

Dear Ms. Smith:

In response to your letter received by this office on June 5, 2012, the staff of the U. S. Nuclear Regulatory Commission (NRC) has reconsidered the proposed denial issued to you on May 11, 2012 and reviewed the grading of the operating test administered to you during the period of March 26 to April 13, 2012. In spite of the additional information you supplied, the staff finds that you did not pass the operating test. The results of our review are enclosed.

In addition, in your letter you raised concerns regarding handling of a potential waiver of the operating test based on your previous satisfactory performance on that portion of the examination, and concerns regarding potential bias on part of the NRC examiners. An independent review of these contentions did not substantiate that the examiners discouraged the facility licensee from requesting a waiver of the operating test portion of the Vogtle 2012 initial license examination. Furthermore, the independent review did not find any evidence of bias by the NRC examiners in administering or evaluating your operating test. The results of our review of these contentions are enclosed.

Consequently, the proposed denial of your license application is sustained. If you accept the proposed denial and decline to request a hearing within 20 days as discussed below, the proposed denial will become a final denial. You may then reapply for a license in accordance with Title 10, Section 55.35, of the *Code of Federal Regulations* (10 CFR 55.35), subject to the following conditions:

- a. Because this is your second examination failure, you will be required to retake both the written examination and the operating test.
- b. You may reapply for a license 6 months from the date of this letter.

If you do not accept the proposed denial, you may, within 20 days of the date of this letter, request a hearing in accordance with 10 CFR 2.103 (b)(2). Submit your request in writing to the Office of the Secretary, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555-0001, Attention: Rulemakings and Adjudications Staff, with a copy to the Associate General Counsel for Hearings, Enforcement, and Administration, Office of the General Counsel, at the same address. (Refer to 10 CFR 2.302 for additional filing options and instructions.) If submitting via private courier (e.g., FedEx, UPS), instead of using the Washington, D.C., address, submit your request to: Office of the Secretary, Sixteenth Floor, One White Flint North, 11555 Rockville Pike, Rockville, Maryland, 20852, Attention: Rulemakings and Adjudication Staff.

ENCLOSURE

Pursuant to 10 CFR 55.35, you may not reapply for a license until your license has been finally denied. Failure on your part to request a hearing within 20 days constitutes a waiver of your right to demand a hearing. For the purpose of reapplication under 10 CFR 55.35, such a waiver renders this letter a notice of final denial of your application, effective as of the date of this letter.

If you have any questions, please contact John McHale, Operator Licensing and Training Branch Chief, at 301-415-3254.

Sincerely,

Ho K. Nieh, Director  
Division of Inspection and Regional Support  
Office of Nuclear Reactor Regulation

Docket No. 55 -23694

Enclosures:

As stated

cc w/o enclosure: T. Tynan, Site Vice President, Vogtle Electric Generating Plant

w/enclosure: R. Brown, Training Manager, Vogtle Electric Generating Plant

ENCLOSURE

## SUMMARY OF INFORMAL REVIEW RESULTS SUSTAINING FAILURE OF OPERATING TEST

This review re-examined the original NRC simulator operating test grading of the applicant (as documented in the applicant's Individual Examination Report), including errors contested by the applicant, as well as errors not contested by the applicant. Review of the non-contested errors was necessary so that final competency and rating factor (RF) scores could be determined. This review was conducted in a multi-step process consisting of:

1. Determining the actual sequence of events which occurred wherever possible. This involved a review of the applicant's contentions, the original NRC grading, and examiner rough notes and timelines made while the scenarios were in progress; and a group interview with the NRC examiners who administered the scenarios.
2. In accordance with NUREG-1021, "Operator Licensing Examination Standards for Power Reactors," Rev. 9, Supp.1, Section ES-303 D.1, each simulator operating test performance deficiency was reviewed, taking into account the applicant's contentions and referring to the simulator scenario guides (the ES-D-1 and ES-D-2 forms) used during the examination. An independent determination was then made whether an error occurred.
3. After establishing whether or not errors occurred, the review then identified the root cause(s) of each error, and assigned each error to one or two RFs, in accordance with ES-303 D.1.d.

In order to facilitate the re-grading as requested by applicant, it was necessary for this review to examine all aspects of the applicant's original NRC simulator scenario grading, not just the grading contested by the applicant.

### OVERALL CONCLUSION

This review determined that the applicant exhibited numerous performance problems during her simulator operating test, and that ultimately, she did NOT pass the Simulator Operating Test. Specifically, as result of this review, the applicant received a score of 1.66 in Competency Area 3, "Control Board Operations" as detailed below:

Rating Factor (RF)	RF Score	Errors from this review (S = scenario number; E = event number)	Brief Error Description
3.a	1	S7 E5: PZR PT-456 failed high, PORV opens	Takes PORV hand switch to open, corrected by Shift Supervisor (SS)
3.b	2	S7 E3: Loss of cooling to letdown heat exchanger	Lack of understanding associated with TIC-130 controller
3.c	2	S7 E3: Loss of cooling to letdown heat exchanger	Incorrectly presses up arrow on TIC-130 controller, corrected by SS

In accordance with NUREG 1021, ES-303 D.2.b., the re-grade of the applicant's simulator operating test identified multiple mechanisms that result in an overall unsatisfactory

ENCLOSURE

performance: (1) a score of less than 1.80 in Competency 3, "Control Board Operations;" and (2) a score of less than 2.0 in Competency 3 combined with a score of less than 1.80 in Competency 4, "Communications". (The independent review agreed with the original errors assessed against the rating factors associated with Competency 3.)

In lieu of covering each of the applicant's contentions and re-grades in detail, for the sake of brevity we only include a detailed discussion of the independent re-grading of Competency 3, "Control Board Operations" as detailed below, which included a failed critical task:

Scenario 7, Event 5 (Rating Factor 3.a) - This review determined that the applicant's incorrect action during Scenario 7, Event 5 (Pressurizer Pressure Transmitter (PT-456) Failed High causing PORV to Open, PORV Block Valve Failed to Automatically Close) was related to a critical task. During this event, the applicant incorrectly operated a pressurizer PORV hand switch, which resulted in the PORV remaining open. Approximately 30 seconds later, the applicant was directed to close the PORV by the SS, at which point the applicant successfully closed the PORV. This was considered an error associated with a critical task in accordance with NUREG-1021, Appendix D, item D.1.a, in that if left uncorrected, the applicant would have allowed a small break loss of coolant accident to continue (degraded fission product barrier), which would have required an automatic reactor trip and safety injection to mitigate. In accordance with the grading standards contained in ES-303, D.2.b, a critical task error results in a score of "1" for rating factor 3.a.

Scenario 7, Event 3 (Rating Factors 3.b and 3.c) – This review did not agree with the applicant and identified an additional error beyond what was assigned in the original grading. This review assessed errors to RF 3.c per the original grading (Control Board Operations—Manual Control) and RF 3.b (Control Board Operations—Understanding) based upon her performance during this event. A detailed description of the applicant's contentions and the review's conclusions that support the regarding follow:

Expected Action/Response: Following the correct diagnosis, the applicant as the Operator at the Controls (OATC) and while in the vicinity of the affected controller (TIC-130), was expected to recommend or actually take (without direction) manual control of TIC-130. Upon taking manual control, the applicant was expected to depress the "down" arrow on TIC-130 to open valve TCV-0130 and restore auxiliary component cooling water flow to the letdown heat exchanger.

Applicant Action/Response: The applicant identified the temperature element failure and made the proper diagnosis. However, the applicant, while in the vicinity of TIC-130 during the entire event, never recommended taking manual control of TIC-130, nor did the applicant actually take manual control of TIC-130 until directed by the SS ten minutes after the temperature element failure. Instead of recommending or taking manual control, prior to being directed to take manual control by the SS, the applicant stated: "The only thing we can do is call C&T [Clearance and Tagging] to get the TE [temperature element] fixed." Upon being directed to take manual control by the SS, the applicant depressed the "up" arrow on TIC-130, which did not open TCV-0130. The applicant was corrected by the SS, at which point the applicant depressed the "down" arrow on TIC-130, which opened TCV-0130 and restored cooling water flow to the letdown heat exchanger.

Original NRC Grading, Affected Rating Factors (RF) and Scores:

RF 3.c (Control Board Operations—Manual Control) = 2.0

ENCLOSURE

“The applicant was downgraded in this competency due to not demonstrating the ability to manually control an automatic function.”

Applicant's Contentions (quoted verbatim): “The examiner writes that when TE - 130 failed low, that the applicant acknowledged the associated alarms but did not take any actions to take manual control of letdown temperature and also did not recommend to the SRO that she could manually control letdown temperature. The event description does not identify that the applicant acknowledged the alarms and was immediately told to go back to the C panel and monitor reactivity (Note; that in previous NRC administered exams circumstances are established to make the applicant respond to the condition if this is the intent (example, have the UO [Unit Operator] performing actions on the back panels), the NRC examiners could have easily controlled this situation by a simply direction of "WE WOULD LIKE FOR YOU TO RESPOND TO THIS FAILURE WHILE THE UO ASSUMES THE REACTIVITY RESPONSIBILITY", not giving this type of cue or direction could be interpreted by the candidate that the NRC desires that the UO is to perform this function as part of the simulator testing plan.

When the UO was directed to address the alarm and respond to the failure (with no disagreement from the NRC exam team) all the NRC grading and point reduction related to the OATC response would appear not to be appropriate. At that time the applicant was not assigned to diagnose or respond to the failure. The applicant assisted the crew and identified to the SRO that TIC-130 was closed. In determining that the Temperature Element had failed low, the applicants' statement was to notify the SRO that there was no associated AOP entry with the failure and that it could only be fixed by contacting C& T (implying that the actual repair of the component would require maintenance, note to contact C& T and request a work order, condition report, and notify operations management of the problem should have been consistently observed by the NRC testing team). The SRO directed the applicant to open the valve (TI -130) and the applicant did push the up arrow first. The error had no negative impact and was quickly corrected when the down arrow was pressed and the temperature was controlled and monitored for the duration of the scenario. Initial thought was to open the valve but the TIC-130, located in the Control Room is not a direct indication of valve position. It is representative of controlling the temperature by using the up arrow to raise temperature and the down arrow to lower temperature.

After the scenario the examiner did ask questions about the incorrect manipulation, and the applicant explained in detail how the valve works. Applicant identified that the controller is used to control temperature and that you must understand what direction the valve, TI-130, moves based on the how temperature is controlled. If the up arrow is pressed then you are trying to raise temperature, then the valve (TI -130) would close (TI-130 controls the amount of cooling water that goes through the letdown heat exchanger). Because the TE-130 failed the controller thought that temperature lowered and closed the valve to decrease the amount of cooling water that went through the heat exchanger to try to raise temperature. This was all explained to the examiner. Initially the controller was operated in the wrong direction and there was no impact because the valve was already in the closed position. In addition I would like for the review team to evaluate the categorization of this comments. If the evaluator's main comments was that ‘the valve was initially operated in the wrong direction’. Then would it be more appropriate that this be placed under "Locate and Manipulate" versus "Manual Control". This is a similar description to what was described in comment # 19 in which

ENCLOSURE

the PORV was operated in the wrong direction (see supporting documents for a copy of the comment). The applicant did manually control the parameter once the valve was open. The applicant trended the program and notified the SRO when the parameter was back in specification.

When reviewing consider the following:

1. The applicant was assigned to monitor Reactivity, UO was designated to diagnose the failure
2. The applicant is the crew member that identified the failure to the SRO
3. Once the valve was turned back over to the applicant, she controlled the parameter until back in spec.
4. Was this comment categorized correctly
5. The valve was already closed, so there were no consequences”

Additional information provided by the applicant:

1. Pages 8-13 of the NRC ES-D-2 forms for Scenario 7, Event 3.
2. Page 19 of the applicant’s Individual Examination Report (Form ES-303-1), where the NRC documented her operation of the pressurizer PORV during scenario 7, event 5.
3. A signed statement from the SS on the applicant’s crew:

“Charlissa (RO) was the first to recognize that TE-0130 was the failed component. I directed Rodney (UO) to pull and investigate the appropriate ARPs. The statement Charlissa made about contacting C& T was to reinforce the fact that there was no AOP entry to be made (for loss of letdown). This statement was not stand-alone and was taken out of context for the situation. When operating TIC-130 there was no consequential action in pressing the up arrow and the crew immediately self corrected as is the expectation of Operations Training and Operations for the control room team.”

Analysis:

In summary, the applicant requested reconsideration of this apparent error based upon the following factors:

1. The applicant as the OATC was directed by the SS to monitor reactivity during this event.
2. The UO was directed by the SS to address the alarm and respond to the failure, and the NRC examination team did not “steer” this event to the applicant. Therefore, the applicant should not have been downgraded for actions which should have been performed by the UO, especially since the applicant was directed to monitor reactivity.
3. Although not “steered” or “assigned” this event by the examiners, the applicant did assist the crew by identifying that TV-0130 was closed and that the temperature element had failed low.
4. With regard to a statement she made during this event, “The only thing we can do is call C&T [Clearance and Tagging] to get the TE fixed” (from her original grading, page 21 of her Individual Examination Report Form ES-303-1), the applicant explained that this statement was made to notify the SS that there was no associated AOP (abnormal operating procedure) entry for the failure and that it could only be fixed by contacting C&T.

ENCLOSURE

5. The applicant did acknowledge incorrectly pressing the “up” arrow first on TIC-130, but that this error was quickly corrected by pressing the “down” arrow with no negative impact, in part because TV-0130 was already in the closed position.
6. After the scenario and when asked by the examiner, the applicant correctly explained how TIC-130 and associated valve TV-0130 functioned, including how to operate TIC-130 using the “up” and “down” arrows.
7. Based on a similar error made by the applicant during scenario 7 event 5, where the applicant incorrectly manipulated a pressurizer PORV switch and had to be prompted to take the correct action, it would be more appropriate to assign the applicant’s initial incorrect action of pressing the “up” arrow on TIC-130 to RF 3.a (Control Board Operations—Locate & Manipulate).

With respect to each of these factors, the NRC’s review determined the following:

1. Unknown. The NRC examiners did not document this direction by the SS to monitor reactivity and could not recall if it occurred, nor did the written statement provided by the SS support this direction.
2. Agree in part. The UO was directed by the SS to refer to the annunciator response procedure for this event, and the NRC examiners did not “steer” this event to the applicant. With regard to grading, see the next section, item 2.
3. Agree.
4. It remains unclear what the applicant intended with her statement. See the next section regarding grading, item 2.
5. Agree that the applicant pressed the correct arrow button on her second attempt after being corrected by the SS, and that this was performed quickly with no adverse consequences. Supporting “no negative impact” with the statement that “TV-0130 was already in the closed position” makes no sense, since the purpose of operating the arrow buttons on TIC-130 under the circumstances was to open TV-0130.
6. Agree.
7. Disagree. The manual operation of TIC-130 is clearly associated with taking manual control of an automatic function, since letdown temperature is normally automatically controlled by TIC-130. Thus, any errors in the manual operation of TIC-130 should be assigned to RF 3.c (Control Board Operations—Manual Control). Pressurizer pressure, however, is NOT normally automatically controlled by the pressurizer PORVs, and errors in manually operating the PORVs should be assigned to RF 3.a (Control Board Operations—Locate & Manipulate).

Given the above, how did this review determine that the applicant’s performance during this event should be assessed errors for RF 3.c (Control Board Operations—Manual Control) and RF 3.b (Control Board Operations—Understanding)?

1. The applicant did make an error (to which she admitted) by incorrectly pressing the “up” arrow on TIC-130, which was corrected by the SS. Although this review agreed that there were no significant adverse consequences associated with this error, NRC dynamic simulator examinations are graded based on competencies, not consequences, in accordance with NUREG-1021, ES-303 D.2.b: “Keep in mind that the simulator test is generally graded on competencies rather than consequences; every error that reflects on an operator’s competence is considered equal unless it is related to the performance of a critical task...” As discussed in item 7 above, this review determined that the applicant’s error in the manual operation of TIC-130 clearly should be assigned to RF 3.c (Control Board Operations—Manual Control), and thus, an error for RF 3.c is justified.

2. With regard to RF 3.b (Control Board Operations—Understanding) this review disagreed with the applicant’s argument that following her diagnosis “all the NRC grading and point reduction related to the OATC response would not appear appropriate,” i.e., that only the UO (and SS) should be downgraded. Instead, this review determined that an error occurred regarding the applicant’s understanding related to control board operations, based upon the following:

- a. This review did not conclusively determine that the applicant was specifically assigned to monitor reactivity during this event.
- b. The NRC ES-D-2 forms assigned this event to the OATC.
- c. The applicant remained in close proximity to TIC-130 during the entire event.
- d. At any time during this event, the applicant should have taken (without direction) or recommended taking manual control of TIC-130 to open TCV-0130 and restore cooling flow to the letdown heat exchanger. Instead, the applicant was directed by the SS to take manual control 10 minutes after the temperature input had failed low, at which point the applicant incorrectly pressed the “up” arrow.
- e. The action or recommendation to take manual control of TIC-130 does not require checking the annunciator response procedure or other procedures, but simply requires an understanding of the operation of TIC-130 given a failed temperature input. Instead of taking action or making a recommendation for manual control, the applicant provided a misleading statement to the SS that “The only thing we can do is call C&T to get the TE fixed.”

In accordance with the grading standards contained in ES-303, D.2.b, a single error related to a rating factor results in a score of “2” for that rating factor. Therefore, a score of “2” is assigned to rating factors 3.b and 3.c.

**SUMMARY OF GRADING FOR CONTROL BOARD MANIPULATIONS:**

Applicant Docket Number: 55-23694					Page 1 of 1
<b>Senior Reactor Operator Simulator Operating Test Grading Details</b>					
Competencies/ Rating Factors (RFs)	RF Weights	RF Scores	RF Grades	Comp. Grades	Comment Page No.
3. Control Board Operations					
a. Locate & Manipulate	0.34	1	0.34		
b. Understanding	0.33	2	0.66	1.66	
c. Manual Control	0.33	2	0.66		See description above

INDEPENDENT REVIEW OF CONTENTIONS  
RELATED TO WAIVER PROCESS AND  
EXAMINER BIAS

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