



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**

REGION IV
1600 E. LAMAR BLVD.
ARLINGTON, TX 76011-4511

January 28, 2016

Mr. Kevin Mulligan
Site Vice President Operations
Entergy Operations, Inc.
Grand Gulf Nuclear Station
P.O. Box 756
Port Gibson, MS 39150

**SUBJECT: GRAND GULF NUCLEAR STATION - NRC EXAMINATION
REPORT 05000416/2015301**

Dear Mr. Mulligan:

On December 14, 2015, the U.S. Nuclear Regulatory Commission (NRC) completed an initial operator license examination at Grand Gulf Nuclear Station. The enclosed report documents the examination results and licensing decisions. The preliminary examination results were discussed on December 10, 2015, with Mr. T. Coutu, Director of Regulatory Affairs, and other members of your staff. A telephonic meeting was conducted on December 17, 2015 with Mr. Liddell, Operations Training Superintendent, who was provided the NRC licensing decisions. A telephonic exit meeting was conducted on January 19, 2016, with Mr. V. Fallacara, General Manager Plant Operations.

The examination included the evaluation of six applicants for reactor operator licenses, one applicant for instant senior reactor operator license, and one applicant for upgrade senior reactor operator license. The license examiners determined that all of the eight applicants satisfied the requirements of 10 CFR Part 55, and the appropriate licenses have been issued. There were no post examination comments submitted by your staff. Enclosure 1 contains details of this report.

Additionally, the NRC identified one finding involving procedure quality with eight examples that was evaluated under the risk significance determination process as having very low safety significance (Green). Because of the very low safety significance and because it was entered into your corrective action program, the NRC is treating this finding as a non-cited violation, consistent with Section 2.3.2.a of the NRC Enforcement Policy. If you contest the violation or the significance of the non-cited violation, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, D.C. 20555-0001, with copies to the Regional Administrator, U.S. Nuclear Regulatory Commission, Region IV, 1600 E. Lamar Blvd., Arlington, TX 76011-4125; the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555-0001; and the NRC Senior Resident Inspector at the Grand Gulf Nuclear Station. In addition, if you disagree with the cross-cutting aspect assigned

K. Mulligan

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to the finding in this report, you should provide a response within 30 days of the date of this inspection report, with the basis for your disagreement, to the Regional Administrator, Region IV, and the NRC Senior Resident Inspector at the Grand Gulf Nuclear Station.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice and Procedure," a copy of this letter and its enclosure will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's Agencywide Documents Access and Management System (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

/RA/

Vincent G. Gaddy, Chief
Operations Branch
Division of Reactor Safety

Docket No. 50-416
License No. NPF-29

Enclosure:
Examination Report 05000416/2015301

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K. Mulligan

- 2 -

to the finding in this report, you should provide a response within 30 days of the date of this inspection report, with the basis for your disagreement, to the Regional Administrator, Region IV, and the NRC Senior Resident Inspector at the Grand Gulf Nuclear Station.

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Letter to Kevin Mulligan from Vincent G. Gaddy, dated January 28, 2016

SUBJECT: GRAND GULF NUCLEAR STATION - NRC EXAMINATION
REPORT 05000416/2015301

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U.S. NUCLEAR REGULATORY COMMISSION

REGION IV

Docket: 050000416

License: NPF-29

Report: 05000416/2015301

Licensee: Entergy Operations, Inc.

Facility: Grand Gulf Nuclear Station

Location: P.O. Box 756
Port Gibson, MS 39150

Dates: October 26, 2015 - January 19, 2016

Inspectors: K. Clayton, Chief Examiner, Senior Operations Engineer
M. Kennard, Chief Examiner U/I, Operations Engineer
S. Hedger, Operations Engineer
J. Drake, Senior Reactor Inspector

Approved By: Vincent G. Gaddy, Chief
Operations Branch
Division of Reactor Safety

SUMMARY

ER 05000416/2015301; 10/26/2015 – 01/19/2016; Grand Gulf Nuclear Station; Initial Operator Licensing Examination Report.

NRC examiners evaluated the competency of six applicants for reactor operator licenses, one applicant for an instant senior reactor operator license, and one applicant for an upgrade senior reactor operator license at Grand Gulf Nuclear Station.

The licensee developed the examinations using NUREG-1021, "Operator Licensing Examination Standards for Power Reactors," Revision 10. The written examination was administered by the licensee on December 14, 2015. NRC examiners administered the operating tests on December 7-10, 2015.

The examiners determined that all eight of the applicants satisfied the requirements of 10 CFR Part 55, and the appropriate licenses have been issued.

A. NRC-Identified and Self-Revealing Findings

Cornerstone: Mitigating Systems

Green. Title 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," states, in part, "Instructions, procedures, or drawings shall include appropriate quantitative or qualitative acceptance criteria for determining that important activities have been satisfactorily accomplished." Contrary to this,

- The licensee's Off-Normal Procedure ONEP 05-1-02-I-1, "Reactor Scram," Revision 125, does not provide all necessary guidance on how to scram the reactor. Once the immediate action of placing the mode switch in the shutdown position is completed, all additional guidance for shutting down the reactor using alternate methods is contained in EP-2A. However, the first backup method of using the scram pushbuttons is missing from both of these procedures. This procedure deficiency was entered into the licensee's corrective action program as Condition Report CR-GGN-2015-07209.
- The licensee is missing several off-normal procedures that are required by Technical Specifications based on commitments to NRC Regulatory Guide 1.33, Revision 2. Specifically, there are no off-normal procedures for 1) a total or partial loss of DC power, 2) electrical grounds, and 3) partial or total loss of all annunciators. The licensee is committed to revision 2 of this regulatory guide in its Technical Specifications. These procedure deficiencies were entered into the licensee's corrective action program as Condition Report CR-GGN-2015-07209.
- The licensee's Emergency Procedure 05-1-02-II-1, Attachment III, "Shutdown from the Remote Shutdown Panel," Revision 47, does not include all of the required steps to complete the attachment. Step 3.2.5a of this procedure requires an operator to obtain one key while two keys are actually required to complete the task. One key is required to open the protective box covering the

switch and a different key is required to operate the switch. This procedure discrepancy led to delays and confusion during examination administration by applicants and during examination validation by licensed operators. This procedure deficiency was entered into the licensee's corrective action program as Condition Report CR-GGN-2015-07209.

- The licensee's Emergency Procedure 05-S-1-EP-1, Attachment 6, "Defeating Reactor Feed Pumps RPV Level 9 Trips," Revision 32, contains labeling discrepancies in that the relay nomenclature in the procedure does not match the nomenclature in the main control room cabinet 1H13-P612 Bay 'B'. This caused confusion among both the applicants and licensed operators. The confusion delayed the completion of the task administered during the examination. This procedure deficiency was entered into the licensee's corrective action program as Condition Report CR-GGN-2015-07209.
- The licensee's System Operating Instruction 04-1-01-P41-1, "Standby Service Water System," Revision 140, Section 4.2, contains labeling discrepancies in that the control board labeling for several switches do not match the nomenclature listed in the procedure for the associated switches. Specifically, steps 4.2.2A(4)(a), 4.2.2A(4)(b), and 4.2.2A(6) each have a discrepancy. This procedure deficiency was entered into the licensee's corrective action program as Condition Report CR-GGN-2015-07209.
- The licensee's Alarm Response Instruction 04-02-1H13-P870-2A-E1, Revision 134, for the residual heat removal (RHR) alarm "RHR A PMP RM FLOODED" contains non-conservative guidance to close the suction valve (valve 1E12-F004A) for RHR pump 'A' without regard to ensuring that the pump is secured first. This creates a condition where the safety-related residual heat removal pump is tripped on interlock only in order to prevent damage. The expectation provided to the NRC by the operations staff is that the operators should first trip the residual heat removal pump and then shut the suction valve. This procedure deficiency was entered into the licensee's corrective action program as Condition Report CR-GGN-2015-07209.
- The licensee was unable to locate any written guidance for placing a safety-related diesel generator in maintenance mode to prevent automatic start and subsequent overheat of the machine when cooling water is unavailable. According to the Updated Final Safety Analysis Report, Section 9.5, Revision LDC 05077, the diesel generator jacket cooling water system provides sufficient heat sink to permit the standby diesel engines to start and operate for 2 minutes without cooling water available. Procedures that were reviewed included SOI 04-1-01-P75-1, SOI 04-1-01-Y47, and ONEP 05-1-02-I-4. An additional NRC concern for this sequence is that there is no time critical action associated with securing these diesel generators when cooling water (standby service water) is not available. The licensee needs to review the risk management program and ensure that this is not assumed in the risk management profile or if it is assumed, then operators are trained and can

implement the shutdown in the appropriate time to prevent equipment damage. This procedure deficiency was entered into the licensee's corrective action program as Condition Report CR-GGN-2015-07209.

- The licensee's Equipment Performance Instruction 04-1-03D21-1, "Monthly Area Radiation Monitors Functional Test," Revision 37, has confusing guidance which led several applicants in not being able to complete the task administered during the NRC initial license examination. Specifically the procedure has a limit and precaution stating that not all ARM module function switches spring return to OPERATE after being taken to ALARM. Some must be manually returned to OPERATE after being taken to ALARM while the specific steps in the procedure have the operator place and hold function switch in alarm and then release. No guidance is given within the step to return the switch to operate and this creates a situation where the observation of indication returning to normal does not occur. A precaution in the front matter in the procedure stating that the equipment may not function as the procedure is written is not sufficient to meet the quantitative or qualitative acceptance criteria for determining that important activities have been satisfactorily accomplished. This procedure deficiency was entered into the licensee's corrective action program as Condition Report CR-GGN-2015-07209.

The failure of these eight procedures to have the appropriate qualitative and/or quantitative criteria to complete these activities was a performance deficiency. The finding was more than minor because it is associated with the procedure quality attribute of the Mitigating Systems cornerstone and adversely affected the cornerstone objective of ensuring availability, reliability, and capability of systems needed to respond to initiating events to prevent undesired consequences. Specifically, inadequate procedures could adversely affect the operating crew's ability to take appropriate actions to ensure reactor safety is being maintained. Using Inspection Manual Chapter 0609, Appendix A, "The Significance Determination Process (SDP) for Findings At-Power," dated June 19, 2012, the team determined that the finding was of very low safety significance (Green) because the finding: (1) was not a deficiency affecting the design and qualification of a mitigating structure, system, or component, and did not result in a loss of operability or functionality; (2) did not represent a loss of system and/or function; (3) did not represent an actual loss of function of at least a single train for longer than its technical specification allowed outage time, or two separate safety systems out-of-service for longer than their technical specification allowed outage time; and (4) did not represent an actual loss of function of one or more non-technical specification trains of equipment designated as high safety-significance in accordance with the licensee's maintenance rule program for greater than 24 hours. The finding has a cross-cutting aspect in the area of human performance associated with procedure adherence because individuals did not follow the processes to change or correct procedures that contained incorrect, missing, or non-conservative guidance [H.8]. (Section 4OA5)

B. Licensee-Identified Violations

None

REPORT DETAILS

4. OTHER ACTIVITIES (OA)

4OA5 Other Activities (Initial Operator License Examination)

.1 License Applications

a. Scope

NRC examiners reviewed all license applications submitted to ensure each applicant satisfied relevant license eligibility requirements. Examiners also audited two of the license applications in detail to confirm that they accurately reflected the subject applicant's qualifications. This audit focused on the applicant's experience and on-the-job training, including control manipulations that provided significant reactivity changes.

b. Findings

No findings were identified.

.2 Examination Development

a. Scope

NRC examiners reviewed integrated examination outlines and draft examinations submitted by the licensee against the requirements of NUREG-1021. The NRC examination team conducted an onsite validation of the operating tests.

b. Findings

One finding with eight examples was identified.

Inadequate Plant Operating Procedures with Eight Examples

Introduction. The team identified a finding of very low safety significance (Green) involving a non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," with eight examples.

Example 1: Reactor Scram Procedure ONEP 05-1-02-I-1, Revision 125, is missing the step to arm and depress the scram push buttons when the mode switch fails to scram the reactor.

Example 2: Several off-normal procedures were never created to meet the requirements of Regulatory Guide 1.33 (includes loss of all annunciators, electrical grounds, and loss of DC buses).

- Example 3: Emergency Procedure 05-1-02-II-1, Attachment III, SHUTDOWN FROM THE REMOTE SHUTDOWN PANEL, Revision 47, designates that one key is required to complete this task when two keys are actually required.
- Example 4: Emergency Procedure 05-S-1-EP-1, Attachment 6, DEFEATING REACTOR FEED PUMPS RPV LEVEL 9 TRIPS, Revision 32, nomenclature does not match the associated equipment.
- Example 5: System Operating Instruction 04-1-01-P41-1, Standby Service Water System, Revision 140, Section 4.2, nomenclature does not match the associated equipment.
- Example 6: Alarm Response Instruction 04-02-1H13-P870-2A-E1, Revision 134, for the residual heat removal pump alarm "RHR A PMP RM FLOODED" contains non-conservative guidance to close the suction valve prior to tripping the pump on a suction line break.
- Example 7: There is no written procedure guidance for placing a safety-related diesel generator in maintenance mode to prevent an automatic start and subsequent overheat of the machine when cooling water (standby service water) is unavailable.
- Example 8: Equipment Performance Instruction 04-1-03D21-1, MONTHLY AREA RADIATION MONITORS FUNCTIONAL TEST, Revision 37, contains procedure steps that do not work for switches that do not spring return to normal.

Description.

For example 1, off-normal procedure ONEP 05-1-02-I-1, "Reactor Scram," Revision 125, is missing the step to arm and depress the scram push buttons when the mode switch fails to scram the reactor. On December 9, 2015, one of the applicant crews was being administered a scenario and it contained an anticipated transient without scram (ATWS) major event due to failure of the mode selector switch. The critical task for the At-the-Controls (ATC) applicant was to recognize this failure and use the reactor scram pushbuttons to scram the reactor using this alternate method. The ATC applicant failed to perform this action and the other applicant, in the balance-of-plant (BOP) position came over, recognized the scram pushbuttons had not been depressed, and assisted the first applicant to complete the actions necessary to shut down the reactor. After the scenario, the licensee reviewed the scram procedure and determined that the steps for using the pushbuttons had been removed during a previous revision of the procedure. The licensee initiated Condition Report CR-GG-2015-07209 to address this issue.

For example 2, several off-normal procedures were never created to meet the requirements of Regulatory Guide 1.33 (including loss of all annunciators, electrical grounds, and loss of DC buses). On October 12, 2015, during written examination development, the chief examiner requested a written question for the loss of annunciator's abnormal procedure. The licensee notified the chief examiner that no

off-normal procedure existed for that event. This led to further discovery of additional missing off-normal procedures for electrical grounds and loss of DC buses. The loss of DC bus off-normal procedure is also part of a 2007 operating experience notification from the loss of a DC bus event at San Onofre Nuclear Generating Station. The licensee initiated Condition Report CR-GG-2015-07209 to address this issue.

For example 3, Emergency Procedure 05-1-02-II-1, Attachment III, "Shutdown from the Remote Shutdown Panel," Revision 47, designates that one key is required to complete this task when two keys are actually required. On October 28, 2015, while performing validations of in-plant job performance measure, the examination team noted that the procedure for shutdown from the remote shutdown panel was missing the information that two keys were required to complete the task. While this discrepancy did not prevent the successful completion of the task during validation, it did confuse some of the applicants during examination administration. The licensee initiated Condition Report CR-GG-2015-07209 to address this issue.

For example 4, Emergency Procedure 05-S-1-EP-1, Attachment 6, "Defeating Reactor Feed Pumps RPV Level 9 Trips," Revision 32, nomenclature does not match the associated equipment. On October 30, 2015, while performing control room job performance measure validations the examination team noticed that several steps in the procedure contained nomenclature that did not match the labeling on plant equipment. This discrepancy created confusion for several applicants during examination administration. The licensee initiated Condition Report CR-GG-2015-07209 to address this issue.

For example 5, System Operating Instruction 04-1-01-P41-1, "Standby Service Water System," Revision 140, Section 4.2, nomenclature does not match the associated equipment. On October 28, 2015, while performing simulator job performance measure validations the examination team noticed that several steps of the procedure contained nomenclature that did not match simulator labeling. This discrepancy was also identified by several applicants during examination administration. The licensee initiated Condition Report CR-GG-2015-07209 to address this issue.

For example 6, Alarm Response Instruction 04-02-1H13-P870-2A-E1, Revision 134, for the alarm "RHR A PMP RM FLOODED," contains non-conservative guidance to close the suction valve prior to tripping the pump on a suction line break. On December 8 2015, during administration of a simulator scenario, one event included a suction line leak on an operating RHR loop. The alarm response instruction directed the operator to close the suction valve to the operating RHR pump for this event but did not provide any guidance on securing the pump. This action relies on the operating pump to trip on interlock. When the chief examiner questioned operations personnel from the facility about this concern, it was communicated that the expected actions to take would be to secure the pump first then shut the suction valve and not depend on an interlock to secure the pump. The licensee initiated Condition Report CR-GG-2015-07209 to address this issue.

For example 7, there is no written procedure guidance for placing a safety-related diesel generator in maintenance mode to prevent an automatic start and subsequent overheat

of the diesel generator when cooling water (standby service water) is unavailable. On December 9, 2015, during administration of a simulator scenario that contained a loss of standby service water to one of the safety-related diesel generators, it was observed that two of the three crews placed the diesel generator in maintenance mode to prevent an automatic start without cooling water available. One crew did not take this action. This action was required because later in the scenario an actuation signal was received that started the diesels and the diesel without cooling water was allowed to start and run until manual action was taken to secure the diesel. According to the Updated Final Safety Analysis Report (UFSAR), the diesel generator jacket cooling water system is designed to provide sufficient heat sink to permit the diesel generator to start and operate for two minutes without standby service water available without overheating. Failure to have procedural guidance to prevent an automatic start of a diesel generator (with no cooling water available) is non-conservative and requires fast operator action to prevent equipment damage. The licensee initiated Condition Report CR-GG-2015-07209 to address this issue.

For example 8, Equipment Performance Instruction 04-1-03D21-1, "Monthly Area Radiation Monitors Functional Test," Revision 37, contains procedure steps that do not work for switches that do not spring return to normal. On December 7, 2015, during administration of a simulator job performance measure to conduct the monthly radiation monitor functional test, the examination team became aware of a procedural discrepancy that prevented one applicant from being able to complete the task. The procedure directs the operator to take the operate/alarm switch to alarm and hold while observing analog gage response. After the meter value is verified, the procedure directs the operator to release the switch and allow the switch to spring return to operate. The switch for at least one of the area radiation monitors in the simulator does not spring return to operate and requires operator action to place the switch to operate. The licensee was aware of this issue and inserted a limit and precaution in the upper portion of the procedure that stated that not all switches will spring return instead of placing the correct guidance for each area radiation monitor. Because of this procedural issue, the job performance measure was removed from the examination and replaced with a different job performance measure for the examination. The licensee initiated Condition Report CR-GG-2015-07209 to address this issue.

Analysis. The failure of these eight procedures to have the appropriate qualitative and quantitative criteria to complete these activities was a performance deficiency. The finding was more than minor because it is associated with the procedure quality attribute of the Mitigating Systems cornerstone and adversely affected the cornerstone objective of ensuring availability, reliability, and capability of systems needed to respond to initiating events to prevent undesired consequences. Specifically, inadequate procedures could adversely affect the operating crew's ability to take appropriate actions to ensure reactor safety is being maintained.

Using Inspection Manual Chapter 0609, Appendix A, "The Significance Determination Process (SDP) for Findings At-Power," dated June 19, 2012, the team determined that the finding was of very low safety significance (Green) because the finding: (1) was not a deficiency affecting the design and qualification of a mitigating structure, system, or component, and did not result in a loss of operability or functionality; (2) did not

represent a loss of system and/or function; (3) did not represent an actual loss of function of at least a single train for longer than its technical specification allowed outage time, or two separate safety systems out-of-service for longer than their technical specification allowed outage time; and (4) did not represent an actual loss of function of one or more non-technical specification trains of equipment designated as high safety significance in accordance with the licensee's maintenance rule program for greater than 24 hours. The finding has a cross-cutting aspect in the area of human performance associated with procedure adherence because individuals did not follow the processes to change or correct procedures that contained incorrect, missing, or non-conservative guidance [H.8].

Enforcement. Title 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," states, in part, "Instructions, procedures, or drawings shall include appropriate quantitative or qualitative acceptance criteria for determining that important activities have been satisfactorily accomplished."

For example 1 of this violation, contrary to the above, on December 9, 2015, Off-Normal Procedure ONEP 05-1-02-I-1, "Reactor Scram," Revision 125, did not have the necessary qualitative acceptance criteria (procedure steps) to accomplish the required activity of scrambling the reactor. To correct this issue, the licensee is working through their procedure change process and corrective action program via the assigned condition report.

For example 2 of this violation, contrary to the above, on October 12, 2015, the licensee is missing off-normal procedures that are described in Regulatory Guide 1.33, and although some steps are contained in the alarm response procedures, is not at the required hierarchical level nor do they contain all the necessary quantitative acceptance criteria (off-normal procedures) to accomplish the required activity of ensuring that important activities have been satisfactorily accomplished. To correct this issue, the licensee is working through the corrective action program via the assigned condition report.

For example 3 of this violation, contrary to the above, on October 28, 2015, Emergency Procedure 05-1-02-II-1, Attachment III, "Shutdown from the Remote Shutdown Panel," Revision 47, did not have the necessary qualitative acceptance criteria (procedure steps) to accomplish the required activity of aligning alternate shutdown panels in the division 1 switchgear room of the control building. To correct this issue, the licensee is working through their procedure change process and corrective action program via the assigned condition report.

For example 4 of this violation, contrary to the above, on October 30, 2015, Emergency Procedure 05-S-1-EP-1, Attachment 6, "Defeating Reactor Feed Pumps RPV Level 9 Trips," Revision 32, did not have the necessary qualitative acceptance criteria (nomenclature) to accomplish the required activity of defeating the reactor feed pump reactor pressure vessel level 9 trips. To correct this issue, the licensee is working through their procedure change process and corrective action program via the assigned condition report.

For example 5 of this violation, contrary to the above, on October 28, 2015, System Operating Instruction 04-1-01-P41-1, "Standby Service Water System," Revision 140, Section 4.2, did not have the necessary qualitative acceptance criteria (nomenclature) to accomplish the required activity of placing the standby service water system in service. To correct this issue, the licensee is working through their procedure change process and corrective action program via the assigned condition report.

For example 6 of this violation, contrary to the above, on December 8, 2015, Alarm Response Instruction 04-02-1H13-P870-2A-E1, Revision 134, for the alarm "RHR A PMP RM FLOODED," did not have the necessary qualitative acceptance criteria (non-conservative) to accomplish the required activity of isolating a leak in the suction line of the RHR system. To correct this issue, the licensee is working through their procedure change process and corrective action program via the assigned condition report.

For example 7 of this violation, contrary to the above, on December 9, 2015, there was no written procedure guidance for placing a safety-related diesel generator in maintenance mode to prevent an automatic start and subsequent overheat of the machine when cooling water is unavailable. Due to the lack of procedural guidance, the licensee did not have the necessary quantitative acceptance criteria (procedure guidance) to accomplish the required activity of protecting required safety-related equipment. To correct this issue, the licensee is working through their procedure change process and corrective action program via the assigned condition report.

For example 8 of this violation, contrary to the above, on December 7, 2015, Equipment Performance Instruction 04-1-03D21-1, "Monthly Area radiation Monitors Functional Test," Revision 37, did not have the necessary qualitative acceptance criteria (procedure steps) to accomplish the required activity of performing the monthly radiation area monitor checks. Specifically, guidance in implementing procedure steps for a spring return to normal switch did not match the actual switch type on the main control board panel. To correct this issue, the licensee is working through their procedure change process and corrective action program via the assigned condition report.

This violation is being treated as a non-cited violation, consistent with Section 2.3.2.a of the Enforcement Policy. The violation was entered into the licensee's corrective action program as Condition Report CR-GG-2015-07209. (NCV 05000416/2015301-01, "Inadequate Plant Operating Procedures with Eight Examples.")

c. Other Observations

NRC examiners provided outline, draft examination, and post-validation comments to the licensee. The licensee satisfactorily completed comment resolution prior to examination administration.

NRC examiners determined the written examinations and operating tests initially submitted by the licensee were within the range of acceptability expected for a proposed examination.

While the written examination and operating tests submitted by the licensee were determined to be within the range of acceptability there were several issues noted with the submittal that warrant comment.

Operating Exam Content:

Draft outlines of the operating examination contained excessive overlap of events from the previous two exams. Fifteen of the 27 originally submitted events for the scenarios were repeat events from the previous two NRC initial exams and therefore required significant changes. Because these overlap concerns are being addressed in the next revision of NUREG-1021, the operating test was considered satisfactory. The examiners noted several instances where the Form D-2 scenario guides did not identify all applicable Technical Specifications. Extensive work was required on site to reconcile the scenario guides to ensure that the proper Technical Specification calls were identified. The licensee entered this issue into their corrective action program as Work Tracking document WT-GGN-2016-0021-CA 2.

Written Examination Content:

While the written examination submittal was considered satisfactory, it required a high level of revision to meet the quality standards of NUREG 1021, Revision 10. The written examination had a high number of questions that required editing (53). These questions were considered satisfactory, but required editing because of NRC approval on previous NRC exams. The questions were previously approved using the standards contained in previous revisions of NUREG 1021 and did not meet the current standard. In addition, the facility examination writers had a misconception when determining SRO-only written question criteria based on a Grand Gulf specific procedure strategy guideline that states, "only an SRO can direct subsequent actions." This is not in alignment with procedure selection criteria in the SRO-only guidance in NUREG-1021. Because this misconception was applied on several SRO-only questions, the chief examiner NRC considered it an "error carried forward" mistake and therefore characterized several SRO-only questions as edits that required corrections to meet the requirements in NUREG-1021. The licensee entered this issue into their corrective action program as Work Tracking document WT-GGN-2016-0021-CA 2.

.3 Operator Knowledge and Performance

a. Scope

On December 14, 2015, the licensee proctored the administration of the written examinations to all eight applicants. The licensee staff graded the written examinations, analyzed the results, and presented their analysis to the NRC on December 16, 2015

The NRC examination team administered the various portions of the operating tests to all applicants the week of December 7, 2015.

b. Findings

No findings were identified.

All applicants passed the written examination and all parts of the operating test. The final written examinations and post examination analysis and comments may be accessed in the ADAMS system under the accession numbers noted in the attachment.

The examination team noted four generic weaknesses associated with applicant performance on the dynamic scenario section of the operating tests:

1. Intermediate Range Monitor Failures: Three crews demonstrated a weakness in IRM system understanding and associated procedure implementation.
2. Reactor Pressure Vessel level control post trip using the startup level control valves and booster pumps: Three crews were not able to maintain the control band established by the control room supervisor and two of the crews received a Level 8 actuation.
3. Silencing of annunciators: All crews during the scenarios allowed annunciators to continuously sound for a period of 17 to 25 minutes without ever silencing. This created challenging communications between crewmembers because of the additional noise from the alarm horns. NUREG-737 contains post-Three Mile Island recommendations to minimize noise during major events to promote clear communications and therefore effective mitigation strategies.
4. Communications: In all scenarios the board operators did not report to the control room supervisor manual actions that were taken due to the failure of automatic functions.

Copies of all individual examination reports were sent to the facility training manager for evaluation and determination of appropriate remedial training. The licensee entered the generic weaknesses into their corrective action program as Condition Report CR-GGN-2015-07211.

.4 Simulation Facility Performance

a. Scope

The NRC examiners observed simulator performance with regard to plant fidelity during examination validation and administration.

b. Findings

No findings were identified.

.5 Examination Security

a. Scope

The NRC examiners reviewed examination security for examination development during both the on-site preparation week and examination administration week for compliance with 10 CFR 55.49 and NUREG-1021. Plans for simulator security and applicant control were reviewed and discussed with licensee personnel.

b. Findings

No findings were identified.

c. Other Observations

Minor examples of examination security issues were identified during the administration of the examination. Several times during job performance measure administration control board flagging was not cleared by facility staff between applicants. For each missed case, the flagging was removed by the examiner prior to the applicant being brought into the room and therefore had no impact on the administration of the examination. Additionally, one of the Alarm Response Instructions was not cleaned between scenario runs. This instruction did not provide any information that would have affected scenario decision making or diagnosis and had no effect on grading of the applicants. An enhancement to the examination security checklist was identified during validation week to post the viewing gallery to ensure that any small gaps in the blinds would not allow potential security issues. Because all of these issues were identified and stopped by NRC examiners prior to an actual examination security event, they are considered minor violations of the examination security rule. The licensee captured these issues in their corrective action program as Condition Report CR-GG-2015-07211.

40A6 Meetings, Including Exit

The preliminary examination results were discussed on December 10, 2015, with Mr. T. Coutu, Director of Regulatory Affairs, and other members of the staff. A telephonic meeting was conducted on December 17, 2015, with Mr. Liddell, Operations Training Superintendent, who was provided the NRC licensing decisions. A telephonic exit meeting was conducted on January 19, 2016, with Mr. V Fallacara, General Manager Plant Operations.

The licensee did not identify any information or materials used during the examination as proprietary.

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee Personnel

V. Fallacara, General Manager, Plant Operations
T. Coutu, Director, Regulatory Affairs
J. Nadeau, Manager, Regulatory Assurance
R. Busick, Senior Manager, Operations
R. Meyer, Shift Manager, Operations
R. Liddell, Training Superintendent, Operations
T. Coles, Engineer, Regulatory Assurance
M. Rasch, Nuclear Training Instructor
S. Reeves, Examination Writer
G. Kimich, Examination Lead and Author

NRC Personnel

M. Young, Senior Resident Inspector
N. Day, Resident Inspector

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened and Closed

05000416/2015301-01 NCV Inadequate Plant Operating Procedures with Eight Examples
(Section 40A5)

ADAMS DOCUMENTS REFERENCED

Accession No. ML16019A328 - FINAL WRITTEN EXAMS (Do not release until 12/11/2017)
Accession No. ML16019A332 - FINAL OPERATING TEST
Accession No. ML16019A340 - POST EXAM ANALYSIS-COMMENTS