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

April 28, 2016

EA-15-089

Mr. Oscar A. Limpias
Vice President-Nuclear and CNO
Nebraska Public Power District
Cooper Nuclear Station
72676 648A Avenue
P.O. Box 98
Brownville, NE 68321

SUBJECT: COOPER NUCLEAR STATION – NRC INTEGRATED INSPECTION REPORT 05000298/2016001

Dear Mr. Limpias:

On March 31, 2016, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Cooper Nuclear Station. On April 8, 2016, the NRC inspectors discussed the results of this inspection with you and other members of your staff. Inspectors documented the results of this inspection in the enclosed inspection report.

NRC inspectors documented two findings of very low safety significance (Green) in this report. Both of these findings involved violations of NRC requirements. The NRC is treating these violations as non-cited violations (NCVs) consistent with Section 2.3.2.a of the NRC Enforcement Policy.

If you contest the violations or significance of these NCVs, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001; with copies to the Regional Administrator, Region IV; the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001; and the NRC resident inspector at the Cooper Nuclear Station.

If you disagree with a cross-cutting aspect assignment in this report, you should provide a response within 30 days of the date of this inspection report, with the basis for your disagreement, to the Regional Administrator, Region IV; and the NRC resident inspector at the Cooper Nuclear Station.

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 (if any) will be available electronically for public inspection in the NRC’s Public

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Sincerely,

/RA/

Gregory G. Warnick, Chief
Project Branch C
Division of Reactor Projects

Docket No. 50-298
License No. DPR-46

Enclosure:
Inspection Report 05000298/2016001
w/ Attachment:
1. Supplemental Information
2. Request for Information for the Occupational/Public Radiation Safety Inspection

cc w/ encl: Electronic Distribution

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Letter to Oscar A. Limpias from Greg Warnick dated April 28, 2016

SUBJECT: COOPER NUCLEAR STATION – NRC INTEGRATED INSPECTION REPORT 05000298/2016001

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U.S. NUCLEAR REGULATORY COMMISSION

REGION IV

Docket:	05000298
License:	DPR-46
Report:	05000298/2016001
Licensee:	Nebraska Public Power District
Facility:	Cooper Nuclear Station
Location:	72676 648A Ave Brownville, NE
Dates:	January 1 through March 31, 2016
Inspectors:	P. Voss, Senior Resident Inspector C. Henderson, Resident Inspector W. Sifre, Senior Reactor Inspector M. Phalen, Senior Health Physicist J. O'Donnell, CHP, Health Physicist
Approved By:	Greg Warnick Chief, Project Branch C Division of Reactor Projects

SUMMARY

IR 05000298/2016001; 01/01/2016 – 03/31/2016; Cooper Nuclear Station; Surveillance Testing.

The inspection activities described in this report were performed between January 1 and March 31, 2016, by the resident inspectors at the Cooper Nuclear Station and inspectors from the NRC's Region IV office. Two findings of very low safety significance (Green) are documented in this report. Both of these findings involved violations of NRC requirements. The significance of inspection findings is indicated by their color (Green, White, Yellow, or Red), which is determined using Inspection Manual Chapter 0609, "Significance Determination Process." Their cross-cutting aspects are determined using Inspection Manual Chapter 0310, "Aspects within the Cross-Cutting Areas." Violations of NRC requirements are dispositioned in accordance with the NRC Enforcement Policy. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process."

Cornerstone: Mitigating Systems

- Green. The inspectors identified a non-cited violation of 10 CFR 50.55a, "Codes and Standards," for the licensee's failure to follow the ASME Code for Operation and Maintenance of Nuclear Power Plants when addressing the performance of reactor equipment cooling pump A within the high "required action range" of the inservice testing program. Specifically, on February 11, 2016, the licensee failed to follow ASME Subsection ISTB 6200(b) when engineering personnel, taking corrective action to address pump performance, failed to either correct the cause of the deviation or establish new reference values for the pump. Instead of establishing new reference values, the licensee performed an analysis to administratively raise the upper "required action range" limit, creating a wider range of acceptable pump operation than allowed by Table ISTB-5100-1, "Centrifugal Pump Test Acceptance Criteria." The licensee entered this issue into the corrective action program as Condition Report CR-CNS-2016-00920, took action to reevaluate and rebaseline the pump with new reference values, and performed an extent of condition review to determine if other equipment was impacted by similar interpretations of the code.

  The licensee's failure to establish new reference values for reactor equipment cooling pump A in accordance with the ASME Code was a performance deficiency. The performance deficiency was determined to be more than minor, and therefore a finding, because it was associated with the human performance attribute of the Mitigating Systems Cornerstone, and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the actions initially taken by the licensee would have required a relief request; could have delayed identification of a degrading pump trend due to the creation of a wider range of acceptable operation; and the licensee's generic interpretation, that the Table ISTB-5100-1 "acceptable range" could be administratively expanded, represented a programmatic vulnerability. The inspectors used Manual Chapter 0609, Appendix A, "The Significance Determination Process (SDP) for Findings At-Power," and determined that the finding had very low safety significance (Green) because it did not represent a design or qualification deficiency, did not represent a loss of safety function for a single train for greater than its technical specification allowed outage time, and did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. This finding had a cross-cutting aspect in the area of problem identification and resolution associated with evaluation. Specifically, the licensee failed to thoroughly evaluate

performance of reactor equipment cooling pump A in the "required action range" to ensure that the resolution correctly addressed the causes of the degraded performance [P.2]. (Section 1R22)

Cornerstone: Barrier Integrity

- Green. The inspectors identified a non-cited violation of Technical Specification 5.4.1.a, for the licensee's failure to follow Station Procedure 0.26, "Surveillance Program," and assess the operability of high pressure coolant injection steam line isolation instrumentation during surveillance testing. Specifically, the licensee failed to assess the operability of required isolation instrumentation when maintentance personnel opened terminal box 392 during surveillance testing and temporarily invalidated its environmental qualification. Licensee procedures required operations personnel to either establish compensatory measures to restore the terminal box during an event, or declare the instrumentation inoperable and enter the applicable technical specification actions when the terminal box was opened. As an immediate corrective action, the licensee implemented Standing Order 2016-03, which directed operators to establish compensatory measures, if applicable, or declare the affected equipment inoperable when environmentally qualified terminal boxes would be opened during testing. The licensee entered this issue into their corrective action program for resolution as Condition Reports CR-CNS-2016-00320 and CR-CNS-2016-00476.

  The licensee's failure to assess the operability of high pressure coolant injection instrumentation when the associated terminal box was opened during surveillance testing, in violation of Station Procedure 0.26, was a performance deficiency. The performance deficiency was determined to be more than minor, and therefore a finding, because it was associated with the structure, system, component, and barrier performance attribute of the Barrier Integrity Cornerstone, and adversely affected the cornerstone objective to ensure the radiological barrier functionality of containment isolation. Specifically, with terminal box 392 open, its environmental qualification was temporarily invalidated, making the high pressure coolant injection low steam pressure and high steam flow containment isolation instrumentation inoperable during surveillance testing. In addition, two other terminal boxes and their associated surveillances were impacted by the performance deficiency. Using Inspection Manual Chapter 0609, Appendix A, "The Significance Determination Process (SDP) for Findings At-Power," the inspectors determined that the finding had very low safety significance (Green) because it: (1) did not represent an actual open pathway in the physical integrity of reactor containment, containment isolation system, or heat removal components; and (2) did not involve an actual reduction in function of hydrogen igniters in the reactor containment. The finding had a cross-cutting aspect in the area of human performance associated with work management. Specifically, the licensee failed to implement a process of planning, controlling, and executing work activities such that nuclear safety was the overriding priority, including the identification and management of risk commensurate with opening terminal box 392 during surveillance testing [H.5]. (Section 1R22)

PLANT STATUS

The Cooper Nuclear Station began the inspection period at full power. On February 12, 2016, the licensee lowered reactor power to approximately 70 percent in order to perform surveillance testing and planned work on reactor feedwater pump B. The plant returned to full power on February 13, 2016, where it remained for the rest of the reporting period, except for minor reductions in power to support scheduled surveillance testing and rod pattern adjustments.

REPORT DETAILS

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity

1R04 Equipment Alignment (71111.04)

.1 Partial Walkdown

a. Inspection Scope

The inspectors performed partial system walkdowns of the following risk-significant systems:

- January 17, 2016, High pressure coolant injection steam isolation instrumentation and control system for valves HPCI-MOV-15 and HPCI-MOV-16
- February 19, 2016, Service water cross connect valves SW-MOV-36 and SW-MOV-37 and design flow requirements
- February 29, 2016, Diesel generator sequential loading and kW loading analysis
- March 23, 2016, Instrument air system and reactor equipment cooling

The inspectors reviewed the licensee's procedures and system design information to determine the correct lineup for the systems. They visually verified that critical portions of the systems were correctly aligned for the existing plant configuration.

These activities constituted four partial system walkdown samples, as defined in Inspection Procedure 71111.04.

b. Findings

No findings were identified.

.2 Complete Walkdown

a. Inspection Scope

On March 8, 2016, the inspectors performed a complete system walkdown inspection of the residual heat removal service water system. The inspectors reviewed the licensee's procedures and system design information to determine the correct system lineup for the existing plant configuration. The inspectors also reviewed outstanding work orders,

open condition reports, in-process design changes, temporary modifications, and other open items tracked by the licensee's operations and engineering departments. The inspectors then visually verified that the system was correctly aligned for the existing plant configuration.

These activities constituted one complete system walkdown sample, as defined in Inspection Procedure 71111.04.

b. Findings

No findings were identified.

1R05 Fire Protection (71111.05)

Quarterly Inspection

a. Inspection Scope

The inspectors evaluated the licensee's fire protection program for operational status and material condition. The inspectors focused their inspection on four plant areas important to safety:

- January 11, 2016, Reactor feed pumps area, Fire Area TB-A, Zone 11E
- February 24, 2016, Diesel generator room 1, Fire Area DG-A, Zone 14A and 14C
- February 24, 2016, Diesel generator room 2, Fire Area DG-B, Zone 14B and 14D
- March 3, 2016, Auxiliary relay room, Fire Area CB-D, Zone 8A

For each area, the inspectors evaluated the fire plan against defined hazards and defense-in-depth features in the licensee's fire protection program. The inspectors evaluated control of transient combustibles and ignition sources, fire detection and suppression systems, manual firefighting equipment and capability, passive fire protection features, and compensatory measures for degraded conditions.

These activities constituted four quarterly inspection samples, as defined in Inspection Procedure 71111.05.

b. Findings

No findings were identified.

1R06 Flood Protection Measures (71111.06)

a. Inspection Scope

On February 29, 2016, the inspectors completed an inspection of the station's ability to mitigate flooding due to internal causes. After reviewing the licensee's flooding analysis, the inspectors chose one plant area containing risk-significant structures, systems, and components that were susceptible to flooding:

- Control building basement

The inspectors reviewed plant design features and licensee procedures for coping with internal flooding. The inspectors walked down the selected area to inspect the design features, including the material condition of seals, drains, and flood barriers. The inspectors evaluated whether operator actions credited for flood mitigation could be successfully accomplished.

These activities constituted completion of one flood protection measures sample, as defined in Inspection Procedure 71111.06.

b. Findings

No findings were identified.

1R11 Licensed Operator Requalification Program and Licensed Operator Performance (71111.11)

.1 Review of Licensed Operator Requalification

a. Inspection Scope

On February 19, 2016, the inspectors observed an evaluated simulator scenario performed by an operating crew. The inspectors assessed the performance of the operators and the evaluators' critique of their performance. The inspectors also assessed the modeling and performance of the simulator during the requalification activities.

These activities constituted completion of one quarterly licensed operator requalification program sample, as defined in Inspection Procedure 71111.11.

b. Findings

No findings were identified.

.2 Review of Licensed Operator Performance

a. Inspection Scope

On February 13, 2016, the inspectors observed the performance of on-shift licensed operators in the plant's main control room. At the time of the observations, the plant was in a period of heightened activity due to maintenance and testing associated with a planned downpower to 70 percent. The inspectors observed the operators' performance of the following activities:

- Rod manipulations associated with the downpower and rod pattern change, including the pre-job brief
- Main steam isolation valve closure reactor protection system surveillance testing, including the pre-job brief

In addition, the inspectors assessed the operators' adherence to plant procedures, including conduct of operations procedure and other operations department policies.

These activities constituted completion of one quarterly licensed operator performance sample, as defined in Inspection Procedure 71111.11.

b. Findings

No findings were identified.

1R12 Maintenance Effectiveness (71111.12)

a. Inspection Scope

The inspectors reviewed two instances of degraded performance or condition of safety-related or risk-significant structures, systems, and components (SSCs):

- February 29, 2016, Core spray reference leg injection
- January 19, 2016, Reactor recirculation motor generator sets

The inspectors reviewed the extent of condition of possible common cause SSC failures and evaluated the adequacy of the licensee's corrective actions. The inspectors reviewed the licensee's work practices to evaluate whether these may have played a role in the degradation of the SSCs. The inspectors assessed the licensee's characterization of the degradation in accordance with 10 CFR 50.65 (the Maintenance Rule), and verified that the licensee was appropriately tracking degraded performance and conditions in accordance with the Maintenance Rule.

These activities constituted completion of two maintenance effectiveness samples, as defined in Inspection Procedure 71111.12.

b. Findings

No findings were identified.

1R13 Maintenance Risk Assessments and Emergent Work Control (71111.13)

a. Inspection Scope

The inspectors reviewed four risk assessments performed by the licensee prior to changes in plant configuration and the risk management actions taken by the licensee in response to elevated risk:

- February 3, 2016, Residual heat removal service water system maintenance window, Division II
- February 13, 2016, Feedwater pump B repair during planned downpower
- March 17, 2016, Reactor core isolation cooling maintenance window and northeast quad fan coil replacement
- March 25, 2016, Diesel generator system maintenance window, Division II

The inspectors verified that these risk assessments were performed timely and in accordance with the requirements of 10 CFR 50.65 (the Maintenance Rule) and plant procedures. The inspectors reviewed the accuracy and completeness of the licensee's risk assessments and verified that the licensee implemented appropriate risk management actions based on the result of the assessments.

The inspectors also observed portions of two emergent work activities that had the potential to affect the functional capability of mitigating systems or to impact barrier integrity:

- January 19, 2016, Diesel generator 1 repairs due to frequency starting time greater than technical specification surveillance requirements
- January 29, 2016, Loss of plant monitoring and information system/Gardel power supplies

The inspectors verified that the licensee appropriately developed and followed a work plan for these activities. The inspectors verified that the licensee took precautions to minimize the impact of the work activities on unaffected structures, systems, and components.

These activities constituted completion of six maintenance risk assessment and emergent work control inspection samples, as defined in Inspection Procedure 71111.13.

b. Findings

No findings were identified.

1R15 Operability Determinations and Functionality Assessments (71111.15)

a. Inspection Scope

The inspectors reviewed five operability determinations that the licensee performed for degraded or nonconforming structures, systems, or components (SSCs):

- January 15, 2016, Operability determination of a control rod drive scram outlet valve due to leakage, CR-CNS-2016-0075
- January 17, 2016, Operability determination of service water when the idle diesel generator is not isolated for a loss of offsite power/loss of coolant accident, CR-CNS-2016-00201
- January 22, 2016, Operability determination of the 125V Battery A due to lifting positive battery posts, CR-CNS-2015-06703
- March 16, 2016, Operability determination of reactor equipment cooling pump A due to exceedance of inservice testing required action limits, CR-CNS-2016-00784
- March 25, 2016, Operability determination of service water due to inconsistent pump column minimum wall thickness acceptance criteria, CR-CNS-2016-01448

The inspectors reviewed the timeliness and technical adequacy of the licensee's evaluations. Where the licensee determined the degraded SSC to be operable, the inspectors verified that the licensee's compensatory measures were appropriate to provide reasonable assurance of operability. The inspectors verified that the licensee had considered the effect of other degraded conditions on the operability of the degraded SSC.

On January 25, 2016, the inspectors completed their review of operator actions taken or planned to compensate for degraded or nonconforming conditions. The inspectors verified that the licensee effectively managed these operator workarounds to prevent adverse effects on the function of mitigating systems and to minimize their impact on the operators' ability to implement abnormal and emergency operating procedures.

These activities constituted completion of six operability and functionality review samples, which included one operator work-around sample, as defined in Inspection Procedure 71111.15.

b. Findings

No findings were identified.

1R18 Plant Modifications (71111.18)

a. Inspection Scope

On March 9, 2016, the inspectors reviewed a permanent plant modification associated with the replacement of safety-related General Electric magne blast breakers with Siemens horizontal vacuum bottle circuit breakers which affected risk-significant structures, systems, and components (SSCs).

The inspectors reviewed the design and implementation of the modification. The inspectors verified that work activities involved in implementing the modification did not adversely impact operator actions that may be required in response to an emergency or other unplanned event. The inspectors verified that post-modification testing was adequate to establish the operability of the SSCs as modified.

These activities constituted completion of one sample of permanent modifications, as defined in Inspection Procedure 71111.18.

b. Findings

No findings were identified.

1R19 Post-Maintenance Testing (71111.19)

a. Inspection Scope

The inspectors reviewed six post-maintenance testing activities that affected risk-significant structures, systems, or components (SSCs):

- January 19, 2016, Diesel generator 1 emergent work

- February 3, 2016, Residual heat removal pump B relay and breaker maintenance
- February 3, 2016, Residual heat removal service water booster pump B discharge valve work
- February 3, 2016, Residual heat removal service water pump D outboard mechanical seal and discharge check valve inspection
- February 19, 2016, Residual heat removal and residual heat removal service water motor operated valve maintenance, Division II
- February 19, 2016, Torus to reactor vacuum breaker control switch replacement

The inspectors reviewed licensing- and design-basis documents for the SSCs and the maintenance and post-maintenance test procedures. The inspectors observed the performance of the post-maintenance tests to verify that the licensee performed the tests in accordance with approved procedures, satisfied the established acceptance criteria, and restored the operability of the affected SSCs.

These activities constituted completion of six post-maintenance testing inspection samples, as defined in Inspection Procedure 71111.19.

b. Findings

No findings were identified.

1R22 Surveillance Testing (71111.22)

a. Inspection Scope

The inspectors observed six risk-significant surveillance tests and reviewed test results to verify that these tests adequately demonstrated that the structures, systems, and components (SSCs) were capable of performing their safety functions:

In-service tests:

- January 25, 2016, High pressure coolant injection quarterly inservice test surveillance

Other surveillance tests:

- January 14, 2016, High pressure coolant injection steam isolation valves HPCI-MOV-15 and HPCI-MOV-16 surveillance testing for primary containment isolation for the steam line break
- January 26, 2016, Service water quarterly and post-loss of coolant accident flow surveillance acceptance criteria
- February 9, 2016, Diesel generator 31 day operability test, Division I
- February 19, 2016, Reactor equipment cooling pump A inservice testing surveillance

- March 3, 2016, SW-MOV-36 and SW-MOV-37 surveillance testing

The inspectors verified that these tests met technical specification requirements, that the licensee performed the tests in accordance with their procedures, and that the results of the tests satisfied appropriate acceptance criteria. The inspectors verified that the licensee restored the operability of the affected SSCs following testing.

These activities constituted completion of six surveillance testing inspection samples, as defined in Inspection Procedure 71111.22.

b. Findings

(1) Failure to Follow ASME Code Requirements when taking Corrective Actions for a Pump in the Required Action Range

Introduction. The inspectors identified a Green, non-cited violation of 10 CFR 50.55a, "Codes and Standards," for the licensee's failure to follow the ASME Code for Operation and Maintenance of Nuclear Power Plants (OM) when addressing the performance of reactor equipment cooling (REC) pump A within the high "required action range" of the inservice testing program. Specifically, the licensee failed to follow ASME Subsection ISTB-6200(b) when engineering personnel, while taking corrective action to address pump performance, failed to either correct the cause of the deviation or establish new reference values for the pump.

Description. On February 11, 2016, the licensee performed Surveillance Procedure 6.1REC.101, "REC Surveillance Operation (IST) – Div 1," for the two-year comprehensive inservice test (IST) of REC pump A. This procedure was being used to meet the IST requirements for the pump in accordance with the 2001 Edition through the 2003 Addenda of the ASME OM Code. During the IST, the pump exceeded the upper limit for discharge pressure required by the test, which put the pump in the high "required action range" in accordance with the ASME Code. Consistent with the surveillance procedure and ASME OM Subsection ISTB-6200(b), the licensee declared the pump inoperable upon discovery of the condition. The licensee initiated condition report CR-CNS-2016-00784 to document the unacceptable inservice test results for REC pump A.

ASME Section ISTB-6200, "Corrective Action," Subsection (b), states, "If the measured test parameter values fall within the "required action range" of Table ISTB-5100-1, the pump shall be declared inoperable until either the cause of the deviation has been determined and the condition is corrected, or an analysis of the pump is performed and new reference values are established in accordance with ISTB-6200(c)." The licensee determined that the pump was operating acceptably, and as a result, determined that there was no need to correct the cause of the deviation in pump performance. However, the licensee did not establish new reference values, which serve to provide a baseline of acceptable pump performance, in accordance with ISTB-6200(c). Instead, engineering personnel performed an analysis which assessed the operational readiness of the pump and evaluated pump performance trends as discussed in ISTB-6200(c), but rather than rebaseline the pump, the licensee administratively raised the upper "required action" limit. Following this action, operations personnel declared REC pump A operable.

The inspectors reviewed the licensee's actions and challenged the site's decision to neither correct nor rebaseline the pump in accordance with Subsection ISTB-6200(b). The inspectors observed that the licensee's actions to raise the upper "required action" limit inappropriately created a wider range of acceptable pump operation than allowed by ASME Table ISTB-5100-1, "Centrifugal Pump Test Acceptance Criteria." In consultation with NRC regional and headquarters ASME Code experts, the inspectors concluded that these actions put the site in nonconformance with the ASME Code. The inspectors observed that the licensee's change would have required an NRC relief request and could have delayed identification of a degrading pump trend due to the creation of a wider range of acceptable operation. In response to inspector questions, the licensee determined that they had used this same method for different equipment on previous occasions. The inspectors determined that the licensee's generic interpretation that Table ISTB-5100-1 acceptance criteria multipliers could be changed using Subsection ISTB-6200 represented a potential programmatic vulnerability. This issue was entered into the licensee's corrective action program as CR-CNS-2016-00920, and the licensee subsequently took corrective action to establish new reference values for the pump.

Analysis. The licensee's failure to establish new reference values for REC pump A in accordance with the ASME OM code was a performance deficiency. The performance deficiency was determined to be more than minor, and therefore a finding, because it was associated with the human performance attribute of the Mitigating Systems Cornerstone, and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the actions initially taken by the licensee would have required a relief request; could have delayed identification of a degrading pump trend due to the creation of a wider range of acceptable operation; and the licensee's generic interpretation that the Table ISTB-5100-1 "acceptable range" could be administratively expanded represented a programmatic vulnerability. The inspectors used Manual Chapter 0609, Appendix A, "The Significance Determination Process (SDP) for Findings At-Power," dated June 19, 2012, and determined that the finding had very low safety significance (Green) because it did not represent a design or qualification deficiency, did not represent a loss of safety function for a single train for greater than its technical specification allowed outage time, and did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. This finding had a cross-cutting aspect in the area of problem identification and resolution associated with evaluation. Specifically, the licensee failed to thoroughly evaluate performance of REC pump A in the "required action range" to ensure that the resolution correctly addressed the causes of the degraded performance [P.2].

Enforcement. Title 10 of the Code of Federal Regulations, Section 50.55a(b), "Codes and Standards," requires, in part, that systems and components of boiling and pressurized water cooled nuclear power reactors must meet the requirements of the ASME Code for Operation and Maintenance of Nuclear Power Plants. Contrary to the above, on February 11, 2016, the licensee failed to ensure that systems and components in the plant met the requirements of the ASME OM Code. Specifically, the licensee failed to ensure ASME Subsection ISTB 6200(b) was met when engineering personnel, while taking corrective action to address REC pump A performance, failed to either correct the cause of the deviation or establish new reference values for the pump. Upon discovery, the licensee took action to reevaluate and rebaseline the pump with new reference values, and performed an extent of condition review to determine if other equipment was impacted by similar interpretations of the code. This violation is being

treated as a non-cited violation, consistent with Section 2.3.2.a of the Enforcement Policy, because it was of very low safety significance (Green) and was entered into the licensee's corrective action program as Condition Report CR-CNS-2016-00920. (NCV 05000298/2016001-01, "Failure to Follow ASME Code Requirements when taking Corrective Actions for a Pump in the Required Action Range")

(2) Failure to Assess Operability of Technical Specification System Functions during Surveillance Testing

Introduction. The inspectors identified a Green, non-cited violation of Technical Specification (TS) 5.4.1.a, for the licensee's failure to follow Station Procedure 0.26, "Surveillance Program," and assess the operability of high pressure coolant injection (HPCI) steam line isolation instrumentation during surveillance testing. Specifically, the licensee failed to assess the operability of required HPCI isolation instrumentation when maintenance personnel opened terminal box (TB) 392 during surveillance testing and temporarily invalidated its environmental qualification.

Description. On January 14, 2016, the inspectors observed surveillance testing for the Division 1 HPCI low steam pressure containment isolation function for HPCI-MOV-15 in accordance with Station Procedure 6.1HPCI.701, "HPCI Steam Line Low Pressure Channel Functional Test (DIV 1)," Revision 5, under Work Order 5022860. During the surveillance test the inspectors identified that the licensee opened TB 392 to conduct the surveillance test. This terminal box was identified as environmentally qualified (EQ). The inspectors questioned if TB 392 was EQ in the open condition during the surveillance test. Following a review of documentation for the terminal box, the inspectors determined that TB 392 was only EQ in the closed condition in accordance with drawing CNS-EQ-122, Sheet 1 and Sheet 2, "Cooper Nuclear Station EQ Configuration Detail Terminal Boxes and Equipment Enclosures," Revision 6 and Revision 5. Drawing CNS-EQ-122, Sheet 1 and Sheet 2, stated that the enclosure for TB 392 was credited with protecting terminal blocks from direct exposure to high-energy line break (HELB) conditions and did not contain the field wires and Raychem splices that would allow the instrumentation to be EQ without an enclosure.

Station Procedure 0.26, "Surveillance Program," Revision 68, Section 5 and Discussion Section 1.6 required the licensee to assess operability of TS system functions during surveillance testing, and stated that delayed entry was only allowed if there was not a loss of function. Section 5 of this procedure stated, the "Shift Manager shall: be aware of any other systems affected by the test and how they are affected." Discussion Section 1.6 stated, "TS requirements may have notes that allow delayed entry into conditions and required actions for equipment made inoperable by performance of the surveillance. Even though delayed entry is allowed, the equipment/component is still considered inoperable while performing these surveillances. The delayed entry is only allowed if there is not a loss of function." Additionally, Station Procedure 0-Barrier, "Barrier Control Process," Revision 21, stated that opening terminal boxes in the reactor building required that either a compensatory measure be put in place or the SSC be declared inoperable.

The station did not implement a compensatory measure or declare instrumentation in the TB inoperable. The inspectors and licensee concluded that the shift manager should have been aware of the impacts of opening the TB, and in accordance with procedures, should have declared the TS system function inoperable for the HPCI low steam

pressure and HPCI high steam flow isolation instrumentation when TB 392 was opened. Therefore, usage of the six hour delayed entry time for TS 3.3.6.1, "Primary Containment Isolation Instruments," was not allowed per Procedure 0.26 due to the instruments not being inoperable solely for surveillance testing. As immediate corrective actions, the licensee identified additional TBs impacted by this concern, and implemented Standing Order 2016-03, which directed operators to either establish compensatory measures or declare the affected equipment inoperable when EQ TBs would be opened during testing. The licensee created long term corrective actions to assess whether compensatory measures could be justified for TBs opened during surveillance testing in the reactor building, to assess whether open TBs could be qualified, and to update station procedures as required. The license entered this deficiency into their corrective action program for resolution as Condition Reports CR-CNS-2016-00320 and CR-CNS-2016-00476.

Analysis. The licensee's failure to assess the operability of HPCI isolation instrumentation when the associated terminal box was opened during surveillance testing, in violation of Station Procedure 0.26, was a performance deficiency. The performance deficiency was determined to be more than minor, and therefore a finding, because it was associated with the SSC and barrier performance attribute of the Barrier Integrity Cornerstone, and adversely affected the cornerstone objective to ensure the radiological barrier functionality of containment isolation. Specifically, with terminal box 392 open, its environmental qualification was temporarily invalidated, making the HPCI isolation instrumentation inoperable during surveillance testing. In addition, two other terminal boxes and their associated surveillances were impacted by the performance deficiency. Using Inspection Manual Chapter 0609, Appendix A, "The Significance Determination Process (SDP) for Findings At-Power," dated June 19, 2012, the inspectors determined that the finding had very low safety significance (Green) because it: (1) did not represent an actual open pathway in the physical integrity of reactor containment, containment isolation system, or heat removal components; and (2) did not involve an actual reduction in function of hydrogen igniters in the reactor containment. The finding had a cross-cutting aspect in the area of human performance associated with work management. Specifically, the licensee failed to implement a process of planning, controlling, and executing work activities such that nuclear safety was the overriding priority, including the identification and management of risk commensurate with opening terminal box 392 during surveillance testing [H.5].

Enforcement. Technical Specification 5.4.1.a, requires, in part, that written procedures shall be established, implemented, and maintained covering the applicable procedures recommended in Appendix A to Regulatory Guide 1.33, "Quality Assurance Program Requirements," of February 1978. Section 1.f of Appendix A to Regulatory Guide 1.33 requires specific procedures for scheduling surveillance tests and calibration. The licensee established Station Procedure 0.26, "Surveillance Program," Revision 68, to schedule and control surveillance testing. Section 5 of Station Procedure 0.26 states, the "Shift Manager shall: be aware of any other systems affected by the test and how they are affected." Contrary to the above, on January 14, 2016, the licensee failed to ensure that the shift manager was aware of any other systems affected by the test and how they were affected during HPCI isolation surveillance testing. Specifically, the licensee failed to assess the operability of all affected containment isolation instrumentation when maintenance personnel opened TB 392 during surveillance testing and temporarily invalidated its environmental qualification. As immediate corrective actions, the licensee identified additional TBs impacted by the performance deficiency,

and implemented Standing Order 2016-03, which directed operators to either establish compensatory measures or declare the affected equipment inoperable when environmentally qualified TB would be opened during testing. This violation is being treated as a non-cited violation, consistent with Section 2.3.2.a of the Enforcement Policy, because it was of very low safety significance (Green) and was entered into the licensee's corrective action program as Condition Reports CR-CNS-2016-0320 and CR-CNS-2016-00476. (NCV 05000298/2016001-02, "Failure to Assess Operability of Technical Specification System Functions during Surveillance Testing")

Cornerstone: Emergency Preparedness

1EP6 Drill Evaluation (71114.06)

Emergency Preparedness Drill Observation

a. Inspection Scope

The inspectors observed an emergency preparedness drill on March 29, 2016, to verify the adequacy and capability of the licensee's assessment of drill performance. The inspectors reviewed the drill scenario, observed the drill from the Technical Support Center (TSC) and Simulator, and attended the post-drill critique. The inspectors verified that the licensee's emergency classifications, off-site notifications, and protective action recommendations were appropriate and timely. The inspectors verified that any emergency preparedness weaknesses were appropriately identified by the licensee in the post-drill critique and entered into the corrective action program for resolution.

These activities constituted completion of one emergency preparedness drill observation sample, as defined in Inspection Procedure 71114.06.

b. Findings

No findings were identified.

2. RADIATION SAFETY

Cornerstones: Public Radiation Safety and Occupational Radiation Safety

2RS2 Occupational ALARA Planning and Controls (71124.02)

a. Inspection Scope

The inspectors assessed licensee performance with respect to maintaining individual and collective radiation exposures as low as is reasonably achievable (ALARA). The inspectors performed this portion of the attachment as a post-outage review. During the inspection the inspectors interviewed licensee personnel, reviewed licensee documents, and evaluated licensee performance in the following areas:

- Radiological work planning, including work activities of exposure significance, and radiological work planning ALARA evaluations, initial and revised exposure estimates, and exposure mitigation requirements. The inspectors also verified that the licensee's planning identified appropriate dose reduction techniques, reviewed any inconsistencies between intended and actual work activity doses,

and determined if post-job (work activity) reviews were conducted to identify lessons learned. Specific work plans reviewed included refuel floor activities for the refuel bridge upgrades and radwaste processing for High-Integrity Container (HIC) preparations for shipping.

- Verification of dose estimates and exposure tracking systems including the basis for exposure estimates, and measures to track, trend, and if necessary reduce occupational doses for ongoing work activities. The inspectors evaluated the licensee's method for adjusting exposure estimates and reviewed the licensee's evaluations of inconsistent or incongruent results from the licensee's intended radiological outcomes.

- Problem identification and resolution for ALARA planning and controls. The inspectors reviewed audits, self-assessments, work-in-progress and post-job ALARA reviews, and corrective action program documents to verify problems were being identified and properly addressed for resolution.

These activities constituted completion of two of the five required samples of occupational ALARA planning and controls, as defined in Inspection Procedure 71124.02.

b. Findings

No findings were identified.

2RS4 Occupational Dose Assessment (71124.04)

a. Inspection Scope

The inspectors evaluated the accuracy and operability of the licensee's personnel monitoring equipment, verified the accuracy and effectiveness of the licensee's methods for determining total effective dose equivalent, and verified that the licensee was appropriately monitoring occupational dose. The inspectors interviewed licensee personnel, walked down various portions of the plant, and reviewed licensee performance in the following areas:

- Source term characterization, including characterization of radiation types and energies, hard-to-detect isotopes, and scaling factors.

- External dosimetry, including National Voluntary Laboratory Accreditation Program (NVLAP) accreditation, storage, issue, use, and processing of active and passive dosimeters.

- The technical competency and adequacy of the licensee's internal dosimetry program.

- Adequacy of the dosimetry program for special dosimetry situations, such as declared pregnant workers, multiple dosimetry placement, effective dose equivalent for external exposures (EDEX), shallow dose equivalent, neutron dose assessment, and dose records.

- Problem identification and resolution for occupational dose assessment, including audits, self-assessments, and corrective action documents.

These activities constituted completion of five occupational dose assessment inspection samples, as defined in Inspection Procedure 71124.04.

b. Findings

No findings were identified.

4. OTHER ACTIVITIES

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity, Emergency Preparedness, Public Radiation Safety, Occupational Radiation Safety, and Security

4OA1 Performance Indicator Verification (71151)

.1 Unplanned Scrams per 7000 Critical Hours (IE01)

a. Inspection Scope

The inspectors reviewed licensee event reports (LERs) for the period of January 1 through December 31, 2015, to determine the number of scrams that occurred. The inspectors compared the number of scrams reported in these LERs to the number reported for the performance indicator. Additionally, the inspectors sampled monthly operating logs to verify the number of critical hours during the period. The inspectors used definitions and guidance contained in Nuclear Energy Institute Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 7, to determine the accuracy of the data reported.

These activities constituted verification of the unplanned scrams per 7000 critical hours performance indicator, as defined in Inspection Procedure 71151.

b. Findings

No findings were identified.

.2 Unplanned Power Changes per 7000 Critical Hours (IE03)

a. Inspection Scope

The inspectors reviewed operating logs, corrective action program records, and monthly operating reports for the period of January 1 through December 31, 2015, to determine the number of unplanned power changes that occurred. The inspectors compared the number of unplanned power changes documented to the number reported for the performance indicator. Additionally, the inspectors sampled monthly operating logs to verify the number of critical hours during the period. The inspectors used definitions and guidance contained in Nuclear Energy Institute Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 7, to determine the accuracy of the data reported.

These activities constituted verification of the unplanned power changes per 7000 critical hours performance indicator, as defined in Inspection Procedure 71151.

b. Findings

No findings were identified.

4OA2 Problem Identification and Resolution (71152)

.1 Routine Review

a. Inspection Scope

Throughout the inspection period, the inspectors performed daily reviews of items entered into the licensee's corrective action program and periodically attended the licensee's condition report screening meetings. The inspectors verified that licensee personnel were identifying problems at an appropriate threshold and entering these problems into the corrective action program for resolution. The inspectors verified that the licensee developed and implemented corrective actions commensurate with the significance of the problems identified. The inspectors also reviewed the licensee's problem identification and resolution activities during the performance of the other inspection activities documented in this report.

b. Findings

No findings were identified.

.2 Annual Follow-up of Selected Issues

a. Inspection Scope

The inspectors selected two issues for an in-depth follow-up:

- On January 6, 2016, the inspectors reviewed entries in the control room log from the previous night shift, which discussed the identification of leakage into the scram discharge volume (SDV). Operations personnel had isolated the SDV in advance of performing planned maintenance on the system, in order to quantify any potential leakage into the SDV, if it existed. During this activity, operators determined that there was no leakage into the North SDV, but the South SDV indicated leakage accumulating at a rate of 5.2 inches per hour. The inspectors noted that this was an indication of scram outlet valve leakage, and also observed that no condition report (CR) was written for the leakage that was discovered. In response to inspector questions, operations personnel took action to initiate a CR (CR-CNS-2016-00075) and assess operability. The inspectors noted that the site had failed to meet the requirements of Step 5.3.6.3 of Procedure 0-CNS-LI-102, "Corrective Action Process," which required, in part, that individuals ensure the condition was promptly documented on a Condition Report, by no later than the end of their shift.

  In subsequent follow-up with the licensee, the inspectors learned that the CR had been considered a non-adverse condition, and as a result, CR generation had not been required. The CR had been classified as a D-trend non-adverse

condition and closed. After further review, the inspectors determined that the condition met the licensee and NRC definition of a condition adverse to quality because the issue was a condition of an SSC, including failures and deficiencies, that could potentially render the SSC degraded or inoperable. Specifically, as discussed in GE SIL 173, "a leaking scram [outlet] valve is of concern as the control rod drive (CRD) runs hot due to reactor water passing down through the drive and out the line to the scram discharge volume, and will continue to run hotter as the scram valve seat continues to erode. Eventually this could interfere with normal drive movement." In addition, the inspectors determined that scram outlet valve leakage into the SDV could result in high SDV water levels and undesirable scram signals if isolated, and could result in CRD drift if the leakage became excessive.

The inspectors determined that this issue represented a minor violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," which 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. Licensee procedure 0-CNS-LI-102, "Corrective Action Process," an Appendix B quality related procedure, provides instructions for identifying and classifying conditions adverse to quality. Procedure 0-CNS-LI-102, Attachment 1, states in part, that "adverse conditions are required to be corrected in the Corrective Action Program (CAP) and are subject to the rigor necessary to evaluate and thoroughly resolve important and significant issues." Contrary to the above, between January 6, 2016, and March 17, 2016, the licensee failed to assure that an adverse condition was corrected in the CAP and was subject to the rigor necessary to evaluate and thoroughly resolve important and significant issues. Specifically, the licensee initially failed to generate a condition report for indicated scram outlet valve leakage, and subsequently failed to classify the CR as a condition adverse to quality to ensure the deficiency would be resolved in the CAP. Instead, the CR was classified as D-Trend, which denotes a non-adverse condition that is handled outside of the CAP. The issue was minor in accordance with Inspection Manual Chapter 0612 Appendix B due to the minimal quantity of leakage identified and because other programmatic opportunities existed to identify the condition prior to significant plant impacts. Although this issue should be corrected, it constitutes a violation of minor significance that is not subject to enforcement action in accordance with Section 2 of the Enforcement Policy. The issue was entered into the licensee's CAP as CR-CNS-2016-01485. Licensee investigation revealed one CRD with slightly elevated temperatures, and the licensee generated a work order to repair the associated scram outlet valve.

The inspectors assessed the licensee's problem identification threshold and corrective actions to address the issue. The inspectors verified that the licensee appropriately prioritized the planned corrective actions and that these actions were adequate to correct the condition.

- On January 11, 2016, the licensee identified that the Division 1 emergency diesel generator (EDG) was slow to start during a monthly surveillance test. Specifically, the EDG achieved rated voltage and frequency in 14.2 seconds, which exceeded the surveillance requirement limit of 14 seconds. The delayed start was linked to a degraded shuttle valve in the non-safety portion of the air

start system, which is normally bypassed during an emergency EDG start. The licensee determined that the apparent cause of the degradation was inadequate manufacturer controls of the component.

The inspectors assessed the licensee's problem identification threshold, cause analyses, and extent of condition reviews. The inspectors verified that the licensee appropriately prioritized the corrective actions and that these actions were adequate to correct the condition.

These activities constituted completion of two annual follow-up samples as defined in Inspection Procedure 71152.

b. Findings

No findings were identified.

4OA5 Other Activities

(Closed) Notice of Violation 05000298/2015007-04, Failure to Evaluate the Lack of Missile Protection on the Emergency Diesel Generator 1 and 2 Fuel Oil Storage Tank Vents, EA-15-089

During the Component Design Basis Inspection conducted on April 6 through May 8, 2015, a violation of NRC regulations was identified and documented in NRC Inspection Report 05000298/2015007 (ML15173A450). The NRC had determined that a cited violation was associated with the inspection. The violation was cited because Cooper Nuclear Station (CNS) failed to restore compliance with NRC requirements within a reasonable amount of time after a previous violation was identified in NRC Inspection Report 05000298/2010007 (ML103370640).

In 2015, the team identified a Green, cited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," which 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." Specifically, the licensee failed to verify the adequacy of design of the vents for the emergency diesel generator (EDG) 1 and 2 fuel oil storage tanks to withstand impact from a tornado driven missile hazard, or to evaluate for exemption from missile protection requirements using an approved methodology.

The Notice of Violation (NOV) issued with the Inspection Report on June 22, 2015, required Cooper Nuclear Station to submit a written statement to the NRC within 30 days. The reply was required to contain the corrective steps taken to ensure full compliance was achieved. Cooper Nuclear Station submitted the response to the NRC on July 22, 2015 (ML15215A369). The corrective steps taken by the licensee included: (1) incorporating a compilation of CNS and industry documentation into an engineering report to substantiate the conclusions of the design basis documents that evaluated the EDG fuel oil storage tank vents' ability to perform their design function following a design basis missile strike; (2) removing the cap on the storage tank fill opening and installing a screen to ensure operability per the associated work order; (3) reinforcing with engineers qualified to prepare or review calculations, the need to explicitly and literally state the technical issues when performing calculations; (4) incorporating lessons learned from

the apparent cause evaluation as part of the Technical Rigor topic during engineering continuing training; and (5) revising NEDC 13-046, Revision 1, to directly address all four tornado impact scenarios as described in Section XII, 2.3.3.2 of the CNS Updated Safety Analysis Report.

The NRC responded in a letter to Cooper Nuclear Station's response on August 11, 2015 (ML15224B562). The letter stated that the NRC would inform the licensee if further inspection was warranted. The inspector reviewed the licensee's corrective actions associated with the violation. Specifically, the inspector reviewed Engineering Change EC-EE15-012, "Diesel Generator Diesel Oil Tank Vents Tornado Missile Analysis," Revision 1, and Calculation NEDC 13-046, "Diesel Generator Storage Vent Line Tornado Missile Durability," Revision 2. Based on this review, the inspector concluded that the licensee had performed adequate corrective actions to restore compliance, address extent of condition, and prevent recurrence. No additional deficiencies were identified during the review of this Notice of Violation.

This review closes NOV 05000298/2015007-04, "Failure to Evaluate the Lack of Missile Protection on the Emergency Diesel Generator 1 and 2 Fuel Oil Storage Tank Vents," EA-15-089.

4OA6 Meetings, Including Exit

Exit Meeting Summary

On March 24, 2016, the inspectors presented the results of the diesel fuel oil tank Notice of Violation closure review to Mr. D. Buman, Director of Engineering, and other members of the licensee staff via telephone. The licensee acknowledged the inspection results. The licensee confirmed that any proprietary information reviewed by the inspectors had been returned or destroyed.

On March 24, 2016, the inspectors presented the radiation safety inspection results to Mr. K. Higginbotham, General Manager, Plant Operations, and other members of the licensee staff. The licensee acknowledged the inspection results. The licensee confirmed that any proprietary information reviewed by the inspectors had been returned or destroyed.

On April 8, 2016, the inspectors presented the inspection results to Mr. O. Limpias, Vice President and Chief Nuclear Officer, and other members of the licensee staff. The licensee acknowledged the issues presented. The licensee confirmed that any proprietary information reviewed by the inspectors had been returned or destroyed.

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee Personnel

T. Barker, Manager, Engineering Program and Components
J. Bebb, Staff Health Physicist, Radiation Protection
D. Buman, Director, Engineering
B. Chapin, Manager, Maintenance
T. Chard, Manager, Quality Assurance
L. Dewhirst, Manager, Corrective Action and Assessment
K. Dia, Manager, System Engineering
J. Dixon, Supervisor, Radiation Protection
R. Estrada, Manager, Design Engineering
J. Flaherty, Senior Staff Engineer, Licensing
T. Forland, Engineer, Licensing
D. Goodman, Manager, Operations
K. Higginbotham, General Manager, Plant Operations
D. Kimball, Director, Nuclear Oversight
O. Limpias, Vice President, Chief Nuclear Officer
J. Olberding, Licensing Engineer, Regulatory Affairs
R. Penfield, Director, Nuclear Safety Assurance
J. Shaw, Manager, Licensing
J. Stough, Manager, Emergency Preparedness
C. Sunderman, Manager, Radiation Protection

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened and Closed

05000298/2016001-01	NCV	Failure to Follow ASME Code Requirements when taking Corrective Actions for a Pump in the Required Action Range (Section 1R22)
05000298/2016001-02	NCV	Failure to Assess Operability of Technical Specification System Functions during Surveillance Testing (Section 1R22)

Closed

05000298/2015007-04	VIO	Failure to Evaluate the Lack of Missile Protection on the Emergency Diesel Generator 1 and 2 Fuel Oil Storage Tank Vents (Section 4OA5)

LIST OF DOCUMENTS REVIEWED

Section 1R04: Equipment Alignment

Miscellaneous Documents

Number	Title	Revision
E501	Burns and Roe, SW-MOV-36 SW Loop Cross Tie Header Isolation Valve, Sheet 11A	N01
E501	Burns and Roe, SW-MOV-37 SW Pumps Cross Tie Header Isolation Valve, Sheet 11B	1
CNS-EQ-122	Cooper Nuclear Station EQ Configuration Terminal Boxes and Equipment Enclosures, Sheet 1	6
CNS-EQ-122	Cooper Nuclear Station EQ Configuration Terminal Boxes and Equipment Enclosures, Sheet 2	5
00-111	NEDC, CNS Auxiliary Power System AC Loads	9
11-140	NEDC, Review of ZNE Calculation 11-198, Revision 1, Cooper Nuclear Station Service Water System Analysis	1
12-019	NEDC, Service Water Post-LOCA Flow Test Revised Acceptance Criteria	0
12-020	Engineering Evaluation, Service Water Post-LOCA Flow Verification Test Revised Acceptance Criteria	0
87-0053	License Change Request	
90-004	Design Change, Automatic Isolation of SW-MOV-37MV on Low Service Water Pressure	
94-021	NEDC, REC-HX-A & REC-HX-B Maximum Allowable Accident Case Fouling	7
2007	Burns and Roe, Cooper Nuclear Station Flow Diagram Turbine Building Closed Cooling Water System	84
2031	Burns and Roe, Cooper Nuclear Station Flow Diagram Reactor Building – Closed Cooling Water System, Sheet 2	N65
2031	Burns and Roe, Cooper Nuclear Station Flow Diagram Reactor Building – Closed Cooling Water System, Sheet 3	33
791E271	Cooper Nuclear Station Elementary Diagram HPCI System, Sheet 3	N23
791E271	Cooper Nuclear Station Elementary Diagram HPCI System, Sheet 4	N24
791E271	Cooper Nuclear Station Elementary Diagram HPCI System, Sheet 6	20

Procedures

Number	Title	Revision
2.2A.REC.DIV 1	Reactor Equipment Cooling Water System Component Checklist (DIV 1)	0
2.2A.REC.DIV 3	Reactor Equipment Cooling Water System Common Divisional Component Checklist	2
2.2B.REC.DIV 1	Reactor Equipment Cooling Water System Instrument Valve Checklist (DIV 1)	0
2.2.54A	MPF Air System Component Checklist	5
2.2.65.1	REC Operations	72
2.2.69.3	RHR Suppression Pool Cooling and Containment Spray	46
2.2.70	RHR Service Water Booster Pump System	75
2.3_RHR-GLND-1	RHR Gland Water Supply – Annunciator Panel 1A	5
2.3_RHR-GLND-1	RHR Gland Water Supply – Annunciator Panel 1B	5
2.3_9-3-1	Panel 9-3 – Annunciator 9-3-1	34
2.3_9-3-3	Panel 9-3 – Annunciator 9-3-3	19
3.4.7	Design Calculations	42
3.4.8	Design Verification	20
5.3EMPWR	Emergency Power During Modes 1, 2, or 3	55
6.SWBP.201	SW-MO-89A/B Full Stroke Operability (IST)	6
6.1DG.302	Undervoltage Logic Functional, Load Shedding, and Sequential Loading Test (DIV 1)	83

Condition Reports (CRs)

CR-CNS-2015-06035	CR-CNS-2015-06754	CR-CNS-2016-00045	CR-CNS-2016-00091
CR-CNS-2016-00238	CR-CNS-2016-00449	CR-CNS-2016-00458	CR-CNS-2016-00460
CR-CNS-2016-00469	CR-CNS-2016-01117	CR-CNS-2016-01129	

Work Orders

5064786

Section 1R05: Fire Protection

Miscellaneous Documents

Number	Title	Revision
09-035	Engineering Evaluation, Evaluation of Fire Doors	2
11-088	Fire Safety Analysis for Fire Area CB-D EPM Report R1906-008-CBD	3
11-090	NEDC	

Procedures

Number	Title	Revision
CNS-FP-243	Reactor Feed Pump Area	5
0-Barrier	Barrier Control Process	21
0-Barrier-Control	Control Building	6
0-Barrier-Misc	Miscellaneous Buildings	5
0-CNS-WM-104A	On-Line Fire Risk Management Actions	2
0.7.1	Control of Combustibles	39
0.23	CNS Fire Protection Plan	73
6.FP.314	Panel 9-32 and 9-33 Incipient Smoke Detector Testing	1

Condition Reports (CRs)

CR-CNS-2013-08029 CR-CNS-2015-00777 CR-CNS-2015-00810 CR-CNS-2015-07704

Section 1R06: Flood Protection Measures

Miscellaneous Documents

Number	Title	Revision
02-059	Engineering Evaluation, Maintaining Acceptable Water Level in SE Quad Following a DBA LOCA	0
09-102	NEDC, Internal Flooding- HELB, MELB, and Feedwater Line Break	1, 1C4, 1C5
13-30	Engineering Evaluation, Internal Flooding – HELB, MELB, and Feedwater Line Break	0, 1, 2, 3
93-128	NEDC, Flooding Interaction Between Torus Area and Quads	3
98-038	NEDC, Post LOCA Leakage in Rx Bldg Quad Sumps A-E	3

Miscellaneous Documents

Number	Title	Revision
2004	Burns and Roe, Cooper Nuclear Station Flow Diagram Condensate and Feedwater Systems, Sheet 2	N50
2004	Burns and Roe, Cooper Nuclear Station Flow Diagram Condensate and Feedwater Sytems, Sheet 3	58
2013-016	USAR Change Request	
2038	Burns and Roe, Cooper Nuclear Station Flow Diagram Reactor Building Floor and Roof Drain Systems, Sheet 1	N54

Procedures

Number	Title	Revision
0.19	Equipment Record and Functional Location File Program	31
2.3_A-4	Panel A – Annunciator A-4	44
2.3_B-3	Panel B- Annunciator B-3	36
2.3_S-1	Panel S – Annunciator S-1	24
2.4TEC	TEC Abnormal	25
3-EN-DC-167	Classification of Structures, Systems, and Components	4C1
3.12.3	Environmental Qualification Design Input File Control	12
3.12.7	Control of Master Equipment List (MEL)	9
5.1Break	Pipe Break Outside Secondary Containment	17
5.2Air	Loss of Instrument Air	21
5.2REC	Loss of REC	17
5.2SW	Service Water Casualties	24
15.Sump.101	Sump Pump Operability Test	24

Condition Reports (CRs)

CR-CNS-2012-09508 CR-CNS-2015-02409 CR-CNS-2015-02440 CR-CNS-2015-02441

Section 1R11: Licensed Operator Requalification Program and Licensed Operator Performance

Miscellaneous Documents

Number	Title	Date
SKL0525287	Exam Scenario 87	January 21, 2016

Procedures

Number	Title	Revision
2.2.65.1	REC Operations	72
6.MS.201	Main Steam Isolation Valve Operability Test (IST)	20
6.MS.301	Main Steam Isolation Valve Limit Switch Channel Calibration	10

Condition Reports (CRs)

CR-CNS-2016-00820

Section 1R12: Maintenance Effectiveness

Miscellaneous Documents

Number	Title	Revision/Date
	Maintenance Rule Program Monthly Status Report	January 15, 2016
	Maintenance Rule Program Monthly Status Report	February 4, 2016
	Maintenance Rule Program Monthly Status Report	March 3, 2016
	Reactor Recirc System Health Report	January 2016
RR-F01	Maintenance Rule Function Basis for RR-F01 – Recirc Flow	2
RRFC-F01	Maintenance Rule Function Basis for RRFC-F01 – Recirc Speed	2
RRMG-F01	Maintenance Rule Function Basis for RRMG-F01 – Recirc MG Set Power	2
RR-SD1	Maintenance Rule Function Basis for RR-SD1 – Recirc During Shutdown Operations	2

Procedures

Number	Title	Revision
2.1.10	Station Power Changes	109
3-EN-DC-205	Maintenance Rule Monitoring	5C0
5.8.19	Reference Leg Injection	9
6.1CS.102	Reference Leg Injection Flow Verification and IST Check Valve Testing (Div 1)	10

Procedures

Number	Title	Revision
6.1RR.302	Reactor Recirculation Flow Unit Channel Calibration	33
6.2CS.102	Reference Leg Injection Flow Verification and IST Check Valve Testing (Div 2)	10

Condition Reports (CRs)

CR-CNS-2015-02053 CR-CNS-2015-05820 CR-CNS-2016-00436

Work Orders

5054097 5062934 5062935 5071062

Section 1R13: Maintenance Risk Assessments and Emergent Work Control

Miscellaneous Documents

Number	Title	Revision/Date
	CNS Station Log Entries for EDG2 Maintenance Window	March 21 – March 24, 2016
PMIS MUX 0	Computer Point Description	January 27, 2016
PMIS MUX 9	Computer Point Description	January 27, 2016
2006	Burns and Roe, Cooper Nuclear Station Flow Control Building Service Water System, Sheet 4	51
2077	Burns and Roe, Flow Diagram – Diesel Gen Bldg Service Water, Starting Air, Fuel Oil, Sump System and Roof Drains	N78

Procedures

Number	Title	Revision
0-CNS-WM-104	On-Line Schedule Risk Assessment	3
0-CNS-WM-104A	On-Line Fire Risk Management Actions	2
0-PROTECT-EQP	Protected Equipment Program	34
0.23	CNS Fire Protection Plan	73
2.1.10	Station Power Changes	110
2.2.20.1	Diesel Generator Operations	66

Procedures

Number	Title	Revision
2.2.20.2	Operation of Diesel Generators from Diesel Generator Rooms	62
2.2.67	Reactor Core Isolation Cooling System	72
2.4COMP	Computer Malfunction	12
2.6.3PMIS	PMIS Computer System Operation and Outage Recovery	12
5.3EMPWR	Emergency Power During Modes 1, 2, or 3	54
5.3SBO	Station Blackout	35
7.0.1.7	Troubleshooting Plant Equipment	15

Condition Reports (CRs)

CR-CNS-2015-05822	CR-CNS-2015-06175	CR-CNS-2015-06608	CR-CNS-2016-00013
CR-CNS-2016-00141	CR-CNS-2016-00167	CR-CNS-2016-00401	CR-CNS-2016-00478
CR-CNS-2016-00479	CR-CNS-2016-01334		

Work Orders

4880369	5000241	5012617	5012812	5013072
5039798	5039799	5039865	5039883	5039914
5039939	5040167	5040181	5040240	5040256
5040267	5040563	5044341	5060554	5060555
5060556	5067965	5069986	5075110	5084777
5091681	5097718	5098563	5099449	5106337
5110836				

Section 1R15: Operability Determinations and Functionality Assessments

Miscellaneous Documents

Number	Title	Revision/Date
	IST Basis Document	9
03-001	NEDC, Service Water Pump Barge Impact Load Analysis	0
11-140	NEDC, Review of ZNE Calculation 11-198, Revision 1, Cooper Nuclear Station Service Water System Analysis	1
12-019	NEDC, Service Water Post-LOCA Flow Test Revised Acceptance Criteria	0

Miscellaneous Documents

Number	Title	Revision/Date
12-028	NEDC, Sulzer Seismic Qualification Analysis for SW-P-CE12.5.1925	1
DCD-39	ISI Boundary Basis – ASME Section XI Classification Document	April 6, 2011
ESD95081	CNS IST Issue Resolution	February 20, 1995
2039	Flow Diagram, Control Rod Drive Hydraulic System	61

Procedures

Number	Title	Revision
0.26	Surveillance Program	69
0.5OPS	Operations Review of Condition Reports/Operability Determination	55
2.0.12	Operator Challenges	10
2.1.5	Reactor Scram	71
2.2.8	Control Rod Drive Hydraulic System	91
2.2.8A	Control Rod Drive Hydraulic System Component Checklist	17
2.3_RHR-GLND-1	RHR Gland Water Supply – Annunciator Panel 1A	5
2.3_RHR-GLND-2	RHR Gland Water Supply – Annunciator Panel 1B	5
2.3_9-3-1	Panel 9-3 – Annunciator 9-3-1	34
2.3_9-3-3	Panel 9-3 – Annunciator 9-3-3	19
3.9	ASME OM Code Testing of Pumps and Valves	28
6.EE.607	125V Station Battery Modified Performance Discharge Test	21
6.EE.611	125V/250V Battery Cell and Rack Examination	5
6.MISC.502	ASME Class 1 System Leakage Test	46
6.SW.102	Service Water System Post-LOCA Flow Verification	48
6.1REC.101	REC Surveillance Operation (IST)(DIV 1)	16
15.CRD.501	CRD Hydraulic Control Unit Scram Discharge Valve Leakage Check	4

Condition Reports (CRs)

CR-CNS-2014-03251	CR-CNS-2014-03489	CR-CNS-2015-02053	CR-CNS-2015-03158
CR-CNS-2015-03538	CR-CNS-2015-06035	CR-CNS-2015-06703	CR-CNS-2015-07228
CR-CNS-2016-00045	CR-CNS-2016-00057	CR-CNS-2016-00075	CR-CNS-2016-00091
CR-CNS-2016-00201	CR-CNS-2016-00784	CR-CNS-2016-00920	CR-CNS-2016-01448

Section 1R18: Plant Modifications

Miscellaneous Documents

Number	Title	Revision
4899459	Engineering Change, 1200A, 4160V Vacuum Bottle Circuit Breaker Replacement	0
4899506	Engineering Change, 1200A, 4160V Vacuum Bottle Circuit Breaker Replacement EE-CB-4160G (RSWP1B)	0
6024460	Change Evaluation Document, 4kV Auxiliary Switch Removal	0

Condition Reports (CRs)

CR-CNS-2016-00443	CR-CNS-2016-00456

Section 1R19: Post-Maintenance Testing

Procedures

Number	Title	Revision
CNS-EQ-129	EQ Configuration Detail Limitorque - Valve Actuator, Sheet 1	1
6.SWBP.201	SW-MO-89A/B Full Stroke Operability	6
6.1DG.101	Diesel Generator 31 Day Operability Test (IST)(DIV1)	82
6.1PC.203	Suppression Chamber Reactor Building Vacuum Breaker Functional Test (DIV 1)	12
6.2PC.203	Suppression Chamber Reactor Building Vacuum Breaker Functional Test (DIV 2)	11
6.2SWBP.101	RHR Service Water Booster Pump Flow Test and Valve Operability Test (DIV 2)	26
7.0.5	CNS Post-Maintenance Testing	50
7.5.8	Limitorque Mechanical/Electrical Examination	16
7.5.12	SMB-0 Through SMB-4 MOV Refurbishment	16

Condition Reports (CRs)

CR-CNS-2013-00320	CR-CNS-2015-02678	CR-CNS-2016-00416	CR-CNS-2016-00418
CR-CNS-2016-00420	CR-CNS-2016-00426	CR-CNS-2016-00447	CR-CNS-2016-00472
CR-CNS-2016-00562	CR-CNS-2016-00633		

Work Orders

5013072	5016337	5039864	5039865	5040267
5040276	5040268	5040345	5040633	5040682
5054772	5077920	5082545		

Section 1R22: Surveillance Testing

Miscellaneous Documents

Number	Title	Revision/Date
	Station Log Entries for REC A IST	February 12, 2016
3-EN-DC-304	MOV Thrust/TorqueSetpoint Calculations	1C0
11-140	NEDC, Post-LOCA Service Water Flow	1
12-019	NEDC, Service Water Post-LOCA Flow Test Revised Acceptance Criteria	0
12-020	Engineering Evaluation, Service Water Post-LOCA Flow Verification Test Revised Acceptance Criteria	0
16-632	ASME Code Inquiry	March 23, 2016
91-245	NEDC, Review of MPR's System Level Design Basis Review for Service Water System MOV's	3
95-003	NEDC, Determination of Allowable Operating Parameters for CNS MOV Program MOVs	31
2044	Flow Diagram – High Pressure Coolant Injection and Reactor Feed Systems	74
11218203	ECR, REC-P-A Differential Pressure High	0 and 1
GE SIL 336	Surveillance Testing Recommendations for HPCI and RCIC Systems	1
RP-08	Relief Request: Comprehensive Pump Test Upper Limit	0

Procedures

Number	Title	Revision
0.26	Surveillance Program	68, 69
0.40.2	Control and Maintenance of CNS Surveillance Maintenance Plans/Task Lists	
3.33	Motor Operated Valve Program	24
3.9	ASME OM Code Testing of Pumps and Valves	28
6.HPCI.103	HPCI IST and 92 Day Test Mode Surveillance Operation	52
6.HPCI.301	HPCI Steam Line Space Temperature Switch Functional Test	9
6.PCIS.601	Steam Line Break Detection Temperature Switch Calibration Test (Bath)	13
6.SW.102	Service Water System Post-LOCA Flow Verification	48
6.SW.202	Service Water Power Operated Valve Operability Test	20
6.1DG.101	Diesel Generator 31 Day Operability Test (DIV 1)	82
6.1HPCI.701	HPCI Steam Line High Flow Channel Funtional Test (DIV 1)	6
6.1HPCI.702	HPCI Steam Line Low Pressure Channel Functional Test (DIV 1)	5
6.1REC.101	REC Surveillance Operation (IST)(DIV 1)	16
6.2HPCI.702	HPCI Steam Line Low Pressure Channel Functional Test (DIV 2)	5

Condition Reports (CRs)

CR-CNS-2016-00141	CR-CNS-2016-00167	CR-CNS-2016-00201	CR-CNS-2016-00218
CR-CNS-2016-00230	CR-CNS-2016-00320	CR-CNS-2016-00321	CR-CNS-2016-00322
CR-CNS-2016-00323	CR-CNS-2016-00784	CR-CNS-2016-00920	

Section 1EP6: Drill Evaluation

Miscellaneous Documents

Title	Date
EP Drill Scenario Overview – 2016 Dress Rehearsal	March 29, 2016

Procedures

Number	Title	Revision
5.7.6	Emergency Notification	67

Condition Reports (CRs)

CR-CNS-2016-01722	CR-CNS-2016-01723	CR-CNS-2016-01727	CR-CNS-2016-01730
CR-CNS-2016-01731	CR-CNS-2016-01737	CR-CNS-2016-01738	CR-CNS-2016-01738
CR-CNS-2016-01754			

Section 2RS2: Occupational ALARA Planning and Controls

Audits and Self-Assessments

Number	Title	Date
LO-2014-180-004	Pre-NRC Inspection Assessment	March 2015
LO-2015-094-001	Maintenance Department 2015 Snap Shot Assessment	December 2015
LO-2015-201-003	Pre-NRC Inspection Assessment	January 2016

Miscellaneous Documents

	Title	Date
	2015 Cooper Nuclear Station ALARA Program	March 2016
	Cooper Daily Dose Projections	March 21, 2016
	Cooper Nuclear Station 5-Year CRE Reduction Plan; 2016-2020	March 2016
	Selected Station ALARA Committee Meeting Minutes;	2015/2016

Procedures

Number	Title	Revision
9.ALARA.4	Radiation Work Permits	22
9.EN-RP-100	Radiation Worker Expectations	07
9.EN-RP-102	Radiological Control	03
9.EN-RP-110	ALARA Program	09
9.EN-RP-110-105	ALARA Planning and Controls	03
9.RADOP.1	Radiation Protection at CNS	14

Radiation Work Permits

Number	Title	Revision
2016-004	All RCA Buildings General Entry – All Crafts	00
2016-014	Refuel Floor Activities (Refuel Bridge Upgrade)	00
2016-102	HIC Preps / Shipments	00

Condition Reports (CRs)

CR-CNS-2015-02757	CR-CNS-2015-04633	CR-CNS-2015-04807	CR-CNS-2015-04833
CR-CNS-2015-05008	CR-CNS-2015-05550	CR-CNS-2015-05556	CR-CNS-2015-05815
CR-CNS-2015-05938	CR-CNS-2015-06579	CR-CNS-2015-07167	CR-CNS-2016-00497
CR-CNS-2016-00597	CR-CNS-2015-01109		

Section 2RS4: Occupational Dose Assessment

Audits and Self Assessments

Number	Title	Date
	Radiation Protection Program Annual Report	2014
14-04	QA Audit of Radiological Controls	September 9, 2014
LO-2015-201-003	Focused Self-Assessment: ALARA Planning and Controls and Occupational Dose Assessment	January 15, 2016

Miscellaneous Documents

Title	Date
100555-0 National Voluntary Laboratory Accreditation Program (NVLAP) Certificate for Mirion Technologies	June 11, 2015
2014 DAW Part 61 Analysis	February 17, 2015
Airborne Radioactivity Scaling Factor for Hard to Identify Nuclides (White Paper)	June 9, 2013
Internal Dose Assessment Prospectus	2015
Internal Dose Assessment Prospectus	2016

Procedures

Number	Title	Revision
9.ALARA.1	Personnel Dosimetry and Occupational Radiation Exposure Program	44
9.ALARA.13	Radiation Worker and Tour Group Dosimetry Management	24
9.EN-RP-102	Radiological Control	3
9.EN-RP-104	Personnel Contamination	12
9.EN-RP-110-05	ALARA Planning and Controls	3
9.EN-RP-122	Alpha Monitoring	3
9.EN-RP-203	Dose Assessment	8
9.EN-RP-205	Prenatal Monitoring	0
9.EN-RP-206	Dosimeter of Legal Record Quality Assurance	3
9.EN-RP-208	Whole Body Counting and In-Vitro Bioassay	3
9.EN-RP-210	Area Radiation Monitoring	0
9.EN-RP-311	Electronic Alarming Dosimeters	3
9.RADOP.1	Radiation Protection at CNS	14
9.RADOP.2	Radiation Safety Standards and Limits	16
9.RADOP.5	Airborne Radioactivity Sampling	27

Condition Reports (CRs)

CR-CNS-2014-00522	CR-CNS-2014-00962	CR-CNS-2014-01617	CR-CNS-2014-02231
CR-CNS-2014-03991	CR-CNS-2014-05017	CR-CNS-2014-05607	CR-CNS-2014-05644
CR-CNS-2014-05948	CR-CNS-2014-06205	CR-CNS-2014-06269	CR-CNS-2014-06636
CR-CNS-2014-06726	CR-CNS-2014-06812	CR-CNS-2014-07414	CR-CNS-2015-00183
CR-CNS-2015-01372	CR-CNS-2015-01840	CR-CNS-2015-04491	CR-CNS-2016-00698

Section 4OA1: Performance Indicator Verification

Procedures

Number	Title	Revision
0-EN-LI-114	Performance Indicator Process	5C2

Section 4OA2: Problem Identification and Resolution

Miscellaneous Documents

Number	Title	Revision/Date
	Failure Modes and Effects Analysis – DG1 Slow Start	0
	IST Basis Document	9
DCD-39	ISI Boundary Basis – ASME Section XI Classification Document	April 6, 2011
ESD95081	CNS IST Issue Resolution	February 20, 1995
ENDC 11209442	DG1 Slow Start Time (CR-CNS-2016-00141)	January 12, 2016
GE SIL 173	Control Rod Drive High Operating Temperature	May 28, 1976
117.10-IC-09	EDG 1 Composite Control Air Schematic	9
2010	Burns and Roe, Flow Diagram – Instrument Air Control and Turbine Building, Sheet 1	A9
2039	Flow Diagram, Control Rod Drive Hydraulic System	61
2077	Burns and Roe, Flow Diagram – Diesel Gen Bldg Service Water, Starting Air, Fuel Oil, Sump System and Roof Drains	N78
45001 84705	Purchase Order – Valve PC8	January 12, 2016

Procedures

Number	Title	Revision
0-CNS-LI-102	Corrective Action Process	2
2.2.8	Control Rod Drive Hydraulic System	53, 91
2.2.8A	Control Rod Drive Hydraulic System Component Checklist	17
2.2.20.2	Operation of Diesel Generators from Diesel Generator Rooms	62
6.MISC.502	ASME Class 1 System Leakage Test	46
15.CRD.501	CRD Hydraulic Control Unit Scram Discharge Valve Leakage Check	4

Condition Reports (CRs)

CR-CNS-2015-06608	CR-CNS-2015-06927	CR-CNS-2016-00075	CR-CNS-2016-00141
CR-CNS-2016-00167	CR-CNS-2016-00194	CR-CNS-2016-00403	CR-CNS-2016-01301
CR-CNS-2016-01485	CR-CNS-2016-01523	CR-CNS-2016-01755	

Work Orders

5022746	5028371	5044378	5115933	112094402

Section 4OA5: Other Activities

Miscellaneous Documents

Number	Title	Revision
EC-EE15-012	Diesel Generator Diesel Oil Tank Vent Tornado Missile Analysis	1
NEDC 13-046	Diesel Generator Vent Line Tornado Missile Durability	2

The following items are requested for the
Occupational/Public Radiation Safety Inspection
at Cooper Station
(March 21-24, 2016)
Integrated Report 2016001

Inspection areas are listed in the attachments below.

Please provide the requested information on or before Monday, February 29, 2016.

Please submit this information using the same lettering system as below. For example, all contacts and phone numbers for Inspection Procedure 71124.01 should be in a file/folder titled "1- A," applicable organization charts in file/folder "1- B," etc.

If information is placed on *ims.certrec.com*, please ensure the inspection exit date entered is at least 30 days later than the onsite inspection dates, so the inspectors will have access to the information while writing the report.

In addition to the corrective action document lists provided for each inspection procedure listed below, please provide updated lists of corrective action documents at the entrance meeting. The dates for these lists should range from the end dates of the original lists to the day of the entrance meeting.

More than one inspection procedure is to be conducted. Consequently, if the information requests appear to be redundant, there is no need to provide duplicate copies. Enter a note explaining in which file the information can be found.

If you have any questions or comments, please contact Martin J. Phalen at (817) 200-1158 or Martin.Phalen@nrc.gov.

PAPERWORK REDUCTION ACT STATEMENT

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

2. Occupational ALARA Planning and Controls (71124.02)
Date of Last Inspection: May 2015

However, please provide information requested from January 1, 2015, to present.

A. List of contacts and telephone numbers for ALARA program personnel.

B. Applicable organization charts.

C. Copies of audits, self-assessments, and LERs, written since date of last inspection, focusing on ALARA.

D. Procedure index for ALARA Program.

E. Please provide specific procedures related to the following areas noted below. Additional specific procedures may be requested by number after the inspector reviews the procedure indexes.
1. ALARA Program
2. ALARA Committee
3. Radiation Work Permit Preparation

F. A summary list of corrective action documents (including corporate and subtiered systems) written since date of last inspection, related to the ALARA program. In addition to ALARA, the summary should also address radiation work permit (RWP) violations, electronic dosimeter alarms, and RWP dose estimates

NOTE: The lists should indicate the significance level of each issue and the search criteria used. Please provide in document formats which are "searchable" so that the inspector can perform word searches.

G. List of work activities greater than 1 rem, since date of last inspection. Include original dose estimate and actual dose.

H. Site dose totals and 3-year rolling averages for the past 3 years (based on dose of record).

I. Outline of source term reduction strategy.

J. If available, provide a copy of the ALARA outage report for the *most recently* completed outage.

K. Please provide your most recent Annual ALARA Report.

4. Occupational Dose Assessment (Inspection Procedure 71124.04)
Date of Last Inspection: June 2014

However, please provide information requested from January 1, 2014, to present.

A. List of contacts and telephone numbers for the following areas:
Dose Assessment personnel

B. Applicable organization charts

C. Audits, self-assessments, vendor or NUPIC audits of contractor support, and LERs written since date of last inspection, related to:
Occupational Dose Assessment

D. Procedure indexes for the following areas:
Occupational Dose Assessment

E. Please provide specific procedures related to the following areas noted below. Additional specific procedures will be requested by number after the inspector reviews the procedure indexes.
1. Radiation Protection Program
2. Radiation Protection Conduct of Operations
3. Personnel Dosimetry Program
4. Radiological Posting and Warning Devices
5. Air Sample Analysis
6. Performance of High Exposure Work
7. Declared Pregnant Worker
8. Bioassay Program

F. List of corrective action documents (including corporate and subtiered systems) written since date of last inspection, associated with:
1. National Voluntary Laboratory Accreditation Program (NVLAP)
2. Dosimetry (TLD/OSL, etc.) problems
3. Electronic alarming dosimeters
4. Bioassays or internally deposited radionuclides or internal dose
5. Neutron dose

NOTE: The lists should indicate the significance level of each issue and the search criteria used. Please provide in document formats which are “searchable” so that the inspector can perform word searches.

G. List of positive whole body counts since date of last inspection, names redacted if desired.

H. Part 61 analyses/scaling factors.

I The most recent NVLAP accreditation report or, if dosimetry is provided by a vendor, the vendor’s most recent results.