



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION**

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November 4, 2014

MEMORANDUM TO: William M. Dean, Director  
Office of Nuclear Reactor Regulation

FROM: James M. Trapp, Deputy Director */RA/*  
Division of Reactor Safety  
Region I

SUBJECT: OPERATOR LICENSING LESSONS LEARNED REVIEW TEAM  
REPORT

The purpose of this memorandum is to transmit the attached Lessons Learned Review Team (LLRT) Report. The review team was established to assess the issues leading to the March 18, 2014, Atomic Safety and Licensing Board decision overturning the U.S. Nuclear Regulatory Commission (NRC) staff's denial of a senior reactor operator license for an applicant from the Vogtle Electric Generating Plant. In that decision, the Board highlighted the staff's handling of several procedural issues related to the operator licensing examination process. The team conducted a focused review of the NRC's processes for initial operator licensing and staff administrative reviews (appeals) and identified twenty-three recommended improvements to the operator licensing process.

The attached report fulfills the purpose established in the team charter. The report documents major lessons learned and specific areas for improvement in the examination standard. The team's preliminary recommendations were broadly shared with interested stakeholders who generated over two hundred comments that were evaluated and incorporated into the team's final recommendations. Overall, the team concluded that the license operator examination process is an extremely high quality process that has been demonstrated over time to successfully evaluate and discriminate the level of competency of operator license applicants. The recommendations made by the team should be viewed as enhancements to promote consistency across the regions and improve the scrutability of the waiver and appeal processes. None of the team's recommendations were viewed as requiring urgent resolution. The LLRT concluded that implementation of the team's recommendations would significantly reduce the likelihood of future appeals to the Atomic Safety and Licensing Board, and increase the likelihood that the agency's license decisions will be upheld in the event of such an appeal. The LLRT worked closely with the Office of General Counsel attorneys involved in the Vogtle appeal and included their guidance when formulating our final recommendations.

Please contact me at 610-337-5186 if you have any questions.

Enclosure:  
Operator Licensing Lessons Learned Team Report

CONTACT: James M. Trapp, Region I/DRS  
610-337-5186

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Enclosure:  
Operator Licensing Lessons Learned Team Report

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Memorandum to William M. Dean from James M. Trapp, dated **November 4, 2014**.

SUBJECT: OPERATOR LICENSING LESSONS LEARNED REVIEW TEAM REPORT

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# **Operator Licensing Lessons Learned Review Team Report**

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**Acknowledgment**

The Lessons Learned Review Team (LLRT) has gathered insights from operator licensing examiners from the four regions and those staff members directly involved in the Atomic Safety and Licensing Board (ASLB) decision which overturned the staff's denial of a senior reactor operator license for an applicant from the Vogtle Electric Generating Plant. The team deliberated on its recommendations in a collegial manner and collaborated to produce this report. The team was comprised of individuals with almost 200 years of collective experience in the nuclear field with 67 years of operator licensing experience. The representation of the four regions and headquarters, as well as the team's significant experience, provided a strong foundation from which to address this project and make recommendations. I thank the team members for their active engagement and professional commitment to this project.

James M. Trapp, Team Leader

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## **EXECUTIVE SUMMARY**

The United State Nuclear Regulatory Commission individually licenses reactor operator and senior reactor operator applicants who seek to operate or direct the operations of control room activities at commercial nuclear power plants. In order to receive a license, the applicants must meet the requirements in 10 CFR Part 55 which includes passing an examination that is administered under the guidance of NUREG-1021, "Operator Licensing Examination Standards for Power Reactors." For those who are denied a license, there is a process of increasing formality by which applicants can pursue an appeal. The final actions of this process can result in a hearing before the Atomic Safety and Licensing Board (ASLB).

On March 18, 2014, the ASLB issued a decision, on one such appeal, to overturn the staff's denial of a senior reactor operator license for an applicant from the Vogtle Electric Generating Plant. In its 144 page decision, the ASLB stated its opinion numerous times that the staff administration of the examination to the applicant was not "equitable and consistent" and that the staff's assessment of the applicant was "arbitrary" or an "abuse of discretion."

As a result of the ASLB decision, a Lessons Learned Review Team (LLRT) was formed to conduct a focused review of the NRC's processes for initial operator licensing simulator tests and staff administrative reviews (appeals) in order to identify and recommend areas for improvement. To accomplish this task, the Director of Inspection and Regional Support from the Office of Nuclear Reactor Regulation, approved a charter for this team which identified the scope and areas of focus.

### **Team Objectives and Approach**

The team objective was to conduct a focused review of the NRC's processes for initial operator licensing simulator tests and staff administrative reviews (appeals) in order to identify and recommend areas for improvement. In order to meet this objective, the charter directed the team to focus on four specific areas: 1) potential enhancements to the current NUREG-1021 (Examiner Standards) grading criteria for simulator operating tests and regional consistency; 2) the waiver process for portions of initial operator licensing examinations that an applicant previously passed; 3) the informal review process for applicant appeals regarding simulator operating tests and regional consistency; and 4) examination team composition. The charter for the team is provided in Attachment 1.

To accomplish this, a six-person team was formed which was comprised of NRC subject matter experts from headquarters and each of the regional offices. No member of the team had any prior involvement in the 2011 and 2012 Vogtle Electric Generating Plant initial operator licensing examinations, or in the informal staff review of the applicant's 2012 simulator operating test. Additionally, the team members were selected on the basis of their experience with the operator licensing process.

In order to meet its objective, the team was directed to review the ASLB decision to ensure that all appropriate issues and concerns were captured. In addition, the team was directed to review the grading and appeal processes contained in the Examiner Standards and Operator Licensing Manual Chapter (OLMC)-500, "Processing Requests for Administrative Reviews and Hearings," dated December 2011. Also, the team was to review the interim actions established in the memorandum "Interim Guidance Related to the Conduct of Initial Operator Licensing

Examinations” to evaluate whether the interim actions should be institutionalized in operator licensing program documents.

The team was expected to interview the staff members directly involved in the various aspects of handling the Vogtle applicant’s initial examination and appeal. To broaden the team’s knowledge base for decision making, the team conducted interviews and consulted other government agencies that issue federal licenses.

After its initial review, the team developed a preliminary set of recommendations to address the focus areas outlined in the team charter. The LLRT solicited comments on the preliminary recommendations from a wide variety of stakeholders and received significant feedback (over 200 comments). Each comment was carefully considered and factored into the team’s final recommendations.

### **Major Lessons Learned**

The team concluded that current flexibilities in the Examiner Standards have led to implementation differences among the four regional offices. The ASLB noted these differences in grading practices and cited them as contributing to their decision. The LLRT’s recommendations will remove flexibility from the Examiner Standards and make process improvements that would significantly improve consistency. However, while implementation of the LLRT’s recommendations would improve consistency, success will not be achieved without a strong commitment by the regional offices to implement the Examiner Standards in a consistent manner and having stronger oversight and direction provided by the Headquarters Operator Licensing Branch (OLB).

The LLRT recommends changes in grading the operating test that would result in a more consistent exam process and improve evaluation tools for determining the competency of the applicants. Both the nuclear industry and NRC examiners have recognized that there are needed enhancements that could be made to improve the discriminatory value of the operating exam. The LLRT recommendations would make the grading of the operating exam more discriminating allowing examiner additional flexibility in making these important licensing decisions. While the LLRT does not believe that these recommendations will have a significant impact the overall operating test failure rate, steps such as benchmarking and piloting these changes would be necessary to confirm this assumption.

The Examiner Standards lack specific guidance on how licensees interface with the NRC when applying for waivers following exam failures. The ASLB decision documented that informal communications between the regional staff and licensee influenced the decision to apply for a waiver. The LLRT’s recommendations would clarify the current communications protocol to require that only formal written waiver requests would be considered by the NRC.

The ASLB decision included a concern that the informal review panel (appeal panel) had been unduly influenced by the affected regional staff, as indicated by the draft documents and informal email interactions that reflected an evolving position by the appeal panel. The LLRT’s recommendations would formalize the interaction between the appeal panel and the affected region by documenting positions and engaging senior management into the process. In addition, the LLRT recommends that draft documents would not be retained and would be handled consistent with existing NRC policies for agency records.



The NRC Examiner Standards currently allow flexibility in staffing the re-examination team. This flexibility led the ASLB to conclude that the Vogtle re-examination team members had a predetermined bias against the applicant who filed the appeal. The LLRT's recommendations would provide additional restrictions on the composition of both the re-examination team and independent review panel that would eliminate any appearance of bias by the membership.

### **Lesson's Learned Review Team Recommendations**

The LLRT's recommendations for each of the specific focus areas are enclosed in this report and are briefly summarized below.

The LLRT recommends changes to the dynamic simulator scoring methodology such as eliminating the practice of giving a point back for successfully performing a task, and changing the range of scoring to 0-3 instead of 1-3 while keeping the pass/fail threshold at 1.8. The team's intent for these changes is to simplify the grading process to promote consistency as well as improve the discriminatory level of the operating examination. The team recognizes that these changes might result in an increased failure rate; however the team believes that this increase would be minimal.

The LLRT recommends objective criteria for granting waivers for individuals who re-apply after only failing one portion of the examination. These criteria are based upon the applicant's scores from their initial examination. These criteria are intended to establish clear guidance for the agency as well as for the industry. In addition, these criteria address situations in which re-take applicants were marginal performers as evidenced by marginally achieving passing scores on some portions of their initial examination.

The LLRT offers several recommendations for changes in OLMC-500, "Processing Requests for Administrative Reviews and Hearings," to provide guidance under various circumstances for those involved in the appeal process. Also, the team recommends additional guidance regarding who can participate in a retake applicant's examination to reduce any appearance of bias on the re-examination team.

The LLRT concluded that process consistency implementation across the regional offices is the paramount for success. The Operator Licensing and Training Branch (IOLB) needs to identify inconsistencies, expeditiously issue clarifying guidance, reinforce expectations, and hold the regions accountable for program implementation. Both ILOB and the Region's Operating Licensing Branches will need to work collaboratively to improve program implementation practices.

### **Summary of Conclusions**

The team concluded that flexibility in the Examiner Standards both in the grading of the operating test and the appeal process had a direct impact on the outcome of the ASLB decision. The flexibilities in the Examiner Standards have not historically resulted in inappropriate licensing decisions; however, implementation of the LLRT's recommendations would result in a more scrutable examination and appeal process. The LLRT's recommendations should be prioritized as medium priority and consider all other activities currently assigned to IOLB. While the LLRT's recommendations represent a "best effort" on behalf of a small team of experts, additional scrutiny by external and industry stakeholders would be beneficial in broadening the knowledge base on which these recommendations were developed.

# INTRODUCTION

In March and April of 2011, an applicant for an instant senior reactor operator license at the Vogtle Electric Generating Plant was administered an examination by the operator licensing staff of NRC Region 2. In that examination, the applicant failed the written portion of the examination while achieving a passing score in the operating examination (job performance measures and dynamic simulator). The applicant was one of six in that class who had passed the operating portion of the examination but had failed the written portion of the examination.

In cases where an applicant has failed only one portion of the examination, the applicant may request to be excused from re-examination on the portions of the examination which the applicant has passed. Prior to the March/April 2012 examination, the preliminary applications for these six applicants requested waivers for the portions of the examination that they had passed in the 2011 examination. However, after informal discussion with the Region 2 office, the licensee chose not to request a waiver in the final application for one of those six. Subsequently, that applicant re-took the entire examination. The results from the 2012 re-examination indicated that this applicant had passed all portions of the re-examination except for the dynamic simulator portion (the portion they had previously passed on the 2011 exam, but was not waived for the 2012 exam).

Following this second license application denial, the applicant initiated the appeal process by requesting an informal NRC staff review of the grading of the 2012 re-examination. The NRC formed an informal review panel to assess the applicant's contested items from the dynamic simulator portion of the re-examination. Upon discovering that the Region 2 staff had applied a restrictive methodology to the grading (i.e., associating performance deficiencies to only one rating factor), the informal review panel then regraded the applicant's entire dynamic simulator performance in addition to the contested items. The informal review panel upheld Region 2's decision to deny the license application. The applicant then initiated action to request a hearing and take her appeal to the Atomic Safety and Licensing Board (ASLB).

After reviewing information associated with this applicant's examinations and following the hearing, on March 18, 2014, the ASLB issued its 144 page decision on the case. Throughout its decision, the ASLB commented numerous times about gaps in the staff's responsibility to "ensure the equitable and consistent administration of the examinations" and that the staff overstepped its authority in that its assessment of the applicant's performance was "arbitrary" or an "abuse of discretion." The ASLB also specifically questioned the NRC's processes for the granting of waivers, ensuring the objectivity of re-examination teams, and the interaction of the informal review panel with the Region 2 examination team. In its conclusion, the ASLB sustained the applicant's appeal, overturning the staff's denial decision, and directed the staff to issue a senior reactor operator license to the applicant.

In light of the comments contained in the ASLB's decision, the Lessons Learned Review Team charter tasked a team to recommend areas for improvement governing the NRC's processes regarding waivers, initial operator licensing simulator test grading, and the administrative review process. The following sections contain the team's recommendations associated with the areas specified by the charter.

# RECOMMENDATIONS

On May 27, 2014, the Office of Nuclear Reactor Regulation issued a memorandum establishing an inter-office review team to assess the issues leading to the March 18, 2014, ASLB decision overturning the Staff's denial of a senior reactor operator license for an applicant from the Vogtle Electric Generating Plant. In its decision, the ASLB highlighted the staff's handling of several procedural issues related to the operator licensing examination process. The objective of this team was to review the NRC's processes for initial operator licensing simulator tests and administrative reviews in order to identify and recommend areas for improvement. The scope of the review effort included, but was not limited to the following:

- 1) potential enhancements to the Examiner Standards grading criteria for simulator operating tests and regional consistency; 2) the waiver process for portions of initial operator licensing examinations that an applicant previously passed; 3) the informal review process for applicant appeals regarding simulator operating tests and regional consistency; and 4) retake examination team composition.

The following sections of this report respond to the designated tasks in the charter and the team's recommendations are contained therein.

## 1.0 **NUREG-1021 Grading Standards for Simulator Operating Tests and Regional Consistency**

The team was tasked with recommending any needed improvements/enhancements to the NRC's process for grading simulator operating tests as described in Examiner Standards, ES-303 and Appendix D. Attention was to be focused on the linking of performance deficiencies to rating factors and the scoring methodology related to critical and non-critical errors. Finally in this area, the team was tasked with recommending improvements to the NRC's process for ensuring uniform application of the examination standards across the four regional offices.

### **RECOMMENDATIONS:**

#### Operator Exam Scoring

- 1.1 The 'point back' practice should be eliminated. The applicants come in to the examination with an assumed level of competence. Given this, examiners look for deficiencies that call into question this assumption of competence. An applicant has undergone extensive training prior to taking the NRC operating test, so the applicant should be able to demonstrate an understanding of and the ability to perform the actions in 10 CFR 55.45 necessary to accomplish the NRC operating tests. Furthermore, applying the current 'point back' practice means an applicant would only need to correctly perform tasks in a rating factor one out of three times (for non-critical task (CT) activities) to pass because they would achieve a score of 2 for each competency. Therefore, it is recommended that the practice of "restoring a point when two non-critical errors are offset by correctly performing another activity in the same rating factor" be discontinued.

- 1.2 For simulator performance scoring, the range of scoring should be from 0 to 3 instead of 1 to 3. (The general consensus among examiners is that it should be a 0-3 scale.) If an applicant repeatedly performs poorly in a given area, a score of 0 is more appropriate than a 1. The passing threshold will remain 1.8.

In addition, the LLRT recommends the following point deduction method:

- In the competency of communications, the maximum deduction in a RF is 2 points (i.e., the minimum score is 1 vice 0).
- In the competency of communications, it takes two errors to result in a one point deduction (i.e., 1 error is no deduction, 2 or 3 errors is a 1 point deduction, 4 or more errors is a 2 point deduction). The LLRT reflected on numerous concerns expressed by examiners that, because there are so many more opportunities for errors in communications and because communications is perceived as less safety-significant than the other competencies, the error counting system over emphasizes this competency. To counter-balance the relatively high number of opportunities for error and the relatively low safety significance, the LLRT devised this scoring method for the communications competency.

A missed CT is counted as 3 errors (i.e., 3 point deduction in all competencies except communications; 1 point deduction in the communications competency). The failure to perform a CT does not mathematically result in an automatic failure of the operating test, but it does have a significant impact on scoring based on the criteria above. The LLRT concluded that failing to perform one CT should not result in automatic overall exam failure. However, the more demanding recommended scoring process would make it more likely that a failure could occur due to a single CT failure. The LLRT also concluded we should not attempt to create subcategories of CTs.

In recognition of the importance the 0-3 grading scheme places on Critical Tasks, the team recommends IOLB review, revise, and clarify the definition of CT to include at a minimum, the following: 1) criteria of post-scenario CT, 2) unintended RPS and ESFAS actuations be designated as CT, 3) training of examiners in the new CT definition and examples to improve consistency across regions, 4) incorporate these items into Examiner Standards, and 5) ensure consistency among examinations related to the number of pre-planned CTs such that the variation in the number of CTs that each applicant is evaluated on shall be limited (Form ES-301-4). It is intended by the LLRT that the applicants encounter a nearly equal number of CTs.

- 1.3 There should be guidance for the exam team and for the review panel regarding post-exam CTs. The identification of post-exam CTs is only discussed in ES-604.D.2.e (Appendix D page 15/39). It is recommended that wording to support the identification of post-exam CTs should be included in ES-302 and ES-303 for the exam team. There should also be documentation in the ES that it is acceptable for scenarios to contain more than the targeted number of CTs (2-3 as designated by Form ES-301-4) if the actions of an applicant resulted in the creation of a new / unplanned CT.

OLMC-500 should be revised to prohibit a review panel from identifying and applying new CTs. Only the initial examination team (at the time of the initial grading) can identify and grade applicants for unplanned post-exam CTs that may have occurred. Allowing the review panel to create a new CT during the appeal process does not allow for consistent grading of the applicants not involved in the appeal. The appeal process should be focused on determining whether the original scoring was appropriate or whether the applicant's appeal arguments are upheld and result in an increased score (and possibly reversing a denial). The focus of the appeal team should not be to look for ways to change the scoring to reduce the applicant's score. Creating new CTs at the appeal stage also creates a problem regarding other applicants who already received a license (i.e., creating a new CT might negatively impact the scores of other applicants who already received a license and bring into question the appropriateness of those license decisions).

- 1.4 It is recommended that Examiner Standards be modified to state that a CT is only a CT as determined by the multi-factor definition regardless if it is or is not initially identified as one on Forms ES-D1 or 2. This addresses the ASLB objections to identifying any CT that wasn't called out in the exam development on the ES-D1 or 2. This puts the licensees and applicants on notice that a task in the test can later be determined to be a CT even if it was not originally labeled as such. In addition, the guidance should also state that such a change to one applicant's test (e.g., the identification of a CT during a post-scenario review) will require making the same change to all other applicants' tests that shared this same task.
- 1.5 The ES allows examiners to assign performance deficiencies to more than one rating factor (ES-303.D.1.d). This guidance is in the same sentence that directs examiners to assign a deficiency to the rating factor most closely tied to the root cause. The guidance is clear that deficiencies can be associated with multiple rating factors. However, the team recommends that Examiner Standards be modified to limit the association of a performance deficiency to no more than two rating factors.

#### Examiner Qualification and Training

- 1.6 It is recommended that IOLB strongly establish and re-iterate their expectations regarding Examiner Standards implementation and the regions must implement the program consistently. All parties must work to identify and resolve consequential differences in program implementation. The regions must be held accountable to implement the program consistently. The agency needs to first start with addressing the currently known regional differences to bring about consistency among the regions.
- 1.7 It is recommended that IOLB incorporate ROIs and FAQs permanently into the Examiner Standards within three years of issue (or be deleted) to ensure consistency among the regions. Additionally, IOLB should consider creating a bases document for the Examiner Standards to capture the reason for key aspects of the guidance.

- 1.8 Examiner training (initial and refresher) is sufficient but should be strengthened and updated to include recent case studies. Re-training or coaching should be provided as appropriate whenever discrepant implementation becomes apparent as a result of IOLB audits, the appeal process, counterpart meeting discussions or input from industry. The team recommends that class mentors (Qualified Examiners) for G-107 should focus on examples of note taking, writing technical comments, and using simulator event recorders and the generated data.
- 1.9 An audit peer review program should be developed that performs a regional review utilizing cross-regional examiners with the intent to target specific focused items to evaluate areas that will identify differences and best practices among the regions. The team members, in association with IOLB, will develop the target areas based upon current OL issues. The performance of the peer review should be conducted on a four year periodicity starting with a selected region. This activity should provide a report to IOLB and the regions.

## 2.0 The Waiver Process for Previously Passed Portions of the Examination

The team was tasked to recommend any needed improvements to the NRC's process for communicating with licensees related to application submittals containing waiver requests and recommend criteria for the granting or denial of waivers for examination retake situations.

### RECOMMENDATIONS:

#### Waiver Process

- 2.1 All waiver requests and decisions will be dispositioned in formal correspondence. The Examiner Standards should state that verbal inquiries with the NRC are not binding. Although waivers are mentioned in ES-201, there is no explicit emphasis for licensees to submit waivers early in the process. When contact is made with the licensee regarding the corporate notification letter, the chief examiner at that time should emphasize that the licensee formally submit any anticipated waiver requests (routine and non-routine) to the regional office and request a written response to that request as early in the process as possible. Such wording could also be added to the corporate notification letter. Likewise, the emphasis for licensees to submit waiver requests as early as possible can be added or emphasized in ES-202 and 204.
- 2.2 The team recommends establishing a "marginal performance band" such as scoring between 80-84 on the written exam, scoring between 1.8 and 2.0 on any competency on the dynamic simulator exam, and achieving only 80% (e.g., successfully passing the minimum number of JPMs) on the JPM portion. If an applicant fails a portion of the exam but scores above the marginal performance bands in other portions of the exam, then the region may grant a waiver for the portions of the exam that were passed (above the marginal band) because there is a greater confidence in the individual's overall knowledge and ability evaluated by that portion of the exam.

The licensees are expected to follow their SAT program to remediate retake applicants. An inherent assumption exists in the exam process that the applicant

is expected to demonstrate adequate knowledge and ability in all portions of the exam at one point in time (note that there is a limit in the amount of time allowed between the written and operating tests) in order to receive a license. When an applicant fails to demonstrate adequacy in all portions of the exam, the applicant needs to have demonstrated significant strength in the portion they passed in order to justify excusing them from retaking all portions of the exam. This is the basis for establishing the marginal band threshold for granting these types of waivers. This marginal pass threshold was developed by the LLRT in consultation with the office of the General Counsel (OGC) in an attempt to establish reasonable criteria for granting the waiver. Application of reasonable criteria is typical to the licensing decision making process and was determined to have been lacking based upon the review of the OGC and the LLRT. As in the case of setting the initial passing criteria of 80% for the written examination, it establishes reasonable thresholds which serve the purposes of consistent licensing decisions.

### Examiner Standard Enhancement

- 2.3 The Examiner Standards need to be revised to be consistent with 10CFR55.35 for using the word "excused" instead of "waived." The following quotation should be included into the Examiner Standards: "The Commission may in its discretion grant the request that the applicant be excused from re-examination on the portions of the examination or test which the applicant has passed if the Commission determines that sufficient justification is presented. Sufficient justification is presumptively presented to excuse re-examination of the written examination if the applicant scored at least 84%. Sufficient justification is presumptively presented to excuse re-examination of the operating test if the applicant scored greater than 80% satisfactory on the JPMs and at least 2.0 on all simulator test competencies."
- 2.4 To rectify future possible confusion, it is recommended changing the language in the Examiner Standards so that it more closely follows the regulations. That is, the Examiner Standards sections that describe 55.35 should refer to this as an "EXCUSAL OF RETAKING PREVIOUSLY PASSED WRITTEN EXAMINATIONS OR OPERATING TESTS"; whereas the use of the term "waiver" should be reserved for a waiver under 55.47, which has nothing to do with having previously applied for a license. In essence, a 55.47 "waiver" comes BEFORE applying for a license, whereas a 55.35 "excusal" comes AFTER unsuccessfully applying for a license.

### **3.0 The Administrative Review Process for Contested Simulator Operating Testing Results**

The team was tasked with recommending any needed improvements to the NRC's process for conducting administrative reviews (i.e., appeal panels) of proposed license denials. The team was to focus on assuring impartiality of the administrative reviewers, considering protocols for office interactions, defining the scope of the administrative reviews, developing protocols if an administrative review identifies a departure from established grading procedures, establishing protocols to resolve differences of opinion between regional examiners and the administrative reviewers, establishing protocols for handling of background and pre-decisional information once an administrative review is



finalized, and assessing the use of video recordings in conducting administrative reviews. The team was also tasked with recommending an approach to evaluating and responding to an applicant's claim of bias or prejudice.

## **RECOMMENDATIONS:**

### Appeal Panel Staffing

- 3.1 The appeal panel, for dynamic simulator scenario exam failure appeal reviews, shall be comprised of a minimum of three individuals to include a regional branch chief and an individual from IOLB. The IOLB member should assure agency protocols are followed with respect to process, documentation, and independence. OLMC-500 D.1.d. should be revised to not allow anyone from the affected region or who was associated with the exam administration to be on an appeal panel. The appeal panel should be viewed as an independent group.

### Appeal Process Administration

- 3.2 If the applicant makes a claim of bias/prejudice in the way the exam was administered and/or graded, then the agency may choose to declare that a misadministration occurred and offer a re-examination to the applicant. The affected Regional Administrator, in consultation with NRR, can declare an exam misadministration on the basis of an MD 8.17 claim and offer an immediate re-examination as a remedy. In this case, the re-examination team shall be comprised of examiners from another regional office. If the agency has not concluded that the applicant achieved a passing score either by the original grading or the outcome of the administrative technical review, then the agency shall not grant a license solely on the basis of a claim of bias/prejudice. The only remedy, if the agency concludes an exam misadministration occurred due to bias/prejudice, is to offer an immediate re-examination (rather than requiring a delay in re-examination as would be the case for a sustained denial).
- 3.3 For any appeal, the affected region shall submit its review of the contested items in a formal memo from the Director of DRS to IOLB for consideration by the administrative review team. When an administrative review proposes to reverse an original failure decision, the affected region should be invited to submit an additional written response articulating any further opposing view. If an opposing view is submitted it should be in the form of a formal memo from the Regional Administrator of the affected region to the Director of NRR.
- 3.4 Only contested errors should be reviewed for regrading. The OLMC-500 should be modified to specify that the purpose of the review panel is to focus on the scoring surrounding the contested items versus reviewing the overall licensing decision. The grading methodology called out in the Examiner Standards shall be followed in all cases. Differences in application of the Examiner Standards grading methodology should be referred to IOLB for the correct interpretation.

The LLRT concluded that the review panel, not having observed the exam, is not in the best position to regrade the exam in its entirety. Also, there is an increased chance that the regrading of non-contested items by the review panel could be viewed as an inconsistency due to the other applicants being held to



different standards. The LLRT does not view the appeal process as an opportunity to regrade the applicant's performance on the exam, but rather an opportunity for an applicant to seek redress of grading errors they believe wrongly contributed to their license denial. For simplicity and fairness, the appeal panel should focus on dispositioning the technical merits of the contested items only.

- 3.5 Change both the Examiner Standards and OLMC-500 to include wording that if the results of the administrative review alter an applicant's score, then other license denials shall be reviewed for related scoring changes that may impact the licensing decision. The review of the contested items would generally only have two outcomes. Either the review would have no impact or a positive impact on scoring of applicants that passed the exam. It is inappropriate for a licensing body to re-evaluate and potentially revoke a license already granted on the basis of another applicant's appeal. The assumption is that only items that might improve an applicant's score will be contested. If those contested items are dispositioned in the applicant's favor by the appeal panel, then other denials should be assessed to determine whether a reversal of a denial is warranted for others also.
- 3.6 Both the Examiner Standards and OLMC-500 should contain guidance that documentation be handled in accordance with MD 3.4 and IMC 0620. The Examiner Standards should contain guidance that, when the administrative review is completed and documented in a written report, pre-decisional drafts, e-mail correspondence and other background information should be deleted in accordance with MD 3.4 and IMC 0620. OLMC-500 should contain guidance that an "Administrative Review" ADAMS package should be created to store the documents required to satisfy MD 3.4. The team recommends rewriting OLMC-500 to consider partitioning the MC into separate sections for written, JPM, simulator, and medical appeals.

#### Use of Video Recordings

- 3.7 If video recordings are available and relevant they shall be viewed and evaluated as part of an administrative review for contested items. OLMC-500 should be modified to allow the review panel to re-evaluate contested items based upon a review of the video.

#### **4.0 Examination Team Composition**

The team was tasked with recommending any needed improvements to the NRC's process for assigning examiners to retake examinations with regard to potential conflicts of interest or bias, and in sharing examiner resources among regional offices to avoid the appearance of any conflict of interest. The review should consider the need to provide additional training and expectations for operator licensing examiners.

#### **RECOMMENDATIONS:**

- 4.1 In cases where there is a re-examination following allegation of conflicts of interest or bias, the reexamination shall be observed by a branch chief or other NRC management official in accordance with IMC-0102.

- 4.2 For any operating retake exam, select examiners to administer the exam who meet the following criteria: 1) did not administer any JPMS to the applicant, 2) did not administer/observe any scenario in which the applicant participated. (Any examiner who observed a retake applicant's original performance is prohibited from administering any part of the retake exam.) In cases where it may appear that an impartial exam team cannot be assembled within the affected region, then one from another region shall be assigned.
- 4.3 As mentioned in recommendation 1.8, incorporate case studies on appeals or misadministrations (e.g., Vogtle and any other examples) for initial and continuing examiner training.

#### **5.0 Review of Interim Guidance to the Conduct of Initial Operator Licensing Examinations**

The LLRT was tasked with reviewing the interim actions established in Memorandum: "Interim Guidance Related to the Conduct of Initial Operator Licensing Examinations" [ADAMS accession number ML14107A395]. The team concluded that all the actions provided in the interim actions should be institutionalized into the permanent guidance with two exceptions: 1) the team recommends eliminating the point-back process of ES-303, D.2.b, and 2) limiting the assignment of a single error to no more than two rating factors. Many of the LLRT's recommendations directly supplement the guidance provided in the interim guidance memorandum.

#### **6.0 Review of 2011 Independent Review Team Report**

The LLRT was also asked to address the "Final Report of the 2011 Independent Review Team for the Operating Licensing Examination Process" [ADAMS accession number ML111940287] regarding bolstering the acceptance criteria for portions of the operating examination. An excerpt from the report states that "It is important that the operating examination demonstrates that the candidate can control the plant within the required limits during normal, abnormal and accident conditions. The acceptance criteria should be clarified to place more weight on critical, safety related tasks. NRC and industry personnel should work together to provide consistent acceptance criteria and definition of "must perform" tasks." The essence of the quote was the perceived need to increase the discriminatory value of the operating test. The LLRT's recommendations regarding a weighted approach to grading, changing the scoring range, eliminating the restoration of a point for positive performance, and the handling of Critical Tasks would all support implementation of the Independent Review Team recommendation for "bolstering the acceptance criteria" for the operating exam.

# Attachment 1

## CHARTER FOR THE OPERATOR LICENSING LESSONS LEARNED REVIEW TEAM

### Objective

The objective of this Lessons Learned Review Team (LLRT) is to conduct, in light of the Atomic Safety and Licensing Board (ASLB's) decision overturning the staff's denial of a senior reactor operator (SRO) license application from a Vogtle Electric Generating Plant applicant, a focused review of the U.S. Nuclear Regulatory Commission (NRC) processes for initial operator licensing simulator tests and staff administrative reviews (appeals) in order to identify and recommend areas of improvement.

### Scope

The team should review the (ASLB) decision in detail to ensure that all appropriate issues and concerns are captured. The associated hearing file may also provide useful background information for the team. At a minimum, the team should review pertinent areas of NUREG-1021, "Operator Licensing Examination Standards for Power Reactors," Revision 9, Supplement 1 [ADAMS accession number ML072870315], and Operator Licensing Manual Chapter (OLMC)-500, "Processing Requests for Administrative Reviews and Hearings," dated December 2011 [ADAMS accession number ML13072A185], to identify areas that may warrant potential changes based on an evaluation of the lessons learned. In addition, the team should review the interim actions established in Memorandum: "Interim Guidance Related to the Conduct of Initial Operator Licensing Examinations" [ADAMS accession number ML14107A395] to evaluate whether the interim actions should be institutionalized in operator licensing program documents.

In addition to the review of ASLB decision and operator licensing program documents, the team is expected to interview the staff members directly involved in the various aspects of handling the Vogtle applicant's initial examination and appeal. The team should also consult other operator licensing subject matter experts and process owners when developing recommendations for improvements. Consultation with the Office of General Counsel should be considered to obtain legal insights on this case and potential corrective actions. The team is also strongly encouraged to obtain and consider input from cognizant management in the four NRC regional offices on resulting recommendations.

At a minimum the review team should address the following areas:

- 1) NUREG-1021 grading standards for simulator operating tests and regional consistency
  - Recommend any needed improvements/enhancements to the NRC's process for grading simulator operating tests as described in NUREG-1021, ES-303 and Appendix D. Attention should be given to the following areas/issues:
    - Linking of performance deficiencies to rating factors – guidance for assigning the appropriate rating factor, practices related to assignment of performance deficiencies to multiple rating factors

- Scoring methodology related to non-critical errors – provision for restoring a point when two non-critical errors are offset by correctly performing another activity in the same rating factor, point deduction if three or more errors are assigned to the same rating factor (e.g., Should “1” be the minimum score?)
  - Scoring methodology related to critical errors – point deduction for critical task errors, treatment of multiple critical task errors (e.g., Should “1” be the minimum score? Should failure to perform a critical task(s) automatically result in a failing score?), actions when additional critical tasks are identified during examination administration or review based on applicant actions (see NUREG-1021, Appendix D, D.2)
  - Consider process enhancements related to Recommendation 5 of the Final Report of the 2011 Independent Review Team for the Licensed Operator Examination Process [ADAMS accession number ML111940287] regarding strengthening of the operating portions of the examination by bolstering the acceptance criteria.
  - Identify and recommend any needed improvements to the NRC's processes for ensuring uniform application of examination standards across the four regional offices. Consider issues such as examiner training, examination audit protocols, regional office reviews and sharing of examiner resources among the regions as a means of promoting consistency.
- 2) The waiver process for previously passed portions of the examination
- Recommend any needed improvements to the NRC's process/protocols for communicating with facility licensees related to submittal of applications (NRC Form 398) containing waiver requests and associated justifications.
  - Recommend, if appropriate, the addition of operator licensing program guidance and/or criteria for granting or denying waivers for use in making waiver determinations for examination re-take situations. Include consideration of factors such as the applicant's performance on the original examination and the licensee's re-training, remediation and re-examination processes.
- 3) The administrative review (or appeal) process for contested simulator operating test results
- Recommend any needed improvements to the NRC's process and guidelines for conducting administrative reviews of proposed license denials in response to applicant appeals as described in NUREG-1021, ES-502 and OLMC-500. As a minimum, attention should be given to the following aspects of conducting administrative reviews:
    - Guidelines for assuring adequate impartiality of the administrative reviewers - Consider the required degree of independence from the examination team, recognizing that contact with the examiners is required as they are the only eyewitnesses to the applicant's performance during the operating test. If needed, recommend guidelines for protocols governing interactions between the affected region, program office, administrative reviewer(s), facility licensee and the applicant.

- Guidelines for defining the scope of administrative reviews – Consider if additional guidance should be provided to administrative reviewers regarding the regrading of non-contested as well as contested errors as it relates to assessing the overall performance of an applicant on the simulator operating test.
- Consider the need to establish protocols to be followed if an administrative review identifies a departure from normal established grading procedures and criteria (e.g., How should administrative process variations be weighed in comparison to technical conclusions in the conduct of a review? Should administrative reviewers be bound to follow the exact grading methodology of the original examiners when variations from the established process are noted?).
- Consider the need to establish protocols to resolve differences of opinion between the regional examiners (i.e., the designated licensing authority) and the administrative reviewer(s) acting on behalf of the program office. Thresholds for senior management engagement should be considered.
- Consider the need to establish protocols for handling of deliberative and pre-decisional drafts, e-mail correspondence and other background information once a final administrative review resolution is approved by the program office. Refer to requirements in Management Directive (MD) 3.4 for control of pre-decisional information.
- Evaluate the use of video recordings in conducting administrative reviews. Recommend any necessary controls for the use of such recordings.
- Identify and recommend an approach to evaluating and responding to an applicant's claims related to staff bias or prejudice. In addition, the team should consider recommendations related NRC to balancing the results of these bias-related reviews with the technical conclusions of an administrative review (e.g. Should a licensing decision be overturned solely based upon potential prejudice when not supported by the technical aspects of the case? Should alternate remedies, such as declaring a "mis-administered examination" with retake be considered in lieu of sustaining or overturning a licensing decision?).

4) Examination team composition

- Recommend any needed improvements to the NRC's process and guidelines for assigning examiners to licensing examinations with regard to potential conflicts of interest or bias. This review should consider the need to provide additional training and expectations for operator licensing examiners. Particular consideration should be given to circumstances involving re-examination of an applicant subsequent to an examination failure.
- Identify and recommend any needed protocols to address sharing of examiner resources between NRC regions under specific circumstances to avoid the appearance of any conflict of interest.

### Expected Results and Schedule

By August 15, 2014, the review team should provide to the Director, Office of Nuclear Reactor Regulation (NRR) a lessons learned report with recommendations for areas for improvement. The report should include a summary of conclusions and a short description of each major lesson learned. Recommendations should be grouped based on their importance (high, medium or low) and linked to a specific lesson where appropriate. Recommendations should reference the specific operator licensing program documents where appropriate.

The NRR/Division of Inspection and Regional Support (DIRS) staff will use the team's report as the basis for making appropriate changes to operator licensing program guidance documents and processes and will communicate these changes to the NRC's operator licensing staff and affected licensees.

The team will conduct its review on a high priority basis to expedite identification of lessons learned and pertinent program change recommendations. The frequency and conduct (i.e., face-to-face, teleconference, etc.) of team meetings are at the discretion of the team leader. The team leader should also provide progress updates to NRR/DIRS on a periodic basis and if concerns or issues are identified that may need prompt attention by the program office. Team member work assignments are at the discretion of the team leader.

### Lessons Learned Team

The lessons learned review team should have representation from headquarters and each of the four regional offices. Team members should not have had prior involvement in the 2011 or 2012 Vogtle Electric Generating Plant initial operator licensing examinations, or in the informal staff review of the applicant's 2012 simulator operating test.

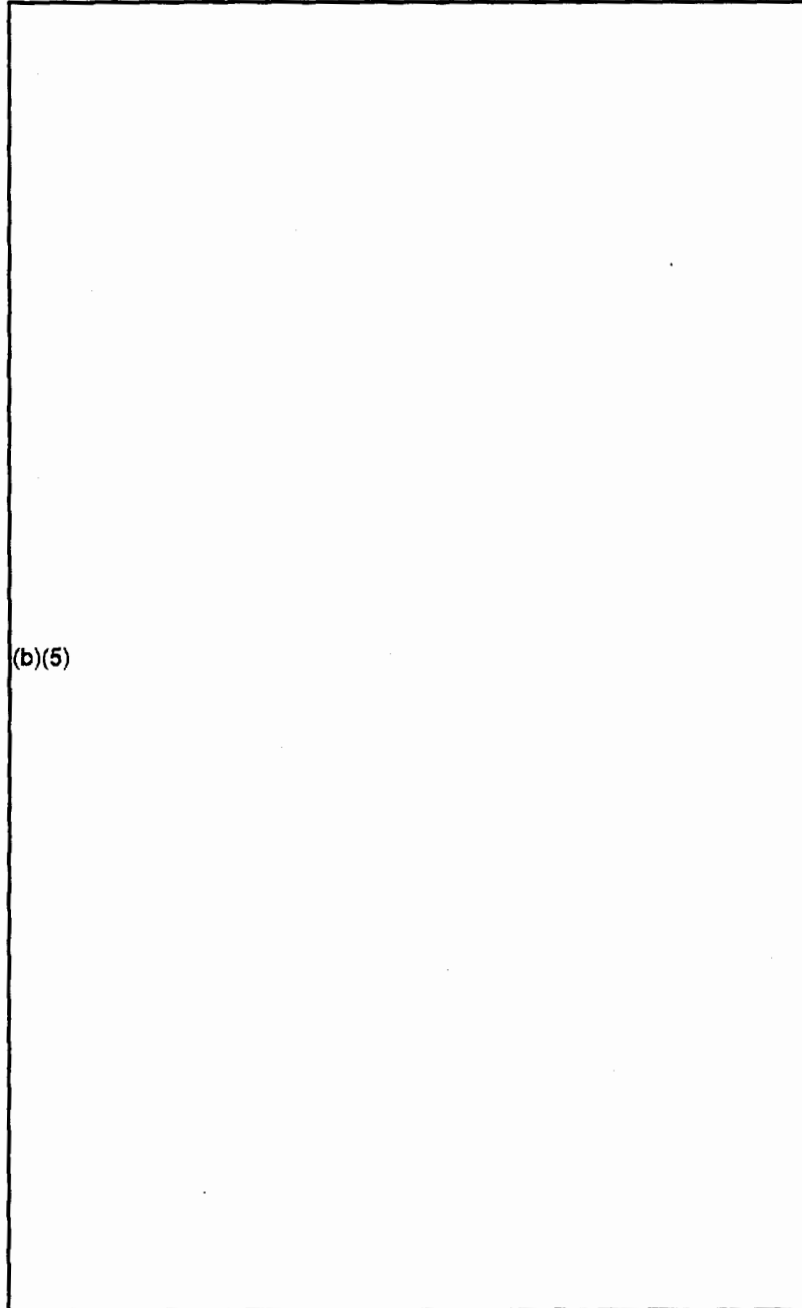
Team Leader: James Trapp, Region I

Team Members: David Silk, Region I  
Eugene Guthrie, Region II  
Bruce Palagi, Region III  
Mark Haire, Region IV  
James Kellum, NRO

Other NRC staff members may be consulted as needed.

## Attachment 2

### TEAM RESPONSES TO SUBMITTED COMMENTS



(b)(5)

## Attachment 3

### LLRT's SUGGESTION FOR AN ALTERNATIVE GRADING METHODOLOGY

The team extensively reviewed the issues associated with the current scenario grading methodology. The major concerns are that there are a) only two categories of errors, non-critical errors and a critical task with nothing in between, b) the critical task definition needs to be modified/clarified and c) the complicated process of weighing factors.

The choice of either a non-critical error (some of which are relatively minor such as a non-consequential communication error) or a critical task for grading purposes needs to be modified to more accurately reflect the candidate's performance. The range is simply too broad. The team suggests a third classification of error, in between in severity, which we will designate as a critical step.

The operating test requires the applicant to demonstrate an understanding of and the ability to perform the actions necessary to accomplish tasks required to accomplish an exam scenario evolution. A critical step would be a procedural step that the examinee must perform correctly, accurately, in the proper sequence and time in order to accomplish the exam. The applicant would be graded against the familiarity with administrative, equipment operation, and procedure usage. These would be predefined in the examine scenarios, and would be clearly necessary to be accomplished to ensure a successful outcome in the examine scenario evolution. These actions would be listed as verifiable actions on ES-D-2 form and should not exceed more than six.

A critical step would be similar to a JPM but the concept is that there would be typically one per malfunction or event and approximately 5 or 6 per scenario. An example would be maintaining S/G level in manual in a specified range following a level control malfunction or for an SRO candidate, a Tech Spec. call (one Tech spec call is for the entire malfunction regardless of how many LCOs are entered). This would also reduce the number of critical tasks with a modified critical task definition, i.e. an operator error on a feedwater malfunction resulting in a reactor trip would be a missed critical step. As long as RPS functions as designed and the reactor trips automatically, it is not safety significant enough to warrant being a critical task. Both critical steps and critical tasks shall be identified in the scenario.

The critical task definition should be modified to reflect items that are truly safety significant. It should not simply be an unnecessary RPS or ESFAS actuation unless there are actual consequences and required manual action for safety significant reasons. Numerous examples would need to be provided and the guidance should be in not only Appendix D but in ES-301 as well.

It would be the team's recommendation that the weighting factors be removed. Removal of weighing factors will have very little impact on the overall grading and will simplify the process.

Grading – With this concept, the team recommends a simple grading system. Using the existing competency worksheets, minus the weighting factors, the rating factor scale will range from 0-3. For each rating factor, a non-critical error is a 1 point deduction, a missed critical step



is a 2 point deduction and a missed critical task is a 3 point deduction. A rating factor score of 1 cannot be given based solely on non-critical errors without branch chief concurrence. It is still possible for a candidate to pass a competency, and the operating examination overall, if a critical step or task is missed but the applicant would have to have performed very well otherwise.

## **Attachment 4**

### **List of Documents Reviewed**

1. Atomic Safety and Licensing Board Initial Decision: In the Matter of Charlissa C. Smith (Denial of Senior Operator License), Docket No. 55-23694-SP and ASLBP No. 13-925-01-SP-BD01, March 18, 2014 [ADAMS accession number ML14077A573]
2. NUREG-1021, "Operator Licensing Examination Standards for Power Reactors," Revision 9, Supplement 1 [ADAMS accession number ML072870315]
3. Operator Licensing Manual Chapter (OLMC)-500, "Processing Requests for Administrative Reviews and Hearings," dated December 2011 [ADAMS accession number ML13072A185]
4. Memorandum: "Interim Guidance Related to the Conduct of Initial Operator Licensing Examinations" [ADAMS accession number ML14107A395]
5. Management Directive 3.4, "Release of Information to the Public," December 1, 1999 (Revised: February 6, 2009)
6. Inspection Manual Chapter 0620, "Inspection Documents and Records," 09/12/11
7. 2011 NEI Independent Review Team for Licensed Operator Examination Process [ADAMS accession number ML111940289]