



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION**  
REGION IV  
1600 E. LAMAR BLVD  
ARLINGTON, TX 76011-4511

January 26, 2017

Mr. Michael R. Chisum  
Site Vice President  
Entergy Operations, Inc.  
17265 River Road  
Killona, LA 70057-0751

**SUBJECT: WATERFORD STEAM ELECTRIC STATION, UNIT 3 – NUCLEAR  
REGULATORY COMMISSION PROBLEM IDENTIFICATION AND  
RESOLUTION INSPECTION REPORT 05000382/2016008**

Dear Mr. Chisum:

On December 15, 2016, the U.S. Nuclear Regulatory Commission (NRC) completed a problem identification and resolution inspection at your Waterford Steam Electric Station, Unit 3, and discussed the results of the 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. However, the team noted that station personnel were challenged in several instances during the inspection period with effectively and timely completing actions to correct some conditions adverse to quality. These challenges are further discussed in the attached report.

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 no evidence of challenges to your organization's safety-conscious work environment. Your employees appeared willing to raise nuclear safety concerns through at least one of the several means available.

NRC inspectors documented three findings of very low safety significance (Green) in this report, each of which involved a violation of NRC requirements. Additionally, NRC inspectors documented one Severity Level IV violation with no associated finding. The NRC is treating all of these violations as non-cited violations (NCVs) consistent with Section 2.3.2.a of the Enforcement Policy.

If you contest the violations or significance of these NCVs, 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 Waterford Steam Electric Station.

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 Waterford Steam Electric 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/*

Thomas R. Hipschman, Team Leader  
Inspection Programs and Assessment Team  
Division of Reactor Safety

Docket No. 50-382  
License No. NPF-38

Enclosure:  
Inspection Report 05000382/2016008  
w/Attachments:  
1. Supplemental Information  
2. Information Request  
3. Supplemental Information Request

WATERFORD STEAM ELECTRIC STATION, UNIT 3 – NRC PROBLEM IDENTIFICATION  
AND RESOLUTION INSPECTION REPORT 05000382/2016008 – JANUARY 26, 2017

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Senior Project Engineer, DRP/D (John.Dixon@nrc.gov)  
Public Affairs Officer (Victor.Dricks@nrc.gov)  
Project Manager (April.Pulvirenti@nrc.gov)  
Team Leader, DRS/IPAT (Thomas.Hipschman@nrc.gov)  
RITS Coordinator (Marisa.Herrera@nrc.gov)  
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**U.S. NUCLEAR REGULATORY COMMISSION**

**REGION IV**

Docket(s): 05000382

License: NPF-38

Report: 05000382/2016008

Licensee: Entergy Operations, Inc.

Facility: Waterford Steam Electric Station, Unit 3

Location: 17265 River Road  
Killona, LA 70057

Dates: November 28 through December 15, 2016

Team Lead: E. Ruesch, J.D., Senior Reactor Inspector

Inspectors: F. Ramirez, Senior Resident Inspector  
M. Hayes, Operations Engineer  
D. Merzke, Senior Reactor Operations Engineer  
G. George, Senior Reactor Inspector

Approved By: T. Hipschman, Team Leader  
Inspection Programs and Assessment Team  
Division of Reactor Safety

Enclosure

## SUMMARY

IR 05000382/2016008; 06/06/2014 – 12/15/2016; WATERFORD 3; Problem Identification and Resolution (Biennial)

The inspection activities described in this report were performed between November 28 and December 15, 2016, by three inspectors from the NRC's Region IV office, one inspector from the Office of Nuclear Reactor Regulation, and the resident inspector at the Waterford Steam Electric Station, Unit 3. The report documents three findings of very low safety significance (Green), each of which involved a violation of NRC requirements. Additionally, NRC inspectors documented in this report one Severity Level IV violation with no associated finding and one licensee-identified violation of very low safety significance. The significance of inspection findings is indicated by their color (Green, White, Yellow, or Red), which is determined using Inspection Manual Chapter 0609, "Significance Determination Process." Their cross-cutting aspects are determined using Inspection Manual Chapter 0310, "Aspects Within the Cross-Cutting Areas." Violations of NRC requirements are dispositioned in accordance with the NRC Enforcement Policy. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process."

### Assessment of Problem Identification and Resolution

Based on its inspection sample, the team concluded that the licensee maintained a corrective action program in which individuals generally identified issues at an appropriately low threshold. Once entered into the corrective action program, the licensee generally evaluated and addressed these issues appropriately and timely, commensurate with their safety significance. The licensee's corrective actions were generally effective, addressing the causes and extents of condition of problems. However, the team noted that station personnel were challenged in several instances during the inspection period with effectively and timely completing actions to correct some conditions adverse to quality.

The licensee appropriately evaluated industry operating experience for relevance to the facility and entered applicable items in the corrective action program. The licensee incorporated industry and internal operating experience in its root cause and apparent cause evaluations. The licensee performed effective and self-critical nuclear oversight audits and self-assessments. The licensee maintained an effective process to ensure significant findings from these audits and self-assessments were addressed.

The licensee maintained a safety-conscious work environment in which personnel were willing to raise nuclear safety concerns without fear of retaliation.

### Cornerstone: Mitigating Systems

- Green/SL-IV. The team identified a Green non-cited violation of 10 CFR Part 50, Appendix B, Criterion XV, "Nonconforming Materials, Parts, or Components," which occurred when the licensee failed to dedicate commercial-grade relays for use in safety-related applications. After receiving information from a vendor that more than 124 relays potentially installed in safety-related applications did not conform to quality assurance standards, the licensee failed to take appropriate steps to accept these commercial-grade relays as basic components. After discussion with the team, the licensee documented this condition in Condition Report CR-WF3-2016-07710 and initiated actions to ensure compliance with quality assurance requirements.

The failure to dedicate commercial-grade relays used as—or intended for use as—basic components (in safety-related applications) as required by plant procedures and by 10 CFR Part 21 was a performance deficiency. This performance deficiency was more-than-minor because it was associated with the design control attribute of the Mitigating Systems Cornerstone and adversely affected the objective of ensuring the availability, reliability, and capability of systems that respond to initiating events. Using Inspection Manual Chapter 0609, Appendix A, dated June 19, 2012, the team determined that this finding was of very low safety significance (Green) because it was a deficiency affecting the design or qualification of a structure, system, or component, and operability was maintained. The finding has a conservative bias cross-cutting aspect in the human performance cross-cutting area because licensee personnel improperly rationalized the adequacy of the nonconforming components to perform their safety-related functions (H.14).

Because this performance deficiency was also a violation that impacted the regulatory process, in that the licensee accepted a change to plant design without appropriate evaluation and notification, it was also evaluated for traditional enforcement. The team determined that the violation was Severity Level IV because it was similar to several examples in Section 6.5.d of the NRC Enforcement Policy. (Section 4OA2.5.a)

- Green. The team identified a Green non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, “Instructions, Procedures, and Drawings,” that occurred when the licensee failed on two occasions to perform an operability determination for a nonconforming condition affecting numerous safety-related components. Following receipt of information from a vendor that more than 124 relays potentially installed in safety-related applications did not conform to quality requirements, licensee personnel failed to perform an operability evaluation. Later, during a Part 21 evaluation for the potential defect, the evaluator noted that an operability determination was needed, but failed to initiate the appropriate processes. After discussion with the team, the licensee documented this condition in Condition Report CR-WF3-2016-07710, declared the affected components operable, but degraded, and initiated actions to restore full qualification.

Failures to perform an operability determination following identification of a nonconforming condition as required by station procedures were two examples of a performance deficiency. This performance deficiency was more-than-minor because it was associated with the design control attribute of the Mitigating Systems Cornerstone and adversely affected the objective of ensuring the availability, reliability, and capability of systems that respond to initiating events. Using Inspection Manual Chapter 0609, Appendix A, dated June 19, 2012, the team determined that this finding was of very low safety significance (Green) because it did not represent the actual loss of function of any system or train. The finding has an identification cross-cutting aspect in the problem identification and resolution cross-cutting area because licensee personnel failed to recognize a nonconforming condition as a condition adverse to quality (P.1). (Section 4OA2.5.b)

- Green. The team identified a finding of very low safety significance and associated non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, “Instructions, Procedures, and Drawings,” for the licensee’s failure to include appropriate quantitative acceptance criteria for determining that important activities have been satisfactorily accomplished. Specifically, the licensee’s reconstituted feedwater and emergency feedwater system monitoring plan, which was created to monitor both systems’ vibrations following the site’s steam generators’ replacement, did not include a range for acceptable vibration levels for all

the components that were being monitored. As a result, sufficient controls were not in place to ensure that a corrective action to prevent recurrence could prevent future piping failures. The licensee entered this issue into their corrective action program as Condition Report CR-WF3-2016-07487. The licensee will restore compliance by addressing the discrepancies between the requirements of the reconstituted feedwater/emergency feedwater monitoring plan associated with steam generator replacement induced vibration and the vibration data routinely collected by plant personnel.

The team determined that the performance deficiency was more-than-minor, and therefore a finding, because it is associated with the equipment performance attribute of the Mitigating Systems Cornerstone, and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the licensee did not adequately monitor vibrations in six components of the feedwater and emergency feedwater systems such that vibration-induced piping degradation could be detected and the availability and reliability of these systems would be maintained. Using Inspection Manual Chapter 0609, Appendix A, "The Significance Determination Process for Findings At-Power," and Inspection Manual Chapter 0609, Appendix A, Exhibit 2, "Mitigating Systems Screening Questions," the team determined that the finding was of very low safety significance because the answer to all the screening questions was 'no'. This finding has a resolution cross-cutting aspect in the area of problem identification and resolution because the organization did not take effective corrective actions to address issues in a timely manner commensurate with their safety significance. Specifically, corrective actions to prevent recurrence of an adverse condition were closed without the issue being fully resolved (P.3). (Section 4OA2.5.c)

### **Other Findings and Violations**

- SL-IV. The team identified a Severity Level IV non-cited violation of 10 CFR 50.59(c)(2), "Changes, Tests, and Experiments," for the licensee's failure to obtain a license amendment prior to implementing a proposed change, test, or experiment that would result in a departure from a method of evaluation described in the final safety analysis report (as updated) used in establishing the design bases or in the safety analyses. Specifically, the licensee departed from their approved CEFLASH-4A methodology to determine steam generator internal differential loads caused by a main steam line break to an unapproved TRANFLOW methodology. In response to this issue, the licensee entered the issue into the corrective action program as Condition Report CR-WF3-2016-07639 and initiated actions to prepare a new evaluation under current regulatory guidelines or to submit a license amendment request to the NRC.

The licensee's failure to obtain a license amendment prior to implementing a change that resulted in a departure from a method of evaluation described in the final safety analysis report (as updated) used in establishing the design bases or in the safety analyses, as required by 10 CFR 50.59(c)(2) was a violation. In accordance with the NRC Enforcement Manual, violations of 10 CFR 50.59 are not processed through the Reactor Oversight Process significance determination process because this violation potentially impacted the ability of the NRC to perform its regulatory oversight function. Therefore, this violation was processed through traditional enforcement examples of Section 6.1 of the NRC Enforcement Policy. This violation was more-than-minor because there was a reasonable likelihood that the change would require NRC review and approval prior to implementation, similar to the more-than-minor example of a change in requirements in the NRC Enforcement Manual, Appendix E, "Minor Violations – Examples," dated September 9, 2013. In accordance with

the NRC Enforcement Policy, the significance determination process was used to inform the significance of the failure to obtain a license amendment prior to implementing a proposed change. The departure from the original CEFLASH-4A method to the TRANFLOW method to determine differential loads on steam generator internal structures following a main steam line break event was associated with the design control attribute of the Barrier Integrity Cornerstone and adversely affected the objective to limit the likelihood of events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. In accordance with Inspection Manual Chapter 0609, Appendix A, "The Significance Determination Process (SDP) for Findings At-Power," dated June 19, 2012, Exhibit 1, "Initiating Events Screening Questions," the issue screened as having very low safety significance (Green) because the issue would not result in the complete or partial loss of a support system that contributes to the likelihood of an initiating event, or result in the steam generators violating accident leakage performance criterion. Since the violation was determined to be Green in the significance determination process, the traditional enforcement violation was determined to be a Severity Level IV violation, consistent with the example in paragraph 6.1.d(2) of the NRC Enforcement Policy. Traditional enforcement violations are not assessed for cross-cutting aspects. (Section 4OA5.b)

### **Licensee-Identified Violations**

A violation of very low safety significance that was identified by the licensee has been reviewed by the team. Corrective actions taken or planned by the licensee have been entered into the licensee's corrective action program. This violation and associated corrective action tracking numbers are listed in Section 4OA7 of this report.



## REPORT DETAILS

### 4. OTHER ACTIVITIES (OA)

#### 4OA2 Problem Identification and Resolution (71152)

The team based the following conclusions on a sample of corrective action documents that were open during the assessment period, which ranged from June 6, 2014, to the end of the on-site portion of this inspection on December 15, 2016.

##### .1 **Assessment of the Corrective Action Program Effectiveness**

###### a. Inspection Scope

The team reviewed a sample of condition reports, including associated root cause analyses and apparent cause evaluations, from the approximately 17,000 that the licensee had initiated or closed between June 2014 and November 2016. The majority of these (more than 14,000) were lower-level condition reports that did not require formal evaluations, or that were closed to the licensee's work management system. The inspection sample of approximately 158 condition reports focused on higher-significance condition reports for which the licensee evaluated and took actions to address the cause of the condition. In performing its review, the team evaluated whether the licensee had properly identified, characterized, and entered issues into the corrective action program, and whether the licensee had appropriately evaluated and resolved the issues in accordance with established programs, processes, and procedures. The team also reviewed these programs, processes, and procedures to determine if any issues existed that may impair their effectiveness.

The team reviewed a sample of performance metrics, system health reports, operability determinations, self-assessments, trending reports and metrics, and various other documents related to the licensee's corrective action program. The team evaluated the licensee's efforts in determining the scope of problems by reviewing selected logs, work orders, self-assessment results, audits, system health reports, action plans, and results from surveillance tests and preventive maintenance tasks. The team reviewed daily condition reports and attended the licensee's screening and performance improvement review group meetings to assess the reporting threshold and prioritization efforts, and to observe the corrective action program's interfaces with the operability assessment and work control processes. The team's review included an evaluation of whether the licensee considered the full extent of cause and extent of condition for problems, as well as a review of how the licensee assessed generic implications and previous occurrences of issues. The team assessed the timeliness and effectiveness of corrective actions, completed or planned, and looked for additional examples of problems similar to those the licensee had previously addressed. The team conducted interviews with plant personnel to identify other processes that may exist where problems may be identified and addressed outside the corrective action program.

The team reviewed corrective action documents that addressed past NRC-identified violations to evaluate whether corrective actions addressed the issues described in the inspection reports. The team reviewed a sample of corrective actions closed to other corrective action documents to ensure that the ultimate corrective actions remained

appropriate and timely. The team reviewed a sample of condition reports where the licensee had changed the significance level after initial classification to determine whether the level changes were in accordance with station procedure and that the conditions were appropriately addressed.

The team considered risk insights from both the NRC's and the Waterford's risk models to focus the sample selection and plant tours on risk-significant systems and components. The team focused a portion of its sample on the cable vault and switchgear ventilation (SVS) and emergency safeguard features actuation (ESF) systems, which the team selected for a five-year in-depth review. The team conducted walk-downs of these systems and other plant areas to assess whether licensee personnel identified problems at a low threshold and entered them into the corrective action program.

b. Assessments

1. Effectiveness of Problem Identification

During the 30-month inspection period, licensee staff generated approximately 17,000 condition reports. The team determined that most conditions that required generation of a condition report by EN-LI-102, "Corrective Action Program," and its progeny procedures had been appropriately entered into the corrective action program.

The team further noted that during 2016, following the implementation of a significant revision to the corrective action program, the number of condition reports closed to the work management system had steadily increased from approximately 300 to 500 per month, while the number of condition reports being assigned low-level corrective actions had decreased slightly. Based on discussions with licensee personnel at several levels of the organization, the team determined that these trends were due to a lower threshold for initiating condition reports, an improved understanding of the corrective action process by licensee personnel, and clearer guidance on what constitutes an "adverse condition."

Overall, the team concluded that the licensee generally maintained a low threshold for the formal identification of problems and entry into the corrective action program for evaluation. Licensee personnel initiated an average of over 500 condition reports per month during the inspection period. All of the personnel interviewed by the team understood the requirements for condition report initiation; most expressed a willingness to enter newly identified issues into the corrective action program at a very low threshold.

2. Effectiveness of Prioritization and Evaluation of Issues

The sample of condition reports reviewed by the team focused primarily on issues screened by the licensee as having higher-level significance, including those that received cause evaluations, those classified as significant conditions adverse to quality, and those that required engineering evaluations. The team also reviewed a number of condition reports that included or should have included immediate operability determinations to assess the quality, timeliness, and prioritization of these determinations.

The team identified two examples where the licensee did not thoroughly evaluate adverse conditions, which in one case led to multiple failures to take required actions:

- The team reviewed the root cause evaluation for Condition Report CR-WF3-2015-4094, “Un-isolable Feedwater Drain Line Leak,” and noted that the scope of the extent of condition was narrow. For this event, the licensee found an un-isolable, through-wall fatigue crack in the steam generator number 1 main feedwater regulating valve downstream drain isolation, which required a forced shutdown. The licensee’s extent of condition review focused on components in the feedwater system that had a similar configuration as the one that failed (close proximity welds, cantilevered design, and no supports). The team noted that the licensee could have extended the review to safety-related systems where drain valves or other components had the same configuration that caused the un-isolable leak to determine if the condition exists. The licensee documented this issue in Condition Report CR-WF3-2016-07463.
- In May 2016, the licensee initiated Condition Report CR-WF3-2016-03525 to evaluate a Part 21 report from Electros witch, which documented a nonconforming condition potentially affecting more than 124 relays installed in safety-related applications. The licensee assigned an operability code of “ADMIN NA” for the nonconforming condition, bypassing the operability determination process. In June 2016, an engineer performed a Part 21 screening of the condition using EN-LI-108-01, Attachment 9.1. The engineer noted that the condition should be rescreened for operability and reportability, but failed to initiate a new condition report to perform these evaluations. These two examples of failures to perform required operability determinations are documented as a finding in Section 4OA2.5.b below. Further, these evaluation failures contributed to the licensee’s failure to control nonconforming quality parts as required by regulations, which is described as a finding in Section 4OA2.5.a below.

Overall, the team determined that the licensee’s process for screening and prioritizing issues that had been entered into the corrective action program supported nuclear safety. The licensee’s operability determinations were for the most part consistent, accurately documented, and completed in accordance with procedures.

### 3. Effectiveness of Corrective Actions

In general, the corrective actions identified by the licensee to address adverse conditions were effective. However, the team noted a number of instances in which corrective actions had been untimely or incompletely accomplished:

- In April 2016, the NRC identified that the licensee was not monitoring the vibrations for the cable vault and switchgear ventilation system safety-related fans at the frequency required by Waterford’s preventive maintenance template. At the time, it was identified that even though the system components were classified appropriately, the preventive maintenance tasks associated with the fans had not been identified as such. As a result, the

licensee was taking fan vibration data every 18 months instead of every three months. When reviewing the corrective actions associated with this issue, which were documented in Condition Report CR-WF3-2016-04544, the team noted that Corrective Action 13 was created to verify that the preventive maintenance tasks associated with all the components in the cable vault and switchgear ventilation system were being performed in accordance with the preventive maintenance template. The team noted that the corrective action was initially due in November 24, 2016, but that it was extended to January 27, 2017. The team also noted that several of the preventive maintenance tasks that would be required per the site's preventive maintenance template, would have been changed to a more frequent basis, and would have been completed within the window of the due date extension period. As a result of the team's questions, the licensee reviewed the condition. The licensee determined that the preventive maintenance tasks in question had an adequate frequency and only required a documented basis for the deviation from the preventive maintenance template. The failure to pre-plan and perform preventative maintenance on safety-related components in accordance with EN-DC-335, "Preventative Maintenance Basis Template," was a minor performance deficiency because the team determined that the documentation issue would not have had an impact on equipment performance. The licensee documented this issue in Condition Report CR-WF3-2016-07790.

- In 2014, the licensee initiated an apparent cause evaluation under Condition Report CR-WF3-2014-04930 to determine the cause of corrosion of heat exchanger tubes in the dry cooling tower, the station's ultimate heat sink. This apparent cause evaluation was revised several times, resulting in numerous cross-references and a corrective action plan containing over 50 tracked actions. Two of these corrective actions (14 and 50) were to submit an action request to develop preventive maintenance (PM) tasks to clean the coils and for the system engineer to inspect their condition following cleaning. After development of these tasks, a system engineer inadvertently changed the PM frequency to 18 years instead of the intended 24 months. When this was identified following the team's questions, the PM task was past its 24-month due date, but was still within the allowed grace period. Cleaning had been accomplished under a different PM task, which did not include the additional inspection tasks added to correct the problems that were the original subject of the CR 14-4930 ACE—no engineering inspection was documented. This failure to develop and maintain appropriate preventive maintenance schedules constitutes a minor violation of Technical Specification 6.8.1 that is not subject to enforcement action in accordance with the NRC's Enforcement Policy. The licensee documented this performance deficiency in Condition Report CR-WF3-2016-07454.
- Condition Report CR-WF3-2015-07994 documented 23 condition reports over approximately 14 years identifying ongoing degradation (corrosion) of safety-related motor control centers in the dry cooling tower areas. Additionally, two "roll-up" condition reports identified this condition, and licensee management designated it as a station "top ten" reliability issue. As of November 2015, the condition adverse to quality had still not been corrected, as documented in Condition Report CR-WF3-2015-07977.

The team noted that the licensee self-identified this performance deficiency and has developed a corrective action plan that appears adequate to correct the condition; the licensee currently plans to perform corrective maintenance during the upcoming refueling outage. This performance deficiency is a licensee-identified violation of very low safety significance, further described in Section 4OA7 below.

- In 2015, following the identification of multiple pipe support failures resulting from excessive feed water piping vibrations, the licensee initiated a root cause evaluation under Condition Report CR-WF3-2015-04094. In this root cause evaluation, the licensee determined that the required corrective action to preclude repetition (CAPR) was to develop a plan to monitor the feed water piping vibrations. The licensee identified monitoring points and then closed the CAPR to this “plan.” The team reviewed the licensee’s monitoring plan and noted that it provided no acceptance criteria for six of the monitoring points, two of which were on safety-related emergency feedwater piping. This failure to provide acceptance criteria, contrary to quality assurance program requirement, is documented as a finding in Section 4OA2.5.c below.

Overall, the team concluded that despite these examples, the licensee generally identified effective corrective actions for the problems evaluated in the corrective action program. The licensee generally implemented these corrective actions in a timely manner, commensurate with their safety significance, and reviewed the effectiveness of the corrective actions appropriately.

## **.2 Assessment of the Use of Operating Experience**

### **a. Inspection Scope**

The team examined the licensee’s program for reviewing industry operating experience, including reviewing the governing procedures. The team reviewed a sample of industry operating experience communications and the associated site evaluations to assess whether the licensee had appropriately assessed the communications for relevance to the facility. The team also reviewed assigned actions to determine whether they were appropriate. Attachment 1 includes a list of documents the team reviewed in performing its assessment.

### **b. Assessment**

Overall, the team determined that the licensee appropriately evaluated industry operating experience for its relevance to the facility. The team noted that the licensee appropriately evaluated industry operating experience when performing root cause analysis and apparent cause evaluations. The licensee appropriately incorporated both internal and external operating experience into lessons learned for training and pre-job briefs.

### **.3 Assessment of Self-Assessments and Audits**

#### **a. Inspection Scope**

The team reviewed a sample of licensee self-assessments and audits to assess whether the licensee was regularly identifying performance trends and effectively addressing them. The team also reviewed audit reports to assess the effectiveness of assessments in specific areas. The specific self-assessment documents and audits reviewed are listed in Attachment 1.

#### **b. Assessment**

Overall, the team concluded that the licensee had an effective self-assessment and audit process. The team determined that self-assessments were self-critical and thorough enough to identify deficiencies.

### **.4 Assessment of Safety-Conscious Work Environment**

#### **1. Inspection Scope**

The team interviewed 30 individuals in five focus groups. The purpose of these interviews was (1) to evaluate the willingness of licensee staff to raise nuclear safety issues, either by initiating a condition report or by another method, (2) to evaluate the perceived effectiveness of the corrective action program at resolving identified problems, and (3) to evaluate the licensee's safety-conscious work environment. The focus group participants included personnel from security, radiation protection, chemistry, engineering, operations, production, maintenance, and programs. At the team's request, the licensee's regulatory affairs staff selected the participants blindly from these work groups, based partially on availability. To supplement these focus group discussions, the team interviewed the employee concerns program manager to assess her perception of the site employees' willingness to raise nuclear safety concerns. The team reviewed the employee concerns program case log and select case files. The team also reviewed the minutes from the licensee's most recent safety culture monitoring panel meetings.

#### **2. Assessment**

##### **1. Willingness to Raise Nuclear Safety Issues**

All individuals interviewed indicated that they would raise nuclear safety concerns. All felt that their management was receptive to nuclear safety concerns and was willing to address them promptly. All of the interviewees further stated that if they were not satisfied with the response from their immediate supervisor, they had the ability to escalate the concern to a higher organizational level. Most expressed positive experiences after raising issues to their supervisors. All expressed positive experiences documenting most issues in condition reports.

##### **2. Employee Concerns Program**

All interviewees were aware of the employee concerns program. Most explained that they had heard about the program through various means, such as posters, training, presentations, and discussion by supervisors or management at meetings. Most

interviewees stated that they would use the employee concerns program if they felt it was necessary. All but one expressed confidence that their confidentiality would be maintained if they brought issues to Employee Concerns.

### 3. Preventing or Mitigating Perceptions of Retaliation

When asked if there have been any instances where individuals experienced retaliation or other negative reaction for raising issues, all individuals interviewed stated that they had neither experienced nor heard of an instance of retaliation, harassment, intimidation, or discrimination at the site. The team determined that processes in place to mitigate these issues were being successfully implemented.

## **.5 Findings**

### a. Failure to Control Nonconforming Parts

Introduction. The team identified a Green non-cited violation of 10 CFR Part 50, Appendix B, Criterion XV, which occurred when the licensee failed to dedicate commercial-grade relays for use in safety-related applications. After receiving information from a vendor that more than 124 relays potentially installed in safety-related applications did not conform to quality assurance standards, the licensee failed to take appropriate steps to accept these commercial-grade relays as basic components.

Description. On May 10, 2016, Electrosch submitted a Part 21 report to the NRC (ML16139A834) documenting that a large population of rotary switches and relays it had manufactured since 1984 had not conformed to quality assurance program requirements. (Electrosch has discontinued its 10 CFR Part 50, Appendix B, quality assurance program effective March 24, 2016.) The Part 21 notification noted that “Electrosch did not procure materials, parts, equipment and/or services from an Appendix B supplier nor were applicable Commercial Grade Surveys, Source Inspections and Material Analyses performed” for a number of materials used in the manufacture of these components, which it sold as safety-related basic components. Waterford 3 was listed as an affected facility in a May 11, 2016, update to Electrosch’s report.

On May 25, 2016, the licensee initiated Condition Report CR-WF3-2016-03525 to evaluate Electrosch’s Part 21 report. On June 13, 2016, the licensee performed a Part 21 screening using EN-LI-108-01 Attachment 9.1, which required that for safety-related parts installed in the plant, personnel performing the screen “assure that the issue has been or is being evaluated under 10 CFR 50.72 and/or 50.73, and includes the requirement of 10 CFR Part 21. Issue a new CR if needed.” The evaluator noted that, “Electrosch has determined it does not have the capability to perform the evaluation to determine if a defect, which could create a substantial safety hazard exists.” On June 21, a Waterford Steam Electric Station licensing engineer documented that no Part 21 notification was required because a Part 21 notification had been issued by the vendor. However, the engineer failed to account for Electrosch’s statement that it lacked information to determine whether the identified deviation could create a substantial safety hazard, and was therefore a defect, at any individual station.

On July 19, 2016, the licensee completed an engineering evaluation, inappropriately concluding the following:

Electroswitch relays and rotary switches have been designed by Electroswitch for decades and have been proven through testing and performance (i.e., OEs) as being reliable. Based on corrective actions taken by Electroswitch and the applications and reliability of these relays and switches, it is concluded that the non-conformance issues on Electroswitch products described in this 10 CFR Part 21 report does not create a substantial safety hazard such that the loss of a safety-related function is initiated. Therefore, the function of a Technical Specification system, structure, or component is not adversely affected as a result of this 10 CFR Part 21 report.

The licensee evaluator further concluded that, “No additional corrective actions are required and Electroswitch materials in the warehouse may be issued as required.” These conclusions accepted nonconforming components as fully qualified and permitted further installation of commercial grade components in safety-related applications with no acceptance testing or other dedication, contrary to the requirements of 10 CFR Part 21.<sup>1</sup>

Following identification of this condition by the team on November 30, 2016, the licensee initiated Engineering Change EC-68416, which repeated the conclusions of the July 19 evaluation verbatim. The evaluator again concluded that the installation of nonconforming or commercial-grade components in safety-related applications as fully qualified basic components was acceptable, with no dedication or further evaluation required. On December 13, 2016, after discussion with the team, licensee personnel initiated Condition Report CR-WF3-2016-07710. Under this condition report, the licensee determined the affected components to be operable, but degraded, and initiated further actions to perform appropriate acceptance testing or dedication to restore full qualification.

Analysis. The failure to dedicate commercial-grade relays used as—or intended for use as—basic components (in safety-related applications) as required by plant procedures and by 10 CFR Part 21 was a performance deficiency. This performance deficiency was more-than-minor because it was associated with the design control attribute of the Mitigating Systems Cornerstone and adversely affected the objective of ensuring the availability, reliability, and capability of systems that respond to initiating events. Using Inspection Manual Chapter 0609, Appendix A, dated June 19, 2012, the team determined that this finding was of very low safety significance (Green) because it was a deficiency affecting the design or qualification of a structure, system, or component, and operability was maintained. The finding has a conservative bias cross-cutting aspect in the human performance cross-cutting area because licensee personnel improperly

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<sup>1</sup> On June 24, 2016, Electroswitch completed additional testing of the original test specimens from 1984-85, using the acceptance criteria of the appropriate quality standards. The specimen components passed these tests. However, because Electroswitch had discontinued its Appendix B quality assurance program effective March 24, 2016, these tests were not performed under an approved quality assurance program. Thus, they could not on their own demonstrate qualification of the nonconforming components.



rationalized the adequacy of the nonconforming components to perform their safety-related functions (H.14).

Because this performance deficiency was also a violation that impacted the regulatory process, in that the licensee accepted a change to plant design without appropriate evaluation and notification, it was also evaluated for traditional enforcement. The team determined that the violation was Severity Level IV because it was similar to several examples in Section 6.5.d of the NRC Enforcement Policy.

Enforcement. Title 10 CFR Part 50, Appendix B, Criterion XV, requires that nonconforming items shall be reviewed and accepted, rejected, repaired or reworked in accordance with documented procedures. Contrary to this requirement, in May 2016, the licensee failed to review and accept, reject, repair or rework nonconforming items in accordance with documented procedures. Specifically, after receipt of information from a vendor that a number of relays did not conform to quality requirements, licensee engineers cited performance history to justify leaving the nonconforming relays in safety-related service, and failed to dedicate these commercial-grade parts as described in 10 CFR Part 21. Because this violation is of very low safety significance and Severity Level IV, and was entered into the licensee's corrective action program (CR-WF3-2016-07710), it is being treated as a non-cited violation in accordance with Section 2.3.2.a of the NRC Enforcement Manual: NCV 05000382/2016008-01, "Failure to Control Nonconforming Parts."

b. Failure to Perform Operability Determinations for Nonconforming Conditions

Introduction. The team identified a Green non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, that occurred when the licensee failed on two occasions to perform an operability determination for a nonconforming condition affecting numerous safety-related components. Following receipt of information from a vendor that more than 124 relays potentially installed in safety-related applications did not conform to quality requirements, licensee personnel failed to perform an operability evaluation. Later, during a Part 21 evaluation for the potential defect, the evaluator noted that an operability determination was needed, but failed to initiate the appropriate processes.

Description. In May 2016, the licensee initiated Condition Report CR-WF3-2016-03525 to evaluate a Part 21 report from Electros witch, which documented a nonconforming condition potentially affecting more than 124 relays installed in safety-related applications. The licensee assigned an operability code of "ADMIN NA" for the nonconforming condition, bypassing the operability determination process. Per Step 5.3 of EN-OP-104, Revision 10, which was in effect at the time, an operability evaluation was required for this nonconforming condition.

In July 2016, an engineer performed a Part 21 screening of the condition using EN-LI-108-01, Attachment 9.1. The engineer noted that the condition should be rescreened for operability and reportability. Initiation of a new condition report was required by procedure. Further, in the initial condition report, operators noted that after initial Part 21 and operating experience evaluations were performed, "If either determines that a degraded or nonconforming condition exists, then an additional Condition Report will be generated to evaluate the specific OPERABILITY of any potentially affected components." However, no new condition report was initiated and no operability determination was performed.

Analysis. Failures to perform an operability determination following identification of a nonconforming condition as required by station procedures were two examples of a performance deficiency. This performance deficiency was more-than-minor because it was associated with the design control attribute of the Mitigating Systems Cornerstone and adversely affected the objective of ensuring the availability, reliability, and capability of systems that respond to initiating events. Using Inspection Manual Chapter 0609, Appendix A, dated June 19, 2012, the team determined that this finding was of very low safety significance (Green) because it did not represent the actual loss of function of any system or train. The finding has an identification cross-cutting aspect in the problem identification and resolution cross-cutting area because licensee personnel failed to recognize a nonconforming condition as a condition adverse to quality (P.1).

Enforcement. Title 10 CFR Part 50, Appendix B, Criterion V, "Nonconforming Materials, Parts, or Components," requires that activities affecting quality shall be prescribed by documented instructions, procedures, or drawings, and shall be accomplished in accordance with these instructions, procedures, or drawings. Contrary to this requirement, in May and June 2016, the licensee failed to accomplish activities affecting quality in accordance with prescribed instructions and procedures. Specifically, licensee personnel failed to perform operability evaluations on nonconforming components as required by Procedure EN-OP-104, "Operability Determination Process." Because this violation is of very low safety significance and Severity Level IV, and was entered into the licensee's corrective action program (CR-WF3-2016-07710), it is being treated as a non-cited violation in accordance with Section 2.3.2.a of the NRC Enforcement Manual: NCV 05000382/2016008-02, "Failure to Perform Operability Determinations for Nonconforming Conditions."

c. Failure to Include Appropriate Quantitative Acceptance Criteria for the Reconstituted Feedwater/Emergency Feedwater Monitoring Plan Associated with Steam Generator Replacement-Induced Vibration

Introduction. The team identified a finding of very low safety significance and associated Green non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the licensee's failure to include appropriate quantitative acceptance criteria for determining that important activities have been satisfactorily accomplished. Specifically, the licensee's reconstituted feedwater and emergency feedwater system monitoring plan, which was created to monitor both systems' vibrations following the site's steam generators' replacement, did not include a range for acceptable vibration levels for all the components that were being monitored.

Description. On June 22, 2015, the licensee shutdown the plant to repair a steam leak that was discovered near the steam generator number 1 main feedwater regulation valve downstream drain isolation (FW-174A). The licensee determined, through their cause evaluation process, that the root cause of the steam leak near FW-174A was that "insufficient rigor in the Feedwater Piping Vibration Monitoring Plan failed to recognize a latent vulnerability in the post steam generator replacement environment." This Feedwater Piping Vibration Monitoring Plan was created and instituted following a January 21, 2013, automatic reactor trip that occurred following the startup from Refueling Outage 18, when both steam generators were replaced. At the time, the licensee determined that the January 2013 automatic reactor trip occurred due to feedwater system vibrations that were induced by the steam generator replacement.

Following the June 22, 2015, plant shutdown, the licensee concluded that the monitoring plan for feedwater vibration was not sufficiently rigorous in its development and implementation, lacked ownership, and did not account for critical attributes such as insulation or interference dampening when decisions were made to remove points from the plan. To address the deficiencies with the initial monitoring plan, the licensee created a corrective action to prevent recurrence that would implement a reconstituted vibration monitoring plan. The Reconstituted Feedwater/Emergency Feedwater Monitoring Plan Associated with Steam Generator Replacement Induced Vibration would expand the scope of the monitored points in the feedwater and emergency feedwater systems, would account for multiple factors such as the configuration of the monitored points, would establish more stringent criteria, and would implement increased frequency on trending requirements.

The team reviewed the Reconstituted Feedwater/Emergency Feedwater Monitoring Plan Associated with Steam Generator Replacement Induced Vibration, dated December 17, 2015, and noted that 11 of the 28 monitoring points did not include a range for acceptable vibration levels. Five of the monitoring points were for feedwater system components located inside containment. The licensee inspected these components during Refueling Outage 20 and concluded based on satisfactory results, that continuous monitoring inside containment was not necessary. However, six monitoring points that included components in the safety-related emergency feedwater system did not have acceptance criteria. In addition, as a result of the team's questions, the licensee identified that the predictive maintenance data routinely collected by plant personnel to monitor feedwater and emergency feedwater system did not match the reconstituted monitoring plan. Therefore, the team concluded that the licensee closed the corrective action to prevent recurrence from the June 22, 2015, feedwater system steam leak without the issue being fully resolved.

Analysis. The team determined that the licensee's failure to develop acceptance criteria for all the components in the reconstituted feedwater/emergency feedwater monitoring plan associated with steam generator replacement-induced vibration was a performance deficiency. The team concluded that the performance deficiency was more-than-minor, and therefore a finding, because it is associated with the equipment performance attribute of the Mitigating Systems Cornerstone, and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the licensee did not adequately monitor vibrations for six components in the feedwater and emergency feedwater systems such that vibration-induced piping degradation could be detected and the availability and reliability of these systems would be maintained. Using Inspection Manual Chapter 0609, Appendix A, dated June 19, 2012, the team determined that this finding was of very low safety significance (Green) because it did not represent the actual loss of function of any system or train. This finding has a resolution cross-cutting aspect in the area of problem identification and resolution because the organization did not take effective corrective actions to address issues in a timely manner commensurate with their safety significance. Specifically, corrective actions to prevent recurrence of an adverse condition were closed without the issue being fully resolved (P.3).

Enforcement. Title 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," states that activities affecting quality shall be prescribed by documented instructions, procedures, or drawings, of a type appropriate to the circumstances and

shall be accomplished in accordance with these instructions, procedures, or drawings. Instructions, procedures, or drawings shall include appropriate quantitative or qualitative acceptance criteria for determining that important activities have been satisfactorily accomplished.

Contrary to the above, since December 17, 2015, the licensee did not include appropriate quantitative or qualitative acceptance criteria for determining that important activities have been satisfactorily accomplished. Specifically, the licensee's Reconstituted Feedwater/Emergency Feedwater Monitoring Plan Associated with Steam Generator Replacement Induced Vibration, which was created as part of a corrective action to prevent recurrence of vibration-induced piping failures, did not include an acceptable range for vibration levels for all the components that were being monitored. As a result, sufficient controls were not in place to ensure that a corrective action to prevent recurrence could prevent future piping failures. The licensee will restore compliance by addressing the discrepancies between the requirements of the Reconstituted Feedwater/Emergency Feedwater Monitoring Plan Associated with Steam Generator Replacement Induced Vibration and the vibration data routinely collected by plant personnel. Because this violation was of very low safety significance and the licensee entered the issue into their corrective action program as Condition Report CR-WF3-2016-07487, this violation is being treated as a non-cited violation, consistent with Section 2.3.2.a of the NRC Enforcement Policy: NCV 05000382/2016008-03, "Failure to Include Appropriate Quantitative Acceptance Criteria for the Reconstituted Feedwater/Emergency Feedwater Monitoring Plan Associated with Steam Generator Replacement Induced Vibration."

#### **40A5 Other Activities**

##### **.1 (Closed) Unresolved Item URI 05000382/2014008-06, "Feedwater System Vibrations"**

###### **a. Scope and Discussion**

The team reviewed information associated with Unresolved Item 05000382/2014008-06, "Feedwater System Vibrations," written to document an issue of concern that vibration-induced failures of main feedwater and emergency feedwater components could be a result inadequate design reviews. The team compared documented actions taken by the licensee after the onset of vibration to the requirements of the applicable design standards for the Quality Group B and C portions of the main feedwater and emergency feedwater components. The team reviewed pipe support vendor documentation to determine if pipe supports would remain qualified when subjected to increased vibration.

During plant startup on January 21, 2013, and a subsequent plant trip, the licensee failed to monitor pipe vibration of the main feedwater system in accordance with Section III of the American Society of Mechanical Engineers Boiler and Pressure Vessel Code and American National Standards Institute B31.1 design standards. In the subsequent plant startup, the licensee took appropriate corrective action to monitor vibration and take corrective actions. The NRC had previously issued a non-cited violation in NRC Inspection Report 0500382/2013003 for the licensee's failure to monitor vibration during plant startup.

On May 22, 2013, the licensee documented Condition Report CR-WF3-2013-00445, Corrective Action 82, which documented the licensee's feasibility study that reviewed main feedwater system mechanical snubbers that could be affected by increased vibration and the recommendation to provide additional supports to dampen the main feedwater system. The licensee recommended, at the time, that additional supports were not necessary. The licensee recommended that mechanical snubbers would be replaced, beginning in the next refueling outage, with hydraulic snubbers because the hydraulic snubbers have a longer service life in high vibration areas and could dampen some vibration. Engineering change packages were generated to replace hydraulic snubbers in the spring 2014 refueling outage. Additionally, a recommendation was made to test 100 percent of snubbers on the main feedwater system at every refueling outage as part of the normal snubber testing program to identify and manage snubber failures. At present date, all important-to-safety main feedwater mechanical snubbers in containment have been replaced with hydraulic snubbers.

Based on this review, the team determined that the licensee's actions to date met the requirements for monitoring and correcting vibration within the applicable design standards. Additionally, the corrective actions for the previously identified non-cited violation were appropriate. Therefore, this unresolved item was closed.

b. Findings

Departure from Approved Method to Determine Steam Generator Internal Loads During Main Steam Line Break

Introduction. The team identified a Severity Level IV non-cited violation of 10 CFR 50.59(c)(2), "Changes, Tests, and Experiments," for the licensee's failure to obtain a license amendment prior to implementing a proposed change, test, or experiment that would result in a departure from a method of evaluation described in the final safety analysis report (as updated) used in establishing the design bases or in the safety analyses. Specifically, the licensee departed from their approved CEFLASH-4A methodology to determine steam generator internal differential loads caused by a main steam line break to an unapproved TRANFLOW methodology.

Description. On December 4, 2012, the licensee approved 10 CFR 50.59, Evaluation 2012-03. The evaluated change was to incorporate five computer codes into the updated final safety analysis report that were used for evaluating the structural integrity of the Waterford 3 replacement steam generators. One of the codes used was the TRANFLOW computer code. The licensee's vendor, Westinghouse, used this computer code to determine the pressure drop across the replacement steam generator secondary side internal components. As described in the Waterford 3 Updated Final Safety Analysis Report, Section 3.9.1.2.2.1.28, the original computer code used for determining pressure drops across the original steam generator secondary side components was CEFLASH-4A. The licensee determined that the change in computer codes from CEFLASH-4A to TRANFLOW did not result in departure from a method of evaluation described in the final safety analysis report used in the safety analysis. The basis for this conclusion was that the TRANFLOW code met the criteria of Section 4.3.8.1 of NEI 96-07, "Guidelines for 10 CFR 50.59 Implementation," Revision 1. Specifically, the licensee concluded that this computer code was not a departure from an approved method because this was a change to an element of the analysis methods that yielded conservative results, or results that are essentially the same.

The basis for this conclusion was Westinghouse LTR-NCE-05-145, "TRANFLOW Computer Code Comparison to CEFLASH-4B Analysis of the Watts Bar Replacement Steam Generator during a Feedwater Line Break," dated October 14, 2005. This Westinghouse letter described the use of the TRANFLOW computer code. It discussed that TRANFLOW has not been approved by the NRC for determining loads on steam generator internals during a steam line break; however, it produces results comparable to NRC-approved codes that were used for that purpose. Westinghouse LTR-NCE-05-145 included a comparison of TRANFLOW results to the approved CEFLASH-4B, which is an upgraded version of CEFLASH-4A. The licensee concluded that since the TRANFLOW results were similar to the CEFLASH-4B results, and CEFLASH-4B provides identical results to CEFLASH-4A, then TRANFLOW produces comparable results to the approved CEFLASH-4A.

Additional basis for the conclusion was Westinghouse LTR-NCE-04-28, "Position Paper on the Use of the TRANFLO/TRANFLOW Computer Program in Steam Generator Design Analysis," dated May 13, 2004. This letter discussed that, although not explicitly approved by the NRC, this computer code had been used since the early 1970s for determining internal loads in steam generators. Additionally, the NRC requested Westinghouse rerun a Diablo Canyon steam generator analysis using an NRC-approved code that resulted in acceptable results comparable to TRANFLOW. The letter also discussed that since TRANFLOW was controlled by approved quality assurance program, the NRC implicitly approved the use of the code in safety analyses.

The licensee is permitted to make changes to the facility as described in the updated final safety analysis report without prior NRC approval, provided that these changes did not result in a departure from a method of evaluation described in the final safety analysis report (as updated) used in establishing the design bases or in the safety analyses. Regulatory Guide 1.187, "Guidance for Implementation of 10 CFR 50.59, 'Changes, Tests, and Experiments'," states that the methods described in Nuclear Energy Institute NEI 96-07, "Guidelines for 10 CFR 50.59 Evaluations," Revision 1, are acceptable to the NRC staff for complying with the provisions of 10 CFR 50.59. NEI 96-07, Section 4.3.8, provides the criteria for determining if an activity results in a departure from a method of evaluation described in the final safety analysis report (as updated) used in establishing the design bases or in the safety analyses. Section 4.3.8.1 provides the criteria for changing one or more elements of a method of evaluation. Section 4.3.8.2 provides the criteria for changing from one method of evaluation to another.

The licensee determined that the change to the TRANFLOW code was a change to one or more elements of the CEFLASH-4A code; therefore, the criteria of NEI 96-07, Section 4.3.8.1, applied to the change. Based on this criteria, the change would not be a departure from an approved method because the method yielded conservative results and were essentially the same. The team determined this conclusion and use of the criteria in Section 4.3.8.1 to be incorrect.

The team determined that the change to the TRANFLOW code from CEFLASH-4A code was a change from one method described in the final safety analysis report to another method; therefore, the criteria of NEI 96-07, Section 4.3.8.2, applied to the change. Based on this criteria, the change to a new computer code would not be a departure

from an approved method if the new method is considered to be “approved by the NRC for the intended application.” A new method is approved by the NRC for intended application if it is previously approved earlier by NRC through generic approval of analysis methodologies in a topical report or safety evaluation report to the methodology owner. Additionally, a new method is approved if the specific analysis was approved by the NRC through a specific plant’s licensing bases. The user of the new methodology would then use the method as approved by the NRC.

The team searched the licensee’s design bases, licensing bases, and the NRC’s licensing database to determine if TRANFLOW had ever been approved by the NRC to determine the pressure drop across the replacement steam generator secondary side internal components. The search confirmed that the NRC had never approved the TRANFLOW code for this specific evaluation. This result was consistent with the information provided by Westinghouse letters previously discussed.

Analysis. The licensee’s failure to obtain a license amendment prior to implementing a change that resulted in a departure from a method of evaluation described in the final safety analysis report(as updated) used in establishing the design bases or in the safety analyses, as required by 10 CFR 50.59(c)(2) was a violation. In accordance with the NRC Enforcement Manual, violations of 10 CFR 50.59 are not processed through the Reactor Oversight Process significance determination process because this violation potentially impacted the ability of the NRC to perform its regulatory oversight function. Therefore, this violation was processed through the traditional enforcement examples of Section 6.1 of the NRC Enforcement Policy. This violation was more-than-minor because there was a reasonable likelihood that the change would require NRC review and approval prior to implementation, similar to the more-than-minor example of a change in requirements in the NRC Enforcement Manual, Appendix E, “Minor Violations – Examples,” dated September 9, 2013. In accordance with the NRC Enforcement Policy, the significance determination process was used to inform the significance of the failure to obtain a license amendment prior to implementing a proposed change. The departure from the original CEFLASH-4A method to the TRANFLOW method to determine differential loads on steam generator internal structures following a main steam line break event was associated with the design control attribute of the Barrier Integrity Cornerstone and adversely affected the objective to limit the likelihood of events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. In accordance with Inspection Manual Chapter 0609, Appendix A, “The Significance Determination Process (SDP) for Findings At-Power,” dated June 19, 2012, Exhibit 1, “Initiating Events Screening Questions,” the issue screened as having very low safety significance (Green) because the issue would not result in the complete or partial loss of a support system that contributes to the likelihood of an initiating event, or result in the steam generators violating accident leakage performance criterion. Since the violation was determined to be Green in the significance determination process, the traditional enforcement violation was determined to be a Severity Level IV violation, consistent with the example in paragraph 6.1.d(2) of the NRC Enforcement Policy. Traditional enforcement violations are not assessed for cross-cutting aspects.

Enforcement. Title 10 CFR 50.59(c)(2), states, in part, “a licensee shall obtain a license amendment prior to implementing a proposed change, test, or experiment if the change, test, or experiment would...result in a departure from a method of evaluation described in the final safety analysis report (as updated) used in establishing the design bases or in the safety analyses.” Contrary to this requirement, since December 12, 2012, the

licensee failed to obtain a license amendment prior to implementing a change to the facility as described in the final safety analysis report that resulted in departure from a method of evaluation described in the final safety analysis report (as updated) used in establishing the design bases or in the safety analyses. Specifically, the licensee failed to obtain a licensed amendment for a departure in the methodology to determine differential loads on steam generator internal structures following a main steam line break event, as stated in the Waterford 3 Updated Final Safety Analysis Report, Section 3.9.1.2.2.1.28. In response to this issue, the licensee entered the issue into the corrective action program as Condition Report CR-WF3-2016-07639 and initiated actions to prepare a new evaluation under current regulatory guidelines or to submit a license amendment request to the NRC. Because the associated finding was of very low safety significance and because the licensee entered it into its corrective action program, this violation is being treated as a non-cited violation (NCV), consistent with Section 2.3.2.a of the NRC Enforcement Policy: NCV 05000382/2016008-04, "Departure from Approved Method to Determine Steam Generator Internal Loads During Main Steam Line Break."

**.2 (Closed) Violation VIO 05000382/2013004-01, "Failure to Make a Report Required by 10 CFR 21.21"**

On November 20, 2013, the NRC issued a Notice of Violation to Entergy Operations, Inc., citing the licensee's failure to complete an evaluation of a deviation in a basic component within 60 days of discovery at Waterford 3, as required by 10 CFR 21.21. This Notice of Violation closed unresolved item URI 05000382/2009010-01, documented on November 5, 2009 (ML093100238). In its documentation of the URI, the NRC noted that the licensee's procedures did not incorporate applicable NRC guidance on 10 CFR Part 21 reporting.

During the 2014 problem identification and resolution inspection, documented in NRC Inspection Report 2014008 (ML14206A858), the NRC reviewed the licensee's corrective actions to restore compliance, including revisions to its Part 21 reporting procedure, EN-LI-108-01. The 2014 team determined that these procedure revisions included the addition of inaccurate interpretations of regulations and regulatory guidance that were likely to result in the licensee's continuing failure to perform required evaluations or to make timely required reports. As a result, the licensee's corrective actions were inadequate to ensure future compliance with 10 CFR Part 21 reporting requirements. Entergy Operations, Inc., was therefore not in compliance with the requirement of 10 CFR 21.21(a) that it "adopt appropriate procedures to . . . evaluate deviations and failures to comply . . . in order to identify a reportable defect or failures to comply that could create a substantial safety hazard." Based on this failure to restore compliance, the original violation remained open.

During this inspection, the team reviewed the most recent revision to EN-LI-108-01 (Revision 8), and determined that the licensee had deleted the inaccurate interpretations of regulations that had been included in earlier revisions. The licensee had thus restored compliance with § 21.21(a).

Violation VIO 05000382/2013004-01 and Enforcement Action EA-12-257 are closed.



#### **4OA6 Meetings, Including Exit**

##### Exit Meeting Summary

On December 15, 2017, the team presented the inspection results to Mr. M. Chisum, Site Vice President, and other members of the licensee staff. The licensee acknowledged the issues presented. The licensee confirmed that any proprietary information reviewed by the team had been returned or destroyed.

#### **4OA7 Licensee-Identified Violations**

The following violation of very low safety significance (Green) was identified by the licensee and is a violation of NRC requirements which meets the criteria of the NRC Enforcement Policy for being dispositioned as a non-cited violation.

- Title 10 CFR Part 50, Appendix B, Criterion XVI, requires that measures shall be established to ensure that conditions adverse to quality are promptly identified and corrected. Contrary to this requirement, prior to late 2015, the licensee failed to establish measures to ensure that a condition adverse to quality was promptly identified and corrected. Specifically, 23 condition reports over 14 years documented corrosion of safety-related motor control centers in the dry cooling tower areas. During that time, several work orders had been closed with no actions taken, and other actions had been unsuccessful in mitigating the corrosion. The licensee has since identified the condition and commenced actions to mitigate the corrosion, as described in Condition Reports CR-WF3-2015-7994, -7977, and -6072. This performance deficiency was of very low safety significance because it did not result in the loss of operability or functionality of any system or train.

## **SUPPLEMENTAL INFORMATION**

### **KEY POINTS OF CONTACT**

#### **Licensee Personnel**

C. Becnel, Employee Concerns Coordinator  
J. Crews, Assistant Maintenance Manager  
D. Duplessis, EDG System Engineer  
S. Fontenot, Manager Performance Improvement  
R. Gendusa, Operating Experience Specialist  
M. Groome, Senior Engineer, Safety Injection  
J. Hoss, Senior Engineer in Design Engineering  
D. Litloff, Senior Reactor Operator – Control Room Supervisor  
T. Manziel, CAA Senior Specialist  
S. Meiklejohn, Senior Licensing Specialist  
M. Mills, Manager Nuclear Oversight, Quality Assurance  
N. Petit, Engineer Supervisor in Design Engineering  
G. Pickering, Engineer Supervisor in Design Engineering  
J. Sanchez – Senior Maintenance Specialist – Mechanical Maintenance  
G. Setoon – Coordinator Equipment Reliability  
D. Veiner, Engineering Supervisor Design Engineering

#### **NRC Personnel**

C. Speer, Resident Inspector  
D. Loveless, Senior Reactor Analyst

### **LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED**

#### **Opened and Closed**

05000382/2016008-01	NCV	Failure to Control Nonconforming Parts (Section 4OA2)
05000382/2016008-02	NCV	Failure to Perform Operability Determinations for Nonconforming Conditions (Section 4OA2)
05000382/2016008-03	NCV	Failure to Include Appropriate Quantitative Acceptance Criteria for the Reconstituted Feedwater/Emergency Feedwater Monitoring Plan Associated with Steam Generator Replacement Induced Vibration (Section 4OA2)
05000382/2016008-04	NCV	Departure from Approved Method to Determine Steam Generator Internal Loads During Main Steam Line Break (Section 4OA5)

Closed

05000382/2014008-06 URI Feedwater System Vibrations (Section 4OA5)

05000382/2013004-01 VIO Failure to Make a Report Required by 10 CFR 21.21

**LIST OF DOCUMENTS REVIEWED**

Condition Reports (CR-WF3-20YY-XXXXX)

12-05620	14-04732	15-00886	15-06072	16-02333
12-05680	14-04733	15-00887	15-06438	16-02353
12-06908	14-04780	15-00888	15-06925	16-02457
13-00445	14-04930	15-01200	15-07418	16-02465
13-01700	14-05228	15-01615	15-07600	16-02502
13-04433	14-05458	15-01730	15-07994	16-02511
13-04670	14-06014	15-02465	15-08256	16-02536
13-05091	14-06187	15-02513	15-08415	16-02710
14-00097	15-00019	15-02556	15-08434	16-02859
14-01137	15-00118	15-02626	15-08437	16-03447
14-02135	15-00125	15-02737	15-08503	16-03525
14-02653	15-00230	15-02765	15-08971	16-03710
14-02981	15-00234	15-02870	15-09078	16-03767
14-03023	15-00243	15-03244	15-09211	16-04209
14-03072	15-00246	15-03503	15-09464	16-04440
14-03075	15-00273	15-03504	15-09505	16-04544
14-03192	15-00290	15-03563	15-09614	16-05664
14-03202	15-00293	15-03565	16-00114	16-05839
14-03213	15-00492	15-03566	16-00149	16-06443
14-03238	15-00511	15-04076	16-00151	16-07436
14-03250	15-00557	15-04094	16-00160	16-07449
14-03303	15-00567	15-04113	16-00411	16-07453
14-03404	15-00583	15-04263	16-00549	16-07463
14-03692	15-00595	15-04379	16-00558	16-07464
14-03840	15-00613	15-04459	16-00622	16-07477
14-03917	15-00649	15-04544	16-00660	16-07487
14-03951	15-00682	15-05234	16-00679	16-07710
14-03968	15-00736	15-05575	16-00809	16-07716
14-04179	15-00762	15-05580	16-00869	16-07730
14-04237	15-00828	15-05590	16-01131	16-07847
14-04343	15-00838	15-05642	16-01155	
14-04387	15-00856	15-05666	16-02122	

Other PCRS Records

PR-PRHQN-2014-00425

WLO-2015-00119

WLO-2015-00134

Work Orders

00387019	52578310	00361850	00415981	52402214
00386916	52592880	00381153-19	00429652	00453456
52493284	00328042	00398449	52320923	

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
CEP-SNB-0001	Dynamic Restraint (Snubber) Examination and Testing Program	5
EN-AD-101	Procedure Process	27
EN-DC-153	Preventive Maintenance Component Classification	14
EN-DC-178	System Walkdowns	8
EN-DC-324	Preventive Maintenance Program	17
EN-DC-335	PM Basis Template	6
EN-FAP-AD-101	Fleet Administrative Procedure (FAP) Process	2
EN-FAP-LI-001	Performance Improvement Review Group (PRG) Process	7
EN-FAP-LI-001	Condition Review Group (CRG)	7
EN-LI-102	Corrective Action Program	23-28
EN-LI-102-02	CR Closeout Review	9
EN-LI-104	Self-Assessment and Benchmarking Process	13
EN-LI-108-01	10 CFR 21 Evaluations and Reporting	4,7
EN-LI-118	Cause Evaluation Process	22-23
EN-LI-121	Trending and Performance Review Process	22
EN-OE-100	Operating Experience Program	26
EN-OE-100-01	IER Level 1 and Level 2 Evaluations and Effectiveness Reviews	3
EN-OP-104	Operability Determination Process	10, 11
EN-WM-100	Work Request (WR) Generation, Screening, and Classification	13
JA-PI-06	PRG Conduct	0
MD-001-047	Maintenance Technical Procedure Writers Manual	1
MM-006-106	Plant Door Maintenance	319
STA-001-005	Leakage Testing of Air and Nitrogen Accumulators for Safety Related Valves	319

### Calculations

<u>Number</u>	<u>Title</u>	<u>Revision</u>
A13073-C-001	Assessment of Vent and Drain Line Vibration Thresholds	0
A15290-R-001	Evaluation of Main Feedwater System Piping Outside Containment with GERB Viscodampers Added	0
FWSR-2	Pipe Support Calculation FWSR-2	3
FWSR-6	Pipe Support Calculation FWSR-6	5
SA 1031	Stress Analysis of Feedwater Piping from Pen #3 to Steam Generator #1	2,4
SA 1032	Stress Analysis of Feedwater Piping from Pen #4 to Steam Generator #2	2,4

### Drawings

<u>Number</u>	<u>Title</u>	<u>Revision</u> <u>Date</u>
8469-139, Sh 1	Feedwater FWSH-16, G-176-1, G-838-A	5
8469-139, Sh 2	Feedwater FWSH-16, G-176-1, G-838-A	0
8469-139, Sh 3	Feedwater FWSH-16, G-176-1, G-838-A	0

### Engineering Changes

<u>Number</u>	<u>Title</u>	<u>Revision</u> <u>Date</u>
EC 8434	Waterford 3 MS and FW Systems Piping and Temporary Supports for the SG/RVCH Replacement	0
EC 8464	Waterford 3 Replacement Steam Generators – Piping/Structural Components and Documentation Impact Review	0
EC50611	Evaluation of Feedwater System Component Failures Inside Containment during RF-19	0

### Other

<u>Number</u>	<u>Title</u>	<u>Revision</u> <u>Date</u>
	ODMI: Elevated Vibration in Main Feedwater Line	3
	Feedwater Vibration Issue-Final Report	September 24, 2013
	SVS System Walkdown Sheets	November 21, 2016

Other

<u>Number</u>	<u>Title</u>	<u>Revision Date</u>
457002077	Bergen-Patterson Load Capacity Data Sheets for Supports	1
5059Eval 2012-03	ECN40132 (EC8458) Incorporation of RSG Design Document Updates and Review of Design Basis Methodologies for RSG Design Report	December 4, 2012
LDCR-93-0165	Delete Requirement of Mechanical Equipment Qualification Program	July 15, 1993
PM Basis Template	EN – HVAC – Air Handling Equipment	5
PM Basis Template	EN – Breaker – Molded Case Circuit	1
PPS – ESF	System Health Report	November 30, 2016
PPS – SVS	System Health Report	November 23, 2016
QA-01-2014-HQN-01	Access Authorization / Fitness for Duty Audit	September 16, 2014
QA-10-2016-W3-1	Maintenance Audit Report	July 19, 2016
QA-1-2015-W3-1	Fitness for Duty/Access Authorization (including PADS)	September 3, 2015
QA-1-2016-W3-1	Fitness for Duty/Access Authorization Audit	August 8, 2016
QA-16-2015-W3-1	Security Audit	December 3, 2015
QA-19-2016-W3-1	Training Audit	March 15, 15/2016
QA-20-2016-W3-01	ISFSI Audit Report	September 13, 2016
QA-3-2015-W3-1	Corrective Action Program Audit	July 23, 2015
QA-4-2016-W3-1	Engineering Design Programs Audit	April 14, 2016
QA-7-2016-W3-1	Emergency Preparedness Audit Report	May 9, 2016
QA-8-2015-W3-1	Engineering Programs Audit	April 2, 2015
QA-9-2016-W3-1	Fire Protection Audit	February 1, 2016

Other

<u>Number</u>	<u>Title</u>	<u>Revision Date</u>
W3-DBD-14	Safety Related Air Operated Valves Design Basis Document	February 1998
Westinghouse LTR-NCE-04-28	Position Paper on the Use of the TRANFLO/TRANFLOW Computer Program in Steam Generator Design Analysis	1
Westinghouse LTR-NCE-05-145	TRANFLOW Computer Code Comparison to CEFLASH-4B Analysis of the Watts Bar Replacement Steam Generator during a Feedwater Line Break	October 14, 2005

**Information Request  
Biennial Problem Identification and Resolution Inspection  
Waterford 3  
September 1, 2016**

**Inspection Report: 50-382/2016008**

**On-site Inspection Dates: November 28–December 1; December 12–15, 2016**

This inspection will cover the period from June 6, 2014, through December 15, 2016. All requested information is limited to this period or to the date of this request unless otherwise specified. To the extent possible, the requested information should be provided electronically in word-searchable Adobe PDF (preferred) or Microsoft Office format. Any sensitive information should be provided in hard copy during the team's first week on site; do not provide any sensitive or proprietary information electronically.

Lists of documents ("summary lists") should be provided in Microsoft Excel or a similar sortable format. Please be prepared to provide any significant updates to this information during the team's 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 Waterford 3.

Please provide the following information no later than November 7, 2016:

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 or closed during the period
- c. Summary list of all currently open corrective action documents associated with conditions first identified on or before June 1, 2015; exclude non-CAP items
- d. 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)
- e. Summary list of all corrective action documents initiated during the period that "roll up" multiple similar or related issues, or that identify a trend
- f. 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
- g. Summary list of safety system deficiencies that required prompt operability determinations (or other engineering evaluations) to provide reasonable assurance of operability



- h. 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)
  - i. Summary list of all Apparent Cause Evaluations completed during the period
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. Any assessments of the safety-conscious work environment at Waterford 3
  - f. Corrective action documents generated during the period associated with the following:
    - i. NRC findings and/or violations issued to Waterford 3
    - ii. Licensee Event Reports issued by Waterford 3
  - g. Corrective action documents generated for the following, if they were determined to be applicable to Waterford 3 (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. Emergency planning drills and tabletop exercises performed during the period

- ii. Maintenance preventable functional failures that occurred or were evaluated during the period
- iii. Action items generated or addressed by offsite review committees during the period
- iv. Findings or comments documented in the 2014 NRC PI&R inspection report

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.c, 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  $\geq 12$  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.d–3.f, 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, apparent and root cause evaluation/determination procedures, and any other procedures that implement the corrective action program at Waterford 3
- b. Quality Assurance program procedures (specific audit procedures are not necessary)
- 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 (OE) program procedures and any other procedures or guidance documents that describe the site's use of OE information

5. Other

- a. List of risk-significant components and systems, ranked by risk worth
- b. List of structures, systems, and components and/or functions that were in maintenance rule (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 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 for these meetings

Note: The items listed in 5.e may be provided on a weekly or daily basis after the team arrives 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 Waterford 3; three additional copies should be provided to the team lead, to arrive no later than November 7, 2016:

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.

**Supplemental Information Request  
Biennial Problem Identification and Resolution Inspection  
Waterford 3  
November 22, 2016**

**Inspection Report: 50-382/2016008**

**On-site Inspection Dates: November 28–December 1; December 12–15, 2016**

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 June 6, 2014, through December 15, 2016. 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 SVS (Cable Vault & Switchgear Ventilation) and ESFAS (Engineered Safety Features Actuation) systems. The following documents are to support this review:

- Copies of all root and apparent cause evaluations related to SVS and ESFAS systems or components performed within the last 5 years, including root cause evaluations not already provided (specify any that were provided)
- Summary list of all condition reports written on the SVS and ESFAS systems or components in the last 5 years
- List of all surveillances performed on SVS and ESFAS within the last five years, sortable by component if possible, and including acceptance criteria.
- List of all corrective maintenance work orders performed on SVS and ESFAS systems or components within the last 5 years
- List of maintenance rule functional failure assessments—regardless of the result—performed on SVS and ESFAS within the last 5 years
- Engineering forms/logs (including the engineer's notes), if any, from the last two engineering walk-downs/inspections of SVS and ESFAS; if these logs and notes are not in controlled documents, please provide governing procedures and arrange an interview with the engineer(s)
- System health reports for SVS and ESFAS
- List of ECs associated with SVS and ESFAS that were developed or implemented within the last 5 years; include any currently open ECs
- System training manual(s) for SVS and ESFAS (showing simplified schematics of electrical and mechanical devices and circuitry from sensors to actuation device input terminals)

2. Full copies of the following cause evaluations:

2014-04930	2015-03504	2015-06782	2015-09287	2016-00869	2016-03710
2015-00828	2015-04076	2015-08256	2015-09464	2016-01131	2016-04209
2015-02465	2015-05575	2015-08415	2015-09505	2016-02465	2016-04544
2015-02556	2015-05590	2015-08434	2016-00160	2016-02502	
2015-02737	2015-05666	2015-08503	2016-00411	2016-02710	
2015-03211	2015-06072	2015-09078	2016-00679	2016-03447	

3. Copies of the following condition reports:

2013-02254	2014-02971	2014-04387	2015-02873	2015-09078
2013-05161	2014-03023	2014-04733	2015-04076	2015-09614
2013-06171	2014-03072	2014-04780	2015-04263	2016-00549
2014-00113	2014-03075	2014-06187	2015-05580	2016-00558
2014-01137	2014-03213	2015-00273	2015-05590	2016-03525
2014-01237	2014-03229	2015-00557	2015-07600	2016-04209
2014-02110	2014-03303	2015-00649	2015-08415	2016-05664
2014-02653	2014-03692	2015-01200	2015-08437	
2014-02763	2014-03840	2015-01730	2015-08971	

In addition to the list above, please provide any additional updates to the information previously provided in response to the September 1, 2016, information request.

**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.