was documented in Rating Factor 3.a because the applicant failed to manipulate the controls in a TIMELY manner to maintain the Tave band as directed by the SRO. The exam team evaluated this as an error based on the controlled pace of the scenario and the excessive time period that elapsed without attempts to maintain the band. Even when attempts were made to add reactivity, the magnitude and frequency were not

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sufficient to maintain the band. It is worth reiterating that the controlled pace of the scenario allowed ample opportunity to maintain Tave within the directed band. Two of the examiners (Bates & Capehart) even held a conversation during the scenario about the excessive amount of time that had elapsed with the applicant not actively monitoring the reactor. In accordance with NUREG-1021 and consistent with the previously stated grading approach, the error was documented because it reflected the applicant's ability to manipulate the controls in a timely manner. (NUREG-1021: "...simulator test is generally graded based on competencies rather than consequences.")

The error on Page 19 of the original Form 303 was documented because the applicant admitted, during post-scenario questioning, that she incorrectly manipulated the PORV handswitch in the wrong direction, which was used as support to place the error in Rating Factor 3.a for not ACCURATELY manipulating the controls. This error was actually associated with a Critical Task. The exam team missed an opportunity during exam development to code this error as a critical task on Form ES-D-2. It was recognized during grading that the error was related to a critical task, but due to the fact that three errors were already assigned to Rating Factor 3.a, there would be no impact on the score. This is important because the applicant has a misconception that none of her errors were associated with a critical task. Furthermore, it must be noted that the PORV was eventually closed after the SRO diagnosed that Carla's actions were incorrect and very loudly directed her to "SHUT THAT VALVE!" NUREG-1021 provides guidance to hold the applicant responsible for the consequences of an error when it is corrected by another operator. (NUREG-1021: "..... if you begin to make an error that is corrected by a peer checker, you will be held accountable for the consequences of the potential error without regard to mitigation by the crew.")

The error documented on Page 20 of the original Form 303 was assigned to Rating Factor 3.a because the applicant (and her teammates) did not know the location of the RWST sludge mixing valves.

2. Rating Factor 3.b: Understanding

No errors were documented in this rating factor during the original grading. As discussed below, the exam team considered placing the error associated with TIC-0130 (Scenario 7, Event 3) in this rating factor in addition to other rating factors because the applicant displayed several different weaknesses in multiple competencies.

3. Rating Factor 3.c: Manual Control

The error documented in Page 21 of the original Form 303 was assigned to Rating Factor 3.c because the collection of errors made were all associated with manually controlling an automatic function. The exam team, during the grading process, discussed assigning this error to more than one rating factor because of weaknesses that the applicant displayed in understanding the diagnosis, understanding how TIC-0130 operated, and the eventual mis-operation of TIC-0130. The applicant was downgraded only in 3.c because the exam team was sensitive to documenting the error without creating the perception of being overly critical, even though the team thought that this error could be accurately

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assigned to multiple rating factors. All of the various facets of the applicant's weaknesses, in the end, affected her ability to manually control an automatic function.

The applicant, in her appeal, stated that this error should be assigned to Rating Factor 3.a due to its similarity to other errors that were assigned to 3.a. However, this error was different from the manual rod control error and the PORV valve operation error in that a plant parameter is controlled in automatic under normal circumstances. Recall that Vogtle does not have AUTO rod withdrawal. Also manually closing a PORV in response to a PT failure does not control a parameter, it only isolates a leak that was induced by an instrument malfunction.

Furthermore, the applicant claims that she was able to control the letdown temperature after she mis-operated TIC-0130. It was true that she controlled the parameter, but not until after the SRO felt compelled to explain to her how the controller operated.

B. Potential Scoring of Competency 3 (Re-evaluation in response to appeal)

Competencies/ Rating Factors (RFs)	RF Weights	RF Scores	RF Grades	Comp. Grades	Cross Ref Below
3. Control Board Operations					
a. Locate & Manipulate	0.34	1	0.34		A, B, C
b. Understanding	0.33	2	0.66	1.66	D
c. Manual Control	0.33	2	0.66		E

The above grades could be assigned within the guidelines of NUREG-1021. The following list is used as a cross-reference to the errors above:

- A. See explanation in Section IV.A.b.1 above for the error originally documented on Page 18.
- B. See explanation in Section IV.A.b.1 above for the error originally documented on Page 19.
- C. See explanation in Section IV.A.b.1 above for the error originally documented on Page 20.
- D. See explanation in Section IV.A.b.3 above for the error originally documented on Page 21. There was an element of the applicant not understanding how the controller operated as observed when the applicant mis-operated TIC-0130, followed by the SRO being compelled to describe to the applicant how the controller actually was designed to operate.
- E. See explanation in Section IV.A.b.1 above for the error originally documented on Page 21.

V. Competency 4: Communications

A. Original Scoring of Competency 4

Competencies/ Rating Factors (RFs)	RF Weights	RF Scores	RF Grades	Comp. Grades	Comment Page No. from original 303
4. Communications					
a. Clarity	0.40	1	0.40		23, 24, 25
b. Crew & Others Informed	0.40	1	0.40	1.20	26, 27
c. Receive Information	0.20	2	0.40		28

a. Originally Documented Errors

1. Page 23 of Form 303 (RF 4.a: Applicant misspoke during a crew brief when stating the status of FIC-121.)

See originally graded Form 303. It should be noted that soon after the brief, the PT-508 failure was inserted and the applicant directed placing FIC-121 to AUTO, before performing procedures to address the PT-508 failure. The communication during the brief did not cause the applicant to not understand the FIC-121 controller operation or cause the applicant to provide inadequate or incorrect direction for placing FIC-121 to AUTO, but the timing of the failure reinforces the importance for the crew to accurately communicate the status of FIC-121.

2. Page 24 of Form 303 (RF 4.a: Applicant incorrectly directed the RO to perform Immediate Operator Actions for the failure of LT-459).

See originally graded Form 303.

3. Page 25 of Form 303 (RF 4.a: Applicant incorrectly reported pressurizer pressure as 1020 psig when the SRO was performing the E-0 step to determine if a safety injection was required).

See originally graded Form 303.

4. Page 26 of Form 303 (RF 4.b: Applicant did not inform shift manager prior to taking controller back to auto)

See originally graded Form 303.

5. Page 27 of Form 303 (RF 4.b: Applicant, again in the same scenario after being corrected just a couple events earlier, failed to inform the shift manager prior to directing another controller back to auto)

See originally graded Form 303.

6. Page 28 of Form 303 (RF 4.b: Applicant does not acknowledge a communication of alarms being consistent with the malfunction.)

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See originally graded Form 303.

b. Original Evaluation of Scores for Each Rating Factor

1. Rating Factor 4.a: Clarity

A rating factor score of “1” was assigned because three errors were documented.

The error documented on Page 23 was associated with not correctly stating FIC-121 status in a crew brief. The applicant was corrected by her board operator and soon after the brief, amidst the initiation of another malfunction, directed FIC-121 to AUTO which induced another transient. The applicant clearly communicated incorrectly and the ability to correctly communicate reflected on the applicant’s performance in this competency.

The error documented on Page 24 was associated with incorrectly directing Immediate Operator Actions. Incorrectly communicating in this manner could introduce confusion on the correct diagnosis of the malfunction.

The error documented on Page 25 was associated with incorrectly communicating a pressure required to verify whether a safety injection was required. Incorrectly communicating in this manner could result in incorrect actions, even though in this case the SRO essentially ignored the incorrect information, or it could result in slowing down progression through the procedure to validate incorrect information before moving on to the next step.

The evaluation of this competency, and communications in general, was performed to ensure that the correct licensing decision was made. When reviewing notes while responding to the applicant’s appeal, an additional error was discovered in Phil Capehart’s notes that will be discussed in the next section. However, the applicant’s original score of “1” in this rating factor would remain unchanged even when considering additional errors within the rating factor.

2. Rating Factor 4.b: Crew & Others Informed

A rating factor score of “1” was assigned because two errors were documented and the exam team could not justify assigning a score of “2” due to other errors that related to this rating factor. A pattern of poor communications existed throughout the exam. The grading approach assigned the errors only to the root cause of the deficiency, but NUREG-1021 allowed for these errors to be documented in more than one rating factor. NUREG-1021 states that a score of “2” should be assigned unless a score of “1” can be justified. The exam team could not justify a “2” when evaluating the applicant’s performance in rating factor 4.b. The following are reasons for why a score of “2” could not be justified:

- During the error to manipulate the controls in a timely manner to maintain Tave within the band provided by the SRO, as documented on Page 18 of Form 303, the applicant did not sufficiently inform the SRO of the Tave / Tref difference. This can be seen by inspection of the examiners notes.

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This error was documented in Control Board Operations only because the exam team evaluated Rating Factor 3.a as being most closely related to the root cause for the deficiency. However, the examiners considered the element of inadequately keeping the SRO informed of plant status as supporting justification for not assigning a “2” for Rating Factor 4.b, even though only two errors were documented.

- During the event when the applicant incorrectly operated the PORV, the applicant did not inform the SRO of the control board error that she made. The exam team did not even understand the exact error until the applicant responded to post-scenario questions where she informed the examiner of her incorrect switch operation. Once again, neglecting to keep the SRO informed of functionality of the PORV was an example of not adequately keeping the crew informed.

3. Rating Factor 4.c: Receive Information

A score of “2” was assigned in Rating Factor 4.c because only one error was documented in this rating factor. The error was documented on Page 28 of the Form 303. Again, NUREG-1021 states, “...simulator test is generally graded based on competencies rather than consequences.” Although the consequences of this single error may not be high, it was worthy of comment because it was an error that reflected the applicant’s ability to uphold the communications standards stated in the facility’s procedures.

B. Potential Scoring of Competency 4 (Re-evaluation in response to appeal)

Competencies/ Rating Factors (RFs)	RF Weights	RF Score s	RF Grades	Comp. Grades	Cross Ref Below
4. Communications					
a. Clarity	0.40	1	0.40		A, B, C, D
b. Crew & Others Informed	0.40	1	0.40	1.20	E, F, G, H, I
c. Receive Information	0.20	2	0.40		J, K

The above grades could be assigned within the guidelines of NUREG-1021. The following list is used as a cross-reference to the errors above:

- A. The error originally documented on page 23 of Form 303.
- B. The error originally documented on page 24 of Form 303.
- C. The error originally documented on page 25 of Form 303.
- D. This error was not originally documented. The communication error occurred during the event described on Page 12 of Form 303. Phil Capehart’s notes state that the applicant did not formally state that the crew brief was completed. Figure 4 of Administrative Procedure 10004-C, Operations Administrative Controls, Rev 91.4, provides the protocol for conducting a crew brief. The checklist depicts a formal beginning and ending to the crew brief. Once, again consequences are minimal, but a pattern of not meeting communications standards can be seen.
- E. The error originally documented on page 26 of Form 303
- F. The error originally documented on page 27 of Form 303

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- G. Carla claims in her appeal that she knew all along where the sludge mixing valves were located (originally documented on Page 20 of Form 303), even though the evidence in our notes and the exam team's observations clearly dispute that claim. If her claim of knowing the location of those valves is considered to be true (once again, the exam team believes her claim to be false), then she should be marked down for not keeping her crew informed of the location of those valves. Her crew members clearly did not know the location of the valves based on the exam team's notes and observations. This error would then be documented in Rating Factor 4.b because the applicant had an opportunity for more than 20 minutes to ensure that her crew knew the location of the sludge mixing valves so that they could quickly isolate the RWST leak from the control room.
- H. This error was not originally documented. The communication error occurred during the event described on Page 18 of Form 303. Contrary to Carla's appeal and contrary to statements made by her crew members several weeks after the scenarios were administered, the applicant did not adequately inform the SRO of the Tave / Tref status and trend. During the scenario P. Capehart and M. Bates even held a quiet conversation about the long duration of time since the applicant actively monitored the reactor – it therefore transcends that since the examiners perceived a lack of monitoring the reactor, there was also a lack of communication on the status of the reactor. It can also be seen that the examiner of record recorded in his notes numerous pertinent communications and there was no record of Carla keeping the SRO informed of Tave status in relationship to the band provided by the SRO. This comment reflects the applicant's inability to keep the rest of the crew informed (Rating Factor 4.b).
- I. This error was not originally documented. The communication error occurred during the event described on Page 19 of Form 303. It was determined during post-scenario questioning that the applicant mis-operated the PORV handswitch. She never informed the SRO of this mis-operation. The examiners did not even understand the root cause of the error until post-scenario questioning when she volunteered the information. This comment reflects the applicant's inability to keep the SRO informed of the functionality of plant equipment.
- J. The error originally documented on page 28 of Form 303.
- K. The error was not originally documented. According to P. Capehart's notes, the applicant did not acknowledge when the RO announced that the Critical Safety Function Status Tree (CSFST) alarm had annunciated. Administrative Procedure 00004-C, Plant Communications, Section 4.4.1, states, "Operational and Emergency Communications: Three-way communication is the standard for communication involving directions, operations, or transmission of technical data." Announcing the CSFST alarm with no acknowledgement from the SRO was contrary to the previously stated procedure requirement and reflects on the applicant's ability to receive information (Rating Factor 4.c).

The above grading could have been documented on the original Form 303 because errors are allowed to be assigned to two rating factors under normal circumstances and more than that for more significant errors. As discussed above, each error originally was only assigned to the one rating factor that most closely related to the root cause for each of the applicant's deficiencies. With more time available during the review induced by the appeal, the examiners noted additional errors, although these additional errors did not impact the overall score of 1.20 in Competency 4 – Communications.

VI. Competency 5: Directing Operations

A. Original Scoring of Competency 5

Competencies/ Rating Factors (RFs)	RF Weights	RF Scores	RF Grades	Comp. Grades	Comment Page No. from original 303
5. Directing Operations					
a. Timely & Decisive Action	0.30	3	0.90	3.00	
b. Oversight	0.30	3	0.90		
c. Solicit Crew Feedback	0.20	3	0.60		
d. Monitor Crew Activities	0.20	3	0.60		

a. Originally Documented Errors

The original grading of the applicant’s exam did not contain documented errors in Competency 5 because errors in this competency were assigned to the root cause of the applicant’s deficiency. The exam team still believes that the applicant’s errors were documented under the correct root cause for the deficiency; however, it is noted that some of the errors documented in the original Form 303 contained elements of Directing Operations. It was discussed during the initial grading that no errors were separately documented in Competency 5; however, it was acknowledged that elements of Directing Operations were prevalent in those errors assigned to other rating factors. Section VI.B will detail a few of the errors that could have been documented.

b. Original Evaluation of Scores for Each Rating Factor

None.

B. Potential Scoring of Competency 5 (Re-evaluation in response to appeal)

Competencies/ Rating Factors (RFs)	RF Weights	RF Scores	RF Grades	Comp. Grades	Cross Ref Below
5. Directing Operations					
a. Timely & Decisive Action	0.30	3	0.90	2.50	A, B
b. Oversight	0.30	2	0.60		
c. Solicit Crew Feedback	0.20	3	0.60		
d. Monitor Crew Activities	0.20	2	0.40		C

The above grades could be assigned within the guidelines of NUREG-1021. The following list is used as a cross-reference to the errors above:

- A. This error in Oversight was originally documented on page 10 of Form 303. The applicant incorrectly provided direction to the RO to block SI/SLI when the pressurizer pressure was not yet less than 2000 psig. A few minutes later when the RO was holding HS-0500A and -0500B to the BYPASS INTERLOCK position, the pressurizer pressure lowered to less than 2000 psig. The result was the RO releasing HS-0500A and -0500B quickly moving across the board to block SI/SLI and then hurriedly rushing back to once again hold HS-0500A and -0500B to the BYPASS INTERLOCK position. No operational errors were made by the RO, but the lack of oversight by the SRO induced an error likely situation. The SRO could have briefed the crew on operator responsibilities and conducted the entire evolution in a controlled manner using both board operators. This error was discussed in the Potential Consequences section of the original Form 303. The error could also be assigned to Rating Factor 5.b because the proper amount of crew direction was not provided to facilitate crew performance in a manner that was not error-likely (I.E. “controlled”).
- B. The error was originally documented on page 14 of Form 303. The applicant directed the RO to place FIC-121 back to automatic immediately after receiving the next malfunction (Failure of PT-508). In the presence of the PT-508 failure, the applicant’s direction and RO’s related actions caused a second transient by placing FIC-121 back to automatic, which caused charging flow to quickly lower. Unnecessarily inducing a transient on top of the PT-508 failure displayed an inability to provide the appropriate amount of direction to the crew. This error was originally assigned to Rating Factor 1.c. The exam team still believes the root cause of the applicant’s deficiency was Interpretation/Diagnosis - Understanding; however, the Oversight issue could have been documented separately under Rating Factor 5.b.
- C. This error in Oversight was originally documented on page 12 of Form 303. The applicant, at one point in the event, directed the RO to place pressurizer heaters in auto, but the RO did not perform the action. The SRO did not ensure the action was performed. The error was originally documented in Rating Factor 1.c due to a lack of understanding of how the pressure control system was designed to operate. The exam team still believes this to be the correct root cause of the applicant’s deficiency. However, Carla did not ensure that her directed actions were actually carried out which reflects on her abilities under Rating Factor 5.d.

The above grading could have been documented on the original Form 303 because errors are allowed to be assigned to two rating factors under normal circumstances and more than that for more significant errors. As discussed above, each error originally was only

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assigned to the one rating factor that most closely related to the root cause for each of the applicant's deficiencies.