



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

September 23, 2019

Mr. Troy Pruett
P. O. Box 3425
Grapevine, TX 76099

Dear Mr. Pruett:

On behalf of the U.S. Nuclear Regulatory Commission (NRC), I am responding to your petition dated January 23, 2019 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML19037A160), submitted to the Executive Director for Operations (EDO) pursuant to Section 2.206, "Requests for action under this subpart," of Title 10 of the *Code of Federal Regulations* (10 CFR). In your petition you requested the NRC to take additional enforcement action at Grand Gulf Nuclear Station (Grand Gulf or GG) by issuing an Order to compel Entergy Operations, Inc. (Entergy, the licensee) to take the following actions:

1. That GG perform an evaluation of the root and contributing causes for both the individual and the collective issues that have and are occurring at the facility.
2. That GG/Entergy meet with the Commission at least annually to discuss performance concerns and improvement efforts until the corrective action in Item 4 are completed.
3. That the evaluation performed to meet Item 1 conform to the requirements for a full scope Inspection Procedure (IP) 95003, "[Supplemental] Inspection for Repetitive Degraded Cornerstones, Multiple Degraded Cornerstones, Multiple Yellow Inputs, or One Red Input," to independently (a) review the breadth and depth of the performance deficiencies, and (b) perform a graded assessment of the licensee's safety culture.
4. That GG/Entergy submit in writing to the NRC the results of the evaluation required by Item 1, all licensee commitments, and all corrective actions.

The EDO assigned your petition to the Office of Nuclear Reactor Regulation (NRR) for review. Management Directive (MD) 8.11, "Review Process for 10 CFR 2.206 Petitions," and its associated Directive Handbook (DH) 8.11, "Review Process for 10 CFR 2.206 Petitions," dated March 1, 2019 (ADAMS Accession No. ML18296A043), describes the NRC's review process for 10 CFR 2.206 petitions. Please note that the latest revision of MD 8.11 has been followed with your concurrence (ADAMS Accession No. ML19151A331).

On April 29, 2019, the Petition Review Board (PRB) met internally to discuss whether your petition raised any immediate safety concerns. Based on the information you provided, the PRB did not identify any significant safety concerns that warranted the NRC to immediately require the licensee to take actions at Grand Gulf.

On May 23, 2019, the PRB met to discuss its initial assessment as to whether your petition meets the MD 8.11 criteria for acceptance. In its initial assessment, the PRB considered the information in your petition and the documents listed in Enclosure 2 to this letter.

After careful consideration of the issues raised in your petition, the PRB made the initial assessment that your petition does not meet the criteria for accepting petitions under 10 CFR 2.206 per DH 8.11, Section III.C.1, since the issues raised in your petition have previously been the subject of NRC staff review and none of the provisions of DH 8.11, Section III.C.1(b)(ii) apply. Information supporting the PRB's determination is found in Enclosure 1. In addition, a list of documents reviewed by the PRB is found in Enclosure 2.

By email dated August 29, 2019 (ADAMS Accession No. ML19242C012), the NRR Petition Manager informed you of the PRB's initial assessment, and also offered you an opportunity to provide or address the PRB with supplemental information. You declined the opportunity to provide supplemental information to support the PRB's review. Therefore, the PRB's initial assessment that your petition does not meet the criteria for acceptance stood as its final recommendation to NRR. NRR concurred on this letter.

Thank you for bringing these issues to the attention of the NRC. The Petition Manager, Mr. Siva Lingam, can be reached at (301) 415-1564.

Sincerely,

/RA/

Russell Felts, Deputy Director
Division of Risk Assessment
Office of Nuclear Reactor Regulation

Docket No. 50-416

Enclosures:

1. Background Information Supporting The Petition Review Board Determination
2. List of Documents Reviewed by The Petition Review Board

cc: Listserv

Background Information Supporting The Petition Review Board Determination

Management Directive (MD) 8.11, "Review Process for 10 CFR [Title 10 of the *Code of Federal Regulations*] [Section] 2.206 Petitions," and its associated Directive Handbook (DH) 8.11, "Review Process for 10 CFR 2.206 Petitions," dated March 1, 2019 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML18296A043), describes the U.S. Nuclear Regulatory Commission (NRC) review process for 10 CFR 2.206, "Requests for action under this subpart," petitions. After careful consideration of the issues raised in your petition, the Petition Review Board (PRB) determined that your petition does not meet the criteria for accepting petitions under 10 CFR 2.206. Per Section III.C.1 of DH 8.11, the issues raised in your petition have previously been the subject of NRC staff review and none of the provisions of DH 8.11, Section III.C.1(b)(ii) apply. In reviewing Section III.C.1(b)(ii) of DH 8.11, the PRB made the determination that: (1) prior NRC reviews did resolve the issues raised by the petitioner, (2) resolution of the issues in the prior NRC reviews did apply to the facts provided by the petitioner to support the requested action, and (3) the petition did not provide significant new information that the NRC staff did not consider in its prior review.

The PRB identified that in the petition dated January 23, 2019 (ADAMS Accession No. ML19037A160), you provided three reasons for why additional enforcement action by the NRC is warranted. The three reasons are summarized as:

1. Several conditions for a deviation or enforcement actions have been satisfied as described in Inspection Manual Chapter (IMC) 0305, "Operating Reactor Assessment Program" (ADAMS Accession No. ML18059A337), and IMC 0350, "Oversight of Reactor Facilities in a Shutdown Condition Due to Significant Performance and/or Operational Concerns" (ADAMS Accession No. ML17116A273), respectively,
2. Grand Gulf Nuclear Station (Grand Gulf or GG) and Entergy Nuclear Operations, Inc. (Entergy, the licensee) have demonstrated a longstanding inability to correct systemic problems as described by NRC staff in numerous documents, and
3. Risk determinations made by the NRC over the past four to five years have severely underestimated the risk significance of findings when taking into account scram, downpower, and forced shutdown data, as well as programmatic deficiencies in licensee performance. The petition contains additional supporting information for each of the three reasons summarized above.

Reason 1

The PRB reviewed Reason 1 and found that concern has already been the subject of a previous staff review.

IMC 0305 defines an Action Matrix Deviation as, "Any regulatory action taken that is inconsistent with the range of actions described in the pertinent column of the Action Matrix, as described in detail in Section 11.06." Section 11.06 states, in part that "[t]he regulatory actions dictated by the Action Matrix may not be appropriate in rare instances. In these instances, the NRC may deviate from the Action Matrix to either increase or decrease NRC action." The NRC continuously assesses the licensee's performance whenever new performance information is identified to determine if the regulatory actions described by the Action Matrix were appropriate for the licensee's performance.

During the Reactor Oversight Process (ROP) development, there was significant stakeholder comment and feedback on Action Matrix deviations. There was a concern that, if abused, use of Action Matrix deviations could lead to a return to a subjective process similar to the Systematic Assessment of Licensee Performance that the ROP is intended to avoid. The NRC staff indicated that the use of deviations should be rare because the fundamental tenet of the ROP is that cross-cutting issues will manifest themselves in departures from expected norms of performance, thereby causing the established threshold for performance indicators and inspection findings to be exceeded. The Staff Requirements Memorandum (SRM) for the Office of the Secretary of the Commission (SECY)-00-0049, "Results of the Revised Reactor Oversight Process Pilot Program," also states that the NRC staff, "should minimize deviations from the Action Matrix, clearly document the basis for the deviations, and clearly explain the basis for deviations to all stakeholders."

IMC 0350, defines "significant performance problems" as "those problems that meet the entry conditions for the Multiple/Repetitive Degraded Cornerstone or the Unacceptable Performance columns of the Action Matrix contained in IMC 0305, 'Operating Reactor Assessment Program.'" The NRC found that Grand Gulf has not met the definition of "significant performance problems" that would result in transitioning the plant to IMC 0350 oversight.

IMC 0350 describes which conditions to consider for entry into IMC 0350 oversight:

- a. For plants whose performance is in the Multiple/Repetitive Degraded Cornerstone Column (Column 4) of the Action Matrix, consideration of transferring the plant to the IMC 0350 process shall be given at each quarterly review.
- b. For plants in the Unacceptable Performance Column (Column 5) of the Action Matrix, NRC oversight of plant performance will be conducted in accordance with IMC 0350.
- c. A significant operational event has occurred as defined by MD 8.3.
- d. The plant is shut down, or the licensee has committed to shut down the plant to address performance issues (whether voluntary or via an agency Order to shut down).
- e. The plant is being maintained shut down as a result of a CAL [Confirmatory Action Letter] or Order.

The only entry criterion for IMC 0350 oversight would have been the licensee's voluntary extended shutdown from September 2016–January 2017. The IMC states that: "[a]lthough not a prerequisite to use the IMC 0350 process, it is expected that in most cases, before performance degrades to the threshold requiring implementation of this manual chapter, the staff will have performed supplemental inspections, including Inspection Procedure (IP) 95002, "Supplemental Inspection for One Degraded Cornerstone or Any Three White Inputs in a Strategic Performance Area," and/or IP 95003, "Supplemental Inspection for Repetitive Degraded Cornerstones, Multiple Degraded Cornerstones, Multiple Yellow Inputs or One Red Input." Other unanticipated significant operational events may also occur that involve responses by an Incident Investigation Team, an Augmented Inspection Team, or a Special Inspection Team, as directed by MD 8.3 and IMC 0309, "Reactive Inspection Decision Basis for Reactors."

In its prior determinations, the NRC did not find it necessary to perform IP 95002 or IP 95003 supplemental inspections before the licensee's self-imposed extended shutdown because Grand Gulf's performance did not meet any of the IMC 0305 criteria. The NRC performed a special inspection in October 2016 associated with the unavailability of the alternate decay heat removal, and that inspection resulted in three findings of very low safety significance (Green), documented in Inspection Report (IR) 05000416/2016008 (ADAMS Accession No. ML17303B200). Based on the results of that inspection, moving the licensee to IMC 0350 oversight would not be appropriate.

IMC 0350 further states, "in cases where a licensee has a more complete understanding of the issues and has identified an appropriate course of action to resolve those issues, maintaining oversight of the plant under the normal ROP may be more appropriate." In IR 05000416/2016008, inspectors documented that the plant restart was delayed until January 31, 2017, while corrective actions were implemented in the areas of operator fundamentals, conservative decisionmaking, procedure quality, and the material condition of plant equipment. As documented in IR 05000416/2016008, subsequent reviews of the licensee's high intensity training during baseline inspection activities documented in NRC IRs 05000416/2016004 (ADAMS Accession No. ML17039B078) and 05000416/2017009 (ADAMS Accession No. ML17074A265) showed that the training addressed operator performance gaps and fundamental behaviors.

As a result, the generic determinations as to when IMC 0305 should be used, along with the determinations made during these inspections, as confirmed by the PRB, address the concern you raised. As a result, because of these prior determinations, this concern does not meet the criteria for acceptance.

Reason 2

The PRB reviewed Reason 2 and also determined that it has been addressed through a combination of generic and site-specific staff reviews.

In recent years, Grand Gulf has had a higher number of Green findings than the industry average. Under the existing Action Matrix, which is discussed in SECY-99-007, "Recommendations for Reactor Oversight Process Improvements," and IMC 0305, a higher number of Green findings is not an assessment input with regards to determining the appropriate column of the Action Matrix. As a result, transition to Column 2 would not be warranted. Additionally, performance of IP 95003 is conducted in Column 4.

Cross-cutting areas contain the fundamental performance characteristics that extend across all of the ROP cornerstones of safety. These areas are human performance, problem identification and resolution (PI&R), and a safety conscious work environment. Cross-cutting areas and programmatic breakdowns were generically addressed in SECY-99-007 and its associated SRM, and the petition does not provide significant new facts that would alter that previous finding. The Commission directed the staff to consider ways to ensure that the assessment process is sufficiently robust to address programmatic breakdowns, which are different from issues involving many minor findings.

Traditional enforcement was also generically addressed in the ROP framework. As discussed in SECY-00-0049, the existing Enforcement Policy, including the use of severity levels to characterize significance and the use of a structured methodology for determining civil

penalties, is retained for three clearly defined categories of violations. These categories are (1) violations that involve willfulness, including discrimination, (2) violations that impact NRC's ability to oversee licensee activities, and (3) violations involving actual consequences. The current enforcement policy additionally includes whether the violation had potential safety or security consequences. As stated in IMC 0305, traditional enforcement violations without an underlying performance deficiency do not influence the findings that result in a plant being assigned to a specific column of the action matrix. However, traditional enforcement violations normally receive some level of NRC followup as outlined in IMC 0305.

In addition, the NRC is aware of the issues identified in the petition, and these issues have been documented and dispositioned in inspection reports, investigations, and in particular, a Confirmatory Order that is still in effect.

- October 2017, NRC Special IR 05000416/2016008: Performed due to the unplanned unavailability of the alternate decay heat removal system. NRC inspectors documented three findings of very low safety significance (Green) in the report.
- November 2017, NRC IR 05000416/2017014 and NRC Investigation Reports 4-2016-004 and 4-2017-021 (ADAMS Accession No. ML17325A002): Performed after licensee informed the NRC about deliberate misconduct of an examination proctor and non-licensed operators. Three violations were identified. In March 2018, the NRC issued a Confirmatory Order (ADAMS Accession No. ML18072A191). Corrective actions are outlined in the order and include requirements for followup communications with the NRC.
- December 2017, NRC Supplemental IR 05000416/2017013 (ADAMS Accession No. ML17342B130): Performed due to a White Performance Indicator for Unplanned Scrams per 7000 Critical Hours in the third quarter of 2016. Based on the weaknesses identified, one parallel White inspection finding was documented.
- August 2018, NRC Supplemental IR 5000416/2018040 (ADAMS Accession No. ML18211A174): Performed as a followup to December 2017 supplemental inspection associated with White Unplanned Scrams per 7000 Critical Hours performance indicator. The NRC did not identify any finding or violation of more than minor significance. The NRC concluded that licensee actions were sufficient.

With respect to the 33 violations documented in 2015 and the petitioner's conclusion that Grand Gulf had challenges that "affected the station's ability to identify problems at a low threshold and to promptly correct conditions adverse to quality," the biennial PI&R inspection that year, documented in IR 05000416/2015008 (ADAMS Accession No. ML15324A432), concluded that the Grand Gulf performance in each of the inspected areas supported nuclear safety.

The petitioner states that the licensee misrepresented the unplanned downpower performance indicator in 2016. That issue was the subject of a performance indicator frequently asked question (FAQ), FAQ 17-01, which is the process used by staff to resolve questions on the reporting criteria for performance indicators. Ultimately the resolution to the FAQ resulted in the licensee correcting the performance indicator data and subsequently crossing the Green/White threshold (ADAMS Accession No. ML17207A096).

The petitioner references the NRC staff's concern with the licensee's occupational radiation safety "ALARA [as low as reasonably achievable] planning and work control program." The petitioner also refers to a violation of 10 CFR 20.1101(b) in 2016. Inspectors dispositioned that violation as a Green non-cited violation (NCVs), which is characterized as very low safety significance. For perspective, there were 55 Green NCVs issued to all licensees in the occupational radiation cornerstone between 2015 and 2016.

In 2017, NRC Region IV issued a Green violation of 10 CFR 20.1101(b) for deficient occupational ALARA-related performance during a refueling outage in 2016 (IR 05000416/2016004). This inspection finding was dispositioned per the applicable Significance Determination Process (SDP) and was characterized as a very low safety significance (Green) finding/violation. Therefore, this finding should not be considered as a basis for actions outside of the Licensee Response Column of the ROP Action Matrix unless such actions result from the aggregation of cross-cutting aspects as provided through the ROP's assessment process. This inspection finding was the subject of a Differing Professional Opinion (DPO) where the submitter asserted that the finding should be of higher significance and alleged that the licensee willfully violated 10 CFR 20.1101(b) during the 2016 outage. The DPO panel, and eventually the Executive Director for Operations, upon appeal of the DPO, disagreed with the submitter. Additionally, from 2017 to 2018, the NRC investigated the allegation that Grand Gulf personnel willfully failed to implement ALARA planning and controls during Refueling Outage 20. NRC investigators were unable to substantiate the allegation.

The licensee's effluent results from 2010–2017, which the NRC reviews on an ongoing basis, as depicted in NUREG/CR-2907, "Radioactive Effluents from Nuclear Power Plants," reflect that the licensee's gaseous and liquid effluents have been within the 10 CFR Part 50, Appendix I, design objectives for effluents, which the NRC uses as a standard for determining if effluents are ALARA. The petition mentions an inspection finding, issued in 2017 (IR 05000416/2017012; ADAMS Accession No. ML17235B265), that resulted in "non-ALARA effluent releases." This inspection finding was dispositioned per the applicable SDP and was characterized as a very low safety significance (Green) finding. Therefore, this finding was the subject of a previous NRC evaluation which, based on the generic framework that was established, implicitly found that such actions should not constitute a basis for actions outside of the Licensee Response Column of the ROP Action Matrix.

The petitioner references a resident inspector trend review in the second quarter of 2016 and identified numerous examples of the licensee's failure to recognize degraded or non-conforming conditions and generate condition reports that accurately describe the associated conditions. This trend review identified three examples of inadequate operability determinations that were documented in IR 05000416/2016002 (ADAMS Accession No. ML16216A137). The licensee entered these issues into its corrective action program and subsequently corrected the operability determinations. The staff evaluated the licensee's actions and found the response to these issues acceptable.

The petitioner refers to 27 findings in 2017. These findings were all characterized as Green and discussed at the 2017 end-of-cycle assessment meeting for Grand Gulf. Three notable areas were identified in this review, consistent with the issues raised in the petition:

- Inadequate/lack of procedures: The licensee implemented efforts to address this issue with the "high intensity training" conducted during the extended shutdown from September 2016 – January 2017. There was a large focus on procedural adherence and stopping when uncertain or if poor procedural guidance is

encountered. Even though the licensee is continuing their improvement efforts in regard to procedure adequacy and human factor formatting, there have been multiple examples of workers not adhering to procedures and/or stopping when the procedure is unclear.

- License Commitments and 50.59 process implementation and insufficient design-basis knowledge: The licensee is performing a common cause evaluation. This will be reviewed during two IP 92723 inspections once the licensee notifies the NRC that they are ready.
- Corrective Action Program findings that were identified in the 2017 PI&R were indicative of a poor performing Corrective Action Program.

While the petition states that there were multiple examples of workers not adhering to procedures and/or stopping when the procedure is unclear, despite the large focus on procedural adherence during the extended shutdown, a review of the Plant Issues Matrix found only one Green NCV issued in 2017 with a cross-cutting aspect in procedural adherence (Failure to Correct Standby Diesel Generator Trip). As discussed above, these issues were dispositioned through the ROP process and as a result, are part of the previous staff reviews that have been performed.

Corrective action program weaknesses based on a biennial PI&R inspection were documented in IR 2017011, dated February 12, 2018 (ADAMS Accession No. ML18043B137).

In summary, all of the licensee performance concerns raised in the petition have previously been considered during the Regional mid-cycle and end-of-cycle assessment meetings as described in the plant performance summaries prepared for those meetings.

Reason 3

The PRB reviewed Reason (3) and found that the NRC has previously determined that risk determinations of the facility did not underestimate the risk significance.

Non-concurrence Process (NCP) 2017-010 was filed on the Grand Gulf alternate decay heat removal finding and significance evaluation. In the NCP, the submitter documented 12 examples of what were claimed to be evidence of programmatic breakdowns. The NCP response stated that the examples did not provide an adequate basis to make significant changes to the human error probabilities associated with the assessment and that the issues identified had been adequately captured by the risk assessment. By process, sensitivity evaluations were performed, documented, and understood by decision-makers in determining that the outcome was a finding of very low safety significance.

Human reliability analysis in the SDP is conducted in accordance with NUREG/CR-6883, "The [Standardized Plant Analysis Risk] SPAR-H Human Reliability Analysis Method." Further, IMC 0308 provides the basis for SDP. Therefore, the human reliability was reasonably and objectively modeled, thereby leading to an appropriate risk estimation.

All risk evaluations of inspection findings under the ROP are performed in accordance with program procedures. The evaluations are performed by qualified risk analysts, peer reviewed, and reviewed by management. These processes provide confidence in the reasonableness of assumptions and results. The concerns presented by you have been reviewed under both the

non-concurrence and DPO processes, in addition to the normal processes. The routine processes and the differing views processes have concluded that the findings were evaluated appropriately.

Conclusion

Based on the above reasons and justifications, the PRB concluded that no further action is required.

List of Documents Reviewed by The Petition Review Board

1. U.S. Nuclear Regulatory Commission, Inspection Manual, Inspection Procedure 95001, "Supplemental Inspection Response to Action Matrix Column 2 Inputs" (ADAMS Accession No. ML15223B348).
2. U.S. Nuclear Regulatory Commission, Inspection Manual, Inspection Procedure 95002, "Supplemental Inspection for One Degraded Cornerstone or Any Three White Inputs in a Strategic Performance Area" (ADAMS Accession No. ML102020532).
3. U.S. Nuclear Regulatory Commission, Inspection Manual, Inspection Procedure 95003, "Supplemental Inspection for Repetitive Degraded Cornerstones, Multiple Degraded Cornerstones, Multiple Yellow Inputs or One Red Input" (ADAMS Accession No. ML15188A400).
4. U.S. Nuclear Regulatory Commission, Inspection Manual Chapter 0305, "Operating Reactor Assessment Program," June 21, 2018 (ADAMS Accession No. ML18059A337).
5. U.S. Nuclear Regulatory Commission, Inspection Manual Chapter 0308, "Reactor Oversight Process Basis Document," October 4, 2017 (ADAMS Accession No. ML16306A386).
6. U.S. Nuclear Regulatory Commission, Inspection Manual Chapter 0308 Attachment 3, "Significance Determination Process Technical Basis," June 6, 2016 (ADAMS Accession No. ML15268A268).
7. U.S. Nuclear Regulatory Commission, Inspection Manual Chapter 0308 Attachment 4, "Technical Basis for Assessment," May 15, 2017 (ADAMS Accession No. ML16273A036).
8. U.S. Nuclear Regulatory Commission, Inspection Manual Chapter 0309, "Reactive Inspection Decision Basis for Reactors," October 28, 2011 (ADAMS Accession No. ML111801157).
9. U.S. Nuclear Regulatory Commission, Inspection Manual Chapter 0310, "Aspects within the Cross-Cutting Areas," February 25, 2019 (ADAMS Accession No. ML19011A360).
10. U.S. Nuclear Regulatory Commission, Inspection Manual Chapter 0350, "Oversight of Reactor Facilities in a Shutdown Condition Due to Significant Performance and/or Operational Concerns," March 1, 2018 (ADAMS Accession No. ML17116A273).
11. U.S. Nuclear Regulatory Commission, Inspection Manual Chapter 0609, "Significance Determination Process," October 23, 2018 (ADAMS Accession No. ML18187A187).
12. U.S. Nuclear Regulatory Commission, Inspection Manual Chapter 0609, Attachment 1, "Significance and Enforcement Review Panel (SERP) Process," October 23, 2018 (ADAMS Accession No. ML18187A177).

13. U.S. Nuclear Regulatory Commission, Inspection Manual Chapter 2515, "Light-Water Reactor Inspection Program – Operations Phase," July 3, 2019 (ADAMS Accession No. ML18134A170).
14. U.S. Nuclear Regulatory Commission, Inspection Manual Chapter 2515, Appendix A "Risk-Informed Baseline Inspection Program," July 26, 2019 (ADAMS Accession No. ML18180A098).
15. U.S. Nuclear Regulatory Commission, "Staff Requirements – SECY-99-007 – Recommendations for Reactor Oversight Process Improvements and SECY-99-007A – Recommendations for Reactor Oversight Process Improvements (Follow-up to SECY-99-007)," dated June 18, 1999 (ADAMS Accession No. ML003751678).
16. U.S. Nuclear Regulatory Commission SECY-00-0049 – Results of the Revised Reactor Oversight Process Pilot Program," dated February 24, 2000 (ADAMS Accession Nos. ML16167A164 and ML16169A132).
17. Chamberlain, D. D., U.S. Nuclear Regulatory Commission, letter to Mr. Ross T. Ridenoure, Southern California Edison Company, "San Onofre Nuclear Generating Station, Units 2, and 3 - Notification of NRC Deviation to the Reactor Oversight Process Action Matrix to Provide Heightened NRC Oversight," dated July 7, 2010 (ADAMS Accession No. ML101880540).
18. Casto, C. A., U.S. Nuclear Regulatory Commission, memorandum to R. W. Borchardt, U.S. Nuclear Regulatory Commission, "Request for Deviation to the Reactor Oversight Process Action Matrix to Provide Heightened NRC Oversight at the Palisades Nuclear Plant," dated November 8, 2012 (ADAMS Accession No. ML12306A367).
19. NUREG-1792, "Good Practices for Implementing Human Reliability Analysis (HRA)," April 2005 (ADAMS Accession No. ML050950060).
20. NUREG/CR-6883, "The SPAR-H Human Reliability Analysis Method," August 2005 (ADAMS Accession No. ML15142A653).
21. INL [Idaho National Laboratory]/EXT-10-18533, Revision 2, "SPAR-H Step-by-Step Guidance," May 2011 (ADAMS Accession No. ML112060305).
22. Regulatory Guide 1.200, Revision 2, "An Approach for Determining the Technical Adequacy of Probabilistic Risk Assessment Results for Risk-Informed Activities," March 2009 (ADAMS Accession No. ML090410014).
23. Ruesch, E., U.S. Nuclear Regulatory Commission, letter Kevin Mulligan, Entergy Operations, Inc., "Grand Gulf Nuclear Station – NRC Problem Identification and Resolution Inspection Report 05000416/2015008," dated November 20, 2015 (ADAMS Accession No. ML15324A432).

24. Warnick, G., U.S. Nuclear Regulatory Commission, letter to Mr. Kevin Mulligan, Entergy Operations, Inc., "Annual Assessment Letter for Grand Gulf Nuclear Station (Report 05000416/2015006)," dated March 2, 2016 (ADAMS Accession No. ML16061A361).
25. FAQ 17-01, "Grand Gulf June 2016 Power Change" (Final NRC Response) (ADAMS Accession No. ML17207A096).
26. Warnick, G., U.S. Nuclear Regulatory Commission, letter to Mr. Vin Fallacara, Entergy Operations, Inc., "Grand Gulf Nuclear Station – NRC Integrated Inspection Report 05000416/2016003," dated November 10, 2016 (ADAMS Accession No. ML16315A372).
27. Warnick, G., U.S. Nuclear Regulatory Commission, letter to Mr. Vin Fallacara, Entergy Operations, Inc., "Grand Gulf Nuclear Station – NRC Integrated Inspection Report 05000416/2016002," dated August 3, 2016 (ADAMS Accession No. ML16216A137).
28. Warnick, G., U.S. Nuclear Regulatory Commission, letter to Mr. Vincent Fallacara, Entergy Operations, Inc., "Grand Gulf Nuclear Station – NRC Integrated Inspection Report 05000416/2016004," dated February 8, 2017 (ADAMS Accession No. ML17039B078).
29. Pruett, T., U.S. Nuclear Regulatory Commission, letter to Mr. Vincent Fallacara, Entergy Operations, Inc., "Annual Assessment Letter for Grand Gulf Nuclear Station (Report 05000416/2016006)," dated March 1, 2017 (ADAMS Accession No. ML17059D517).
30. Warnick, G., U.S. Nuclear Regulatory Commission, letter to Mr. Vincent Fallacara, Entergy Operations, Inc., "Grand Gulf Nuclear Station, Unit 1 – NRC Integrated Inspection Report 0500416/2017009," dated March 15, 2017 (ADAMS Accession No. ML17074A265).
31. Haire, M. S., U.S. Nuclear Regulatory Commission, letter to Mr. Vincent Fallacara, Entergy Operations, Inc., "Grand Gulf Nuclear Station, Unit 1 – NRC Security Inspection Report 05000416/2017404," dated March 16, 2017 (not publicly available, security-related information).
32. Gepford, H. J., PhD, CHP, U.S. Nuclear Regulatory Commission, letter to Mr. Vincent Fallacara, Entergy Operations, Inc., "Grand Gulf Nuclear Station, Unit 1 – NRC Material Control and Accounting Program Inspection Report 05000416/2017405," dated March 21, 2017 (not publicly available, security-related information).
33. Warnick, G., U.S. Nuclear Regulatory Commission, letter to Mr. Eric Larson, Entergy Operations, Inc., "Grand Gulf Nuclear Station, Unit 1 – NRC Integrated Inspection Report 0500416/2017001," dated May 15, 2016 (ADAMS Accession No. ML17135A406).

34. Kozal, J., U.S. Nuclear Regulatory Commission, letter to Mr. Eric Larson, Entergy Operations, Inc., "Grand Gulf Nuclear Station – NRC Team Inspection Report 0500416/2017010," dated May 16, 2017 (ADAMS Accession No. ML17136A174).
35. Werner, G. E., U.S. Nuclear Regulatory Commission, letter to Mr. Vincent Fallacara, Entergy Operations, Inc., "Grand Gulf Nuclear Station – NRC Triennial Fire Protection Inspection Report 0500416/2017008," dated June 2, 2017 (ADAMS Accession No. ML17156A038).
36. Kozal, J., U.S. Nuclear Regulatory Commission, letter to Mr. Eric Larson, Entergy Operations, Inc., "Grand Gulf Nuclear Station – NRC Integrated Inspection Report 0500416/2017002 and 07200050/2017007," dated August 3, 2017 (ADAMS Accession No. ML17220A152).
37. Gepford, H. J., PhD, CHP, U.S. Nuclear Regulatory Commission, letter to Mr. Eric Larson, Entergy Operations, Inc., "Grand Gulf Nuclear Station – NRC Radiation Protection Inspection Report 05000416/2017012 and Notice of Violation," dated August 22, 2017 (ADAMS Accession No. ML17235B265).
38. Kozal, J., U.S. Nuclear Regulatory Commission, letter to Mr. Eric Larson, Entergy Operations, Inc., "Grand Gulf Nuclear Station – NRC Special Inspection Report 0500416/2016008," dated October 27, 2017 (ADAMS Accession No. ML17303B200).
39. Kozal, J., U.S. Nuclear Regulatory Commission, letter to Mr. Eric Larson, Entergy Operations, Inc., "Grand Gulf Nuclear Station – NRC Integrated Inspection Report 0500416/2017003," dated November 13, 2017 (ADAMS Accession No. ML17318A184).
40. Pruet, T. W., U.S. Nuclear Regulatory Commission, letter to Mr. Eric Larson, Entergy Operations, Inc., "Grand Gulf Nuclear Station – NRC Inspection Report 0500416/2017014 and NRC Investigation Reports 4-2016-004 and 4-2017-021," dated November 20, 2017 (ADAMS Accession No. ML17325A002).
41. Farnholtz, T. R., U.S. Nuclear Regulatory Commission, letter to Mr. Eric Larson, Entergy Operations, Inc., "Grand Gulf Nuclear Station – NRC Design Bases Assurance Inspection Report 05000416/2017007," dated December 1, 2017 (ADAMS Accession No. ML17339A154).
42. Kennedy, K. M., U.S. Nuclear Regulatory Commission, letter to Mr. Eric Larson, Entergy Operations, Inc., "Grand Gulf Nuclear Station – NRC Supplemental Inspection Report, Assessment Follow-Up Letter 05000416/2017013, and Parallel White Performance Indicator Inspection Finding," dated December 6, 2017 (ADAMS Accession No. ML17342B130).
43. Miller, G. for Kozal, J., U.S. Nuclear Regulatory Commission, letter to Mr. Eric Larson, Entergy Operations, Inc., "Grand Gulf Nuclear Station – NRC Integrated Inspection Report 05000416/2017004 and Independent Spent Fuel Storage Installation Inspection Report 07200050/2017001," dated February 9, 2018 (ADAMS Accession No. ML18040A639).

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DATE	8/19/19	8/15/19	8/15/19	8/15/19
OFFICE	OGC (NLO)*	NRR/DORL/D	NRR/DRA/DD	NRR/D
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DATE	9/23/19			

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