

NRC INSPECTION MANUAL

IOLB

INSPECTION MANUAL CHAPTER 0308 ATTACHMENT 3 APPENDIX I

TECHNICAL BASIS FOR LICENSED OPERATOR REQUALIFICATION SIGNIFICANCE DETERMINATION PROCESS

Effective Date: 07/10/2025

0308.03I-01 PURPOSE

This document provides the basis for IMC 0609, Appendix I, "Licensed Operator Requalification Significance Determination Process (SDP)." The objective of IMC 0609, Appendix I is to assess the significance of inspection findings associated with Inspection Procedure 71111.11, "Licensed Operator Requalification Program and Licensed Operator Performance."

0308.03I-02 BACKGROUND

This SDP assesses licensed operator requalification program issues. The significance of an actual licensed operator error is better assessed using other SDPs that can determine the change in core damage frequency (CDF) and utilize human performance failure assessment tools such as SPAR-H. Licensed operator errors may also be reflected in performance indicators (PIs), when applicable. If actual licensed operator errors in the plant lead to the identification of performance deficiencies in the licensed operator requalification program, the related findings can be assessed using this SDP.

This SDP applies to the programmatic aspects (e.g., examination grading, examination quality, examination security) of operator requalification and to the performance of licensed operators during the written examination and the annual operating test. This SDP includes only those aspects of the requalification program that are important to plant risk. For example, although issues associated with the student feedback system may have only a very low impact on plant risk, a review of this feedback system may identify performance issues in other programs that have a more significant impact on plant risk and that should be assessed.

While it is important to note that the NRC retains regulatory authority of operator licensing, requalification, and operator performance, the NRC maintains a Memorandum of Agreement with the Institute of Nuclear Power Operations (INPO)¹. The agreement states, in part, that the NRC will, "conduct performance-based inspections of training and qualification program effectiveness, as necessary and consistent with 10 CFR 50.120 and the NRC Inspection Manual." The agreement also states, "Because INPO pursues correction of INPO-identified deficiencies and low-level trends from member corrective action program documents, the NRC will not pursue corrective action for INPO-identified deficiencies except as necessary to carry out its statutory duty to ensure public health and safety."

¹ 2022 Memorandum of Agreement Between the Institute of Nuclear Power Operations and the NRC (ML23026A093)

This SDP is applicable to licensed operator requalification program **findings**, including licensed operators assigned to shift and staff crews, with either active or inactive licenses. This procedure is applicable to all license holders since a staff crew member with an active license could be immediately assigned to an on-shift position and because a staff crew member with an inactive license need only fulfill the minimum required time on-shift to activate a license. A crew is defined as any group of individuals evaluated as a single entity by the licensee based on performance in the dynamic simulator.

Programmatic issues, such as requalification failure rates or examination quality, that do not result in actual risk-significant licensed operator plant performance errors may result in a White finding because those programmatic weaknesses increase the risk of potential operator errors in the plant. In addition to supplemental inspections, consult Inspection Procedure (IP) 71111.11 for a discussion of potential additional oversight activities, including the performance of IP 41500, "Training and Qualification Effectiveness," or an NRC-administered requalification examination in accordance with NUREG-1021, "Operator Licensing Examination Standards for Power Reactors." The Green/White thresholds in the SDP and the more-than-minor thresholds in IP 71111.11 related to requalification failure rates, written examination quality, and operating test quality are based on expert judgement. Operating experience has shown that the thresholds appropriately screen performance issues. The 20 percent more-than-minor thresholds in **IP 71111.11** ensure that only programmatic issues, which are more than isolated or limited problems, are documented in inspection reports. The 40 percent Green/White threshold in the SDP is double the minor threshold so that only widespread programmatic issues with sufficient safety significance will cause a supplemental inspection.

Findings associated with the administration of the annual requalification operating test are categorized as Green because operating experience has demonstrated that these **findings** do not result in the disqualification of a significant number of operators or crews from standing watch or actual licensed operator errors in the plant.

Findings associated with remedial training or re-examinations are categorized as Green because these **findings** either only impact a small number of licensed operators or are associated with discrete knowledge and/or abilities that require operator remediation or retesting. Therefore, the risk that a lack of specific knowledge and/or abilities could cause or exacerbate an actual plant event related to that specific knowledge and/or ability is very low, compared to the overall body of knowledge and/or abilities and range of events and mitigating factors in the plant.

Examination security issues that do not directly impact the equitable and consistent administration of an examination could not directly result in actual operator errors. Therefore, **findings** in this area are categorized as Green findings. However, if there was an actual plant impact, traditional enforcement and IMC 0609, Appendix M are more appropriately utilized to assess the significance of these types of **findings** because they are rare and the safety significance can be affected by several variables that make setting a Greater-than-Green threshold difficult. Past examples of an actual examination security impact that resulted in a **greater-than-Green** finding include a finding with multiple examination security issues that affected most or all licensed operators.² Although there was no evidence of actual operator errors in the plant, and no evidence that operators would have failed an examination absent the examination security issues, the inspectors determined that the finding should be categorized as

² See Inspection Reports at ML070440231 and ML080150151.

White through a combined statistical and qualitative analysis. Another example of an examination security issue that did not have an actual plant impact and was categorized as a Green finding involved excessive examination overlap. To conclude that no actual impact existed, the inspectors and licensee performed an analysis which showed that the scores on the portions of the examination with overlap were similar to scores on other examinations without question overlap.³

Simulator deficiencies can contribute to risk-significant events in the plant if they lead to operator errors. Other SDPs more appropriately capture the risk significance of a simulator-related finding that may be greater-than-Green because of the ability to evaluate integrated licensee performance, of which simulator training is a part of human performance. The ability to isolate the contribution of simulator training to actual operator errors in SDPs that address human performance (e.g., SPAR-H) is the most appropriate method to evaluate the risk significance of potential greater-than-Green simulator-related findings.

Simulator-related findings are categorized as Green when not related to actual operator errors. There are many factors unrelated to simulator training that contribute to human performance errors. These factors include procedure quality, ergonomics conditions, licensed operator stress, available task time, task complexity, and operator experience. Therefore, if the issue only affects one human performance factor, such as simulator training in this case, then the finding should be categorized as Green.

³ See Inspection Report at ML110420242.

Attachment 1: Revision History for IMC 0308 Attachment 3 Appendix I

Commitment Tracking Number	Accession Number Issue Date Change Notice	Description of Change	Description of Training Required and Completion Date	Comment Resolution and Closed Feedback Form Accession Numbers (Pre-Decisional, Non-Public Information)
	ML042100278 06/25/04 CN 04-020	Revised solely to reformat current IMC 0308 by dividing into attachments and further into appendices to process future changes more efficiently.	None	N/A
	ML052100191 07/28/05 CN 05-022	Revised to add guidance on the overall operator requalification program.	None	N/A
N/A	ML25182A329 07/10/25 CN 25-025	Revised to latest IMC 0040 format and complete re-write to update to current SDP.	None	ML25182A327 ML25182A328