

NUREG-1021, Revision 11 Implementation

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Overview

- Overall Region III Experience Thus Far
- Technical Specification Grading Example
- Mitigated Critical Task Error Example
- Other Considerations

Region III Examinations Completed Since Rev. 11 Implementation

- Dresden – August, 2017
8 applicants / 0 failures.
- Byron – December, 2017
11 applicants / 0 failures

Dresden Tech Spec Grading Example

Review of relevant Rev. 11 changes:

- “Point back” practice was discontinued
- 0 - 3 grading scale was adopted
- Technical Specification competency grading was modified (now 3 rating factors instead of 2)
- Further clarification/guidance provided by IOLB program office via ROI 17-13. This document is publically available via NRC ADAMS under the accession number **ML17213A397**

Dresden Tech Spec Grading Example

Rev. 11 TS Competency

Rev. 10 TS Competency

6. Comply with and Use Technical Specifications (TS)	
Rating Factors	Weighting Factors
(a) Did the applicant RECOGNIZE when conditions were covered by the TS and LOCATE the appropriate TS?	N/O = 0
	Nominal = 0.4
	(b) N/O = 1.0
(b) Did the applicant ensure correct COMPLIANCE with TS and LCO action statements?	N/O = 0
	Nominal = 0.6
	(a) N/O = 1.0

6. Comply with and Use Technical Specifications (TS)	
Rating Factors (RFs)	Weighting Factors
(a)* Did the applicant RECOGNIZE when instruments/components were inoperable and when conditions were covered by the TS? *If TS are not addressed at all by the applicant, this weighting factor becomes 1.0.	N/O = 0
	Nominal = 0.33
	(b) N/O = 0.50
	(c) N/O = 0.50
(b) Did the applicant demonstrate an ability to LOCATE the appropriate TS for the equipment they determined was inoperable and/or covered by TS?	N/O = 0
	Nominal = 0.33
	(a) N/O = 0.50
	(c) N/O = 0.50
(c) Did the applicant correctly INTERPRET and ensure COMPLIANCE with TS and LCO action statements?	N/O = 0
	Nominal = 0.34
	(a) N/O = 0.50
	(b) N/O = 0.50

The following is an example of three applicants' Technical Specification competency errors & grading...

Dresden Tech Spec Grading Example

Example 1:

Rating Factor 6.a – “Recognize”

- Identify events requiring a TS entry (or not).
- Maximum 1 point penalty for a single error.

Scenario Event – 2A Control Rod Drive (CRD) Pump tripped on overcurrent.

- No TS entry was needed or expected.
- Applicant entered TS 3.1.5 Condition C – “One or more accumulators inoperable with reactor steam dome pressure < 900 psig.”
- Applicant was assigned score of “2” for this rating factor.

Dresden Tech Spec Grading Example

Example 2:

Rating Factor 6.b – “Locate”

- Identify LCOs requiring entry (or not).
- One point penalty for each LCO error.

Scenario Event– Diesel Generator Cooling Water Pump Blown Fuse

- TS LCO 3.7.2, Condition A.1, “One or more DGCW subsystems inoperable.” required
- The applicant failed to locate/enter the LCO.
- The applicant was assigned score of “2” for this rating factor.

Dresden Tech Spec Grading Example

Example 3:

Rating Factor 6.c – “Compliance”

- Identify LCO Actions requiring entry (or not).
- One point penalty for each LCO condition or action statement error.

Scenario Event– Intermediate Range Monitor (IRM) fails upscale with a partial half scram

- Applicant was required to ensure compliance with TS 3.3.1.1, Condition A .
- The applicants failed to ensure compliance with TS 3.3.1.1, Condition A.
- The applicants were assigned scores of “2” for this rating factor.

Dresden Tech Spec Grading Example

Example 4:

Rating Factor 6.c – “Compliance” (same criteria as prior example)

Scenario Event– Diesel Generator Cooling Water Pump Blown Fuse

- Expected entry into TS 3.8.1, Condition B, “One required DG inoperable”, Required Actions B.1, B.2, B.3.1 or B.3.2 and B.4.
- The applicant failed to ensure compliance with TS 3.8.1; Condition B, Required Actions B.2, B.3.1 or B.3.2, and B.4.
- The applicant was assigned a score of “1” for this rating factor due to a second error in Rating Factor 6.c (see prior example).

Dresden Tech Spec Grading Example

Overall 303 Grading Results

6. Technical Specifications					
a. Recognize	<u>0.33</u>	<u>2</u>	<u>0.66</u>		<u>4</u>
b. Locate	<u>0.33</u>	<u>3</u>	<u>0.99</u>	<u>2.33</u>	
c. Compliance	<u>0.34</u>	<u>2</u>	<u>0.68</u>		<u>5</u>

6. Technical Specifications					
a. Recognize	<u>0.33</u>	<u>3</u>	<u>0.99</u>		
b. Locate	<u>0.33</u>	<u>2</u>	<u>0.66</u>	<u>2.33</u>	<u>6</u>
c. Compliance	<u>0.34</u>	<u>2</u>	<u>0.68</u>		<u>7</u>

6. Technical Specifications					
a. Recognize	<u>0.33</u>	<u>3</u>	<u>0.99</u>		
b. Locate	<u>0.33</u>	<u>3</u>	<u>0.99</u>	<u>2.32</u>	
c. Compliance	<u>0.34</u>	<u>1</u>	<u>0.34</u>		<u>4</u>

Dresden Tech Spec Grading Example

Revisions 10 & 11 Grading Comparison:

- Given these same Tech Spec errors, the combined average score of these three applicants would decrease from 2.32 to 2.13 if graded per NUREG-1021, Revision 10 methodology.
- The differences would be the result of the combined effects of adding the “point back,” and rating factor changes (2 vs. 3).
- Individually, the first 2 applicants would be scored 2.0, but the 3rd applicant would get a score of 2.4 due to the “point back.”

Byron Critical Task Error Example

An applicant made an error (crew corrected) associated with required actions for a pre-identified critical task in a simulator scenario. Absent this correction, the crew would not have accomplished the critical task.

- NUREG-1021, Appendix D (section D.1.c) now includes the following information in Rev. 11: “Applicants will be held accountable for errors that are corrected by other members of the control room team as outlined in Appendix E. If an applicant neglects to take an action or takes an incorrect action and is subsequently corrected by a team member, the examination team will determine the impact of that lack of action or incorrect action on the scenario as it relates to a CT. The measurable performance standard will depend on the consequence of the applicant’s lack of action or incorrect action if it had not been corrected by the crew.”
- Due to this mitigated critical task error, the applicant’s rating factor score received a point deduction consistent with a critical error.

Other Considerations

- ES-201, section C.3.j: “When assembling crews for the simulator scenarios, surrogate operators should be used only when they are required to complete an applicant crew. **A facility licensee may not replace license applicants with surrogates solely because the applicants have performed the minimum required number of events or scenarios.** If an applicant would be exposed to only *one* additional scenario above the minimum required, a surrogate operator should not be used in place of a license applicant.”
- This remains unchanged from Rev. 10. However, to clarify, this also means that all applicants should be at N+1 before using surrogates. In some cases, meeting this may require that applicant crew compositions change across simulator scenarios.

Other Considerations

Post Examination Reviews (ES-402, section E.4) (key changes in red)

- “The facility licensee should submit formal comments within **20 calendar days** after the examination is administered.”
- “The facility licensee **shall** collect all comments from the license applicants during exam administration and post-examination reviews and submit them to the NRC.”
- “When submitting applicant comments to the NRC, the facility licensee should... **include a facility position for each applicant comment.**”
- *Note: these revised items are also covered in ES-501 as well.*

As a reminder, NRC Regional Offices wait for the receipt of post-exam comments during this 20 day period (or written correspondence from the facility stating that there are no post-exam comments) before proceeding with the issuance of licenses.

Questions?