



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**

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

August 11, 2015

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
05000298/2015002

Dear Mr. Limpias:

On June 30, 2015, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Cooper Nuclear Station. On July 9, 2015, the NRC inspectors discussed the results of this inspection with Mr. K. Higginbotham and other members of your staff. Inspectors documented the results of this inspection in the enclosed inspection report.

NRC inspectors documented one finding of very low safety significance (Green) in this report. This finding involved a violation of NRC requirements. The NRC is treating this violation as a non-cited violation (NCVs) consistent with Section 2.3.2.a of the NRC Enforcement Policy.

If you contest this violation or significance of this non-cited violation, 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.

O. Limpias

- 2 -

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 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/

Greg Warnick, Branch Chief
Project Branch C
Division of Reactor Projects

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

Enclosure:
Inspection Report 05000298/2015002
w/ Attachment:
1. Supplemental Information
2. Request for Information for the
Occupational Radiation Safety
Inspection

O. Limpias

- 2 -

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Letter to Oscar A. Limpias from Greg Warnick dated August 11, 2015

SUBJECT: COOPER NUCLEAR STATION – NRC INTEGRATED INSPECTION REPORT
05000298/2015002

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U.S. NUCLEAR REGULATORY COMMISSION

REGION IV

Docket: 05000298

License: DPR-46

Report: 05000298/2015002

Licensee: Nebraska Public Power District

Facility: Cooper Nuclear Station

Location: 72676 648A Ave
Brownville, NE

Dates: April 1 through June 30, 2015

Inspectors: J. Nance, Acting Senior Resident Inspector
C. Henderson, Resident Inspector
R. Azua, Senior Project Engineer
J. Melfi, Project Engineer
P. Nizov, Project Engineer
P. Elkmann, Senior Emergency Preparedness Inspector
M. Phalen, Senior Health Physicist
P. Hernandez, Health Physicist

Approved By: Greg Warnick
Chief, Project Branch C
Division of Reactor Projects

SUMMARY

IR 05000298/2015002; 04/01/2015 – 06/30/2015; Cooper Nuclear Station; Maintenance Risk Assessments and Emergent Work Control.

The inspection activities described in this report were performed between April 1 and June 30, 2015, by the resident inspectors at the Cooper Nuclear Station and inspectors from the NRC's Region IV office. One finding of very low safety significance (Green) is documented in this report. This finding involved a violation 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: Initiating Events

- Green. The inspectors identified a non-cited violation of Technical Specification 5.4.1.a, associated with the licensee's failure to appropriately implement General Operating Procedure 2.1.10, "Station Power Changes," Revision 107. Specifically, the procedure required in Step 10.3 that the licensee, "Ensure any pre-planned evolution (e.g., pressure change, flow change, etc.) will not result in operation greater than 2419 MWt." On May 8, 2015, the licensee failed to implement Step 10.3 of General Operating Procedure 2.1.10, when they failed to reduce power to ensure that reactor power did not exceed 2419 MWt as the reactor recirculation motor generator 'B' scoop tube was unlocked. As a result of this failure to reduce power for this planned evolution, reactor power increased to 2422 MWt. The licensee entered this deficiency into their corrective action program for resolution as Condition Report CR-CNS-2015-04259.

The performance deficiency is more than minor, and therefore a finding, because it is associated with the human performance attribute of the Initiating Events Cornerstone objective to limit the likelihood of events that upset plant stability and challenge safety functions during shutdown as well as power operations. Specifically, the licensee did not know the condition of the reactor recirculation – motor generator set B potentiometer prior to unlocking it and failed to reduce power such that when the scoop tube was unlocked, the resulting power increase would not exceed 2419 MWt. The inspectors screened the finding using Inspection Manual Chapter 0609, Appendix A, Exhibit 2, Section C, "Reactivity Control Systems," which resulted in a 'Yes' answer to Question 2 since the finding involved control manipulations that unintentionally added positive reactivity. This referred the inspectors to Inspection Manual Chapter 0609, Appendix M, "Significance Determination Using Qualitative Criteria." A Senior Reactor Analyst performed a bounding qualitative evaluation and determined that the finding was of very low safety significance (Green) because of the relatively small magnitude of the overpower event, the prompt operator actions to return power to below the licensed limit upon discovery, and the fact that the overpower event did not result in any failure of the fuel cladding. This finding has a cross-cutting aspect in the area of human performance associated with conservative bias. Specifically, the affected evolution was known in advance to have the possibility of a positive reactivity impact; however, operators did not take appropriate actions to reduce power sufficiently prior to unlocking the reactor recirculation – motor generator set B scoop tube in order to prevent the reactor from exceeding 2419 MWt [H.14]. (Section 1R13)

PLANT STATUS

The Cooper Nuclear Station began the inspection period at full power. On May 21, 2015, reactor power was lowered to approximately 70 percent due to the unplanned loss of the motor control center – z feeder breaker. On May 22, 2015, reactor power was increased to 100 percent and remained there until May 29, 2015, when the reactor was shutdown for Planned Outage PO15-001. On May 31, 2015, the station commenced reactor startup and the reactor was critical on June 1, 2015, at 2:55 p.m. On June 1, 2015, the station synchronized the main generator with the grid and began power ascension. The plant returned to full power on June 2, 2015, where it remained for the rest of the reporting period except for minor downpowers for surveillance testing and rod sequence exchanges.

REPORT DETAILS

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity

1R01 Adverse Weather Protection (71111.01)

Readiness for Impending Adverse Weather Conditions

a. Inspection Scope

On May 6, 2015, the inspectors completed an inspection of the station's readiness for impending adverse weather conditions. The inspectors reviewed plant design features, the licensee's procedures to respond to tornadoes and high winds, and the licensee's planned implementation of these procedures. The inspectors evaluated operator staffing and accessibility of controls and indications for those systems required to control the plant.

These activities constituted one sample of readiness for impending adverse weather conditions, as defined in Inspection Procedure 71111.01.

b. Findings

No findings were identified.

1R04 Equipment Alignment (71111.04)

Partial Walkdown

a. Inspection Scope

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

- May 12, 2015, Reactor core isolation cooling system
- June 9, 2015, Residual heat removal, Division I
- June 24, 2015, Diesel fuel oil transfer system, Division I and Division II

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 three partial system walk-down samples 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:

- April 2, 2015, Control rod drive units, South, Fire Area 1, Zone 2C
- April 2, 2015, Reactor protection system room 1B, Fire Area V, Zone 8B
- April 3, 2015, Reactor water cleanup pump area and Regen heat exchanger, Fire Area I, Zone 3E
- April 3, 2015, Auxillary relay room, cable spreading room, Fire Area VII, Zone 9A/9B

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.

1R07 Heat Sink Performance (71111.07)

a. Inspection Scope

On June 18, 2015, the inspectors completed an inspection of the readiness and availability of risk-significant heat exchangers. The inspectors observed performance tests for the residual heat removal heat exchanger A. Additionally, the inspectors walked down the heat exchanger to observe its performance and material condition and verified

that the heat exchanger was correctly categorized under the Maintenance Rule and was receiving the required maintenance.

These activities constituted completion of one heat sink performance annual review sample, as defined in Inspection Procedure 71111.07.

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 June 9, 2015, 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

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 risk. The inspectors observed the operators' performance of the following activities:

- May 10, 2015, Average power range monitor calibrations, including the pre-job brief
- May 15, 2015, Quarterly downpower for rod pattern adjustment, 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 one instance of degraded performance or condition of safety-related structures, systems, and components (SSCs):

- May 27, 2015, Main steam isolation valve inboard limit switches, failure of inboard limit switches to accuate

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 SSC. 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 one maintenance effectiveness sample, 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:

- April 9, 2015, Diesel generator maintenance outage, Division 1
- May 5, 2015, Residual heat removal A maintenance window
- May 10, 2015, Average power range monitor A calibration required to drifting instrument
- June 8, 2015, Personnel airlock inner equalization valve missed surveillance

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:

- May 6, 2015, During residual heat removal A pump 10 year preventative maintenance discovered and resolved motor stator core ring to frame weld indications
- May 8, 2015, Reactor recirculation motor generator (MG) set B undemand response causing an increase in flow and positive addition of reactivity

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 SSCs.

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

b. Findings

Introduction. The inspectors identified a Green non-cited violation of Technical Specification 5.4.1.a, associated with the licensee's failure to implement General Operating Procedure 2.1.10, "Station Power Changes," Revision 107. Specifically, operation personnel failed to follow Step 10.3 to, "Ensure any pre-planned evolution (e.g., pressure change, flow change, etc.) will not result in operation greater than 2419 MWt."

Description. On May 8, 2015, at 3:30 p.m., the licensee entered Abnormal Procedure 2.4RR, "Reactor Recirculation Abnormal," Revision 40, in response to reactor recirculation MG set B scoop tube movement without demand. Reactor power exceeded 2419 MWt for a short period of time and operators took immediate action to reduce power below 2419 MWt and then locked out the scoop tube. Three hours later, the licensee completed its review of the undemand event and concluded that the cause of the undemand speed change was the feedback potentiometer as the demand signal from control room flow control unit RRFC-SIC-16B did not change. The licensee had lowered the reactor recirculation MG set B speed prior to the lockout of the scoop tube as described above, which was believed to have moved the potentiometer off the spot that resulted in the undemand signal being generated and to a region on the potentiometer where it was believed that no undemand signal would be generated. At approximately 7:16 p.m., the licensee unlocked the reactor recirculation MG set B scoop tube and power increased to 2422 MWt, a 19 MWt increase in power, in a little over one minute. The licensee quickly reduced power to below 2419 MWt. Over the next forty-five minutes power slowly increased due to reactor recirculation MG set B scoop tube position raising approximately one and one-half percent undemanded. Subsequently, the licensee locked out the reactor recirculation MG set B scoop tube for the second time. The inspectors reviewed operating logs, thermal power graphs, and several licensee procedures, as referenced in the List of Documents Reviewed. General Operating Procedure 2.1.10, "Station Power Changes," states, in part, in Section 10.3, "Ensure any pre-planned evolution (e.g., pressure change, flow change, etc.) will not result in operation greater than 2419 MWt."

Analysis. The failure to appropriately implement a power operation and process monitoring procedure, required by Technical Specification 5.4.1.a., was a performance deficiency. The performance deficiency is more than minor, and therefore a finding, because it is associated with the human performance attribute of the Initiating Events Cornerstone objective to limit the likelihood of events that upset plant stability and challenge safety functions during shutdown as well as power operations. Specifically, the licensee did not know the condition of the reactor recirculation – motor generator set B potentiometer prior to unlocking it and failed to reduce power such that when the scoop tube was unlocked, the resulting power increase would not exceed 2419 MWt. The inspectors screened the finding using Inspection Manual Chapter 0609, Appendix A, Exhibit 2, Section C, “Reactivity Control Systems,” which resulted in a ‘Yes’ answer to Question 2 since the finding involved control manipulations that unintentionally added positive reactivity. This referred the inspectors to Inspection Manual Chapter 0609, Appendix M, “Significance Determination Using Qualitative Criteria.” A Senior Reactor Analyst (SRA) performed a bounding qualitative evaluation and determined that the finding was of very low safety significance (Green) because of the relatively small magnitude of the overpower event, the prompt operator actions to return power to below the licensed limit upon discovery, and the fact that the overpower event did not result in any failure of the fuel cladding. This finding has a cross-cutting aspect in the area of human performance associated with conservative bias. Specifically, the affected evolution was known in advance to have the possibility of a positive reactivity impact; however, operators did not take appropriate actions to reduce power sufficiently prior to unlocking the reactor recirculation – motor generator set B scoop tube in order to prevent the reactor from exceeding 2419 MWt [H.14].

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.” NRC Regulatory Guide 1.33, Appendix A, Section 2, addresses, “General Plant Operating Procedures,” and Section 2.g, addresses, “Power Operation and Process Monitoring.” Procedure 2.1.10, “Station Power Changes,” Revision 107, Step 10.3, states, “Ensure any pre-planned evolution (e.g., pressure change, flow change, etc.) will not result in operation > 2419 MWt or 2381 MWt as applicable.” Contrary to the above, on May 8, 2015, the licensee failed to implement Step 10.3 of General Operating Procedure 2.1.10. Specifically, the licensee failed to reduce power to ensure that reactor power did not exceed 2419 MWt when the reactor recirculation motor generator ‘B’ scoop tube was unlocked. As a result of this failure to reduce power for this planned evolution, reactor power increased to 2422 MWt. The licensee documented this issue in its corrective action program as Condition Report CR-CNS-2015-04259. Because the violation was of very low safety significance and was 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 Enforcement Policy: NCV 05000298/2015002-01, “Failure to Prevent Reactor Thermal Power from Exceeding 2419 MWt for Preplanned Activity.”

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 SSCs:

- April 13, 2015, Operability determination of 1FE and 1GE breaker trip coils, Division 1 and Division 2
- April 16, 2015, Operability determination of diesel generator fuel storage tank vents, Division 1 and Division 2
- April 28, 2015, Operability determination of RHR-MOV-27B pinion gear
- May 8, 2015, Operability determination of turbine building blowout panels not meeting current licensing basis
- May 21, 2015, Operability determination of inboard main steam isolation valve MS-AOV-80A and 80B limit switch input into reactor protection system

The inspectors reviewed the timeliness and technical adequacy of the licensee's evaluations. Where the licensee determined the degraded SSCs 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.

These activities constituted completion of five operability and functionality review samples, as defined in Inspection Procedure 71111.15.

b. Findings

No findings were identified.

1R18 Plant Modifications (71111.18)

Permanent Modifications

a. Inspection Scope

On May 18, 2015, the inspectors reviewed a permanent modification to the railroad airlock door which forms part of secondary containment and affected risk-significant 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 SSC 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 five post-maintenance testing activities that affected risk-significant SSCs:

- April 14, 2015, Diesel generator outage post-maintenance test, Division 1
- April 23, 2015, Surveillance Procedure 6.HPCI.103, "HPCI IST and 92 Day Test Mode," performed on high pressure coolant injection pump and system, following completion of high pressure coolant injection maintenance outage
- May 11, 2015, Residual heat removal A outage window post-maintenance testing, Division 1
- June 8, 2015, Reactor recirculation MG set B undemand response potentiometer repair
- June 11, 2015, Diesel generator post-maintenance testing, Division 2

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 five post-maintenance testing inspection samples, as defined in Inspection Procedure 71111.19.

b. Findings

No findings were identified.

1R20 Refueling and Other Outage Activities (71111.20)

a. Inspection Scope

During the station's planned outage that concluded on June 1, 2015, the inspectors evaluated the licensee's outage activities. The inspectors verified that the licensee considered risk in developing and implementing the outage plan, appropriately managed personnel fatigue, and developed mitigation strategies for losses of key safety functions. This verification included the following:

- Review of the licensee's outage plan prior to the outage
- Monitoring of shut-down and cool-down activities
- Verification that the licensee maintained defense-in-depth during outage activities
- Observation of operations with potential to drain the reactor vessel
- Monitoring of heat-up and startup activities

These activities constituted completion of one outage activities sample, as defined in Inspection Procedure 71111.20.

b. Findings

No findings were identified.

1R22 Surveillance Testing (71111.22)

a. Inspection Scope

The inspectors observed eight risk-significant surveillance tests and reviewed test results to verify that these tests adequately demonstrated that the SSCs were capable of performing their safety functions:

In-service tests:

- April 22, 2015, Surveillance Procedure 6.HPCI.201, "HPCI Valve Operability Test (IST)," performed on HPCI-MO-15 and HPCI-MO-16

Other surveillance tests:

- April 18, 2015, Standby liquid control pump operability test
- April 20, 2015, 4160 V, Bus 1G, undervoltage relay and relay timer testing
- April 20, 2015, Withdrawn control rod operability inservice test
- May 1, 2015, 4160 V, Bus 1G, undervoltage relay functional test
- May 7, 2015, Diesel generator 1 in service test surveillance testing
- May 27, 2015, Main steam isolation valve operability test
- June 14, 2015, Main turbine bypass functional test

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 test satisfied appropriate acceptance criteria. The inspectors verified that the licensee restored the operability of the affected SSCs following testing.

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

b. Findings

No findings were identified.

Cornerstone: Emergency Preparedness

1EP4 Emergency Action Level and Emergency Plan Changes (71114.04)

a. Inspection Scope

The inspector performed an in-office review of emergency plan implementing procedures:

- 5.7.2, “Emergency Director EPIP,” Revision 33;
- 5.7.6, “Notification,” Revision 64;
- 5.7.20, “Protective Action Recommendations,” Revisions 25 and 26; and
- 5.7.1, “Emergency Classification,” Attachment 2, “Emergency Action Level Technical Basis,” Revision 51.

These revisions:

- removed a site area emergency classification protective action recommendation made when releases of radioactive material exceed one-tenth of a protective action guide. The removed protective action recommendation was for the public in the emergency planning zone to go indoors and monitor the emergency alert system;
- added direction for the evaluation of simultaneous releases of radioactive material from multiple release points in the licensee’s plant;
- added references to the newly-implemented fire protection plan based on National Fire Protection Association Standard 805;
- incorporated, in conjunction with offsite authorities, a protective action scheme based on Supplement 3 to NUREG-0654, Revision 1, including consideration of the current site-specific Evacuation Time Estimate evaluation; and
- corrected minor typographical mistakes.

These revisions were compared to their previous revisions, to the criteria of NUREG-0654, “Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants,” Revision 1, and to the standards in 10 CFR 50.47(b) to determine if the revisions adequately implemented the requirements of 10 CFR 50.54(q)(3) and 50.54(q)(4). The inspector verified that the revisions did not decrease the effectiveness of the emergency plan. This review was not documented in a safety evaluation report and did not constitute approval of licensee-generated changes; therefore, these revisions are subject to future inspection.

These activities constituted completion of five emergency action level and emergency plan changes samples as defined in Inspection Procedure 71114.04.

b. Findings

No findings were identified.

1EP6 Drill Evaluation (71114.06)

Emergency Preparedness Drill Observation

a. Inspection Scope

The inspectors observed an emergency preparedness drill on April 24, 2015, 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 Emergency Operations Facility, 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

2RS1 Radiological Hazard Assessment and Exposure Controls (71124.01)

a. Inspection Scope

The inspectors assessed the licensee's performance in assessing the radiological hazards in the workplace associated with licensed activities. The inspectors assessed the licensee's implementation of appropriate radiation monitoring and exposure control measures for both individual and collective exposures. The inspectors walked down various portions of the plant and performed independent radiation dose rate measurements. The inspectors interviewed the radiation protection manager, radiation protection supervisors, and radiation workers. The inspectors reviewed licensee performance in the following areas:

- The hazard assessment program, including a review of the licensee's evaluations of changes in plant operations and radiological surveys to detect dose rates, airborne radioactivity, and surface contamination levels
- Instructions and notices to workers, including labeling or marking containers of radioactive material, radiation work permits, actions for electronic dosimeter alarms, and changes to radiological conditions
- Programs and processes for control of sealed sources and release of potentially contaminated material from the radiologically controlled area, including survey performance, instrument sensitivity, release criteria, procedural guidance, and sealed source accountability

- Radiological hazards control and work coverage, including the adequacy of surveys, radiation protection job coverage and contamination controls, the use of electronic dosimeters in high noise areas, dosimetry placement, airborne radioactivity monitoring, controls for highly activated or contaminated materials (non-fuel) stored within spent fuel and other storage pools, and posting and physical controls for high radiation areas and very high radiation areas
- Radiation worker and radiation protection technician performance with respect to radiation protection work requirements
- Audits, self-assessments, and corrective action documents related to radiological hazard assessment and exposure controls since the last inspection

These activities constituted completion of one sample of radiological hazard assessment and exposure controls, as defined in Inspection Procedure 71124.01.

b. Findings

No findings were identified.

2RS2 Occupational ALARA Planning and Controls (71124.02)

a. Inspection Scope

The inspectors assessed licensee performance with respect to maintaining occupational individual and collective radiation exposures as low as is reasonably achievable (ALARA). During the inspection, the inspectors interviewed licensee personnel and reviewed licensee performance in the following areas:

- Site-specific ALARA procedures and collective exposure history, including the current 3-year rolling average, site-specific trends in collective exposures, and source-term measurements
- ALARA work activity evaluations/post job reviews, exposure estimates, and exposure mitigation requirements
- The methodology for estimating work activity exposures, the intended dose outcome, the accuracy of dose rate and man-hour estimates, and intended versus actual work activity doses and the reasons for any inconsistencies
- Records detailing the historical trends and current status of tracked plant source terms and contingency plans for expected changes in the source term due to changes in plant fuel performance issues or changes in plant primary chemistry
- Radiation worker and radiation protection technician performance during work activities in radiation areas, airborne radioactivity areas, or high radiation areas
- Audits, self-assessments, and corrective action documents related to ALARA planning and controls since the last inspection

These activities constituted completion of one sample of occupational ALARA planning and controls, as defined in Inspection Procedure 71124.02.

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 Safety System Functional Failures (MS05)

a. Inspection Scope

For the period of April 1, 2014 through March 31, 2015, the inspectors reviewed licensee event reports (LERs), maintenance rule evaluations, and other records that could indicate whether safety system functional failures had occurred. The inspectors used definitions and guidance contained in Nuclear Energy Institute Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 7, and NUREG-1022, "Event Reporting Guidelines: 10 CFR 50.72 and 50.73," Revision 3, to determine the accuracy of the data reported.

These activities constituted verification of the safety system functional failures performance indicator, as defined in Inspection Procedure 71151.

b. Findings

No findings were identified.

.2 Reactor Coolant System Specific Activity (BI01)

a. Inspection Scope

The inspectors reviewed the licensee's reactor coolant system chemistry sample analyses for the period of April 1, 2014 through March 31, 2015, to verify the accuracy and completeness of the reported data. The inspectors observed a chemistry technician obtain and analyze a reactor coolant system sample on May 20, 2015. 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 reported data.

These activities constituted verification of the reactor coolant system specific activity performance indicator, as defined in Inspection Procedure 71151.

b. Findings

No findings were identified.

.3 Reactor Coolant System Identified Leakage (BI02)

a. Inspection Scope

The inspectors reviewed the licensee's records of reactor coolant system identified leakage for the period of April 1, 2014 through March 31, 2015, to verify the accuracy and completeness of the reported data. 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 reported data.

These activities constituted verification of the reactor coolant system leakage performance indicator, as defined in Inspection Procedure 71151.

b. Findings

No findings were identified.

.4 Occupational Exposure Control Effectiveness (OR01)

a. Inspection Scope

The inspectors verified that there were no unplanned exposures or losses of radiological control over locked high radiation areas and very high radiation areas from fourth quarter 2014 through the first quarter 2015. The inspectors reviewed a sample of radiologically controlled area exit transactions showing exposures greater than 100 mrem. 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 reported data.

These activities constituted verification of the occupational exposure control effectiveness performance indicator, as defined in Inspection Procedure 71151.

b. Findings

No findings were identified.

.5 Radiological Effluent Technical Specifications (RETS)/Offsite Dose Calculation Manual (ODCM) Radiological Effluent Occurrences (PR01)

a. Inspection Scope

The inspectors reviewed corrective action program records for liquid or gaseous effluent releases that occurred from the fourth quarter 2014 through the first quarter 2015 and were reported to the NRC to verify the performance indicator data. 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 reported data.

These activities constituted verification of the radiological effluent technical specifications (RETS)/offsite dose calculation manual (ODCM) radiological effluent occurrences 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 Semiannual Trend Review

a. Inspection Scope

The inspectors reviewed the licensee's corrective action program, performance indicators, system health reports, and other documentation to identify trends that might indicate the existence of a more significant safety issue. The inspectors verified that the licensee was taking corrective actions to address identified adverse trends.

These activities constitute completion of one semiannual trend review sample, as defined in Inspection Procedure 71152.

b. Observations and Assessments

The inspectors noted the following negative trends: an increasing number of incidences across operations, engineering, chemistry, and maintenance of inconsistent use and adherence to station procedures and the effectiveness of problem identification. The inspectors verified that the licensee was aware of these issues and these issues have been entered into the corrective action program.

c. Findings

No findings were identified.

4OA3 Follow-up of Events and Notices of Enforcement Discretion (71153)

a. Inspection Scope

On May 21, 2015, the inspectors were informed by the control room that there had been an unplanned reactor downpower to 70 percent. The unplanned reactor downpower was the result of a trip of motor control center zulu, MCC-Z. The trip of MCC-Z resulted in the loss of circulating water pump discharge valves, intake structure lighting, service water pump room air conditioning unit, and riverwell pumps and air condition units. In accordance with station procedure the station conducted a rapid reactor downpower to 70 percent. The inspectors monitored the licensee's actions for rapid reactor downpower recovery, reviewed station logs, and reviewed NUREG-1022, "Event Reporting Guidelines," Revision 3, to ensure licensee compliance.

These activities constituted completion of one event follow-up sample, as defined in Inspection Procedure 71153.

b. Findings

No findings were identified.

4OA6 Meetings, Including Exit

Exit Meeting Summary

On May 22, 2015, the inspectors presented the radiation safety inspection results to Mr. O. Limpas, Vice President Nuclear 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.

On June 18, 2015, the inspector conducted a telephonic exit meeting to present the results of the in-office inspection of changes to the licensee's emergency plan and emergency plan implementing procedures to Ms. M. Ferguson, Manager, Emergency Preparedness. The licensee acknowledged the issues presented. The licensee confirmed that any proprietary information reviewed by the inspectors had been returned or destroyed.

On July 9, 2015, the inspectors presented the inspection results to Mr. K. Higginbotham, General Manager of Plant Operations 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

J. Bednar, Supervisor, Radiation Protection - Technical
D. Buman, Director of Engineering
L. Dewhirst, Corrective Action and Assessment Manager
K. Dia, System Engineering Manager
J. Dixon, Supervisor, ALARA
J. Flaherty, Senior Licensing Engineer
M. Ferguson, Manager, Emergency Preparedness
D. Goodman, Operations Manager
R. Penfield, Director of Nuclear Safety Assurance
J. Reimers, Balance of Plant Supervisor
J. Shaw, Licensing Manager
C. Sunderman, Manager, Radiation Protection

NRC Personnel

C. Henderson, Resident Inspector
J. Nance, Acting Senior Resident Inspector

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened and Closed

05000298/2015002-01 NCV Failure to Prevent Reactor Thermal Power from Exceeding
2419 MWt for Preplanned Activity (Section 1R13)

LIST OF DOCUMENTS REVIEWED

Section 1R01: Adverse Weather Protection

Procedures

<u>Numbers</u>	<u>Title</u>	<u>Revision</u>
5.1 Weather	Emergency Procedure, "Operation During Weather Watches and Warnings"	13

Condition Reports

CR-CNS-2015-02647

Section 1R04: Equipment Alignment

Miscellaneous Documents

<u>Number</u>	<u>Title</u>	<u>Revision</u>
2043	Burns and Roe, "CNS Flow Diagram – Reactor Core Isolation Coolant and Reactor Feed Systems"	N55

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
2.2.67A	Operations Procedure, "Reactor Core Isolation Cooling System Component Checklist"	22
2.2.67B	Operations Procedure, "Reactor Core Isolation Cooling System Instrument Valve Checklist"	3
2.2.67.1	Operations Procedure, "Reactor Core Isolation Cooling System Operations"	33
2.2A.DGDO.DIV1	Operations Procedure, "Diesel Fuel Oil Transfer System Component Checklist (DIV 1)"	4
2.2A.DGDO.DIV2	Operations Procedure, "Diesel Fuel Oil Transfer System Component Checklist (DIV 2)"	5
2.2A.RHR.DIV1	Operations Procedure, "Residual Heat Removal System Component Checklist"	8

Section 1R05: Fire Protection

Miscellaneous Documents

<u>Title</u>
Fire Hazards Analysis Matrix Fire Area I, Fire Zone 2C
Fire Hazards Analysis Matrix Fire Area I, Fire Zone 3E
Fire Hazards Analysis Matrix Fire Area V, Fire Zone 8B
Fire Hazards Analysis Matrix Fire Area VII, Fire Zone 9A/9B

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
0.23	Station Procedure, "CNS Fire Protection Plan"	70
0-Barrier-Control	Station Procedure, "Control Building"	3

Section 1R07: Heat Sink Performance

Miscellaneous Documents

<u>Number</u>	<u>Title</u>	<u>Revision/Date</u>
	Heat Exchanger Performance Testing	May 19, 2015
15-042	Calculation	
2015	Test Data Analysis and Thermal Performance Analysis for the Cooper Nuclear Station, "Alpha," RHR Heat Exchanger	0
2015-013	Engineering Report	

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
13.17.2	Performance Evaluation Procedure, "Thermal Performance Test Procedure for Residual Heat Removal Heat Exchangers"	13

Work Orders

5004475

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

Miscellaneous Documents

<u>Number</u>	<u>Title</u>	<u>Revision/Date</u>
	CNS Online Schedule	April 21, 2015
	CNS Online Schedule	May 14, 2015
	CNS System Health Summary – Reactor Recirculation	April 2015
791E256	General Electric Drawing, Sheet 9	N21
791E256	General Electric Drawing, Sheet 10	N14
791E256	General Electric Drawing, Sheet 11	N13
791E256	General Electric Drawing, Sheet 12	N13

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision/Date</u>
10-EN-RE-215	Entergy Procedure, "Reactivity Maneuver Plan"	4C0
10.9	Nuclear Performance Procedure, "Control Rod Scram Time Evaluation"	May 16, 2015

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision/Date</u>
6.MS.201	Surveillance Procedure, "Main Steam Isolation Valve Operability Test (IST)"	May 16, 2015

Section 1R12: Maintenance EffectivenessCondition Reports (CRs)

CR-CNS-2015-0604 CR-CNS-2015-0608

Work Orders

4950154 4950155 4950156 4950157

Section 1R13: Maintenance Risk Assessments and Emergent Work ControlMiscellaneous Documents

<u>Number</u>	<u>Title</u>	<u>Date</u>
	RHR Motor 1A Inspection Discrepancies CR-CNS-2015-02720 Condition Evaluation	May 7, 2015
	Instantaneous Power Graphs	May 8, 2015
	eSOMS Narrative Logs	May 8, 2015
87-30	Information Notice, "Cracking of Surge Ring Brackets in Large General Electric Company Electric Motors"	July 2, 1987

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
EN-OP-103	Entergy Procedure, "Reactivity Management Program"	5C0
0-EN-OP-111	Station Procedure, "Operational Decision Making Issue (ODMI) Process"	9C1
0-CNS-WM-100	Station Procedure, "Work Order Generation, Screening, and Classification"	1
0-CNS-61	Station Procedure, "CNS Reactivity Management Program"	27
0.26	Station Procedure, "Surveillance Program"	67
0.49	Station Procedure, "Missed Surveillance Procedure Risk Assessment"	35
0.5.OPS	Station Procedure, "Operations Review of Condition Reports/Operability Determination"	53

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
2.0.3	Operations Procedure, "Conduct of Operations"	88
2.0.3.1	Operations Procedure, "Operational Strategy Guidance Process"	0
2.0.6	Operations Procedure, "Operational Event Response and Review"	34
2.1.10	Operations Procedure, "Station Power Changes"	107
2.2.69	Operations Procedure, "Residual Heat Removal System"	98
2.4RR	Operations Procedure, "Reactor Recirculation Abnormal"	40
7.0.1.7	Maintenance Procedure, "Troubleshooting Plant Equipment"	14
10.1	Nuclear Performance Procedure, "APRM Calibration"	49

Condition Reports (CRs)

CR-CNS-2015-00325	CR-CNS-2015-02670	CR-CNS-2015-02672	CR-CNS-2015-02678
CR-CNS-2015-02693	CR-CNS-2015-02720	CR-CNS-2015-02732	CR-CNS-2015-02777
CR-CNS-2015-02780	CR-CNS-2015-03315	CR-CNS-2014-08217	

Work Orders

4999352	5002487
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Section 1R15: Operability Determinations and Functionality Assessments

Miscellaneous Documents

<u>Number</u>	<u>Title</u>	<u>Date</u>
Volume IV	USAR, Section VIII, Page VIII-5-1 and 2 "Electrical Power Systems"	February 28, 2000
454003877	Burns & Roe Drawing, "Cooper Nuclear Station Auxiliary One Line Diagram MCC Z, SWGR Bus 1A, 1B, 1E, & Critical SWGR Bus 1F 1G"	March 25, 2014

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
0.5.OPS	Station Procedure, "Operations Review of Condition Reports/Operability Determination"	53

Condition Reports (CRs)

CR-CNS-2015-00604 CR-CNS-2015-02007 CR-CNS-2015-02042 CR-CNS-2015-02048
CR-CNS-2015-02109 CR-CNS-2015-02273 CR-CNS-2015-02366 CR-CNS-2015-02884
CR-CNS-2015-02885

Section 1R18: Plant Modifications

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
0-EN-LI-100	Station Procedure, "Process Applicability Determination"	12C1

Section 1R19: Post-Maintenance Testing

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
6.HPCI.103	Surveillance Procedure, "HPCI IST and 92 Day Test Mode"	52
6.2DG.101	Surveillance Procedure, "Diesel Generator 31 Day Operability Test (IST) (DIV2)"	78

Condition Reports (CRs)

CR-CNS-2014-02390 CR-CNS-2014-02425 CR-CNS-2014-07918 CR-CNS-2015-02670
CR-CNS-2015-02672 CR-CNS-2015-02678 CR-CNS-2015-02693 CR-CNS-2015-02720
CR-CNS-2015-02732

Work Orders

4880361	4973750	4996865	5002487	5003162
5003163	5003166	5003523	5003524	5003677
5012087	5012635	5012642	5022727	5028844
5050834				

Section 1R22: Surveillance Testing

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
0.26	Station Procedure, "Surveillance Program"	67
6.CRD.301	Surveillance Procedure, "Withdrawn Control Rod Operability IST Test"	29

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
6.HPCI.201	Surveillance Procedure, "HPCI Valve Operability Test (IST)"	21
6.MS.201	Surveillance Procedure, "Main Steam Isolation Valve Operability Test (IST)"	15
6.MS.201	Surveillance Procedure, "Main Steam Isolation Valve Operability Test (IST)"	16
6.MS.201	Surveillance Procedure, "Main Steam Isolation Valve Operability Test (IST)"	17
6.PC.208	Surveillance Procedure, "RHR and Reactor Recirculation Valve Operability and Closure Timing (IST)"	18
6.RCIC.201	Surveillance Procedure, "RCIC Power Operated Valve Operability Test (IST)"	22
6.REC.201	Surveillance Procedure, "REC Motor Operated Valve Operability Test (IST)"	25
6.RPS.301	Surveillance Procedure, "Main Turbine Stop Valve Closure and Steam Valve Functional Test"	51
6.SLC.101	Surveillance Procedure, "SLC Pump Operability Test"	23
6.TG.301	Surveillance Procedure, "Main Turbine Steam Bypass System Response Time Test"	14
6.1.DG.101	Surveillance Procedure, "Diesel Generator 31 Day Operability Test (IST) (DIV1)"	81
6.2EE.302	Surveillance Procedure, "4160V Bus 1G Undervoltage Relay and Relay Timer Functional Test (DIV 2)"	31

Condition Reports (CRs)

CR-CNS-2014-02364 CR-CNS-2014-03709 CR-CNS-2014-04595 CR-CNS-2015-02652
CR-CNS-2015-03538 CR-CNS-2015-03631 CR-CNS-2015-03654

Work Orders

4944479 4946831 4996864 4996898

Section 2RS1: Radiological Hazard Assessment and Exposure Controls

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
9.ALARA.1	Personnel Dosimetry and Occupational Radiation Exposure Program	43

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
9.EN-RP-101	Access Control for Radiologically Controlled Areas	10
9.EN-RP-110-04	Radiation Protection Risk Assessment Process	06
9.EN-RP-122	Alpha Monitoring	03
9.EN-RP-141	Job Coverage	14
9.EN-RP-203	Dose Assessment	05
9.ENN-RP-106	Radiological Survey Documentation	11
9.ENN-RP-106-1	Radiation and Contamination Surveys	19
9.RADOP.5	Airborne Radioactivity Sampling	26
2.0.10	Primary Containment Access Control	29
2.2.69.2	RHR System Shutdown Operations	90
2.5.1.1	Backwash Tank Fluid Transfer	20
7.4.32	Work Over, Near, or In the Reactor Vessel, Dryer/Separator Storage pool, or Spent Fuel Storage Pool	12
14.2.20	Tip Detector Replacement	11

Condition Reports (CRs)

CR-CNS-2014-02446 CR-CNS-2014-03918 CR-CNS-2014-05644 CR-CNS-2014-07320
CR-CNS-2015-02967 CR-CNS-2015-03004

Section 2RS2: Occupational ALARA Planning and Controls

ALARA Work Packages

<u>Number</u>	<u>Title</u>
5	CRDM Maintenance
2014-05	Refuel Floor
2014-12	ISI/FAC
2014-23	RR B Motor

Audits, Self-Assessments, and Surveillances

<u>Number</u>	<u>Title</u>	<u>Date</u>
LO-2014-180-004	Pre-NRC Assessment regarding "Occupational ALARA Planning and Controls"	March 19, 2015

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
9.ALARA.4	Radiation Work Permits	18
9.ALARA.8	ALARA Document Control	1
9.EN-RP-110	ALARA Program	8
9.EN-RP-110-03	Collective Radiation Exposure Reduction Guidelines	0
9.EN-RP-110-05	ALARA Planning and Controls	1
9.EN-RP-110-06	Outage Dose Estimating and Tracking	0

Condition Reports (CRs)

CR-CNS-2014-06269 CR-CNS-2014-06691 CR-CNS-2014-06774 CR-CNS-2014-06954
CR-CNS-2014-07055 CR-CNS-2014-07374 CR-CNS-2014-07414 CR-CNS-2014-07695
CR-CNS-2014-08013 CR-CNS-2015-00666 CR-CNS-2015-01843

Section 40A1: Performance Indicator Verification

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
0-EN-LI-114	Entergy Procedure, "Performance Indicator Process"	5C0

Section 40A2: Problem Identification and Resolution

Condition Reports (CRs)

CR-CNS-2015-00385 CR-CNS-2015-00781 CR-CNS-2015-0604 CR-CNS-2015-0608

Work Orders

4950154 4950155 4950156 4950157

Section 40A3: Follow-up of Events and Notices of Enforcement Discretion

Condition Reports (CRs)

CR-CNS-2015-00878 CR-CNS-2015-03008 CR-CNS-2015-03013 CR-CNS-2014-06885
CR-CNS-2014-08563

**The following items are requested for the
Occupational Radiation Safety Inspection
at Cooper Nuclear Station
(May 18, 2015 – May 22, 2015)
Integrated Report 2015002**

Inspection areas are listed in the attachments below.

Please provide the requested information on or before May 11, 2015.

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.

If more than one inspection procedure is to be conducted and 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, Pete Hernandez, at (817)200-1168 or Pete.Hernandez@nrc.gov.

The lead inspector will be Martin Phalen [(630)829-9804 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.

1. Radiological Hazard Assessment and Exposure Controls (71124.01) and Performance Indicator Verification (71151)

Date of Last Inspection: October 10, 2014

- A. List of contacts and telephone numbers for the Radiation Protection Organization Staff and Technicians
- B. Applicable organization charts
- C. Audits, self-assessments, and LERs written since date of last inspection, related to this inspection area
- D. Procedure indexes for the radiation protection procedures
- 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. Radiation Protection Program Description
 - 2. Radiation Protection Conduct of Operations
 - 3. Personnel Dosimetry Program
 - 4. Posting of Radiological Areas
 - 5. High Radiation Area Controls
 - 6. RCA Access Controls and Radworker Instructions
 - 7. Conduct of Radiological Surveys
 - 8. Radioactive Source Inventory and Control
 - 9. Declared Pregnant Worker Program
- F. List of corrective action documents (including corporate and sub-tiered systems) since date of last inspection
 - a. Initiated by the radiation protection organization
 - b. Assigned to the radiation protection organization

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

If not covered above, a summary of corrective action documents since date of last inspection involving unmonitored releases, unplanned releases, or releases in which any dose limit or administrative dose limit was exceeded (for Public Radiation Safety Performance Indicator verification in accordance with IP 71151)

- G. List of radiologically significant work activities scheduled to be conducted during the inspection period (If the inspection is scheduled during an outage, please also include a list of work activities greater than 1 rem, scheduled during the outage with the dose estimate for the work activity.)
- H. List of active radiation work permits
- I. Radioactive source inventory list
 - a. All radioactive sources that are required to be leak tested
 - b. All radioactive sources that meet the 10 CFR Part 20, Appendix E, Category 2 and above threshold. Please indicate the radioisotope, initial and current activity (w/assay date), and storage location for each applicable source.

- J. The last two leak test results for the radioactive sources inventoried and required to be leak tested. If applicable, specifically provide a list of all radioactive source(s) that have failed its leak test within the last two years
- K. A current listing of any non-fuel items stored within your pools, and if available, their appropriate dose rates (Contact / @ 30cm)
- L. Computer printout of radiological controlled area entries greater than 100 millirems since the previous inspection to the current inspection entrance date. The printout should include the date of entry, some form of worker identification, the radiation work permit used by the worker, dose accrued by the worker, and the electronic dosimeter dose alarm setpoint used during the entry (for Occupational Radiation Safety Performance Indicator verification in accordance with IP 71151).

2. Occupational ALARA Planning and Controls (71124.02)

Date of Last Inspection: May 20, 2014

- 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 sub-tiered systems) written since date of last inspection, related to the ALARA program. In addition to ALARA, the summary should also address Radiation Work Permit 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 outages for each unit
- K. Please provide your most recent Annual ALARA Report.