



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**

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

November 13, 2015

EA-15-207

Rafael Flores, Senior Vice President
and Chief Nuclear Officer
Attention: Regulatory Affairs
Luminant Generation Company LLC
Comanche Peak Nuclear Power Plant
P.O. Box 1002
Glen Rose, TX 76043

**SUBJECT: COMANCHE PEAK NUCLEAR POWER PLANT – NRC PROBLEM
IDENTIFICATION AND RESOLUTION INSPECTION REPORT
05000445/2015008 AND 05000446/2015008 AND NOTICE OF VIOLATION**

Dear Mr. Flores:

On September 17, 2015, the U.S. Nuclear Regulatory Commission (NRC) completed the onsite portion of a problem identification and resolution biennial inspection at your Comanche Peak Nuclear Power Plant Units 1 and 2. The inspection team discussed the results of the inspection with Mr. Ken Peters, Site Vice President, and other members of your staff prior to departing the site. The team conducted an exit meeting during a telephone conversation with Mr. John Taylor, Site Engineering Director, and other members of your staff on October 1, 2015. The inspection team documented the results of this inspection in the enclosed inspection report.

Based on the inspection sample, the inspection team determined that Comanche Peak's corrective action program and implementation were adequate to support nuclear safety.

However, the team identified some weaknesses in the areas of timely identification and evaluation of problems. Specifically, the team noted several condition reports that documented conditions adverse to quality that were either not initiated in a timely manner, not evaluated for operability, or were not adequately addressed. Licensee personnel initiated condition reports to address the team's concerns.

In reviewing your corrective action program, the team assessed how well your staff identified problems at a low threshold, your staff's implementation of the station's process for prioritizing and evaluating these problems, and the effectiveness of corrective actions taken by the station to resolve these problems. The team also evaluated other processes your staff used to identify issues for resolution. These included your use of audits and self-assessments to identify latent problems and your incorporation of lessons learned from industry operating experience into station programs, processes, and procedures. The team determined that your station's performance in each of these areas supported nuclear safety.

Finally, the team determined that your station's management maintains a safety-conscious work environment in which your employees are willing to raise nuclear safety concerns through at least one of the several means available.

NRC inspectors documented four findings of very low safety significance (Green) in this report that involved violations of NRC requirements. The NRC is treating three of these violations as Non-Cited Violations (NCVs) consistent with Section 2.3.2 of the Enforcement Policy <http://www.nrc.gov/about-nrc/regulatory/enforcement/enforce-pol.html>. However, one of the violations did not meet the criteria to be treated as a non-cited violation because the noncompliance has not been restored within a reasonable period after the violation was originally identified. Specifically, NRC inspectors identified and documented a noncompliance in an integrated NRC Inspection Report 05000445/2012003 and 05000446/2012003 dated July 24, 2012. This finding was a violation of 10 CFR Part 50 Appendix B, Criterion III, for failure to assure that applicable design bases were correctly translated into procedures associated with the missile protection analysis of the turbine-driven auxiliary feedwater pump exhaust piping. As of the end of the onsite portion of this inspection (more than 38 months later), the noncompliance had still not been restored. The inspectors determined that the licensee did not provide an adequate justification for the delay.

This violation is cited in the enclosed Notice of Violation (Notice) and the circumstances surrounding it is described in detail in the enclosed report. You are required to respond to this letter and should follow the instructions specified in the enclosed Notice when preparing your response. If you have additional information that you believe the NRC should consider, you may provide it in your response to the Notice. The NRC's review of your response to the Notice will also determine whether further enforcement action is necessary to ensure your compliance with regulatory requirements.

The non-cited violations are described in the subject inspection report. If you wish to contest these violations or their significance, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington DC 20555-0001, with a copies to the Regional Administrator, Region IV, and the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-0001, and the NRC Resident Inspector at Comanche Peak. If you disagree with an assigned cross-cutting aspect in this report, provide your response with the basis for your disagreement, to the Regional Administrator, Region IV; and to the NRC resident inspector at Comanche Peak.

R. Flores

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

Sincerely,

/RA/

Eric A. Ruesch, Acting Team Leader
Technical Support Services Team
Division of Reactor Safety

Docket No: 50-445, 50-446
License No: NPF-87 and NPF-89

Enclosure: Inspection Report 05000445/2015008
and 05000446/2015008
w/Attachment: Supplemental Information

Electronic Distribution to Comanche Peak

NOTICE OF VIOLATION

Luminant Generation Company LLC
Comanche Peak Nuclear Power Plant

Docket No. 50-445, 446
License No. NPF-87, NPF-89
EA-15-207

During an NRC inspection conducted August 31 through October 1, 2015, a violation of NRC requirements was identified. In accordance with the NRC Enforcement Policy, the violation is listed below:

Title 10 CFR Part 50, Appendix B, Criterion III, "Design Control," states, in part, "Design control measures shall provide for verifying or checking the adequacy of design, such as by the performance of design reviews, by the use of alternate or simplified calculational methods, or by the performance of a suitable testing program."

Contrary to the above, since June 13, 2012, the licensee failed to provide measures for verifying the adequacy of the design by the use of alternate or simplified calculational methods. Specifically, the licensee failed to verify the adequacy of design of the turbine driven auxiliary feedwater pumps' steam exhaust piping to withstand impact from a tornado driven missile hazard, or to evaluate for exemption from missile protection requirements using an approved methodology.

This violation is associated with a Green Significance Determination Process finding.

Pursuant to the provisions of 10 CFR 2.201, Luminant Generation Company LLC is hereby required to submit a written statement or explanation to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001 with a copy to the Regional Administrator, Region IV, and a copy to the NRC Senior Resident Inspector at the facility that is the subject of this Notice, within 30 days of the date of the letter transmitting this Notice of Violation (Notice). This reply should be clearly marked as a "Reply to a Notice of Violation; EA-15-207" and should include for each violation: (1) the reason for the violation, or, if contested, the basis for disputing the violation or severity level, (2) the corrective steps that have been taken and the results achieved, (3) the corrective steps that will be taken, and (4) the date when full compliance will be achieved. Your response may reference or include previous docketed correspondence if the correspondence adequately addresses the required response. If an adequate reply is not received within the time specified in this Notice, an order or a Demand for Information may be issued as to why the license should not be modified, suspended, or revoked, or why such other action as may be proper should not be taken. Where good cause is shown, consideration will be given to extending the response time.

If you contest this enforcement action, you should also provide a copy of your response, with the basis for your denial, to the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-0001.

Because your response will be made available electronically for public inspection in the NRC Public Document Room or from the NRC's ADAMS, accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html>, to the extent possible, it should not include any personal privacy, proprietary, or safeguards information so that it can be made available to the public without redaction. If personal privacy or proprietary information is necessary to provide an acceptable response, then please provide a bracketed copy of your response that identifies the information that should be protected and a redacted copy of your response that deletes such

information. If you request withholding of such material, you must specifically identify the portions of your response that you seek to have withheld and provide in detail the bases for your claim of withholding (e.g., explain why the disclosure of information will create an unwarranted invasion of personal privacy or provide the information required by 10 CFR 2.390(b) to support a request for withholding confidential commercial or financial information). If safeguards information is necessary to provide an acceptable response, please provide the level of protection described in 10 CFR 73.21.

Dated this 13th day of November 2015

U.S. NUCLEAR REGULATORY COMMISSION

REGION IV

Docket(s): 05000445, 05000446

License: NPF-87 and NPF-89

Report: 05000445/2015008 and 05000446/2015008

Licensee: Luminant Generation Company LLC

Facility: Comanche Peak Nuclear Power Plant

Location: Glen Rose, TX

Dates: August 31 through October 1, 2015

Team Lead: H. Freeman, Senior Reactor Inspector

Inspectors: C. Alldredge, Reactor Inspector
J. Drake, Senior Reactor Inspector
J. Josey, Senior Resident Inspector

Approved By: E. Ruesch, Acting Team Leader
Technical Support Services Team
Division of Reactor Safety

SUMMARY

IR 05000445/2015008 and 05000446/2015008; 08/31/2015 – 10/01/2015; Comanche Peak Nuclear Power Plant; Problem Identification and Resolution Inspection (Biennial)

The inspection activities described in this report were performed between August 31 and October 1, 2015, by three inspectors from the NRC's Region IV office and the resident inspector at Comanche Peak Nuclear Power Plant. The report documents four findings of very low safety significance (Green). All of these findings involved violations of NRC requirements. The significance of inspection findings are indicated by their color (i.e., greater than Green, or Green, White, Yellow, Red) and determined using IMC 0609, "Significance Determination Process" dated April 29, 2015. Cross-cutting aspects are determined using IMC 0310, "Components Within the Cross Cutting Areas" dated December 10, 2014. All violations of NRC requirements are dispositioned in accordance with the NRC's Enforcement Policy dated February 4, 2015. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process" revision 5."

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 identified some weaknesses in the areas of timely identification and evaluation of problems. Specifically, the team noted several condition reports that documented conditions adverse to quality that were either not initiated in a timely manner, not evaluated for operability, or were not adequately addressed. Licensee personnel initiated condition reports to address the team's concerns.

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. The team identified a cited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for the licensee's failure to evaluate the lack of missile protection on the turbine driven auxiliary feedwater pumps' steam exhaust piping. Specifically, since June 13, 2012, the licensee failed to verify the adequacy of design of the turbine driven auxiliary feedwater pumps' steam exhaust piping to withstand impact from a tornado driven missile hazard, or to evaluate for exemption from missile protection requirements using an

approved methodology. This issue does not represent an immediate safety concern because the licensee performed an operability evaluation, which established a reasonable expectation of operability. The licensee entered this issue into the corrective action program for resolution as Condition Report CR-2015-007869.

The licensee's failure to analyze the effects of a tornado missile strike on the turbine driven auxiliary feedwater pumps' steam exhaust piping was a performance deficiency. The performance deficiency was more than minor because it was associated with the protection against external events factors attribute of the Mitigating Systems cornerstone and affected the cornerstone objective to ensure availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the licensee failed to evaluate a design nonconformance on the turbine driven auxiliary feedwater pumps' steam exhaust piping for lack of missile protection. Using Inspection Manual Chapter 0609, Appendix A, "The Significance Determination Process (SDP) for Findings At-Power," Exhibit 2, "Mitigating Systems Screening Questions," dated June 19, 2012, the team determined that the finding is of very low safety significance (Green) because (1) the finding was not a deficiency affecting the design or qualification of a mitigating system; (2) the finding did not represent a loss of system and/or function; (3) the finding did not represent an actual loss of function of a single train for greater than its technical specification allowed outage time; and (4) the finding does not represent an actual loss of function of one or more non-technical specification trains of equipment designated as high safety-significant in accordance with the licensee's maintenance rule program for greater than 24 hours. The finding has a human performance cross-cutting aspect associated with conservative bias because individuals failed to use decision making practices that emphasize prudent choices over those that are simply allowable [H.14]. (Section 4OA2.5a)

- Green. The team identified a non-cited violation of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," associated the licensee's failure to perform adequate operability assessments when a degraded or nonconforming condition was identified associated with the turbine driven auxiliary feedwater pumps' steam exhaust piping not being evaluated for tornado generated missile impacts. Specifically, operators used probabilistic assumptions and failed to adequately assess and document the basis for operability when a degraded or nonconforming condition was identified associated with the turbine driven auxiliary feedwater pumps' steam exhaust piping not being evaluated for tornado generated missile impacts. This issue does not represent an immediate safety concern because the licensee performed a subsequent operability evaluation, which established a reasonable expectation of operability. The licensee entered this issue into the corrective action program for resolution as Condition Report CR-2015-007919.

The licensee's failure to properly assess and document the basis for operability when a degraded or nonconforming condition associated with the turbine driven auxiliary feedwater pumps' steam exhaust piping not being evaluated for tornado generated missile impacts was identified, was a performance deficiency. The performance deficiency was more than minor because it was associated with the protection against external events factors attribute of the Mitigating Systems cornerstone and affected the cornerstone objective to ensure availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the licensee failed to evaluate a design nonconformance on the turbine driven auxiliary feedwater pumps' steam exhaust piping for lack of missile protection. Using Inspection Manual Chapter 0609, Appendix A, "The Significance Determination Process (SDP) for Findings At-Power," Exhibit 2, "Mitigating

Systems Screening Questions,” dated June 19, 2012, the team determined that the finding is of very low safety significance (Green) because (1) the finding was not a deficiency affecting the design or qualification of a mitigating system; (2) the finding did not represent a loss of system and/or function; (3) the finding did not represent an actual loss of function of a single train for greater than its technical specification allowed outage time; and (4) the finding does not represent an actual loss of function of one or more non-technical specification trains of equipment designated as high safety-significant in accordance with the licensee’s maintenance rule program for greater than 24 hours. The finding has a human performance cross-cutting aspect associated with conservative bias because individuals failed to use decision making practices that emphasize prudent choices over those that are simply allowable [H.14]. (Section 4OA2.5b)

- Green. The team identified a non-cited violation of Technical Specification (TS) 5.4.1, “Procedures,” for an inadequate procedure for performing surveillances on the station service water (SSW) systems in units 1 and 2. Specifically, Procedures OPT-207 A and B, “Service Water System,” were modified in September 2010 so that failure of any SSW vacuum breaker to OPEN was considered a degraded condition and not an inoperable condition of the associated SSW System train. However, per DBD-ME-233, “Station Service Water,” Revision 33, “Active Valves,” vacuum breakers are required by ASME [Code Section] III on the inlet and outlet piping to the diesel generator jacket water coolers to mitigate the effects of water hammer due to water column separation and subsequent rejoining following a pump trip. This issue does not represent an immediate safety concern because the licensee confirmed that all of the vacuum breakers in service had passed their most recent surveillance test. The licensee entered this issue into the corrective action program for resolution as Condition Report CR-2015-010800.

The finding is more than minor because it is associated with the procedure quality attribute of the Mitigating Systems cornerstone and affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). Specifically, the licensee did not ensure the guidance incorporated into quality related procedures was accurate and consistent with the design basis analysis for the systems and this conflict resulted in inadequate operability determinations associated with the SSW System. Using Inspection Manual Chapter 0609, Appendix A, “The Significance Determination Process (SDP) for Findings At-Power,” Exhibit 2, “Mitigating Systems Screening Questions,” dated June 19, 2012, the team determined that the finding is of very low safety significance (Green) because (1) the finding was not a deficiency affecting the design or qualification of a mitigating system; (2) the finding did not represent a loss of system and/or function; (3) the finding did not represent an actual loss of function of a single train for greater than its technical specification allowed outage time; and (4) the finding does not represent an actual loss of function of one or more non-technical specification trains of equipment designated as high safety-significant in accordance with the licensee’s maintenance rule program for greater than 24 hours. This finding has a human performance cross cutting aspect associated with design margins because the licensee failed to operate and maintain the SSW system equipment within design margins. Rather than ensure that margins are carefully guarded and changed only through a systematic and rigorous process, the licensee failed to re-evaluate SSW system operability with failed vacuum breaker valves even when additional test information indicated previous assumptions were incorrect [H.6]. (Section 4OA2.5c)

- Green. The team identified a non-cited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," with two examples associated with the licensee's failure to ensure that design changes were subject to design control measures commensurate with those applied to the original design and were approved by the designated responsible organization. Specifically: (1) The licensee instituted an engineering change package to modify the design and setpoints for the station service water (SSW) system vacuum breaker valves (CP1/2-SWVAVB-01/02/03/04) and did not consider the allowable tolerance for the setpoint for all design basis events and operating conditions. The licensee adequately addressed this issue by reperforming the calculation incorporating the setpoint allowable tolerance. (2) The licensee failed to account for system design leakage in design calculation DBD-CS-096, for the safe shutdown impoundment minimum level. The licensee evaluated the water loss from the impoundment due to evaporation, but failed to account for losses due to system design leakage. The licensee adequately addressed this issue by applying the design system leak rate for a 30-day mission time to the available water in the safe shutdown impoundment.

The licensee's failure to evaluate properly the effects of modifying the setpoint including allowable tolerances for all modes of operation and all sources of water loss from the safe shutdown impoundment was a performance deficiency. The performance deficiency was more than minor, and therefore a finding, because it was associated with the configuration control attribute of the Mitigating Systems Cornerstone, and affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Using Inspection Manual Chapter 0609, Appendix A, "The Significance Determination Process (SDP) for Findings At-Power," Exhibit 2, "Mitigating Systems Screening Questions," dated June 19, 2012, the team determined that the finding is of very low safety significance (Green) because (1) the finding was not a deficiency affecting the design or qualification of a mitigating system; (2) the finding did not represent a loss of system and/or function; (3) the finding did not represent an actual loss of function of a single train for greater than its technical specification allowed outage time; and (4) the finding does not represent an actual loss of function of one or more non-technical specification trains of equipment designated as high safety-significant in accordance with the licensee's maintenance rule program for greater than 24 hours. The inspectors determined that this finding does not have a cross-cutting aspect because the most significant contributor of this finding occurred more than three years ago and does not reflect current licensee performance. (Section 4OA2.5d)

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 November 7, 2013, to the end of the onsite portion of this inspection on September 17, 2015.

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

a. Inspection Scope

The team reviewed approximately 120 condition reports (CRs), including associated root cause analyses and apparent cause evaluations, from approximately 23,500 that the licensee had initiated or closed between November 2013 and August 2015. The majority of these (approximately 23,000) were lower-level condition reports that did not require cause evaluations.

The inspection sample 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 CRs and attended the licensee's management review committee (MRC) and station ownership committee (SOC) 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 considered risk insights from both the NRC's and Comanche Peak's risk models to focus the sample selection and plant tours on risk-significant systems and components. The team selected the auxiliary feedwater system as a sample to focus a five-year in-depth review. During the inspection, the team expanded the selection to include the station service water system based upon the findings identified. 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 22-month inspection period, licensee staff generated approximately 23,500 condition reports. The team determined that most conditions that required generation of a condition report by STA-421 "Initiation of Condition Reports" had been appropriately entered into the corrective action program.

However, the team also noted several examples where the licensee had failed to identify conditions in accordance with procedures over the assessment period:

- The licensee failed to perform cause evaluations for two maintenance preventable functional failures because condition reports were not generated to perform the evaluation. This constituted a programmatic weakness in the licensee's maintenance rule program and corrective action program and resulted in MPFFs not being prioritized and evaluated appropriately for corrective action, which could result in recurring failures. This was previously documented as a finding in NRC Inspection Report 05000445/2013008 and 05000446/2013008.
- The NRC identified two examples where the licensee failed to provide adequate acceptance criteria for an activity affecting quality – specifically, adequate acceptance criteria for bearing oil level in its residual heat removal pump motors. The finding had a cross-cutting aspect in the corrective action program component of the problem identification and resolution cross-cutting area because the licensee had failed to implement a corrective action program with a low threshold for identifying issues to ensure that an issue potentially affecting nuclear safety was promptly identified and fully evaluated. This was previously documented as a non-cited violation in NRC Inspection Report 05000445/2013008 and 05000446/2013008.
- The NRC identified a Green non-cited violation of 10 CFR 50, Appendix B, Criterion III, "Design Control," for the licensee's failure to control deviations from quality standards. After identifying that maintenance personnel had failed to ensure that subcomponents of 480-volt switchgear were properly identified and controlled during refurbishment, the licensee failed to document or evaluate

where subcomponents of an indeterminate pedigree had been installed in safety-related applications. The licensee took immediate action to confirm the operability of the installed trip units and to determine the scope of the problem. The finding had a cross-cutting aspect in the corrective action program component of the problem identification and resolution cross-cutting area because the licensee had failed to implement a corrective action program with a low threshold for identifying issues to ensure that an issue potentially affecting nuclear safety was promptly identified and fully evaluated. This was previously documented as a non-cited violation in NRC Inspection Report 05000445/2013008 and 05000446/2013008.

The team noted that the licensee initiated fewer condition reports associated with NRC identified potential findings during this inspection than typical. The team had to prompt the licensee to initiate a condition report associated with an NRC identified finding after the onsite inspection ended in order to meet the criteria for issuing a non-cited violation (Section 40A2.2.5.c). The team also noted that while the licensee had initiated condition reports associated with the team's findings (and thereby meet one of the criteria for issuing a non-cited violation); the descriptions did not necessarily match the performance deficiency. This mismatch can result in the licensee's failure to address the performance deficiency as evidenced by the cited violation issued for the licensee's failure to address the auxiliary feedwater turbine exhaust tornado missile protection (Section 40A2.2.5.a).

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 over 1000 CRs 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 CRs 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 has identified a number of condition reports where the licensee's cause evaluation does not appear to address all causes associated with the condition. Specifically, the licensee appears reluctant to address failures to follow procedures or to further assess why the individual(s) failed to follow procedures. Specific examples include: failing to follow procedure in the reassembly of the primary water filter assembly which led to a plant shutdown; (occurred in 2012); failure to follow procedures in performing turbine stress evaluator troubleshooting which led to shorting of the circuit and resulted in a turbine runback; two issues with failure to follow procedures in performing walkdowns prior to installation of design changes – one of which led to loss of all offsite power in 2013; and failure to follow procedures

in performing surveillance testing and led to isolation of residual heat removal cooling.

While the licensee does identify causes (root or apparent) for these adverse conditions and generally initiates corrective actions, the licensee's reluctance to calling failure-to-follow procedure as a causal factor can lead to a host of performance vulnerabilities. Included in this is a general defensive position towards what the individual(s) did and not acknowledging the licensee's own procedure, which requires individuals to stop, obtain clarification, modify procedures, etc. The licensee concludes that a lack of management oversight was the cause of the condition rather than acknowledging that an appropriate barrier was in place at the time. The cause evaluation does not fully address why the individual failed to follow procedure and does to assess whether the individual may have made decisions based upon time pressure. The team sees similarities between two significant issues associated with Siemens, and CB&I, each one where the licensee concluded that the occurrence was an isolated example of lack of management oversight.

The team also noted several performance deficiencies within the area of effectiveness of prioritization and evaluation of issues in this inspection and over the assessment period. These include:

- The NRC identified a Green, cited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for the licensee's failure to evaluate the lack of missile protection on the turbine driven auxiliary feedwater pumps' steam exhaust piping. Specifically, since June 13, 2013, the licensee failed to verify the adequacy of design of the turbine driven auxiliary feedwater pumps' steam exhaust piping to withstand impact from a tornado driven missile hazard, or to evaluate for exemption from missile protection requirements using an approved methodology. (Section 4OA2.5a)
- The NRC identified a non-cited violation of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," associated the licensee's failure to perform adequate operability assessments when a degraded or nonconforming condition was identified associated with the turbine driven auxiliary feedwater pumps' steam exhaust piping not being evaluated for tornado generated missile impacts. Specifically, operators used probabilistic assumptions and failed to assess adequately and document the basis for operability when a degraded or nonconforming condition was identified associated with the turbine driven auxiliary feedwater pumps' steam exhaust piping not being evaluated for tornado generated missile impacts. (Section 4OA2.5b)
- The NRC identified a non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for two examples of a failure to follow procedure for evaluating and correcting significant conditions adverse to quality. Specifically, the licensee reduced the screening level of two significant conditions adverse to quality and therefore, failed to perform a root cause evaluation and identify corrective actions to preclude repetition. This was previously documented as a non-cited violation in NRC Inspection Report 05000445/2015001 and 05000446/2015001.

- The NRC identified that the licensee failed to follow and maintain the effectiveness of an emergency plan that meets the requirements of planning standard 50.47(b)(4) which requires that a standard emergency classification and action level scheme is in use by the licensee. Specifically, several main steam line monitors were out of service for extended periods of time without apparent contingency actions in place in order to be able to declare an emergency. This finding has a problem identification and resolution cross-cutting aspect associated with evaluation because the licensee failed to evaluate thoroughly the extent of condition of the inoperable monitors on the emergency plan and scheme for declaring emergencies. This was previously documented as a non-cited violation in NRC Inspection Report 05000445/2014003 and 05000446/2014003.
- The NRC identified that the licensee failed to correct exercise performance weaknesses. Specifically, the licensee failed to identify that a lack of radiological briefings for plant repair teams and a lack of habitability assessments in the Operations Support Center were deficiencies requiring corrective action during an exercise conducted June 10, 2015. The licensee did not assign specific corrective actions to these performance issues in the site corrective action program, (05000445/2015002-02; 05000446/2015002-02, “Failure to Critique Weaknesses in Radiation Protection Practices”).

The team also identified anecdotal evidence of what appears to be a reluctance to document potential issues promptly when first identified. For example, during the safety-conscious work-environment interviews (Section 4OA2.4), individuals advised that there was an engineering management expectation that all condition reports initiated by engineers include engineering input to operability and that this sometimes delays the submittal of the issue until after they had obtained all necessary information to be able to provide the input.

This could delay NRC licensed reactor operators from making immediate operability determinations for conditions related to safety-related structures, systems, or components. The team reinforced with the licensee that NRC expects licensed operators to make immediate operability determinations based upon reasonable expectation of operability for those conditions that affect safety-related structures, systems, or components; prompt operability determinations should be requested when additional information is required to support or confirm the immediate determination. Over the course of this inspection, the team noted several condition reports where the immediate operability determination documented by licensed reactor operators used essentially the same wording provided by the engineer who initiated the condition report. The team also identified a minor issue associated with alarm response procedure 2ALB-2B associated with the safety injection sequencer that directed operators to request a quick technical evaluation from engineering to determine operability.

Overall, the team determined that the licensee’s process for screening and prioritizing issues that had been entered into the corrective action program generally supported nuclear safety. However, the team concluded that the operability determinations was an area that may warrant additional management oversight.

3. Effectiveness of Corrective Actions

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

- The personnel who conducted the design modification walkdowns did not fully understand their responsibility and the licensee's work organization did not ensure that anyone actually verified the physical details of the cable route. As a result, the design modification was inadequate and an incorrect cable was cut which caused a loss of all offsite power to the safety related 6.9 kV busses on both units. This was previously documented as a non-cited violation in NRC Inspection Report 05000445/2014007 and 05000446/2014007.
- Maintenance personnel failed to follow work instructions. Specifically, maintenance personnel failed to follow instructions and cut the wrong cable during a transformer modification. As a result, one offsite power source to both units was unavailable during the repair of the damaged cable. This was previously documented as a non-cited violation in NRC Inspection Report 05000445/2013005 and 05000446/2013005.
- The NRC identified two examples where the licensee failed to implement corrective actions in a timely manner for two non-cited violations associated with the fire protection program. This was previously documented as a cited violation in NRC Inspection Report 05000445/2014003 and 05000446/2014003.

The team identified that many of the NRC identified performance deficiencies associated with the station service water system were the result of long standing performance issues of the vacuum breakers that have been ongoing since 2002. The team concluded that the licensee's corrective actions to address these problems have not been completely effective.

Overall, the team concluded that 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 (OE), including reviewing the governing procedures. The team reviewed a sample of eight industry OE 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. Describe any other significant items reviewed.

b. Assessment

Overall, the team determined that the licensee's program for evaluating industry OE for its relevance to the facility was effective. Operating experience information was incorporated into plant procedures and processes as appropriate. The team did note that in 2010, the licensee revamped the OE program significantly. As part of that update, the licensee re-evaluated the effectiveness of their previous responses to all significant operating experience reports. The licensee placed all OE that was of a lower tier in their "Action Way" system so that it is available but did not re-evaluate them. The inspectors noted that this created a potential vulnerability in that lessons that could have been learned from low level OE and incorporated into plant processes remained unevaluated. The team identified an example of this while reviewing the root cause evaluation of a centrifugal charging pump's failure of the main lubricating pump:

- In August 2014, Centrifugal Charging Pump 2-02's main lubricating oil pump decoupled from its drive shaft because of improper reassembly of the main lubricating oil pump to its drive shaft. Maintenance personnel had failed to align the coupling drive pins with the holes in the drive hub located on the speed increaser shaft causing the drive pin coupling to be forced back on the driven shaft slightly which resulted in partial coupling of the charging pump and lube oil pump. The licensee identified that they had received OE from the South Texas Project in 2010 where their centrifugal charging pump main lube oil pump decoupled for essentially the same reason. This OE had been screened as a Level 2 and sent to the "pump" distribution, but an evaluation was not assigned and no CR was generated. This was previously documented as a non-cited violation in in NRC Inspection Report 05000445/2015001 and 05000446/2015001.

The team conclude that the program was currently evaluating industry operating experience as expected. The team further determined 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

a. Inspection Scope

The team interviewed 46 individuals in six focus groups. The purpose of these interviews was to (1) evaluate the willingness of staff to raise nuclear safety issues and whether challenges to the free flow of information in the corrective actions program exists; (2) evaluate the perceived effectiveness of the corrective action program at resolving identified problems; and (3) evaluate the licensee's employee concerns program. The focus group participants included personnel from security, operations, nuclear oversight, engineering, radiation protection, and contract workers. The team randomly selected personnel to participate in the focus groups from organization charts provided by the licensee. To supplement these focus group discussions, the team interviewed the employee concerns program (called the Safe Team) manager to assess his perception of the site employees' willingness to raise nuclear safety concerns. The team reviewed the case log and select case files. The team also reviewed the minutes from the licensee's most recent safety culture monitoring panel meeting and safety culture survey.

b. Assessment

The team found that the licensee has established and maintains an environment where individuals felt free to raise safety concerns to the licensee and to the NRC without fear of retaliation. Individuals were aware of the corrective action process and knew that they were able to submit a concern via the condition reporting and other processes. Front-line individuals typically stated that they were able to raise safety concerns directly to their supervisor and write condition reports. The team did identify areas that could impact the effectiveness of the safety-conscious work environment if not adequately addressed as noted below.

1. Willingness to Raise Nuclear Safety Issues

The team found that 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.

However, during many of the focus groups, some individuals acknowledged that they had felt schedule pressure (especially during outages); some indicated that it [schedule pressure] sometime impacts management's decisions in regards to actions taken or to individuals making mistakes. Some groups stated that they felt free to stop work at any time they identified a safety concern while others indicated that this was true except during outages. No one indicated that schedule pressure had prevented them from raising safety concerns or from stopping work. The licensee was aware of the perceived schedule pressure and has implemented actions to address it.

2. Effectiveness of the Corrective Actions Program

The focus group participants generally agreed that the corrective actions program addressed safety concerns in a timely fashion. On group noted that they sometimes had to “fight” for their issues to ensure that the corrective actions and/or prioritization was appropriate. Some individuals expressed that because of the holding company’s financial situation (bankruptcy), they believed that some concerns may not be addressed in the future but did not provided any specific concerns where were not being addressed. Some individuals indicated that they felt that low-level issues were not being addressed but none of these examples affected the safe operation of the plant and mostly represented industrial safety issues. These examples were provided to licensee management.

3. Employee Concerns Program

All interviewees were aware of the employee concerns program (called the Safe Team). 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. Some of those interviewed did not feel comfortable raising concerns to the Safe Team because of their perception that an individual’s identity (who had used the program) had been compromised during the investigation.

.5 Findings

a. Failure to Evaluate the Lack of Missile Protection on the Turbine Driven Auxiliary Feedwater Pumps’ Steam Exhaust Piping

Introduction. The team identified a Green, cited violation of 10 CFR Part 50, Appendix B, Criterion III, “Design Control,” for the licensee’s failure to evaluate the lack of missile protection on the turbine driven auxiliary feedwater pumps’ steam exhaust piping.

Description. The team reviewed the stations corrective actions taken to address non-cited violations 05000445/2012003-01; 05000446/2012003-02, “Failure to Analyze Tornado Missile Strike on Turbine Driven Auxiliary Feedwater Exhaust Pipe,” which was documented in Condition Report CR-2012-006134. The team noted that the licensee’s corrective actions included performing an analysis, CS-CA-0000-5493, “Turbine Driven Auxiliary Feedwater Pump Exhaust Stack Tornado Missile Evaluation,” to verify that the exhaust pipe would not be completely crimped by final safety analysis report design basis tornado missiles (potentially resulting in a steam environment inside the building).

The team reviewed Calculation CS-CA-0000-5493 and noted that the calculation: 1) stated that the licensing basis did not require the piping to be qualified for tornado missile impact; 2) did not evaluate all of the licensing basis tornado generated missiles; 3) did not evaluate all licensing basis tornado missile trajectories, specifically vertical missiles were dismissed based on probabilistic assumptions; and 4) assumed that as long as the auxiliary feed function was maintained (crediting the motor driven pumps) the exhaust stacks were not required to be protected.

The team noted that the station’s Final Safety Analysis Report (FSAR) contained the following information:

- FSAR Appendix 1A(B) identifies that the station is committed to Regulatory Guide 1.117, “Tornado Design Classification,” and states, in part, structures, systems, and components are designed to withstand the effects of a design basis tornado, including tornado missiles, in conformance with Revision 1 (4/78) of this regulatory guide. The auxiliary feedwater system is identified in this regulatory guide.
- FSAR Chapter 3
 - Section 3.1.1.2 identifies that stations compliance with General Design Criteria GDC-2, and requires that the systems and components needed for accident mitigation remain fully functional before, during, and after a tornado event.
 - Section 3.2.1.1.2 identifies the auxiliary feedwater system as a Class I system.
 - Section 3.3.2, states in part, because of the potential switchyard damage, a trip of the turbine-generators and loss of offsite power are assumed to result from the design basis tornado.
 - Table 3.5-8 specifies the licensing bases tornado generated missiles that must be considered, and identifies that vertical missiles are part of the current licensing basis.
- FSAR Chapter 10, Section 10.4.9.3 states, in part, that in the event of loss of offsite power, the backup turbine driven auxiliary feedwater pump operates.

As such, the team determined that Calculation CS-CA-0000-5493 did not provide an adequate design analysis that would assure that the exhaust stacks would be functional during a postulated tornado event under all design bases missile scenarios.

Furthermore, the team noted that previously in NCV 05000445/2015007-04, “Failure to Evaluate Changes to Ensure They Did Not Require Prior NRC Approval,” inspectors had determined that Calculation CS-CA-0000-5493 did not demonstrate that the exhaust stacks would be functional following a tornado event. The team determined that the licensee had not entered this issue into the stations corrective action program for resolution.

Based on this, the team determined that the licensee had failed to restore compliance for NCVs 05000445/2012003-01; 05000446/2012003-02, within a reasonable amount of time.

Analysis. The licensee’s failure to analyze the effects of a tornado missile strike on the turbine driven auxiliary feedwater pumps’ steam exhaust piping was a performance deficiency. The performance deficiency was more than minor because it was associated with the protection against external events factors attribute of the Mitigating Systems cornerstone and affected the cornerstone objective to ensure availability, reliability, and capability of systems that respond to initiating events to prevent undesirable

consequences. Specifically, the licensee failed to evaluate a design nonconformance on the turbine driven auxiliary feedwater pumps' steam exhaust piping for lack of missile protection. Using Inspection Manual Chapter 0609, Appendix A, "The Significance Determination Process (SDP) for Findings At-Power," Exhibit 2, "Mitigating Systems Screening Questions," dated June 19, 2012, the team determined that the finding is of very low safety significance (Green) because (1) the finding was not a deficiency affecting the design or qualification of a mitigating system; (2) the finding did not represent a loss of system and/or function; (3) the finding did not represent an actual loss of function of a single train for greater than its technical specification allowed outage time; and (4) the finding does not represent an actual loss of function of one or more non-technical specification trains of equipment designated as high safety-significant in accordance with the licensee's maintenance rule program for greater than 24 hours. The finding has a human performance cross-cutting aspect associated with conservative bias because individuals failed to use decision making practices that emphasize prudent choices over those that are simply allowable [H.14].

Enforcement. Title 10 CFR Part 50, Appendix B, Criterion III, "Design Control," states, in part, "Design control measures shall provide for verifying or checking the adequacy of design, such as by the performance of design reviews, by the use of alternate or simplified calculational methods, or by the performance of a suitable testing program." Contrary to the above, since June 13, 2012, the licensee failed to provide measures for verifying the adequacy of the design by the use of alternate or simplified calculational methods. Specifically, the licensee failed to verify the adequacy of design of the turbine driven auxiliary feedwater pumps' steam exhaust piping to withstand impact from a tornado driven missile hazard, or to evaluate for exemption from missile protection requirements using an approved methodology. This issue does not represent an immediate safety concern because, following the team's identification, the licensee performed an operability evaluation which established a reasonable expectation of operability. This performance deficiency had been previously identified by the NRC and had been documented as non-cited violation NCVs 05000445/2012003-01; 05000446/2012003-02. In accordance with Section 2.3.2.a of the NRC Enforcement Policy, this finding is being cited because the licensee failed to restore compliance within a reasonable amount of time after the violation was initially identified. This finding was entered into the licensee's corrective action program as Condition Report CR-2015-007869, (VIO 05000445/2015008-01; 05000446/2015008-01, "Failure to Evaluate the Lack of Missile Protection on the Turbine Driven Auxiliary Feedwater Pumps' Steam Exhaust Piping")

- b. Failure to Properly Assess and Document the Basis for Operability associated with the Turbine Driven Auxiliary Feedwater Pumps' Steam Exhaust Piping not being Evaluated for Tornado Generated Missile Impacts

Introduction. The inspectors identified a Green non-cited violation of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," associated the licensee's failure to perform adequate operability assessments when a degraded or nonconforming condition was identified associated with the turbine driven auxiliary feedwater pumps' steam exhaust piping not being evaluated for tornado generated missile impacts.

Description. While reviewing station Calculation CS-CA-0000-5493, “Turbine Driven Auxiliary Feedwater Pump Exhaust Stack Tornado Missile Evaluation,” the team determined that this analysis did not provide an adequate design analysis that would assure that the exhaust stacks would be functional during a postulated tornado event under all design bases missile scenarios (VIO 05000445/2015008-01; 05000446/2015008-01, “Failure to Evaluate the Lack of Missile Protection on the Turbine Driven Auxiliary Feedwater Pumps’ Steam Exhaust Piping”). The team informed the licensee of their concerns, and the licensee initiated Condition Report 2015-007869 to capture the issue in the stations corrective action program, and document an operability evaluation for the identified degraded condition.

The team reviewed the operability evaluation documented in Condition Report 2015-007869. During their review, the team noted that the licensee did not evaluate all licensing basis tornado missile trajectories as part of the operability determination. Specifically, the licensee dismissed vertical missiles based on probabilistic assumptions of them being highly unlikely. The team reviewed Station Procedure STI-442.01, “Operability Determination and Functionality Assessment Program,” and noted that step 6.1, required, in part, that when a potential degraded or nonconforming condition is identified, the shift manager should ensure the operability determination process is initiated to determine the operability of the structure, system or component.

The team determined that the operability evaluation documented in Condition Report 2015-007869 did not establish a reasonable expectation of the turbine driven auxiliary feedwater pumps’ steam exhaust piping ability to remain functional in the event of a tornado missile impact. Therefore, the team determined that this evaluation was not an appropriate basis for operability for the turbine driven auxiliary feedwater pumps’ steam exhaust piping. The team informed the licensee of their concern and the licensee initiated Condition Report CR-2015-007919 to capture this issue in the stations corrective action program.

Analysis. The licensee’s failure to properly assess and document the basis for operability when a degraded or nonconforming condition was identified associated with the turbine driven auxiliary feedwater pumps’ steam exhaust piping not being evaluated for tornado generated missile impacts, was a performance deficiency. The performance deficiency was more than minor because it was associated with the protection against external events factors attribute of the Mitigating Systems cornerstone and affected the cornerstone objective to ensure availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the licensee failed to evaluate a design nonconformance on the turbine driven auxiliary feedwater pumps’ steam exhaust piping for lack of missile protection. Using Inspection Manual Chapter 0609, Appendix A, “The Significance Determination Process (SDP) for Findings At-Power,” Exhibit 2, “Mitigating Systems Screening Questions,” dated June 19, 2012, the team determined that the finding is of very low safety significance (Green) because (1) the finding was not a deficiency affecting the design or qualification of a mitigating system; (2) the finding did not represent a loss of system and/or function; (3) the finding did not represent an actual loss of function of a single train for greater than its technical specification allowed outage time; and (4) the finding does not represent an actual loss of function of one or more non-technical specification trains of equipment designated as high safety-significant in accordance with the licensee’s

maintenance rule program for greater than 24 hours. The finding has a human performance cross-cutting aspect associated with conservative bias because individuals failed to use decision making practices that emphasize prudent choices over those that are simply allowable [H.14].

Enforcement. Title 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings, requires, in part, that activities affecting quality shall be accomplished in accordance with documented instructions, procedures, or drawings, of a type appropriate to the circumstances. Procedure STI-442.01, "Operability Determination and Functionality Assessment Program," Revision 3, a procedure that is appropriate to the circumstances of evaluating the operability of safety-related components, step 6.1, requires, in part, that when a potential degraded or nonconforming condition is identified, the shift manager should ensure the operability determination process is initiated to determine the operability of the structure, system or component. Contrary to the above, on September 1, 2015, an activity affecting quality was not accomplished in accordance with a procedure that was appropriate to the circumstances. Specifically, operators failed to adequately assess and document the basis for operability when a degraded or nonconforming condition was identified associated with the turbine driven auxiliary feedwater pumps' steam exhaust piping not being evaluated for tornado generated missile impacts. This issue does not represent an immediate safety concern because the licensee performed a subsequent operability evaluation that established a reasonable expectation of operability. Since this violation was of very low safety significance (Green) and has been entered into the corrective action program as Condition Report CR-2015-007919, this violation is being treated as a non-cited violation consistent with Section 2.3.2.a of the NRC Enforcement Policy. (NCV 05000445/2015008-02; 05000446/2015008-02, "Failure to Evaluate Operability for a Degraded Condition")

c. Inadequate Procedure for Surveillance on Safety-Related Service Water Systems

Introduction. The team reviewed a self-revealing, non-cited violation of Technical Specification 5.4.1.a for the licensee's failure to establish, implement and maintain a procedure required by Regulatory Guide 1.33, Revision 2, Appendix A, February 1978. Specifically, the licensee failed to maintain an adequate surveillance test procedure for the station service water system. Sections 8.2R and 8.3R of procedure OPT-207 A and B, "Service Water System," Revision 15, were modified to state that failure of the vacuum breaker check valve is a degraded condition but does not render the train inoperable. This procedure change was based on an operability determination that assumed the vacuum breakers were not needed to prevent column separation water hammer events from occurring in the system. This assumption is in direct conflict with Calculation 15454-NP(B)-F034, Revision 0, "Service Water System Calculation," REI-701, Revision 0, "SSW Water Hammer Test," DBD-ME-233, Revision 33, "Station Service Water," and ME-CA-0233-5494, Revision 1, "Hydraulic Transient Analyses of the Station Service Water System."

Description. Over the past 5 years, the licensee has experienced recurring failures of the safety-related vacuum breaker valves in the SSW systems for both units. As a part of the corrective actions for this recurring deficiency, the licensee modified Procedure OPT-207 A and B, "Service Water System," Revision 15, sections 8.2R and 8.3R to indicate that failure of the vacuum breaker valves to operate was a degraded

condition but did not render the affected train of SSW inoperable. This procedure change was based on an operability determination that assumed the vacuum breakers were not needed to prevent column separation water hammer events from occurring in the system. This assumption lacked adequate engineering evaluation and was in direct conflict with multiple design bases documents, Calculation 15454-NP(B)-F034, Revision 0, "Service Water System Calculation," REI-701, Revision 0, "SSW Water Hammer Test," DBD-ME-233, Revision 33, "Station Service Water," and ME-CA-0233-5494, Revision 1, "Hydraulic Transient Analyses of the Station Service Water System."

Per DBD-ME-233, "Station Service Water" Revision 33, Active Valves, states that vacuum breakers are required by ASME [Code Section] III on the inlet and outlet piping to the emergency diesel generator jacket water coolers to mitigate the effects of water hammer due to water column separation and subsequent rejoining following a pump trip. Additionally, per ME-CA-0233-5494, revision 1, "Hydraulic Transient Analyses of the Station Service Water System," accepted on July 28, 2014, the pump trip case without the breakers is shown to have severe pressure surges due to liquid column separation and rejoining. It was concluded that the 2-inch vacuum breakers installed in the SSW system were critically important for mitigating the pressure transients. When this new information was received, the licensee failed to incorporate the information into the procedures.

Analysis. The licensee's failure to ensure that changes to quality-related procedures were based on proper engineering evaluation and were supported by the design bases calculations and associated design documents was a performance deficiency. This performance deficiency was more than minor, and therefore a finding, because it was associated with the procedure attribute of the Mitigating Systems Cornerstone and affected the associated objective to ensure availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the licensee failed to properly evaluate and consider design calculations and other design bases documents when procedure OPT-207 A and B, "Service Water System," Revision 15, were modified in steps 8.2.R and 8.3.R to state that failure of the vacuum breaker valves to operate is a degraded condition but does not render the service water train inoperable. This procedure change was based on an operability determination that assumed the vacuum breakers were not needed to prevent column separation water hammer events from occurring in the system, even though multiple design documents indicated the vacuum breakers were needed for system operability per ASME Code.

The licensee entered this deficiency into their corrective action program as CR 2015-010800. Using Inspection Manual Chapter (IMC) 0609, Appendix A, "The Significance Determination Process (SDP) for Findings At-Power," dated June 19, 2012, inspectors determined that this finding was of very low safety significance (Green) because the finding: (1) was not a deficiency affecting the design and qualification of a mitigating structure, system, or component, and did not result in a loss of operability or functionality; (2) did not represent a loss of system and/or function; (3) did not represent an actual loss of function of at least a single train for longer than its allowed outage time, or two separate safety systems out-of-service for longer than their technical specification allowed outage time; and (4) does not represent an actual loss of function of one or more non-technical specification trains of equipment designated as high safety-

significant for greater than 24 hours in accordance with the licensee's maintenance rule program. The inspectors determined that this finding does not have a cross-cutting aspect because the most significant contributor of this finding occurred more than three years ago.

Enforcement. Technical Specification 5.4.1.a states, in part, that written procedures shall be established, implemented, and maintained covering the applicable procedures recommended in Regulatory Guide 1.33, Revision 2, Appendix A, February 1978. Regulatory Guide 1.33, Appendix A, Section 8.b., identifies procedures for surveillance tests as required procedures. Procedure OPT-207 A and B, "Service Water System," is a procedure established by the licensee for performing surveillances on the service water systems. Contrary to the above, from May 13, 2010, until September, 2015, the licensee failed to adequately maintain Procedures OPT-207 A and B, "Service Water System," Revision 15, which direct operator actions for performing surveillances on the SSW systems in Units 1 and 2. Specifically, the licensee failed to maintain an adequate surveillance test procedure for the station service water system. Procedures OPT-207 A and B, "Service Water System," Revision 15, section 8.2R and 8.3R were modified to state that failure of the vacuum breaker check valves is degraded condition but does not render the train inoperable. This procedure change was based on an operability determination that assumed the vacuum breakers were not needed to prevent column separation water hammer events from occurring in the system. This assumption is in direct conflict with Calculation 15454-NP(B)-F034, Revision 0, "Service Water System Calculation," REI-701, Revision 0, "SSW Water Hammer Test," DBD-ME-233, Revision 33, "Station Service Water," and ME-CA-0233-5494, Revision 1, "Hydraulic Transient Analyses of the Station Service Water System." Because this finding is determined to be of very low safety significance and has been entered into the licensee's corrective action program, this violation is being treated as a non-cited violation consistent with Section 2.3.2.a of the NRC Enforcement Policy. (NCV 05000445/2015008-03 and 05000446/2015-03, "Inadequate procedure for surveillance on safety-related service water systems.")

d. Failure to Maintain Adequate Controls for Design Calculations

Introduction. The inspectors identified a non-cited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," associated with the licensee's failure to ensure that design changes were subject to design control measures commensurate with those applied to the original design and were approved by the designated responsible organization.

Description. Example 1: The team identified that the licensee had failed to properly evaluate the impact on the system of a change to the setpoint for the vacuum breakers. Specifically, the licensee instituted an engineering change package to modify the design and setpoints for the SSW system vacuum breaker valves (CP1/2-SWVAVB-01/02/03/04) and did not consider the allowable tolerance for the setpoint for all design basis events and operating conditions. The inspectors discussed this issue with the station engineering staff and determined that the setpoint was changed in Final Design Authorization 2007-000728, dated May 5, 2010. The inspectors reviewed the design change and noted that it directed a setpoint change from 0.2 psid to 1.0 ± 0.5 psid, but it did not evaluate this new setpoint with allowable tolerance as was done in the original design analysis, it simply evaluated that 1.0 psid was acceptable

based on a review of the original design analysis. Therefore, the team determined that the licensee had failed to ensure that this design change was subject to design control measures commensurate with those applied to the original design and approved by the designated responsible organization. The licensee adequately addressed this issue by reperforming the calculation incorporating the setpoint allowable tolerance. The licensee entered this deficiency into their corrective action program as CR 2015-008353.

Example 2: The team identified that the licensee had failed to evaluate properly all the sources of water loss from the safe shutdown impoundment. Per DBD-ME-233, "Station Service Water" Revision 33, the Safe Shutdown Impoundment (SSI) serves as the ultimate heat sink, and supplies water needed to safely operate, shut down, and cool down the plant. The SSI is required to dissipate safely the heat from an accident in one unit, and to permit the concurrent safe shutdown and cool down of the second unit. This capability is required to be maintained for a minimum of 30 days without makeup water. However, design calculation DBD-CS-096 only took into consideration the losses due to evaporation when the minimum level in the SSI was determined. The inspectors informed the licensee of their concern. Failure to account for the loss due to design system leak rate was non-conservative; however, when the licensee did take the SSW design leak rates into consideration, they determined that sufficient margin was available in the SSI to meet the 30-day mission time. The licensee initiated Condition Report CR 2015-008589 to capture this issue in their corrective action program.

Analysis. The licensee's failure to ensure that changes to the facility were subject to design control measures commensurate with those applied to the original design and approved by the designated responsible organization was a performance deficiency. This performance deficiency was more than minor, and therefore a finding, because it was associated with the equipment performance attribute of the Mitigating Systems Cornerstone and affected the associated objective to ensure availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the licensee instituted an engineering change package to modify the design and setpoints for the SSW system vacuum breaker valves (CP1/2-SWVAVB-01/02/03/04) and did not consider the allowable tolerance for the setpoint for all design basis events and operating conditions. The licensee adequately addressed this issue by reperforming the calculation incorporating the setpoint allowable tolerance. In addition, the licensee failed to consider the water inventory loss due to design leak rates for the SSW system when calculating the minimum level in the SSI for its 30-day mission time. Although the licensee failed to consider the system leakage, when the calculation was adjusted to account for it, the system remained operable, but with significantly less margin. The licensee entered these deficiencies into their corrective action program as CR 2015-008353 and CR 2015-008589. Using Inspection Manual Chapter 0609, Appendix A, "The Significance Determination Process (SDP) for Findings At-Power," Exhibit 2, "Mitigating Systems Screening Questions," dated June 19, 2012, the team determined that the finding is of very low safety significance (Green) because (1) the finding was not a deficiency affecting the design or qualification of a mitigating system; (2) the finding did not represent a loss of system and/or function; (3) the finding did not represent an actual loss of function of a single train for greater than its technical specification allowed outage time; and (4) the finding does not represent an actual loss of function of one or more non-technical specification trains of equipment designated as high safety-significant in accordance with the licensee's maintenance rule

program for greater than 24 hours. The inspectors determined that this finding does not have a cross-cutting aspect because the most significant contributor of this finding occurred more than three years ago.

Enforcement. Title 10 CFR Part 50, Appendix B, Criterion III, "Design Control," states, in part, that, "design changes shall be subject to design control measures commensurate with those applied to the original design and be approved by the organization that performed the original design unless the applicant designates another responsible organization." Contrary to the above, on May 5, 2010, the licensee failed to ensure that a design change was subject to design control measures commensurate with those applied to the original design and approved by the organization that performed the original design. Specifically, the licensee instituted an engineering change package to modify the design and setpoints for the SSW system vacuum breaker valves (CP1/2-SWVAVB-01/02/03/04) and did not consider the allowable tolerance for the setpoint for all design basis events and operating conditions. Additionally, the licensee failed to consider system design leakage when determining the minimum design level in the safe shutdown impoundment. The licensee entered these deficiencies into their corrective action program as CR 2015-008520. This violation is being treated as a non-cited violation, consistent with Section 2.3.2.a of the Enforcement Policy. The violation was entered into the licensee's corrective action program as Condition Reports CR 2015-008353 and CR 2015-008589. (NCV 05000445/2015008-04; 05000446/2015008-04, "Failure to Maintain Adequate Controls for Design Calculations.")

e. Failure to Perform Adequate Operability Assessments associated with Failures of Service Water System Vacuum Breaker during Surveillance Tests (multiple failures)

Introduction. The team identified an unresolved issue associated with the failures of the vacuum service water breakers that remained in service. During these failures, the licensee had documented the surveillance failures as degraded conditions and concluded that they did not have an impact on the operability of the service water system.

Description. The team reviewed the licensee's operability assessments associated with surveillance tests where at least one of the service water system vacuum breakers failed to meet acceptance standards. During these failures, maintenance personnel mechanically agitated the vacuum breakers in order to get them to operate but did not replace the vacuum breakers until a future date. The inspectors noted that design basis calculations indicate that the larger of the two vacuum breakers (check valve) was required in order to protect the EDG jacket service water coolers and concluded that the licensee did not have appropriate justification to conclude that the service water system remained operable with a failed vacuum breaker if it was the larger breaker. During the inspection period the team was not able to determine which vacuum breakers were found in a degraded condition, therefore more information is required to determine if a non-compliance exists. Specifically, since September 2010, the licensee issued twenty-six operability evaluations associated with failed surveillance test on vacuum breakers in the service water system where operators used incorrect information when assessing operability, which failed to establish a reasonable expectation of operability. This issue does not represent an immediate safety concern because at the time of discovery, there were no failed vacuum breakers in service. The licensee entered the finding into corrective action program as Condition Report CR-2015-008334.

This issue will remain unresolved until the NRC is provided sufficient information regarding the particulars associated with the check valve/vacuum breaker failures in order to determine if a non-compliance exists.” Specifically, the team requires information associated with the specific valve(s) that failed, the length of time that the failed valve remained in service prior to replacement; whether the opposite train diesel generator was ever inoperable during the period the failed valve remained in service. (URI 05000445/2015008-05; 05000446/2015008-05, “Failure to Perform Adequate Operability Assessments associated with Failures of Service Water System Vacuum Breaker during Surveillance Tests”)

40A6 Meetings, Including Exit

Exit Meeting Summary

On September 17, 2015, the inspectors presented the inspection results to Mr. Ken Peters, Site Vice President, and other members of the licensee staff. The licensee advised that they had additional information they would provide that they wished the NRC that would be considered in characterizing one of the findings. After considering that information, the team conducted a follow up telephonic exit on October 1, 2015, with Mr. John Taylor, Site Engineering Director and other members of the licensee staff where the final characterizations of the inspection were presented. The licensee acknowledged the issues presented. The licensee confirmed that any proprietary information reviewed by the inspectors had been returned or destroyed.

40A7 Licensee-Identified Violations

None.

ATTACHMENTS:

1. Supplemental Information
2. Information Request

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee Personnel

J. Boyer	System Engineering Manager
S. Bradley	Interim Training Director
J. Dreyfuss	Plant Manager
D. Farnsworth	Performance Improvement Director
T. Gibbs	Safe Team/Employee Concerns Program Manager
D. Goodwin	Director, Work Management
S.E. Harvey	Outage Manager
T.A. Hope	Regulatory Affairs Manager
K. Kettering	Corrective Action Program Supervisor
D. Klooster	DEA Manager
E. Lessmann	Engineering Smart Team Manager
A. Marzloff	Shift Operations Manager
T.P. McCool	Engineering & Support Vice President
D.W. Mcgaughey	Director Nuclear Operations
G.L. Merka	Regulatory Affairs
L.M. Neuburger	Engineering Corrective Action Program Coordinator
J.L. Patton	Quality Assurance Manager
K. Peters	Site Vice president
J. Rasmussen	Operations Supt. Manager
K. Robertson	Continuous Improvement / HP Manager
L. Slaughter	Corrective Action Program
S. Sewell	Director, Organizational Effectiveness
J.A. Taylor	Director, Site Engineering
B. Thomas	Engineering Smart Team Manager
C.K. Tran	Engineering Programs Manager
D.S. Volkening	NOS Audit Manager
L. Windham	Corrective Action Program Manager

NRC Personnel

J. Clark	Deputy Director, Division of Reactor Safety
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LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened and Closed

05000445/2015008-02; 05000446/2015008-02	NCV	Failure to Properly Assess and Document the Basis for Operability associated with the Turbine Driven Auxiliary Feedwater Pumps' Steam Exhaust Piping not being Evaluated for Tornado Generated Missile Impacts
05000445/2015008-03; 05000446/2015008-03	NCV	Inadequate Procedure for Surveillance on Safety-Related Service Water Systems
05000445/2015008-04; 05000446/2015008-04	NCV	Failure to Maintain Adequate Controls for Design Calculations

Opened

05000445/2015008-01; VIO Failure to Evaluate the Lack of Missile Protection on the
05000446/2015008-01 Turbine Driven Auxiliary Feedwater Pumps' Steam Exhaust
Piping

05000445/2015008-05; URI Failure to Perform Adequate Operability Assessments
05000446/2015008-05 associated with Failures of Service Water System Vacuum
Breaker during Surveillance Tests

LIST OF DOCUMENTS REVIEWED

Condition Reports

2002-000937	2002-001194	2002-003366	2002-003370
2002-003545	2007-000937	2007-000946	2008-001110
2008-001380	2008-003247	2008-003249	2008-003345
2009-005880	2010-004111	2010-008411	2011-004858
2011-005495	2011-005987	2011-007598	2011-007644
2011-010546	2011-011159	2012-005825	2012-005846
2012-008620	2012-009711	2012-010253	2012-012871
2012-013488	2013-000264	2013-000564	2013-002804
2013-003398	2013-004029	2013-005278	2013-006118
2013-006240	2013-006453	2013-006709	2013-006748
2013-008181	2013-008182	2013-008183	2013-008203
2013-010064	2013-010449	2013-010455	2013-010505
2013-010523	2013-010956	2013-012081	2013-012143
2013-012287	2013-012621	2013-012990	2013-015278
2014-000443	2014-001017	2014-001268	2014-001848
2014-004284	2014-004693	2014-005001	2014-005254
2014-005604	2014-005874	2014-005961	2014-007431
2014-007316	2014-007979	2014-008651	2014-008716
2014-007798	2014-009952	2014-010068	2014-010608
2014-008815	2013-010268	2013-004781	2014-006750
2014-009586	2014-011561	2014-012587	2015-000124
2014-010985	2015-002385	2015-003848	2015-004659
2015-000933	2015-005121	2015-005273	2015-005276
2015-004662	2015-005496	2015-007814	2015-007869
2015-005374	2015-007919*	2015-007930*	2015-007960*
2015-007895*	2015-007869*	2015-008275*	2015-008288*
2015-007976	2015-008334*	2015-008353*	2015-008402
2015-008311*	2013-008696	2013-007329	2014-012105
2015-010800*	2015-007997*		

*Issued because of inspection activities.

Miscellaneous Documents

<u>Number</u>	<u>Title</u>	<u>Revision/Date</u>
	CPNPP Cause Analysis Handbook	16
15454-NP (B)-F06	SSW water hammers	2
15454-NP (B)-F34	Vacuum breaker set points	0
CP-0575-001	Solid State Safeguards System Sequencer	9
DCN 45351	Centrifugal Charging Pump Speed Increaser Lube Oil Coupling Modification Procedure	3
EVAL 2015-006	Security Site Access Authorization/Fitness for Duty/PADS	
EVAL-2013-012	Management of Documents and Records	January 15, 2014
EVAL-2013-014	Equipment Reliability Process and Maintenance Rule	June 10, 2014
EVAL-2013-564	Core Performance Engineering and Fuel Management	August 7, 2013
EVAL-2014-001	Emergency Preparedness	
EVAL-2014-007	Operations Program	March 26, 2014
EVAL-2014-011	Training Programs	August 25, 2014
EVAL-2015-001	Emergency Preparedness	
EVAL-2015-002	Work Management/Radiation Protection	
M2-0233	Flow Diagram Station Service Water System	
M2-0234	Flow Diagram Station Service Water System	
ME-CA-0233-5494	Hydraulic Transient Analysis of the Station Service Water System	1
QTE- 2002-003545	Operability of Service Water System with Vacuum Breaker valve Failure	0

Procedure

<u>Number</u>	<u>Title</u>	<u>Revision</u>
CAP 101	Performing Apparent Cause Evaluations	7
CAP-102	Performing Common Cause Analyses	1
CAP-103	Performing Root Cause Analyses	0/3
CAP-104	Performing Effectiveness Reviews	2/3
CAP-105	Corrective Actions Program Oversight	0
ECE-5.01-08	Electronic Design Change Process	19/20
OPT-207B	Service Water System	13/14
STA-421	Initiation of Condition Reports	19
STA-422	Processing Condition Reports	31/32
STA-424	Self-Assessment and Benchmarking Process	9
STA-428	Station Issue/Event Trending	3
STA-426	Industry Operating Experience Program	7

<u>Number</u>	<u>Title</u>	<u>Revision</u>
STA-753	Management of Contracts	8
STI-124.01	Cable Deletions and Mid Span Cuts	0
STI-422.01	Operability Determination and Functionality Assessment Program	1/3
STI-422.02	Compensatory Actions & Transient Equipment Placements	1
STI-426.01	Processing and Maintaining Significant OE IER Levels 1 & 2 & SOER'S	1
STI-426.02	Processing Important OE, IERL3 & IERL4, IN's & OPSS Reports	0
STI-426.03	Processing Noteworthy OE (NOE)	0
STI-716.01	Project Management Of Design Modifications And Projects	4
STI-716.02	Site Facilities Activities	1
STI-716.03	"Modification Team Guidelines" (Mtg) Design Modification Development Process Guidelines For Managing The Modification Process The Right Mods At The Right Time	0
STI-716.04	Modification Oversight	0

Work Orders

4794262	4660504	4756056	12048420	4705071
459324	4485217			

Information Request
June 22, 2015
Biennial Problem Identification and Resolution Inspection –
August 31 – September 18, 2015
Comanche Peak Nuclear Power Plant
Inspection Report Number 05000445/2015008 and 05000446/2015008

This inspection will cover the period from November 8, 2013, through the end of the inspection on September 18, 2015. All requested information should be limited to this period or to the date of the request unless otherwise specified. To the extent possible, provide the requested information electronically in Adobe PDF (preferred) or Microsoft Office format. Provide paper copies of any sensitive information during the team's first week on site; do not provide sensitive or proprietary information electronically.

Lists of documents (summary lists) should be provided in Microsoft Excel or a similar sortable format. Please ensure that the fields (especially condition report descriptions) are not size limited so that complete descriptions are provided. Please provide the information on a compact disc (one for each team member), if possible. This information may also be uploaded on the Certrec IMS website if so desired.

Please provide the following no later than August 3, 2015:

1. Document Lists

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

- 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 lists of all corrective action documents which were upgraded or downgraded in priority/significance during the period
- d. Summary list of all corrective action documents that subsume or "roll up" one or more smaller issues for the period, or that identify a trend
- e. Summary lists of operator workarounds, operator burdens, temporary modifications, and control room and safety system deficiencies currently opened or that were evaluated and/or closed during the period
- f. Summary list of safety system deficiencies that required prompt operability determinations (or other engineering evaluations) and ODMI's to provide reasonable assurance of operability

- g. Summary list of plant safety issues raised or addressed by the Employee Concerns Program (or equivalent)
- h. Summary list of all Apparent Cause Evaluations completed during the period
- i. Summary list of all Root Cause Evaluations planned or in progress but not complete at the end of the period

2. Full Documents with Attachments

- a. Root Cause Evaluations completed during the period
- b. Quality assurance audits performed during the period
- c. All audits/surveillances performed during the period of the Corrective Action Program, of individual corrective actions, and of cause evaluations
- d. Corrective action activity reports, functional area self-assessments, and non-NRC third party assessments completed during the period (do not include INPO assessments)
- e. Corrective action documents generated during the period for the following:
 - i. All Cited and Non-Cited Violations
 - ii. All Licensee Event Reports
- f. Corrective action documents generated for the following, if they were determined to be applicable (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
- g. Corrective action documents generated for the following:
 - i. Emergency planning drills and tabletop exercises performed during the period
 - ii. Maintenance preventable functional failures which occurred or were evaluated during the period
 - iii. Adverse trends in equipment, processes, procedures, or programs which were evaluated during the period
 - iv. Action items generated or addressed by plant safety review committees during the period

3. Logs and Reports

- a. Corrective action performance trending/tracking information generated during the period and broken down by functional organization
- b. Corrective action effectiveness review reports generated during the period
- c. Current system health reports or similar information
- d. Radiation protection event logs during the period
- e. Security event logs and security incidents during the period (sensitive information can be provided by hard copy during first week on site)
- f. Employee Concern Program (or equivalent) logs (sensitive information can be provided by hard copy during first week on site)
- g. List of Training deficiencies, requests for training improvements, and simulator deficiencies for the period

4. Procedures

- a. Corrective action program procedures (initiation, evaluation, classification, and disposition of conditions adverse to quality. Include operability determination procedures, root and apparent cause evaluation procedures and any other procedures that implement the corrective action program;
- b. Maintenance rule program and implementing procedures;
- c. Operating experience program;
- d. Employee concerns program;
- e. Self-assessment program;
- f. Degraded/non-conforming condition process (e.g., RIS 2005-20);
- g. System Health process or equivalent equipment reliability improvement programs;
- h. Operational Decision Making (ODMI) process.

5. Other Items

- a. Scheduled date/time/location of all meetings associated with implementation of the corrective action program, such as screening meetings, corrective action review board meetings, etc.

- b. Organization charts for plant staff and long-term/permanent contractors
- c. Electronic copies of UFSAR (or equivalent), technical specifications and bases, if available
- d. All copy of assessments or evaluations (internal or external) regarding station or department safety-culture.
- e. A list of maintenance preventable functional failures (MPFFs) of risk-significant systems (include actions completed and current status). A list of current Maintenance Rule a(1) systems and a list of those systems that entered a(1) within the last two years, but which were returned to a(2) status. Include a copy of the current system health report for those systems now in a(1).
- f. Copy of the latest corrective action program statistics such as the number initiated by department, human performance errors by department, backlog, corrective action timeliness and others as may be available.
- g. A listing of the top 10 risk-significant systems, components, and/or operator manual actions as appropriate.

Please provided on CDs and/or DVDs sent via overnight carrier to:

U.S. NRC Region IV
1600 E. Lamar Blvd.
Arlington, TX 76011-4511
Attention: Harry Freeman

Please note that the NRC is not currently able to accept electronic documents on thumb drives or other similar digital media.

R. Flores

- 3 -

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

Sincerely,

/RA/

Eric A. Ruesch, Acting Team Leader
Technical Support Services Team
Division of Reactor Safety

Docket No: 50-445, 50-446
License No: NPF-87 and NPF-89

Enclosure: Inspection Report 05000445/2015008
and 05000446/2015008
w/Attachment: Supplemental Information

Electronic Distribution to Comanche Peak

Distribution
See next page

ADAMS ACCESSION NUMBER: ML15320A100

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NAME	HFreeman	CAIldredge	JDrake	JJosey	JKramer	RSmith	ERuesch/RA/
SIGNATURE	/RA/	/RA/	/RA/	/RA/	/RA/	/RA/	T. Farnholtz for
DATE	11/12/15	11/12/15	11/12/15	11/12/15	11/10/15	11/12/15	11/13/15

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Letter to Rafael Flores from Eric A. Ruesch dated, November 13, 2015

SUBJECT: COMANCHE PEAK NUCLEAR POWER PLANT – NRC PROBLEM
IDENTIFICATION AND RESOLUTION INSPECTION REPORT
05000445/2015008 AND 05000446/2015008 AND NOTICE OF VIOLATION

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