

ATTACHMENT 4

LICENSED OPERATOR REQUALIFICATION CASE STUDIES

1. Plant No. 1

CREW PERFORMANCE ON THE DYNAMIC SCENARIO PORTION OF THE FACILITY-ADMINISTERED ANNUAL REQUALIFICATION EXAMINATION OPERATING TEST.

The finding was associated with unsatisfactory operating crew performance on the simulator during facility-administered licensed operator requalification examinations. Of the 12 crews evaluated, three did not pass their annual operating tests. The failures occurred during annual testing of the operators on the simulator, there were no actual consequences to the failures, and the crews were removed from watch-standing duties, retrained, and re-evaluated before they were authorized to return to control room watches.

2. Plant No. 2

INDIVIDUAL OPERATOR PERFORMANCE ON THE JOB PERFORMANCE MEASURE OR DYNAMIC SCENARIO PORTION OF THE FACILITY-ADMINISTERED ANNUAL REQUALIFICATION EXAMINATION OPERATING TEST

The finding was associated with unsatisfactory performance of individual operators on the annual licensed operator requalification operating test. Of 62 licensed operators examined, unsatisfactory performance was identified for two operators during job performance measures (JPMs) and for 14 operators in the dynamic scenario portion. The failures occurred during annual testing of the operators on the simulator and simulated performance of tasks in the plant, there were no actual consequences to the failures, and the individuals were removed from watch-standing duties, re-trained, and re-evaluated before they were authorized to return to control room watches.

3. Plant No. 3

FAILURE TO DEMONSTRATE SATISFACTORY LICENSED OPERATOR REQUALIFICATION PROGRAM PERFORMANCE.

The licensee failed to demonstrate satisfactory licensed operator requalification program performance as described in NUREG-1021, "Operator Licensing Examination Standards for Power Reactors," Revision 8, Supplement 1, Examination Standard 601, Section E.3.a(1). Examination Standard 601 E.3.a(1)

ATTACHMENT 4

LICENSED OPERATOR REQUALIFICATION CASE STUDIES

specifies, in part, that for a requalification program to maintain satisfactory performance, 75 percent or greater of the participants must pass all portions of the biennial examinations. Failures during the biennial cycle included a 36 percent failure rate on the biennial written examination. Immediate corrective actions implemented by the licensee included remedial training and retesting prior to returning operators to shift. The finding was more than minor because it was associated with the reactor safety cornerstone attributes concerning the licensee requalification program. High operator failure rates in the biennial requalification program may be indicative of programmatic issues with the operator license requalification program.

4. Plant No. 4

FAILURE TO PROVIDE COMPLETE AND ACCURATE INFORMATION TO THE NRC WHICH IMPACTED A LICENSING DECISION.

The inspectors identified a non-cited Severity Level IV violation (NCV) of 10 CFR 50.9 for failure to provide complete and accurate information for one licensed operator on the initial license application. The applicant did not meet the American Nuclear Standards Institute /American Nuclear Society (ANSI/ANS) 3.4, 1983, standard for visual acuity without corrective lenses and had a pre-existing medical condition, both of which required a license restriction. The licensee submitted NRC Form 396, Certification of Medical Examination by Facility Licensee, along with supplemental medical information, without recommending these restrictions. The NRC imposed a no-solo restriction on the operator's license after reviewing the supplemental information. The failure to certify the need for corrective lenses resulted in an incorrect licensing action by the NRC because a license was issued without a restriction to wear corrective lenses. Because this issue affected the NRC's ability to perform its regulatory function, it was evaluated using the traditional enforcement process. This finding is of very low safety significance because there was no evidence that the operator endangered plant operations as a result of impaired visual acuity while performing licensed duties since the original license issuance. However, the regulatory significance was important because the incorrect information was provided under sworn statement to the NRC and impacted a licensing decision for the individual. The facility licensee took prompt corrective action and submitted NRC Form 396 requesting to have the operator's license amended with the appropriate restriction.

ATTACHMENT 4

LICENSED OPERATOR REQUALIFICATION CASE STUDIES

5. Plant No. 5

POTENTIAL COMPROMISE OF SCENARIO REQUALIFICATION EXAMINATIONS

The inspectors identified a non-cited violation of 10 CFR 55.49 because the simulator was left connected to the local area network-based emergency response facility while scenario requalification examinations were being conducted. This resulted in the potential that the integrity of the scenario requalification examinations could be compromised. This finding is greater than minor because a compromise of the integrity of the annual requalification examinations could lead to operators (who would normally have failed the examination) with deficient knowledge and skills to remain on shift. Allowing operators with deficient knowledge and skills to remain on shift increases the likelihood that a human performance error could initiate a reactor safety event or inhibit the appropriate mitigating response to such an event.

6. Plant No. 6

FAILURE TO PROPERLY REACTIVE SENIOR REACTOR OPERATOR LICENSE

A non-cited violation was identified for failure to follow the requirements of licensee procedures as required by Technical Specifications. This resulted in the incorrect certification of the reactivation of two SRO licenses. The inspectors determined that the finding is greater than minor because it involves the Mitigating System Cornerstone objective of the reliability and capability of operators to respond to initiating events to prevent undesirable consequences. The NRC considers the reactivation and proficiency of licensed operators an element of the human performance attribute which helps to minimize potential human errors. The finding was evaluated using the Operator Requalification Human Performance significance determination process and was determined to be a finding of very low safety significance because more than 20 percent of the reactivation records reviewed had deficiencies.

ATTACHMENT 4

LICENSED OPERATOR REQUALIFICATION CASE STUDIES

7. Plant No. 7

FAILURE TO NOTIFY THE NRC OF A CHANGE IN OPERATOR STATUS IN ACCORDANCE WITH 10 CFR 50.74(C)

The inspector identified a violation of 10 CFR 50.74(c), "Notification of Change in Operator or Senior Operator Status." The inspector identified that the facility licensee failed to notify the NRC within 30 days after receiving a change in medical status of a licensed operator from the station's medical examiner. The change in medical status required conditioning the operator's license by the NRC.

8. Plant No. 8

LICENSED OPERATORS WERE NOT COMPLETING THE REQUIREMENTS OF 10 CFR 55.53(F) TO REACTIVATE THEIR LICENSES PRIOR TO RESUMING WATCH-STATION ACTIVITIES

The inspectors identified that the licensee was not completing the requirements of 10 CFR 55.53(f) prior to allowing inactive licensed operators to resume control room watch standing duties. Because the Shift Engineer position did not meet the definition of "actively performing the functions of an operator or senior operator" per 10 CFR 55.4, "Definitions," operators inappropriately received credit for license proficiency when standing this watch station. For licensees that stood this watch station exclusively, their licenses became inactive at the end of the next calendar quarter. When these licensees subsequently stood Shift Manager or Control Room Supervisor watches prior to completing the requirements of 10 CFR 55.53(f), a violation of 10 CFR 55.53(e) requirements occurred. The finding was more than minor because the failure to satisfy license proficiency requirement increased the likelihood of an operator error involving systems used to mitigate an event. The Significance Determination Process (SDP) Appendix I flowchart focused on general record deficiencies exceeding a specified threshold of 20 percent of the records reviewed. The sample review of 27 operators revealed that 7 operators had inactive senior operator licenses (26 percent). The inspectors determined from the SDP that this finding was of very low safety significance.

ATTACHMENT 4

LICENSED OPERATOR REQUALIFICATION CASE STUDIES

9. Plant No. 9

ERRORS IN WRITTEN EXAMINATION GRADING RESULTED IN SIX OPERATORS PASSING WHO SHOULD HAVE FAILED, THREE OF WHICH WERE RETURNED TO LICENSED DUTIES.

A non-cited violation of 10 CFR 55.59(b) was identified. Specifically, due to errors in resolution of regrading the 2003 licensed operator requalification biennial written examinations, three licensed operators were returned to licensed duties, but were later determined to have failed their requalification examinations. As a result, remedial training and re-examination was not completed before returning the affected operators to licensed duties. The failure to accurately grade the requalification written examinations was a performance deficiency that was more than minor because the licensee did have an opportunity to identify and correct the grading errors prior to returning operators to licensed duties. If this performance deficiency was left uncorrected it could result in inadequately trained or incompetent operators performing licensed duties. The finding is of very low safety significance because it resulted in six operators passing the requalification examination who should have been evaluated as failed.

10. Plant No. 10

FAILURE TO NOTIFY THE NRC OF A CHANGE IN OPERATOR STATUS IN ACCORDANCE WITH 10 CFR 50.74(c)

The inspector identified a violation of 10 CFR 50.74(c), "Notification of Change in Operator or Senior Operator Status." The inspector identified that the facility licensee failed to notify the NRC within 30 days after receiving a change in medical status of a licensed operator from the station's medical examiner. The change in medical status required conditioning of the operator's license by the NRC.

11. Plant No. 11

POTENTIAL DISQUALIFYING CONDITION FOR A LICENSED OPERATOR

An unresolved item (URI) was identified in that a potential disqualifying condition (solo operation) for a licensed operator existed as stated in the American Nuclear Standards Institute American Nuclear Society (ANSI/ANS) 3.4, 1983 standards. During a medical records review, the inspectors identified that an operator's record

ATTACHMENT 4

LICENSED OPERATOR REQUALIFICATION CASE STUDIES

may need to have a "no solo" condition on the individual's operating license to satisfy a potential disqualifying condition due to heart erythema in order to meet the ANSI/ANS 3.4 1983 cardiovascular requirements. The facility licensee was informed that the individual may have had to require an amendment to his/her license that required compliance with a "no solo" condition while performing licensed duties. This issue will be identified as an URI pending completion of an NRC medical review of the operator's NRC FORM 396 to determine if a license condition is warranted.

12. Plant No. 12

FAILURE TO PROVIDE COMPLETE AND ACCURATE INFORMATION TO THE NRC WHICH IMPACTED A LICENSING DECISION.

Plant 12 management personnel informed the NRC that one senior reactor operator had a pre-existing medical condition (since 1996) that required the presence of another qualified individual (i.e., "no solo") when performing licensed duties and requested a "no solo" license restriction for the individual. The letter from the company physician also described a medication the individual was taking for the medical condition. The medical condition described by the physician was considered a disqualifying condition in accordance with American National Standards Institute/American Nuclear Society (ANSI/ANS)-3.4 - 1983, "American National Standard Medical Certification and Monitoring of Personnel Requiring Operator Licenses for Nuclear Power Plants." On December 28, 1999, the licensee provided information to the NRC regarding the medical status of the same individual applying for a renewal of the individual's senior reactor operator license with no recommendation for a "no solo" license. The individual's license was renewed by the NRC, based on the information provided by the licensee. Again, the medical condition was considered a disqualifying condition in accordance with ANSI/ANS-3.4 - 1983, and should have been reported to the NRC on NRC Form 396 for the renewal of the applicant's license requesting a "no solo" restriction on the individual's license. Therefore, the information provided to the NRC, was material to the NRC licensing action. [Note: The information concerning the individual's specific medical condition is considered medical privacy information under 10 CFR 2.390(2)(6) and is not specifically discussed here.] As noted above, the NRC received a request for a "no solo" license restriction for the individual. The NRC received another letter from the licensee, notifying the NRC that the recommendation of the "no solo" license condition for the individual not be implemented. The letter stated that upon further review of the individual's medical

ATTACHMENT 4

LICENSED OPERATOR REQUALIFICATION CASE STUDIES

records, the company physician determined that the individual met ANSI/ANS-3.4 - 1983 to work as an operator in a multi-person facility; therefore, no license condition for solo operation was required. The NRC's medical officer again determined, that the operator required a "no solo" restriction to the operator's license. Since NRC intervention was required to identify the requirement for the operator to have a "no solo" restriction, this apparent violation was considered NRC identified. Because the issue affected the NRC's ability to perform its regulatory function, it was evaluated with the traditional enforcement process. The finding was determined to be of low safety significance because the operator had not acted in a solo capacity prior to the license being amended. However, the regulatory significance was important because the incorrect information was provided under a signed statement to the NRC and impacted a licensing decision for the individual. The issue was preliminarily determined to be an apparent violation of 10 CFR 50.9.

13. Plant No. 13

VIOLATION OF 10 CFR 55.49 FOR POTENTIAL EXAM COMPROMISE DURING ADMINISTRATION OF ANNUAL OPERATING EXAM

The inspectors identified an NCV of 10 CFR 55.49 when they observed each operator of a crew using the same copy of an approved procedure to complete a job performance measure (JPM) during the annual operating test. The inspectors determined that the test was potentially compromised because an operator using this copy of the procedure could have identified the procedure steps necessary to successfully complete the JPM based on place keeping marks made by previously tested operators. The violation was more than minor because it adversely affected the mitigating systems cornerstone attribute of human performance. A licensed operator without the requisite skills and knowledge could have passed the annual requalification operating test, and this could have affected the ability of operators to respond to an initiating event and prevent undesirable consequences. Based on IMC 0609, Appendix I, "Operator Requalification Human Performance SDP," the finding was of very low safety significance because the licensee took immediate corrective actions and there was no evidence of actual exam compromise.

ATTACHMENT 4

LICENSED OPERATOR REQUALIFICATION CASE STUDIES

14. Plant No. 14

CREW FAILURE RATE ON THE DYNAMIC SIMULATOR PORTION OF THE FACILITY-ADMINISTERED ANNUAL OPERATING EXAMINATIONS

A finding of very low safety significance was identified at Unit 2. The finding was associated with crew performance on the simulator during facility-administered requalification examinations. Of the nine crews evaluated, three failed to pass their simulator examinations. The finding is more than minor because it reflected the potential inability of the crews to take appropriate safety-related actions in response to actual abnormal or emergency conditions. The finding is of very low safety significance because the failures occurred during annual testing of the operators on the simulator, because there were no actual consequences to the failures, and because the crews were removed from watch standing duties, retrained and re-evaluated before they were authorized to return to control room watches.

15. Plant No. 15

ADEQUACY OF WALKTHROUGH EXAM ADMINISTERED TO CONTROL ROOM SUPERVISORS

The NRC identified that the level of difficulty for the JPM sets junior Senior Reactor Operators (SROs) / Control Room Supervisors (CRSs) were potentially inadequate in that the JPMs did not require the senior operator to demonstrate an understanding of and ability to perform the task. Specifically, the JPMs being used for testing EAL determinations were overly simplistic and involved only one challenge (e.g., Transient RCS Leak Rate calculation for steam generator leak rate of 12.5 gpm; ATWS Classification; Main Generator Hydrogen Burn/Explosion; Evacuation of all unnecessary personnel due to ammonia tank car leak; Rad Release).

This is an open reference exam and with the emergency action level (EAL) Matrix in hand, unless the JPM involves multiple plant challenges to the operator, the task becomes a simple reading exercise that someone with little understanding could easily answer (i.e., the equivalent of a direct look-up). Licensee procedure asks, "Is the question a "direct look-up" question?" Although these JPMs were not written exam items, these EAL test items could be viewed as equivalent in scope to a simple open reference written exam question.

At least two of the five JPMs designated for testing junior SROs/CRSs for certain weeks were either the equivalent of direct look-up exam items (e.g., designated to test the SRO

ATTACHMENT 4

LICENSED OPERATOR REQUALIFICATION CASE STUDIES

function in making EAL calls) or were overly simplistic and did not adequately discriminate as an exam item (e.g., Locally Operate valves in-plant; Trip Turbine Locally; and Trip Generator Breaker). In addition, the JPMs planned for use in future exam weeks to test EAL calls were also determined to be overly simplistic and do not require the operators to demonstrate understanding.

Licensee procedures state, “verify that the operating test, to the extent applicable, requires the applicant to demonstrate an understanding of and the ability to perform the actions necessary to accomplish a representative sample from among the 12 items listed on Attachment 11, 10 CFR 55.45 Operating Exam Content.” (Note: This procedure requirement is essentially a quote from the requirements found in 10 CFR 55.59 (a)(2)(ii)). The 10 CFR 55.45 includes item (a)(11), “Demonstrate knowledge of the emergency plan for the facility...” and (a)(12), “Demonstrate the knowledge and ability as appropriate to the assigned position to assume the responsibilities associated with safe operation of the facility.” These exams must examine depth of knowledge and understanding to ensure that operators continue to maintain adequate knowledge and abilities to safely operate the plant (i.e., discriminating safe from unsafe operators).

The inspectors determined that a potential performance deficiency (PD) existed in that the licensee did not ensure that adequate JPMs were developed and administered to licensed operators during their annual operating requalification examinations. The requirement/standard is that the annual operating test requires operators to demonstrate an understanding of and the ability to perform the actions necessary to accomplish a sample of the items listed in 10 CFR 55.45. The potential PD is more than minor because it affected at least the Mitigating Systems Cornerstone (and potentially Initiating Events and Barrier Integrity) objective and its related attribute on Human Performance (Human Error (Pre-Event and Post-Event)).

16. Plant No. 16

INABILITY OF 25 PERCENT OF THE CREWS TO PASS THE DYNAMIC SIMULATOR PORTION OF THE FACILITY-ADMINISTERED ANNUAL OPERATING EXAMINATIONS

A finding of very low safety significance was identified. The finding was associated with operating crew performance on the simulator during facility-administered licensed operator requalification examinations. Of the eight crews evaluated, two did not pass their simulator examinations. The finding is of very low safety significance because the failures occurred during annual testing of the operators on the simulator, because there were no actual consequences to the failures, and because the crews were removed from watch-standing duties, retrained and re-evaluated before they were authorized to return to control room watches.

ATTACHMENT 4

LICENSED OPERATOR REQUALIFICATION CASE STUDIES

17. Plant No. 17

LACK OF ASSURANCE THAT EACH SECTION OF THE OPERATING EXAM IS AT LEAST 50 PERCENT UNIQUE COMPARED TO ANY OTHER OPERATING EXAM ADMINISTERED DURING THE SAME CYCLE

An NCV was identified for non-adherence to an established Licensee licensed operator requalification test (LORT) program procedure that provided guidance for satisfying the requirements of 10 CFR 55.59 in the development of the Senior and Reactor Operator annual requalification exams. The finding is greater than minor because the Performance Deficiency affected the mitigating systems cornerstone objective to ensure mitigating system reliability and availability, and its related attribute on human performance (Human Error (Pre-Event and Post-Event)). The finding is of very low safety significance because the discrepancy did not have an adverse impact on the operator's ability to safely operate the plant this past year and there were no identified concerns regarding exam compromise.

18. Plant No. 18

LACK OF DOCUMENTATION OF ADEQUATE REMEDIATION PLANS FOR SENIOR REACTOR OPERATORS AND REACTOR OPERATORS

An NCV was identified for non-adherence to an established Licensee licensed operator requalification program procedure for documenting remediation plans for Senior and Reactor Operators developed as a result of failures on 2003 biennial written and annual operating exams and as required by 10 CFR 55.59(c)(5). The finding is greater than minor because the performance deficiency affected the mitigating systems cornerstone objective to ensure mitigating system reliability and availability, and its related attribute on human performance (Human Error (Pre-Event and Post-Event)). The finding is of very low safety significance because the discrepancy did not have an adverse impact on the operator's ability to safely operate the plant this past year

ATTACHMENT 4

LICENSED OPERATOR REQUALIFICATION CASE STUDIES

19. Plant No. 19

LICENSEE'S POLICY TO RE-EXAMINE LICENSED OPERATORS USING ONLY ONE SCENARIO VICE TWO FOR RETAKE EXAMS FOLLOWING FAILURES ON THE ANNUAL OPERATING EXAM

This issue addressed the number of scenarios which operators were required to perform to demonstrate sufficient remediation following failure of an Annual Operating test. Licensee procedure states, "each operating test shall consist of at least two scenarios..." However, licensee ran only one scenario instead of two for the retake exams after remediation on the Annual Operating tests for seven candidates that failed.

The NRC Region I staff sought guidance from the Nuclear Reactor Regulation program office regarding this concern due to potential generic industry impact. It was determined after further review that the facility licensee would be expected to administer a retest in accordance with their NRC approved requalification program and licensee's current program allowed some flexibility regarding the content of retests, including retesting using only one scenario. However, the SAT based process must be utilized in determining the appropriate method and depth of retest based on analysis of individual and/or crew failures (i.e., a one size fits all approach would not be appropriate). In response to this concern, licensee determined that enhancements to the Annual Operating Exam reevaluation process were in order and consequently revised training procedures and added guidance regarding individual and /or crew failures (e.g., section 6.2 states, "If a crew receives a FAIL grade, then all crew members **shall** be evaluated using a simulator scenario set prior to being returned to licensed duties)." The inspectors concluded no violation of regulatory requirements occurred.

20. Plant No. 20

LICENSEE DID NOT NOTIFY THE NRC OF A LICENSED SENIOR OPERATOR'S MEDICAL CONDITION

The inspectors identified a Severity Level IV NCV of 10 CFR 50.74(c) because the Licensee did not notify the NRC within 30 days of the identification of a medical condition that caused a licensed senior operator to fail to meet the requirements of 10 CFR 55.21. That medical condition ultimately required the NRC to issue a conditional [restricted] license. Specifically, the licensee became aware of a medical condition that caused a licensed senior operator to fail to meet the requirements of 10 CFR 55.21 and for which a conditional [restricted] license was required. However, the licensee did not notify the NRC of the medical condition until five months later. Licensee's failure to report the medical condition to the NRC

ATTACHMENT 4

LICENSED OPERATOR REQUALIFICATION CASE STUDIES

impacted the regulatory process, in that, for a period of months, the NRC was unaware of a medical condition that warranted issuance of a conditional [restricted] license. Because the finding impacted the regulatory process, it was dispositioned using the traditional enforcement process instead of the significance determination process. This issue has been entered into licensee's corrective actions program.