



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
1600 EAST LAMAR BOULEVARD
ARLINGTON, TEXAS 76011-4511

December 17, 2018

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

SUBJECT: GRAND GULF NUCLEAR STATION – NRC BIENNIAL PROBLEM
IDENTIFICATION AND RESOLUTION INSPECTION REPORT
05000416/2018010

Dear Mr. Larson:

On November 8, 2018, the U.S. Nuclear Regulatory Commission (NRC) completed a problem identification and resolution inspection at your Grand Gulf Nuclear Station. The NRC inspection team discussed the results of this inspection with you and members of your staff. The results of this inspection are documented in the enclosed report.

The NRC inspection team reviewed the station's corrective action program and the station's implementation of the program to evaluate its effectiveness in identifying, prioritizing, evaluating, and correcting problems, and to confirm that the station was complying with NRC regulations and licensee standards for corrective action programs. Based on the samples reviewed, the team determined that your staff's performance in each of these areas adequately supported nuclear safety.

The team also evaluated the station's processes for use of industry and NRC operating experience information and the effectiveness of the station's audits and self-assessments. Based on the samples reviewed, the team determined that your staff's performance in each of these areas adequately supported nuclear safety.

Finally the team reviewed the station's programs to establish and maintain a safety-conscious work environment, and interviewed station personnel to evaluate the effectiveness of these programs. Based on the team's observations and the results of these interviews, the team found that most Grand Gulf Nuclear Station employees appeared willing to raise nuclear safety concerns through at least one of the several means available. However, the team found evidence of challenges to the safety-conscious work environment in one work group; the team provided additional details to the station's Employee Concerns Program Coordinator, Mr. R. Pierson.

NRC inspectors documented three findings of very low safety significance (Green) in this report, two of which involved a violation of NRC requirements. Additionally, inspectors documented two licensee-identified violations that were determined to be of very low safety significance. The

NRC is treating all of these violations as non-cited violations (NCVs) consistent with Section 2.3.2 of the Enforcement Policy.

If you contest these violations or their significance, 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, DC 20555-0001; with copies to the Regional Administrator, Region IV; the Director, Office of Enforcement; and the NRC resident inspector at the Grand Gulf Nuclear Station.

Likewise, if you disagree with a cross-cutting aspect assignment 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 U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001; with copies to the Regional Administrator, Region IV; and the NRC resident inspector at the Grand Gulf Nuclear Station.

This letter, its enclosure, and your response (if any) will be made available for public inspection and copying at <http://www.nrc.gov/reading-rm/adams.html> and at the NRC Public Document Room in accordance with 10 CFR 2.390, "Public Inspections, Exemptions, Requests for Withholding."

Sincerely,

/RA/

Geoffrey B. Miller, Team Leader
Inspection Program and Assessment Team
Division of Reactor Safety

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

Enclosure:
Inspection Report 05000416/2018010
w/ Attachment:
Information Request

**U.S. NUCLEAR REGULATORY COMMISSION
Inspection Report**

Docket Number(s): 05000416

License Number(s): NPF-29

Report Number(s): 05000416/2018010

Enterprise Identifier: I-2018-010-0072

Licensee: Entergy Operations, Inc.

Facility: Grand Gulf Nuclear Station, Unit 1

Location: Port Gibson, Mississippi

Inspection Dates: October 22, 2018, to January 8, 2019

Inspectors: E. Ruesch, J.D., Sr. Reactor Inspector (Team Lead)
R. Alexander, Sr. Project Engineer
H. Freeman, Sr. Reactor Inspector
T. Steadham, Sr. Resident Inspector (Grand Gulf Nuclear Station)
T. Sullivan, Resident Inspector (Arkansas Nuclear One)

Approved By: Geoffrey B. Miller
Team Leader, Inspection Program and Assessments Team
Division of Reactor Safety

Enclosure

SUMMARY

The U.S. Nuclear Regulatory Commission (NRC) continued monitoring the licensee’s performance by conducting a biennial problem identification and resolution inspection at Grand Gulf Nuclear Station, Unit 1, in accordance with the Reactor Oversight Process. The Reactor Oversight Process is the NRC’s program for overseeing the safe operation of commercial nuclear power reactors. Refer to <https://www.nrc.gov/reactors/operating/oversight.html> for more information. Findings and violations being considered in the NRC’s assessment are summarized in the table below. Two licensee-identified non-cited violations are discussed in Inspection Procedure 71152.

List of Findings and Violations

Conditions adverse to quality not promptly corrected using work management system			
Cornerstone	Significance	Cross-cutting Aspect	Inspection Procedure
Mitigating Systems	Green NCV 05000416/2018010-01 Closed	H.5	71152—Problem Identification and Resolution
The inspectors identified a Green non-cited violation of 10 CFR Part 50, Appendix B, Criterion XVI, “Corrective Action,” for the licensee’s failure to promptly identify and correct conditions adverse to quality when corrective actions were moved from the corrective action program to the work management system.			

Failure to promptly identify and correct adverse conditions related to barrier doors			
Cornerstone	Significance	Cross-cutting Aspect	Inspection Procedure
Mitigating Systems	Green NCV 05000416/2018010-02 Closed	P.2	71152—Problem Identification and Resolution
The inspectors identified a Green non-cited violation of 10 CFR Part 50, Appendix B, Criterion XVI, “Corrective Action,” for the licensee’s failure to promptly identify and correct adverse conditions related to degraded barrier doors as required by regulations, license conditions, and station procedures.			

Immediate operability determinations not documented in accordance with procedures			
Cornerstone	Significance	Cross-cutting Aspect	Inspection Procedure
Mitigating Systems	Green FIN 05000416/2018010-03 Closed	P.3	71152—Problem Identification and Resolution
The inspectors identified a Green finding for the licensee’s failure to consistently complete immediate operability determinations in accordance with station procedures.			

INSPECTION SCOPE

Inspections were conducted using the appropriate portions of the inspection procedures (IPs) in effect at the beginning of the inspection unless otherwise noted. Currently approved IPs with their attached revision histories are located on the public website at <http://www.nrc.gov/reading-rm/doc-collections/insp-manual/inspection-procedure/index.html>. Samples were declared complete when the IP requirements most appropriate to the inspection activity were met consistent with Inspection Manual Chapter (IMC) 2515, "Light-Water Reactor Inspection Program - Operations Phase." The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel to assess licensee performance and compliance with Commission rules and regulations, license conditions, site procedures, and standards.

OTHER ACTIVITIES – BASELINE

71152—Problem Identification and Resolution – Biennial Team Inspection (1 Sample)

The inspectors performed a biennial assessment of the licensee's corrective action program (CAP), use of operating experience, self-assessments and audits, and safety-conscious work environment. The assessment is documented below.

- (1) Corrective Action Program Effectiveness: Problem Identification, Problem Prioritization and Evaluation, and Corrective Actions – The inspection team reviewed the station's CAP and the station's implementation of the program to evaluate its effectiveness in identifying, prioritizing, evaluating, and correcting problems, and to confirm that the station was complying with NRC regulations and licensee standards for CAPs. The sample included review of over 200 condition reports (CRs) and associated records, and an in-depth 5-year review of CRs associated with the high-pressure core spray system—both mechanical and electrical components—including actuation logic and room coolers.
- (2) Operating Experience, Self-Assessments, and Audits – The team evaluated the station's processes for use of industry and NRC operating experience. The team also evaluated the effectiveness of the station's audits and self-assessments program by reviewing a sample of several self-assessments and audits.
- (3) Safety-Conscious Work Environment – The team evaluated the station's safety-conscious work environment. The team interviewed 42 station personnel in 6 group interviews. These included personnel from operations, work management, maintenance, radiological protection, chemistry, engineering, station projects, and security. The team also interviewed employee concerns program personnel, reviewed employee concerns files, and reviewed the results of the most recent safety culture survey and the licensee's actions to address "priority groups" identified through that survey.

71153—Follow-up of Events and Notices of Enforcement Discretion

Licensee Event Reports (7 Samples)

The inspectors evaluated seven licensee event reports (LERs):

- (1) 05000416/2017-002: Loss of Secondary Containment and Inoperability of the Standby Gas Treatment Systems as a Result of a Damaged Power Supply (ADAMS Accession No. ML18081B210)
- (2) 05000416/2017-005: Loss of Safety Function and Control Room Envelope Due to an Open Boundary Door (ML17250A201)
- (3) 05000416/2017-008: Inadequate Diesel Generator Common Mode Failure Evaluations Result in Condition Prohibited by Technical Specifications (ML18100B300)
- (4) 05000416/2017-009*: Reactor Core Isolation Cooling System Inoperability Due to Lockout Circuit Settings (ML18085A078)
- (5) 05000416/2018-003: Inoperable Reactor Protection Functions During Main Steam Isolation Valve and Turbine Stop Valve Channel Functional Tests Due to Use of a Test Box (ML18117A482)
- (6) 05000416/2018-005: Secondary Containment Door Misaligned, Due to Inadequate Criteria, Could Have Prevented Fulfillment of a Safety Function (ML18145A292)
- (7) 05000416/2018-006: Secondary Containment Roof Hatch Left Open Due To Inadequate Corrective Actions (ML18145A291)

The inspectors identified one finding and reviewed one licensee-identified non-cited violation associated with these LERs. These are described in the inspection results below. Licensee Event Report 05000416/2017-009 is associated with previously documented violation NCV 05000416/2018002-01 (ML18215A026); no further issues related to this LER were identified during this inspection.

INSPECTION RESULTS – OBSERVATIONS/ASSESSMENT

Assessment of Corrective Action Program	71152—Problem Identification and Resolution
<p><u>Effectiveness of Problem Identification:</u> Overall, the team found that the licensee’s identification and documentation of problems were adequate to support nuclear safety, though some challenges were noted. Licensee employees entered issues into the CAP at a very low threshold. However, the team identified opportunities for improvement in the identification and screening of potential trends and other aggregate issues, particularly through management oversight processes designed to diagnose and address organizational and programmatic challenges. These are described in observations, findings, and violations below.</p> <p><u>Effectiveness of Prioritization and Evaluation of Issues:</u> Overall, the team found that the licensee’s prioritization and evaluation of issues were adequate to support nuclear safety. The licensee continues to work to improve management oversight of the CAP, which has</p>	

been consistently identified as an area for improvement by both third party and internal reviews. The licensee has several ongoing initiatives under its recovery “Blueprint” that appear to be initially successful at driving improvement. However, the team noted that challenges remain, particularly in the identification of aggregate trends. Examples are discussed below.

Effectiveness of Corrective Actions: Overall, the team found that the licensee’s corrective actions, when accomplished, generally supported nuclear safety. However, the team noted that the licensee failed to appropriately manage its backlog of corrective actions for adverse conditions when those actions were closed to the work management system; this is discussed below as non-cited violation. Additionally, the licensee did not always adequately document the completed actions in the CRs, making review and verification challenging.

Observations on the Corrective Action Program	71152—Problem Identification and Resolution
<p>The inspectors observed that the licensee had improved its implementation of the CAP since the previous problem identification and resolution inspection in 2017. However, the organization continued to be challenged to provide adequate management oversight of the program. To wit:</p> <p>The inspectors observed meetings of the station’s Plant Health Committee (PHC) on October 22 and November 5, 2018. According to the licensee’s governing Procedure EN-DC-336, “The primary mission of the PHC is to identify, prioritize, and drive resolution of issues challenging unit reliability,” by focusing on things such as, “safety system health and “organizational alignment . . . to resolve equipment reliability issues.” The procedure further provides that the PHC meetings should be, “action oriented and results driven, rather than weighted more to status / update / discussion.” While this PHC process is not a safety-related or quality process as is the CAP, it serves an important oversight function of problem identification and resolution processes, particularly for ensuring appropriate attention and resources are focused on broad challenges that are evidenced by a series of more discrete issues that may be documented and addressed in the CAP. The inspectors observed that contrary to PHC goals and procedural direction, discussions at the meetings were focused almost entirely on what actions had been complete, rather than proactive discussions of strategies for issue resolution.</p> <p>The inspectors also identified that the licensee had yet to complete an Aggregate Performance Review Meeting (APRM) to review trend and performance data for 2018. Procedure EN-LI-121, “Trending and Performance Review Process,” a quality procedure, establishes Aggregate Performance Review Meetings. The purpose of these meetings conducted by the site leadership team is to review performance monitoring inputs, assess performance, identify and monitor performance trends, and conduct analysis and planning for actions to resolve performance trends at the site level. The meetings also fulfill a commitment in the Entergy Quality Assurance Manual to ensure that conditions adverse to quality are analyzed to identify trends in quality performance. The meetings are required by Procedure EN-LI-121 to be completed four times per calendar year. Similar to the PHC meetings, these meetings are an important management oversight function for the CAP and other problem identification and resolution processes. The failure to conduct the required APRMs is documented as a minor performance deficiency below.</p>	

Assessment of Use of Operating Experience	71152—Problem Identification and Resolution
<p>Based on the samples reviewed, the team determined that the licensee appropriately evaluated industry operating experience for its relevance to the facility. Operating experience information was incorporated into plant procedures and processes as appropriate. The team further determined that the licensee appropriately evaluated industry operating experience when performing root cause analyses and adverse condition analyses. The licensee appropriately incorporated both internal and external operating experience into lessons learned for training and pre-job briefs.</p> <p>In particular, the team noted one example where, during a review of operating experience information from the Boiling Water Reactor (BWR) Owners' Group, the licensee identified a concern with the use of a reactor protection system (RPS) "test box" during main steam isolation and turbine stop valve surveillance procedures, which affected the operability of the RPS. The licensee promptly entered the issue into the CAP and initiated corrective actions to address the deficiency. This is an example of an effective review of operating experience—promptly identifying the relevance of the operating experience information to the station, and taking timely actions to correct the vulnerability. This issue is further described in a licensee-identified violation below and in LER 05000416/2018-003.</p>	

Assessment of Self-Assessments and Audits	71152—Problem Identification and Resolution
<p>Based on the samples reviewed over a cross-section of departments and disciplines, the team determined that station performance in these areas adequately supported nuclear safety. Self-assessments and audits were generally effective at identifying deficiencies and enhancements. Additionally, identified deficiencies were generally documented in CRs for both self-assessments and audits. However, in two of ten self-assessments reviewed by the team, the licensee had failed to document some "negative observations" in CRs or other Learning Organization tracking items as required by Procedure EN-LI-104, Self-Assessment and Benchmark Process.</p> <p>Additionally, in a 2016 maintenance self-assessment the licensee determined that a deficiency existed with the control of maintenance and test equipment. The self-assessment identified a large number of maintenance and test equipment that was lost. Consequently, the licensee implemented corrective actions to ensure maintenance and test equipment was returned to the tool crib as required. However, through a review of work orders for jobs where maintenance and test equipment was used, the inspectors identified a continued trend of failure to control maintenance and test equipment in accordance with station procedures. Specifically, the licensee failed to properly log all of the work orders where maintenance and test equipment was used. Therefore, the inspectors determined that the 2016 maintenance self-assessment missed an opportunity to identify a larger scope of the failure to control maintenance and test equipment beyond the lack of returning maintenance and test equipment to the tool crib on time. The failure to properly log the use of maintenance and test equipment greatly affects the licensee's ability to identify previous work that would need to be reviewed should a piece of maintenance and test equipment be found to be out-of-calibration. The inspectors noted that during a June 2018 nuclear independent oversight audit, the licensee identified the maintenance and test equipment program control issues and entered the concern into their CAP as Condition Report CR-GGN-2018-06609. However, at the time of this inspection, corrective actions for this CR remained open. This issue is documented as a licensee-identified NCV below.</p>	

Assessment of Safety-Conscious Work Environment	71152—Problem Identification and Resolution
<p>The team found no evidence of site-wide challenges to the organization’s safety-conscious work environment. Employees generally appeared willing to raise nuclear safety concerns through at least one of the several means available. The team identified some indications of safety-conscious work environment weaknesses in one work group, though no employee stated that he or she would not raise a nuclear safety concern as a result. The team provided details on this observation to the station’s employee concerns program coordinator for further evaluation and resolution.</p>	

INSPECTION RESULTS – ISSUES/FINDINGS

Minor Performance Deficiency	71152—Problem Identification and Resolution
<p>Minor Performance Deficiency: The failure to complete APRMs, as required by station procedures, is a performance deficiency. Procedure EN-LI-121, “Trending and Performance Review Process,” establishes APRMs. Step 5.2[15] of that procedure states, “APRMs are conducted in the months of February, May, August, and November,” and requires that “in all cases, a minimum of four APRMs SHALL be conducted annually.” This step was established, in part, to meet a commitment in the Entergy Quality Assurance Program (QAP) manual to ensure that conditions adverse to quality are analyzed to identify trends in quality performance. Prior to November 8 the license had yet to complete an APRM to review data and trends for calendar year 2018. The licensee documented this performance deficiency in Condition Report CR-GGN-2018-11491.</p> <p>Screening: The performance deficiency is minor because if left uncorrected it would not have led to a more significant safety concern and it did not adversely affect any cornerstone objectives.</p> <p>Enforcement: This failure to comply with the station’s QAP manual and procedures constitutes a minor performance deficiency with no associated violation of NRC regulations.</p>	

Minor Violation	71152—Problem Identification and Resolution
<p>Minor Violation: The failure to control the issuance of documents, such as instructions, procedures, and drawings, including changes thereto, which prescribe all activities affecting quality as required by 10 CFR Part 50, Appendix B, Criterion VI, Document Control.</p> <p>The team identified that Procedure EN-LI-118, Cause Analysis, and other CAP-related quality procedures directed the use of the “Analysis Manual” (a non-quality controlled Job Aid) in performing some cause evaluations and methods. This cause evaluation process is an activity affecting quality required by 10 CFR Part 50, Appendix B, and the licensee’s QAP. The licensee failed to control the Cause Analysis Manual in accordance with the Entergy QAP Manual, Revision 34, Section B.14, Document Control. The licensee documented this violation in Condition Report CR-HQN-2018-02364.</p>	

Screening: The performance deficiency is minor because if left uncorrected it would not have led to a more significant safety concern and it did not adversely affect any cornerstone objectives.

Enforcement: This failure to comply with 10 CFR Part 50, Appendix B, Criterion VI, constitutes a minor violation that is not subject to enforcement action in accordance with the NRC's Enforcement Policy.

Licensee-Identified Non-Cited Violation	71153— Follow-up of Events and Notices of Enforcement Discretion
This violation of very low safety-significant was identified by the licensee and has been entered into the licensee CAP and is being treated as a non-cited violation, consistent with Section 2.3.2 of the Enforcement Policy.	
<p>Violation: As required, in part, by 10 CFR Part 50, Appendix B, Criterion III, design control measures shall provide for verifying the adequacy of design. Contrary to the above, on August 22, 2014, the licensee failed to verify the adequacy of the design and use of the RPS test box approved by Engineering Change 45409. This violation is associated with Licensee Event Report 05000416/2018-003.</p> <p>Significance/Severity: Using IMC 0609, Appendix A, Exhibit 2, the inspectors screened the issue as Green because they answered "No" to all three Reactivity Control Systems screening questions. Specifically, based on a review of the historical use of the test boxes, the inspectors concluded that although the main steam isolation valve closure and turbine control valve closure RPS trip functions were inoperable while the RPS test box was in use, RPS safety function was not lost as a result of the use of the test boxes.</p> <p>Corrective Action References: CR-GGN-2018-01346 and CR-GGN-2018-01740</p>	

Licensee-Identified Non-Cited Violation	71153— Follow-up of Events and Notices of Enforcement Discretion
This violation of very low safety-significant was identified by the licensee and has been entered into the licensee CAP and is being treated as a non-cited violation, consistent with Section 2.3.2 of the Enforcement Policy.	
<p>Violation: As required, in part, by 10 CFR Part 50, Appendix B, Criterion XII, measures shall be established to assure that tools, gauges, instruments, and other measuring and test devices used in activities affecting quality are properly controlled. Contrary to the above, on June 6, 2018, the licensee failed to properly control the use of measuring and test equipment.</p> <p>Significance/Severity: Using IMC 0609, Appendix A, Exhibit 2, the inspectors screened the issue as Green because they answered "Yes" to Mitigating System screening question 1. Specifically, although the inspectors identified work orders where the maintenance and test equipment used was not properly logged in the maintenance and test equipment accounting system, none of the applicable maintenance and test equipment used was later found to be out-of-calibration.</p> <p>Correction Action Reference: CR-GGN-2018-06609</p>	

NCV: Conditions adverse to quality not promptly corrected using work management system			
Cornerstone	Significance	Cross-cutting Aspect	Inspection Procedure
Mitigating Systems	Green NCV 05000416/2018010-01 Closed	H.5: Work Management	71152—Problem Identification and Resolution
<p>The inspectors identified a Green non-cited violation of 10 CFR Part 50, Appendix B, Criterion XVI, for the licensee’s failure to promptly identify and correct conditions adverse to quality when corrective actions were moved from the CAP to the work management system.</p> <p><u>Description:</u> The licensee’s CAP permits certain CRs that document uncorrected adverse conditions to be closed to the work management system if certain criteria are met, as described in Procedure EN-LI-102, “Corrective Action Program,” Revision 34, Attachment 9.5. In reviewing a list of open work orders that were generated from adverse-condition CRs, the inspectors identified that the licensee had failed to verify that some of these work orders had promptly corrected the associated conditions adverse to quality:</p> <ol style="list-style-type: none"> (1) As of October 22, 2018, the licensee’s work management system included 28 open, past-due work orders that had originated from the closure of adverse CRs to the work management system; the oldest of these had been due in July 2013. (2) Also as of October 22, 2018, the licensee’s work management system included two open “priority 1” work orders and eleven open “priority 2” work orders that had originated from the closure of adverse CRs to the work management system. The oldest of these had been generated in early 2017. The licensee’s work management Procedure EN-WM-100, “Work Request (WR) Generation, Screening, and Classification,” requires that work under a priority 1 work order “begin immediately and work around the clock;” priority 2 work orders are required to be “scheduled at the earliest opportunity within T-3.” T-3 refers to a 3-week window beginning when the Work Request is generated. <p>After review, the licensee stated that most or all of these work orders had been superseded by other work, later deemed unnecessary but not canceled, or remained open for administrative reasons. The inspectors verified this for a sample of the affected work orders. However, the inspectors determined that this condition represented a programmatic deficiency in that the licensee’s implementation of its work management process was inadequate to ensure that corrective actions closed to the work management system were timely accomplished.</p> <p>Corrective Action: As an immediate corrective action, the licensee reviewed the past-due work orders and the aging priority 1 and 2 work orders and verified that no failures or significant degradations of critical components continued to exist as a result of the work orders not having been fully completed. The licensee initiated a CR to evaluate process changes.</p> <p>Corrective Action Reference: CR-GGN-2018-12031</p>			

Performance Assessment:

Performance Deficiency: The failure to promptly identify and correct conditions adverse to quality as required by 10 CFR Part 50, Appendix B, Criterion XVI, and station procedures was a performance deficiency.

Screening: The performance deficiency was more than minor, and therefore a finding, because if left uncorrected it would have the potential to lead to a more significant safety concern. Specifically, uncorrected conditions adverse to quality could adversely affect the capability and reliability of safety-related structures, systems, and components (SSCs).

Significance: The inspectors performed the initial significance determination using NRC IMC 0609, Appendix A, Exhibit 2, "Mitigating Systems Screening Questions." The inspectors determined that the finding was of very low safety significance (Green) because it did not result in the loss of operability or functionality of any system or train.

Cross-Cutting Aspect: This finding had a work management cross-cutting aspect in the human performance cross-cutting area (H.5) because the licensee's organization failed to implement a process of planning, controlling, and executing work activities such that nuclear safety is the overriding priority. Specifically, the licensee failed to ensure that work was effectively planned and executed by incorporating risk insights, job site conditions, and the need for coordination with different groups or job activities.

Enforcement:

Violation: Title 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," requires, in part, that measures shall be established to assure that conditions adverse to quality, such as failures, malfunctions, deficiencies, deviations, defective material and equipment, and nonconformances are promptly identified and corrected.

Contrary to this requirement, prior to October 22, 2018, the licensee failed to establish measures to assure that conditions adverse to quality were promptly identified and corrected. Specifically, processes allowing closure of certain conditions adverse to quality to the licensee's work management system were inadequate to assure that those conditions were promptly identified and corrected.

Disposition: This violation is being treated as a non-cited violation (NCV), consistent with Section 2.3.2 of the Enforcement Policy.

NCV: Failure to promptly identify and correct adverse conditions related to barrier doors

Cornerstone	Significance	Cross-cutting Aspect	Inspection Procedure
Mitigating Systems	Green NCV 05000416/2018010-02 Closed	P.2	71152—Problem Identification and Resolution

The inspectors identified a Green non-cited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," for the licensee's failure to promptly identify and correct adverse conditions related to degraded barrier doors as required by regulations, license conditions, and station procedures.

Description: During an October 22, 2018, daily review of CRs initiated over the previous 24-72 hours, the inspectors noted a large number of CRs documenting door-related adverse conditions. This collection of door-related CRs was not identified as a potential adverse trend by either the licensee's pre-screen committee, which performs initial classification of CRs, or by the performance improvement review group (PRG), which provides management oversight to the CAP. A member of the pre-screen committee explicitly stated that there were "no cognitive trends" resulting from the committee's review of the CR package.

After the inspectors questioned the pre-screen and PRG decision not to identify and document a potential trend, the licensee provided Condition Report CR-GGN-2017-01183. This CR, initiated February 2, 2017, stated, "During PRG on 2/2/17, a potential CR trend was identified for Plant Door issues." The CR was classified as a non-adverse "broke-fix." After several due date extensions, a trend analysis was performed, and an action was assigned to engineering on May 11, 2017, to "evaluate and add the Trend Validation . . . to their Department DPRM PIIM,"¹ and "to determine which doors have similar failures or repeated failures." Engineering added the issue to the PIIM and closed the evaluation tracking to a work tracker, which is outside of the CAP.

On May 31, 2017, engineering opened a new corrective action to replace the incorrectly closed one, correctly stating that corrective actions for adverse trends needed to be tracked in the CAP. On August 29, 2017, after further due date extension, the evaluation was completed by the mechanical/civil engineering group. The evaluation stated, "There are very few plant doors that have a preventative maintenance [PM] strategy associated with them. The doors are generally classified as run to failure and are only repaired when degradation is discovered. . . . If it is desired for doors to remain intact at all times, then a pm [sic] strategy should be considered based on the importance of the affected door." The engineer then closed the action stating, "The failure mechanisms listed in the categories above are not uncommon for doors especially for those which are used very frequently. From a Department Performance Improvement standpoint, there is no gap in engineering performance associated with this adverse trend." After one final due date extension, the final action in the CR was closed on January 31, 2018, with no corrective actions taken.

The inspectors observed that on July 9, 2017, the licensee experienced a loss of both divisions of Standby Fresh Air due to a breach in the control room envelope. This breach—reported to the NRC in licensee event report (LER) 05000416/2017-005 as an event that could have prevented the fulfillment of a safety function—occurred because of degradation to a safety-related boundary door. The LER stated, "The organization failed to understand the nuclear safety consequence associated with the degraded condition and failed to implement a mitigating strategy." The licensee also noted that a human performance error contributed to the event.

On March 31, 2018, the licensee experienced a loss of secondary containment due to malfunction of the auxiliary building rail bay door due to door misalignment during operation. This too was reported to the NRC as an event that could have prevented fulfillment of a safety function in LER 05000416/2018-005. The licensee again identified human performance as a contributor to the event.

¹ The DPRM PIIM, or Department Performance Review Meeting Performance Improvement Integrated Matrix, is a document listing performance issues, including trends, and how those issues are being tracked and addressed. It is reviewed by department leadership at quarterly DPRMs.

Corrective actions to attempt to address the human performance aspects of these events included site-wide communications reinforcing expectations for door operation—that individuals check to ensure doors are latched after passing through them. However, on July 18, 2018, and again on August 20, 2018, the resident inspectors identified several instances of plant personnel not checking doors after opening and closing them. The licensee documented these instances in Condition Reports CR-GGN-2018-09163 and CR-GGN-2018-09551.

The inspectors concluded that despite the previous opportunities to identify and correct human performance issues and potentially inadequate maintenance practices associated with important doors, the licensee had failed to take prompt and adequate corrective actions. Specifically, as evidenced by two reportable events and several documented inspector observations, corrective actions relative to human performance had not been successful and maintenance strategies had not been evaluated for doors other than the control room envelope doors.

Corrective Action: The licensee initiated a CR to evaluate why previous corrective actions had not been effective at preventing further door-related events.

Corrective Action Reference: CR-GGN-2018-12069

Performance Assessment:

Performance Deficiency: The failure to promptly identify and correct a condition adverse to quality as required by 10 CFR Part 50, Appendix B, Criterion XVI, and plant procedures was a performance deficiency.

Screening: The performance deficiency was more than minor, and therefore a finding, because if left uncorrected it would have the potential to lead to a more significant safety concern. Specifically, uncorrected conditions adverse to quality could adversely affect the capability and reliability of safety-related SSCs.

Significance: The inspectors performed the initial significance determination using NRC IMC 0609, Appendix A, Exhibit 2, “Mitigating Systems Screening Questions.” The inspectors determined that the finding was of very low safety significance (Green) because it did not result in the loss of operability or functionality of any system or train.

Cross-Cutting Aspect: This finding had an evaluation (P.2) cross-cutting aspect in the problem identification and resolution cross-cutting area because the licensee failed to thoroughly evaluate problems to ensure that resolutions address causes and extent of conditions, commensurate with their safety significance. Specifically, the licensee failed to thoroughly investigate an identified issue according to its safety significance.

Enforcement:

Violation: Title 10 CFR Part 50, Appendix B, Criterion XVI, “Corrective Action,” requires, in part, that measures shall be established to assure that conditions adverse to quality, such as failures, malfunctions, deficiencies, deviations, defective material and equipment, and nonconformances are promptly identified and corrected.

Contrary to this requirement, from February 2, 2017, through at least November 8, 2018, the licensee failed to establish measures to assure that conditions adverse to quality were

promptly identified and corrected. Specifically, the licensee failed to correct inadequate maintenance procedures and poor human performance practices that, in at least two cases, resulted in the inoperability of safety-related SSCs.

Disposition: This violation is being treated as a non-cited violation (NCV), consistent with Section 2.3.2 of the Enforcement Policy.

FIN: Immediate operability determinations not documented in accordance with procedures

Cornerstone	Significance	Cross-cutting Aspect	Inspection Procedure
Mitigating Systems	Green FIN 05000416/2018010-03 Closed	P.3	71152—Problem Identification and Resolution

The inspectors identified a Green NRC identified finding for the licensee’s failure to consistently complete immediate operability determinations in accordance with station procedures.

Description: On July 24, 2017, the licensee’s nuclear independent oversight group (NIOS), documented a Quality Assurance Finding in the CAP (Condition Report CR-GGN-2017-07180), identifying that five operability determinations for safety-significant SSCs were not performed in an accurate or timely manner, and at least some of the compensatory measures were not recognized or correctly implemented. This CR was characterized as a Level B Adverse Condition, which requires an Adverse Condition Analysis. The Adverse Condition Analysis was approved by the PRG on September 8, 2017, and identified three causal factors—two associated with inadequate procedural guidance in Procedure EN-OP-104, “Operability Determination Process,” and OPG-11 (Grand Gulf Nuclear Station-specific guidance to support operability determination completion), and one identifying that Operations and Engineering operability documentation indicated a lack of fundamental knowledge related to providing reasonable assurance of component operability.

The station’s planned corrective actions were to: (1) revise Procedure EN-OP-104 to ensure the procedure contained industry best guidance performing operability determinations; (2) revise or delete OPG-11 to ensure consistent guidance between Fleet procedure and the Grand Gulf Nuclear Station guidance document; and (3) perform operability determination training during Licensed Operator requalification training and with engineering staff to reinforce necessary fundamental knowledge necessary for these tasks. Further, the effectiveness of the corrective actions were to be assessed by completing operability determination Review Boards to assess the quality of the determinations from a sample of operability determinations conducted at points of 3 and 6 months following completion of the corrective actions.

In reviewing the Adverse Condition Analysis, and corrective actions and effectiveness reviews completed, the inspectors determined that a number of other CRs documenting incomplete and/or untimely operability determinations and functionality assessments (for non-safety related SSCs) were closed to Condition Report CR-GGN-2017-07180 as it was expected that the corrective actions would be appropriate to resolve those issues as well. This included the Condition Report CR-GGN-2017-11265 which documented and evaluated the NRC Finding 05000416/2017011-06 in which NRC inspectors identified that the licensee had not conducted functionality assessments for adverse conditions related to the offgas system in accordance with Procedure EN-OP-104.

Further, the inspectors determined that the corrective actions and effectiveness reviews for Condition Report CR-GGN-2017-07180 were not completed as intended and approved by PRG. Specifically, the training for Operations was conducted prior to revisions to Procedure EN-OP-104 were completed. Further, the station only completed one effectiveness review (in November - December 2017), before Procedure EN-OP-104 was revised, while the second effectiveness review was not completed. The fact that the second effectiveness review was not completed was not identified in the CR closure reviews. Additionally, the inspectors determined that the licensee's corrective actions did not seem to address the timeliness aspect of the original NIOS Quality Assurance Finding in the evaluation and corrective actions taken.

To independently evaluate the effectiveness of the corrective actions, the inspectors reviewed a selection of operability determinations completed in the period of late July through late October 2018 to assess the quality and timeliness attributes of the determinations. The inspectors' review of these recent operability determinations for quality and complete information found that generally the operability determinations contained the appropriate level of detail to support operability/functionality decision. For those operability determinations with multiple revisions, 26 percent appeared to have additional information added by subsequent management/peer reviews which are driven by procedure and, in part, are intended to provide a quality check to the products.

However, the data set showed that Operations continues to not complete immediate operability determinations in a timely fashion in accordance with Procedure EN-OP-104. Specifically, the procedure in Step 8.2.1.b requires the station to, "ensure immediate operability determination is not delayed for extensive research and testing after confirmation of the existence of a degraded or nonconforming condition." The inspectors determined that for immediate operability determinations completed where the component was declared inoperable in the sample period (a total of 23 CRs) only 4 (17 percent) were completed in less than 1 hour after discovery, 11 (48 percent) required 2 to 10 hours to complete, 6 (26 percent) required 10 to 20 hours to complete, and 2 (9 percent) required more than 20 hours for the immediate operability determination to be completed.

Further, the same data shows that Shift Managers are also not consistently reviewing and approving the immediate operability determinations consistent with Procedure EN-OP-104, in that about half of the 23 inoperable immediate operability determinations took more than an additional 2 hours to be approved. (In the worst case it took up to 13.5 hours for the determination to be approved by the Shift Manager.) The inspectors noted that Procedure EN-OP-104 had been previously revised to address a corrective action to prevent recurrence at another Entergy site to ensure Shift Managers were responsible for approving operability determinations in a timely manner, and to ensure that the information was thoroughly reviewed and challenged to validate the accuracy of the operability determination.

As such, the inspectors determined that despite the corrective actions and effectiveness, reviews were not completed consistent with the corrective action plan, the quality and accuracy of the completed operability determinations had improved. However, the corrective actions implemented have not corrected the issue to ensure that operability determinations are completed following discovery without delay and in a controlled manner using the best information available.

Corrective Action: The licensee entered this issue into the CAP for further evaluation and action.

Corrective Action Reference: CR-GGN-2018-11960

Performance Assessment:

Performance Deficiency: The failure to assess operability immediately following discovery without delay and in a controlled manner using the best information available, per Procedure EN-OP-104, "Operability Determination Process," was a performance deficiency.

Screening: The inspectors determined the performance deficiency was more than minor, and therefore a finding, because if left uncorrected, it would have the potential to lead to a more significant safety concern. Specifically, the failure of an on-shift licensed senior reactor operator to promptly assess and make an operability determination has the potential to result in the station not taking timely and appropriate actions to mitigate inoperable safety-related equipment in accordance with technical specifications and station procedures.

Significance: The inspectors assessed the significance of the finding using NRC IMC 0609, Appendix A, Exhibit 2, "Mitigating Systems Screening Questions." The team determined that the finding was of very low safety significance (Green) because all of the screening questions were answered in the negative; in the sample of inoperable determinations reviewed, none of the determinations were completed at a point in excess of the applicable technical specification allowed outage time.

Cross-Cutting Aspect: The finding had a resolution (P.3) cross-cutting aspect in the problem identification and resolution cross-cutting area because the licensee failed to take effective corrective actions to address an issue in a timely manner commensurate with its safety significance. Specifically, the licensee failed to ensure corrective actions resolved and corrected identified issues, including causes and extent of condition.

Licensee Event Report (Closed)	LER 05000416/2017-002: Loss of Secondary Containment and Inoperability of the Standby Gas Treatment Systems as a Result of a Damaged Power Supply	71153— Follow-up of Events and Notices of Enforcement Discretion
Licensee Event Report (Closed)	LER 05000416/2017-005: Loss of Safety Function and Control Room Envelope Due to an Open Boundary Door	71153— Follow-up of Events and Notices of Enforcement Discretion
Licensee Event Report (Closed)	LER 05000416/2017-008: Inadequate Diesel Generator Common Mode Failure Evaluations Result in Condition Prohibited by Technical Specifications	71153— Follow-up of Events and Notices of Enforcement Discretion
Licensee Event Report (Closed)	LER 05000416/2017-009: Reactor Core Isolation Cooling System Inoperability Due to Lockout Circuit Settings	71153— Follow-up of Events and Notices of Enforcement Discretion

Licensee Event Report (Closed)	LER 05000416/2018-003: Inoperable Reactor Protection Functions During Main Steam Isolation Valve and Turbine Stop Valve Channel Functional Tests Due to Use of a Test Box	71153— Follow-up of Events and Notices of Enforcement Discretion
Licensee Event Report (Closed)	LER 05000416/2018-005: Secondary Containment Door Misaligned, Due to Inadequate Criteria, Could Have Prevented Fulfillment of a Safety Function	71153— Follow-up of Events and Notices of Enforcement Discretion
Licensee Event Report (Closed)	LER 05000416/2018-006: Secondary Containment Roof Hatch Left Open Due To Inadequate Corrective Actions	71153— Follow-up of Events and Notices of Enforcement Discretion

EXIT MEETINGS AND DEBRIEFS

On November 8, 2018, the inspectors presented the inspection results to Mr. E. Larson, Site Vice President, and other members of the licensee staff. The inspectors confirmed that any proprietary or sensitive information reviewed was controlled to protect from public disclosure.

DOCUMENTS REVIEWED

Condition Reports (CR-GGN-20YY-XXXXX):

13-06725	16-08398	17-04475	17-10866	18-01403	18-05889	18-09613
13-07417	16-08403	17-04538	17-10884	18-01480	18-06236	18-09887
13-07436	16-09050	17-04776	17-10896	18-01512	18-06552	18-10024
13-07478	17-00047	17-05582	17-10900	18-01527	18-06608	18-10138
13-07525	17-00085	17-05583	17-10915	18-01740	18-06609	18-10253
13-07751	17-00256	17-05584	17-10954	18-01764	18-06863	18-10353
14-00452	17-00458	17-05789	17-11007	18-01936	18-07431	18-10414
14-00873	17-00916	17-06421	17-11029	18-02165	18-07554	18-10416
14-01706	17-01183	17-06705	17-11080	18-02211	18-07611	18-10441
14-02859	17-01356	17-06973	17-11094	18-02336	18-07679	18-10532
14-03912	17-01570	17-07180	17-11344	18-02352	18-07753	18-10633
14-04996	17-01590	17-07469	17-11354	18-02397	18-07777	18-11096
14-05534	17-01612	17-07656	17-11393	18-02697	18-07795	18-11102
14-06215	17-01701	17-08346	17-11626	18-02718	18-08063	18-11122
15-00315	17-01702	17-08349	17-11982	18-02942	18-08304	18-11171
15-03985	17-01763	17-08350	17-12012	18-02962	18-08387	18-11371
15-04612	17-02096	17-08355	17-12250	18-02979	18-08516	18-11457
15-04627	17-02291	17-08356	17-12283	18-03185	18-08553	18-11465
15-04682	17-02519	17-08386	17-12284	18-03388	18-08654	18-11491
15-06193	17-02643	17-08434	17-12285	18-04228	18-08671	18-11573
15-06199	17-02697	17-09154	17-12292	18-04298	18-08706	18-11584
15-06231	17-02698	17-09390	17-12314	18-04660	18-09003	18-11805
15-06831	17-02968	17-09643	17-12461	18-04863	18-09004	18-11954
16-03707	17-03072	17-09747	18-00098	18-04934	18-09005	18-11957
16-04400	17-03191	17-09749	18-00275	18-04984	18-09006	18-11960
16-04834	17-03231	17-09780	18-00342	18-04999	18-09007	18-12626
16-08066	17-03321	17-10042	18-00702	18-05198	18-09011	
16-08085	17-03333	17-10261	18-00977	18-05261	18-09147	
16-08306	17-03334	17-10788	18-01265	18-05360	18-09304	
16-08324	17-04211	17-10839	18-01347	18-05519	18-09341	

Plus a number of anonymous CRs initiated since November 2017, the text of most of the several hundred CRs issued while the team was on site, and corporate Condition Report HQN-2018-02364.

Work Orders

357849	448700	465663	488509	50297212	52617951	52788155
369168	455705	474597	492983	52326760	52623801	52789048
375435	459577	474598	496016	52370665	52707910	52831944
412188	459755	488372	504874	52498741	52757341	
445248	462039	488414	505048	52583929	52788154	

Engineering Changes

59355	59401	65769	71757	74757	78505	
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Procedures Number	Title	Revision
02-S-01-17	Control of Limiting Conditions for Operation	
02-S-01-25	Operations Section Procedure – Deficient Equipment Identification – Safety-Related	
04-1-01-P81-1	High Pressure Core Spray Diesel Generator	81
04-1-01-R21-17	ESF Bus 17AC System Operating Instruction	11
06-IC-1B21-R-2005	Reactor Vessel Water Level Calibration	108
06-IC-1E12-R-0001	LPCI System Discharge Line High/Low Pressure Calibration	103
06-IC-1E21-R-0001	Low Pressure Core Spray Discharge Line Calibration	104
06-IC-1E22-R-0001	HPCS Discharge Line Low Pressure Calibration	102
06-OP-1E12-Q-0024	LPCI/RHR Subsystem B Quarterly Functional Test	120
06-OP-1E22-Q-0002	HPCS Quarterly Valve Test	112
06-OP-1P41-Q-0004	Standby Service Water Loop A Valve and Pump Operability Test	128
06-OP-1P81-M-0002	HPCS Diesel Generator Functional Test	135
07-S-01-60	Calibration and Control of Measuring and Test Equipment	25
07-S-12-61	Inspection of GE Magne Blast Circuit Breakers	6
EH-LI-118		
EN-DC-205	Maintenance Rule Monitoring	
EN-DC-206	Maintenance Rule (a) (1) Process	
EN-DC-213	Engineering Quality Review	9
EN-DC-324		
EN-LI-104	Self-Assessment and Benchmark Process	14
EN-LI-118	Cause Evaluation Process	28
EN-LI-121	Trending and Performance Review Process	24-25
EN-MA-105	Control of Measuring and Test Equipment	13
EN-OE-100	Operating Experience Program	30
EN-OP-104	Operability Determination Process	16
JA-PI-01	Analysis Manual (Job Aid)	7
JA-PI-03	OE Screening	4
Management Standard 32	Performance Improvement Interim Actions	007
TQF-201-AN07	Training Analysis and Design Worksheet	

Miscellaneous	Title	Revision or Date
	2018 Personal Contamination Event Log	September 9, 2018
AR 18007669	PM Change Request for Secondary Containment Doors	June 22, 2018
AR 18008481	PM Change Request for Secondary Containment Doors	June 22, 2018
EC 74267	Evaluation of SSW Passive Failure of 24 Inch Line Break	October 3, 2017
EN-LI-121, Att. 9.1	Grand Gulf Nuclear Station – APRM Report	4Q/2017
EN-LI-121, Att. 9.1	Grand Gulf Nuclear Station – Operations DPRM Report	3Q/2018
EN-LI-121, Att. 9.1	Grand Gulf Nuclear Station – Work Management DPRM Report	October 2018
EN-LI-121, Att. 9.1	Grand Gulf Nuclear Station – Engineering DPRM Report	October 2018
EN-LI-121, Att. 9.1	Grand Gulf Nuclear Station – Security DPRM Report	October 2018
LO-GLO-2017-00032	Self-Assessment: 92723 Inspection for 50.59 Traditional Enforcement Violations	December 1, 2017
LO-GLO-2017-00047	Self-Assessment: Force-on-Force Testing	May 3, 2018
LO-GLO-2017-00050	RF21 In-Service Inspection (ISI) Pre-NRC (71111.08) Assessment	January 15, 2018
LO-GLO-2017-00051	Self-Assessment: Pre-NRC Radiological Hazard Assessment and Exposure Controls (71124.01)	November 15, 2017
LO-GLO-2017-00052	Pre-NRC Inspection: Occupational ALARA Planning and Controls Assessment (IP71124.02)	November 19, 2017
LO-GLO-2017-00063	Self-Assessment: Radioactive Gaseous and Liquid Effluent Treatment	August 16, 2018
LO-GLO-2017-00081	2017 Operations Comprehensive Self-Assessment	January 8, 2018
LO-GLO-2017-00091, CA-1	Perform Effectiveness Review for Operability Determinations	November 16, 2017
LO-GLO-2018-00045	Self-Assessment: Exam Security	June 12, 2018
LO-GLO-2018-00073	Self-Assessment: Chemistry Lab QA/QC Program	September 4, 2018
LO-GLO-2018-00112	Self-Assessment: Training Absences	September 8, 2018

Miscellaneous	Title	Revision or Date
OE-NOE-2018-00084	NRC-IN-2018-04 - Operating Experience Regarding Failure of Operators to Trip the Plant When Experiencing Unstable Conditions	May 12, 2018
OE-NOE-2018-00121	NRC-21-Event-53262 - Nextera Inadequate Dedication of Relays	March 21, 2018
OE-NOE-2018-00247	NRC-IN-2018-07 – Pump Turbine Bearing Oil Sight Glass Problems	August 16, 2018
OE-NOE-2018-00248	NRC-21-2018-12-00 - Event - 53442 - Framatome - Eaton NBF66F Relay Failure of Relays to Change State	June 27, 2018
OE-NOE-2018-00397	NRC-IN-2018-11 - Kobe Steel Quality Assurance Record Falsification Misconduct	September 26, 2018
PR-PRHQN-2018-00241	Training Evaluation for Procedure EN-OP-104, Revision 16	June 1, 2018
QAPM	Entergy Quality Assurance Program Manual	34

INFORMATION REQUESTS

**Information Request
Biennial Problem Identification and Resolution Inspection
Grand Gulf Nuclear Station
August 21, 2018**

Inspection Report: 50-416/2018-010
On-site Inspection Dates: October 22-25 and November 5-8, 2018

This inspection will cover the period from November 1, 2017, through November 8, 2018. Your response to this request should be limited to information associated with activities performed during this period unless otherwise specified. To the extent possible, the requested information should be provided electronically in word-searchable Adobe PDF or Microsoft Office format. Any sensitive information should be provided in hard copy during the team's first week on site.

Lists of documents ("summary lists") should be provided in Microsoft Excel or a similar sortable format. Please provide updates during the first week of on-site inspection. As used in this request, "corrective action documents" refers to condition reports, notifications, action requests, cause evaluations, and/or other similar documents, as applicable to the station.

Please provide the following information no later than October 10, 2018:

1. Document Lists

Note: For these summary lists, please include the document/reference number, the document title, initiation date, current status, and long-text description of the issue.

- a. Summary list of all corrective action documents related to significant conditions adverse to quality that were opened, closed, or evaluated during the period
- b. Summary list of all corrective action documents related to conditions adverse to quality that were opened, closed, or evaluated during the period
- c. Summary list of all apparent cause evaluations (or equivalent) performed during the period; if fewer than approximately 20, provide full documents
- d. Summary list of all currently open corrective action documents associated with conditions first identified any time prior to April 1, 2018, including prior to the beginning of the inspection period
- e. Summary lists of all corrective action documents that were upgraded or downgraded in priority/significance during the period (these may be limited to those downgraded from, or upgraded to, apparent-cause level or higher)
- f. Summary list of all corrective action documents initiated during the period that identify an adverse or potentially adverse trend in safety-related or risk-significant equipment performance or in any aspect of the station's safety culture
- g. Summary lists of operator workarounds, operator burdens, temporary modifications, and control room deficiencies (1) currently open and (2) that were evaluated and/or closed during the period; this list should include the date that each item was opened and/or closed

- h. Summary list of all prompt operability determinations or other engineering evaluations performed to provide reasonable assurance of operability
 - i. Summary list of plant safety issues raised or addressed by the Employee Concerns Program (or equivalent) (sensitive information should be made available during the team's first week on site—do not provide electronically)
2. Full Documents with Attachments
- a. Root cause evaluations completed during the period; include a list of any planned or in progress
 - b. Quality Assurance audits performed during the period
 - c. Audits/surveillances performed during the period on the Corrective Action Program, of individual corrective actions, or of cause evaluations
 - d. Functional area self-assessments and non-NRC third-party assessments (e.g., peer assessments performed as part of routine or focused station self- and independent assessment activities; do not include INPO assessments) that were performed or completed during the period; include a list of those that are currently in progress
 - e. Assessments of the safety-conscious work environment at Grand Gulf, including any safety culture survey results; if none performed during the inspection period, provide the most recent
 - f. Corrective action documents generated during the period associated with the following:
 - i. NRC findings and/or violations issued to Grand Gulf
 - ii. Licensee Event Reports issued by Grand Gulf
 - g. Corrective action documents generated for the following, if they were determined to be applicable to Grand Gulf (for those that were evaluated but determined not to be applicable, provide a summary list):
 - i. NRC Information Notices, Bulletins, and Generic Letters issued or evaluated during the period
 - ii. Part 21 reports issued or evaluated during the period
 - iii. Vendor safety information letters (or equivalent) issued or evaluated during the period
 - iv. Other external events and/or Operating Experience evaluated for applicability during the period
 - h. Corrective action documents generated for the following:

- i. Maintenance-preventable functional failures that occurred or were evaluated during the period
- ii. Action items generated or addressed by offsite review committees during the period
- iii. Comments, observations, or minor performance deficiencies documented in the 2017 NRC PI&R inspection report or generated due to inspector comments during the inspection (include any initiated prior to the period)

3. Logs and Reports

- a. Corrective action performance trending/tracking information generated during the period and broken down by functional organization (if this information is fully included in item 3.b, it need not be provided separately)
- b. Current system health reports, Management Review Meeting package, or similar information; provide past reports as necessary to include ≥12 months of metric/trending data
- c. Radiation protection event logs during the period
- d. Security event logs and security incidents during the period (sensitive information should be made available during the team's first week on site—do not provide electronically)
- e. List of training deficiencies, requests for training improvements, and simulator deficiencies for the period

Note: For items 3.c and 3.d, if there is no log or report maintained separate from the corrective action program, please provide a summary list of corrective action program items for the category described.

4. Procedures

Note: For these procedures, please include all revisions that were in effect at any time during the period.

- a. Corrective action program procedures, to include initiation and evaluation procedures, operability determination procedures, cause evaluation procedures, and any other procedures that implement the corrective action program
- b. Quality Assurance program procedures (exclude specific audit procedures)
- c. Employee Concerns Program (or equivalent) procedures
- d. Procedures that implement/maintain a Safety Conscious Work Environment
- e. Conduct of Operations procedure (or equivalent) and any other procedures or policies governing control room conduct, operator burdens and workarounds, etc.

- f. Operating Experience (OpE) program procedures and any other procedures or guidance documents that describe the site's use of OpE information

5. Other

- a. List of risk-significant components and systems, ranked by risk worth; if the list uses system designators, provide a list of the associated noun names
- b. List of structures, systems, and components and/or functions that were in maintenance rule (a)(1) status or evaluated for (a)(1) status at any time during the inspection period; include dates and results of expert panel reviews and dates of status changes
- c. Organization charts (searchable) for plant staff and long-term/permanent contractors
- d. Electronic copies of the UFSAR (or equivalent), technical specifications, and technical specification bases, if available
- e. Table showing the number of corrective action documents (or equivalent) initiated during each month of the inspection period, by screened significance
- f. For each day the team is on site,
 - i. Planned work/maintenance schedule for the station
 - ii. Schedule of management or corrective action review meetings (e.g. operations focus meetings, condition report screening meetings, CARBs, MRMs, challenge meetings for cause evaluations, etc.)
 - iii. Agendas and materials for these meetings

Note: The items listed in 5.f may be provided on a weekly or daily basis while the team is on site.

All requested documents should be provided electronically where possible. Regardless of whether they are uploaded to an internet-based file library (e.g., Certrec's IMS), please provide copies on CD or DVD. One copy of the CD or DVD should be provided to the resident inspector at Grand Gulf; three additional copies should be provided to the team lead at or prior to his scheduled site visit on October 10, 2018; if not provided in person, they should be mailed here:

Eric Ruesch
U.S. NRC Region IV
1600 E. Lamar
Arlington, TX 76011

PAPERWORK REDUCTION ACT STATEMENT

This request does not contain new or amended information collection requirements subject to the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 et seq.). Existing information collection requirements were approved by the Office of Management and Budget, control number 3150-0011.

**Information Request
Biennial Problem Identification and Resolution Inspection
Grand Gulf Nuclear Station
October 17, 2018**

Inspection Report: 50-416/2018-010
On-site Inspection Dates: October 22-25 and November 5-8, 2018

This request supplements the original information request. Where possible, the information should be available to the inspection team immediately following the entrance meeting. This inspection will cover the period from November 1, 2017, through November 8, 2018. The scope of the requested information is limited to this period unless otherwise noted.

Please provide the following:

1. As part of the inspection, the team will do a five-year in-depth review of issues and corrective actions related to the high-pressure core spray (HPCS) system—both mechanical and electrical components—including actuation logic and room coolers. The following documents are to support this review:
 - a. Copies of all root and apparent cause evaluations related to these systems performed within the last 5 years, including root cause evaluations not already provided (specify any that were provided)
 - b. Summary list of all condition reports written on these systems in the last 5 years
 - c. List of all tests or surveillances performed on these systems within the last five years (include tech spec surveillances, LLRT, IST, NDT, etc.), sortable by component if possible, and including acceptance criteria; provide CRs for any acceptance criteria not met
 - d. List of all corrective maintenance work orders performed on these systems within the last 5 years
 - e. List of all temporary modifications or operator burdens associated with these systems that have been in place at any time during the last 5 years
 - f. List of maintenance rule functional failure assessments—regardless of the result—performed on these systems (or the system/function into which the component is scoped) within the last 5 years; include a description of how these systems/components are scoped for maintenance rule
 - g. Engineering forms/logs (including the engineer's notes), if any, from the last two engineering walk-downs/inspections of these systems; if these logs and notes are not in controlled documents, please provide governing procedures and arrange an interview with the engineer(s)
 - h. List of engineering/design changes (ECs) associated with these systems that were developed or implemented within the last 5 years; include any currently open ECs
 - i. P&IDs for these systems showing process piping and components fulfilling primary safety functions
 - j. System health reports for these systems covering the last 5 years
2. Full copies of the following condition report records, including operability evaluations, cause evaluations, and other attachments where applicable (all begin CR-GGN-):

2017-04538 2017-05582 2017-05583 2017-05584 2017-12012 2018-00098

2018-01434 2018-01574 2018-02697 2018-02962 2018-04298 2018-04984
2018-01480 2018-02397 2018-02718 2018-03118 2018-04660 2018-05261

3. All CRs generated for operating experience (NRC, Part 21, vendor, etc) that were screened or evaluated as an "adverse condition" per EN-LI-102 and applicable to Grand Gulf (see EN-OE-100, Step 5.2[10]). This is a restatement of items 2.g.i-iv of the original request; the station's reponse provided only lists of OE generated during the period. If no OE met this criteria and thus no CRs were generated during this period, statements stating as much should be provided.

In addition to the list above, please provide any additional updates to the information previously provided in response to the August 21, 2018, information request.

Please have all requested information available to the team upon arrival on site on October 22.

PAPERWORK REDUCTION ACT STATEMENT

This request does not contain new or amended information collection requirements subject to the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 et seq.). Existing information collection requirements were approved by the Office of Management and Budget, control number 3150-0011.

GRAND GULF NUCLEAR STATION – NRC BIENNIAL PROBLEM IDENTIFICATION AND RESOLUTION INSPECTION REPORT 05000416/2018010 – DECEMBER 17, 2018

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ADAMS ACCESSION NUMBER: ML18351A276

SUNSI Review: ADAMS: Non-Publicly Available Non-Sensitive Keyword: NRC-002
 By: EAR Yes No Publicly Available Sensitive

OFFICE	SPE/DRP	RI/DRP	SRI/DRP	SRI/DRS	TL/DRS	C/DRP	TL/DRS
NAME	RAlexander	TSullivan	TSteadham	ERuesch	GMiller	JKozal	GMiller
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DATE	11/30/2018	12/10/2018	12/12/2018	12/13/2018	12/13/2018	12/14/2018	12/17/2018

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