UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
1600 EAST LAMAR BOULEVARD
ARLINGTON, TEXAS 76011-4511

August 9, 2021

Mr. John Dent, Jr., Vice President
and Chief Nuclear Officer
Nebraska Public Power District
Cooper Nuclear Station
72676 648A Avenue
P.O. Box 98
Brownville, NE 68321

SUBJECT: COOPER NUCLEAR STATION – INTEGRATED INSPECTION REPORT 05000298/2021002

Dear Mr. Dent:

On June 30, 2021, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at Cooper Nuclear Station. On July 7, 2021, the NRC inspectors discussed the results of this inspection with you and other members of your staff. The results of this inspection are documented in the enclosed report.

Two findings of very low safety significance (Green) are documented in this report. One of these findings involved a violation of NRC requirements. We are treating this violation as a non-cited violation (NCV) consistent with Section 2.3.2 of the Enforcement Policy.

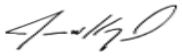
A licensee-identified violation which was determined to be of very low safety significance is also documented in this report. We are treating this violation as a non-cited violation (NCV) consistent with Section 2.3.2 of the Enforcement Policy.

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

If you disagree with a cross-cutting aspect assignment or a finding not associated with a regulatory requirement in this report, you should provide a response within 30 days of the date of this inspection report, with the basis for your disagreement, to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001; with copies to the Regional Administrator, Region IV; and the NRC Resident Inspector at Cooper Nuclear Station.

This letter, its enclosure, and your response (if any) will be made available for public inspection and copying at http://www.nrc.gov/reading-rm/adams.html and at the NRC Public Document Room in accordance with Title 10 of the *Code of Federal Regulations* 2.390, "Public Inspections, Exemptions, Requests for Withholding."

Sincerely,



Signed by Kozal, Jason
on 08/09/21

Jason W. Kozal, Chief
Reactor Projects Branch C
Division of Reactor Projects

Docket No. 05000298
License No. DPR-46

Enclosure:
As stated

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ADAMS ACCESSION NUMBER: ML21221A019

X SUNSI Review PJV 7/29/21		X Non-Sensitive ☐ Sensitive		X Publicly Available ☐ Non-Publicly Available	
OFFICE	SRI:DRP/C	RI:DRP/C	ABC:DRS/EB1	BC:DRS/EB2	ABC:DRS/OB
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U.S. NUCLEAR REGULATORY COMMISSION
Inspection Report

Docket Number:	05000298
License Number:	DPR-46
Report Number:	05000298/2021002
Enterprise Identifier:	I-2021-002-0034
Licensee:	Nebraska Public Power District
Facility:	Cooper Nuclear Station
Location:	Brownville, NE
Inspection Dates:	April 1, 2021, to June 30, 2021
Inspectors:	R. Alexander, Senior Emergency Preparedness Inspect S. Hedger, Emergency Preparedness Inspector R. Lanfear, Physical Security Specialist A. Siwy, Senior Resident Inspector M. Stafford, Resident Inspector
Approved By:	Jason W. Kozal, Chief Reactor Projects Branch C Division of Reactor Projects

Enclosure

SUMMARY

The U.S. Nuclear Regulatory Commission (NRC) continued monitoring the licensee's performance by conducting an integrated inspection at Cooper Nuclear Station, in accordance with the Reactor Oversight Process. The Reactor Oversight Process is the NRC's program for overseeing the safe operation of commercial nuclear power reactors. Refer to https://www.nrc.gov/reactors/operating/oversight.html for more information. A licensee-identified non-cited violation is documented in the Results section under Inspection Procedure (IP) 71111.13.

List of Findings and Violations

Failure to Maintain in Effect all Provisions of the Fire Protection Program			
Cornerstone	Significance	Cross-Cutting Aspect	Report Section
Mitigating Systems	Green NCV 05000298/2021002-01 Open/Closed	[P.1] - Identification	71111.05
The inspectors identified a Green finding and associated non-cited violation of Facility Operating License Condition 2.C(4) for failure to maintain in effect all provisions of the approved fire protection program. Specifically, the firefighting foam carts were not maintained in a condition to be effective in mitigating the effects of oil fires.			

Failure to Establish Emergency Notification Procedures Consistent with Regulatory Guidance			
Cornerstone	Significance	Cross-Cutting Aspect	Report Section
Emergency Preparedness	Green FIN 05000298/2021002-02 Open/Closed	None (NPP)	71114.01
The inspectors identified a Green finding for the licensee's failure to establish procedures for notification of State and local response organizations for which the content of initial and follow-up messages is consistent with regulatory guidance. The licensee is committed to NRC and industry guidance including NUREG-0654, Section II.E.3, which states, in part, that the established contents of the emergency messages shall contain information about "whether a release is taking place," and similar guidance in NEI 99-02, "Regulatory Assessment Performance Indicator Guideline."			

Additional Tracking Items

None.

PLANT STATUS

Cooper Nuclear Station began the inspection period at rated thermal power. On May 7, 2021, power was lowered to approximately 70 percent for a control rod sequence exchange. The plant was returned to rated thermal power on May 8, 2021. On May 9, 2021, power was lowered to approximately 84 percent for a control rod sequence exchange. The plant was returned to rated thermal power on May 10, 2021. The unit remained at rated thermal power for the remainder of the inspection period.

INSPECTION SCOPES

Inspections were conducted using the appropriate portions of the IPs in effect at the beginning of the inspection unless otherwise noted. Currently approved IPs with their attached revision histories are located on the public website at http://www.nrc.gov/reading-rm/doc-collections/insp-manual/inspection-procedure/index.html. Samples were declared complete when the IP requirements most appropriate to the inspection activity were met consistent with Inspection Manual Chapter (IMC) 2515, "Light-Water Reactor Inspection Program - Operations Phase." The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel to assess licensee performance and compliance with Commission rules and regulations, license conditions, site procedures, and standards.

Starting on March 20, 2020, in response to the National Emergency declared by the President of the United States on the public health risks of the coronavirus (COVID-19), resident and regional inspectors were directed to begin telework and to remotely access licensee information using available technology. During this time, the resident inspectors performed periodic site visits each week, increasing the amount of time on site as local COVID-19 conditions permitted. As part of their onsite activities, resident inspectors conducted plant status activities as described in IMC 2515, Appendix D; observed risk significant activities; and completed on site portions of IPs. In addition, resident and regional baseline inspections were evaluated to determine if all or a portion of the objectives and requirements stated in the IP could be performed remotely. If the inspections could be performed remotely, they were conducted per the applicable IP. In some cases, portions of an IP were completed remotely and on site. The inspections documented below met the objectives and requirements for completion of the IP.

REACTOR SAFETY

71111.01 - Adverse Weather Protection

Seasonal Extreme Weather Sample (IP Section 03.01) (1 Sample)

(1) The inspectors evaluated readiness for seasonal extreme weather conditions prior to the onset of seasonal high temperatures for the following systems:

- Heating, ventilation, and air conditioning for the diesel generator building on May 14, 2021
- Heating, ventilation, and air conditioning for the reactor building on May 14, 2021

71111.04 - Equipment Alignment

Complete Walkdown Sample (IP Section 03.02) (1 Sample)

(1) The inspectors evaluated system configurations during a complete walkdown of the residual heat removal service water booster pump D on April 16, 2021.

71111.06 - Flood Protection Measures

Inspection Activities - Internal Flooding (IP Section 03.01) (1 Sample)

The inspectors evaluated internal flooding mitigation protections in the:

(1) Service water booster pump room on May 14, 2021

71111.11Q - Licensed Operator Requalification Program and Licensed Operator Performance

Licensed Operator Performance in the Actual Plant/Main Control Room (IP Section 03.01) (1 Sample)

(1) The inspectors observed and evaluated licensed operator performance in the control room during downpower activities and rod pattern adjustment on May 8, 2021.

Licensed Operator Requalification Training/Examinations (IP Section 03.02) (1 Sample)

(1) The inspectors observed and evaluated the licensed operator requalification scenario on April 20, 2021.

71111.12 - Maintenance Effectiveness

Maintenance Effectiveness (IP Section 03.01) (1 Sample)

The inspectors evaluated the effectiveness of maintenance to ensure the following structures, systems, and components (SSCs) remain capable of performing their intended function:

(1) Reactor equipment cooling system near A(1) on May 5, 2021

Quality Control (IP Section 03.02) (1 Sample)

The inspectors evaluated the effectiveness of maintenance and quality control activities to ensure the following SSC remains capable of performing its intended function:

(1) Emergency diesel generator 1 quality control inspections during maintenance window on April 15, 2021.

71111.13 - Maintenance Risk Assessments and Emergent Work Control

Risk Assessment and Management Sample (IP Section 03.01) (5 Samples)

The inspectors evaluated the accuracy and completeness of risk assessments for the following planned and emergent work activities to ensure configuration changes and appropriate work controls were addressed:

(1) Yellow risk during emergency diesel generator Division 1 maintenance on April 8, 2021
(2) Yellow risk during high-pressure coolant injection maintenance on April 20, 2021
(3) Emergent jacket water leak repair of emergency diesel generator 2 on April 29, 2021
(4) Work Week 2118, residual heat removal, residual heat removal service water, and 4160 undervoltage testing on May 6, 2021
(5) Yellow risk during reactor equipment cooling B maintenance on May 21, 2021

71111.15 - Operability Determinations and Functionality Assessments

Operability Determination or Functionality Assessment (IP Section 03.01) (4 Samples)

The inspectors evaluated the licensee's justifications and actions associated with the following operability determinations and functionality assessments:

(1) High-pressure coolant injection minimum flow switch out of tolerance on April 30, 2021
(2) Fire cart foam concentration results on May 13, 2021
(3) Planned limiting condition of operation not entered during reactor equipment cooling maintenance on May 20, 2021
(4) Emergency diesel generator 2 jacket water leak on June 29, 2021

71111.19 - Post-Maintenance Testing

Post-Maintenance Test Sample (IP Section 03.01) (6 Samples)

The inspectors evaluated the following post-maintenance test activities to verify system operability and functionality:

(1) Control rod drive 111 (42-11) instrument block valve repair on April 7, 2021
(2) Emergency diesel generator 1 lube oil and jacket water heat exchanger inspections on April 8, 2021
(3) Emergency diesel generator 1 jacket water check valve repairs on April 9, 2021
(4) Emergency diesel generator 1 startup air valve replacements on April 13, 2021
(5) Residual heat removal service water booster pump C on April 14, 2021
(6) High-pressure coolant injection system valves on April 21, 2021

71111.22 - Surveillance Testing

The inspectors evaluated the following surveillance tests:

Surveillance Tests (other) (IP Section 03.01) (2 Samples)

(1) Emergency diesel generator 2 surveillance following jacket water leak repair on May 3, 2021
(2) Core spray pump A surveillance on May 7, 2021

Inservice Testing (IP Section 03.01) (1 Sample)

(1) Division 1 service water booster pumps A and C on April 8, 2021

71114.01 - Exercise Evaluation

Inspection Review (IP Section 02.01-02.11) (1 Sample)

(1) The inspectors evaluated the biennial emergency plan exercise conducted on May 25 and 26, 2021. The exercise scenario simulated a rapidly escalating series of seismic events of increasing severity resulting a loss of coolant accident, fuel clad damage, and ultimately failure of both primary and secondary containment leading to an unmonitored release to the environment. Additionally, the inspectors evaluated an out of sequence drill which continued the scenario from the prior day and demonstrated the use of extensive damage mitigation strategies consistent with Title 10 of the *Code of Federal Regulations* (10 CFR) 50.155(b)(2), to mitigate the spent fuel pool leakage, caused by an additional simulated seismic aftershock.

71114.04 - Emergency Action Level and Emergency Plan Changes

Inspection Review (IP Section 02.01-02.03) (1 Sample)

(1) The inspectors evaluated the following submitted Emergency Plan and Risk Significant Implementing Procedure changes:

- CNS 10 CFR Part 50, Appendix E, On-Shift Staffing Analysis, Revision 3
- Emergency Plan Implementing Procedure 5.7.6, Notifications, Revision 78

This evaluation does not constitute NRC approval.

71114.06 - Drill Evaluation

Drill/Training Evolution Observation (IP Section 03.02) (1 Sample)

The inspectors evaluated:

(1) Emergency preparedness drill on April 6, 2021

OTHER ACTIVITIES – BASELINE

71151 - Performance Indicator Verification

The inspectors verified licensee performance indicators submittals listed below:

BI01: Reactor Coolant System (RCS) Specific Activity Sample (IP Section 03.10) (1 Sample)

(1) April 1, 2020, through March 31, 2021

BI02: RCS Leak Rate Sample (IP Section 03.11) (1 Sample)

(1) April 1, 2020, through March 31, 2021

EP01: Drill/Exercise Performance (IP Section 03.12) (1 Sample)

(1) July 1, 2020, through March 31, 2021

EP02: ERO Drill Participation (IP Section 03.13) (1 Sample)

(1) July 1, 2020, through March 31, 2021

EP03: Alert & Notification System Reliability (IP Section 03.14) (1 Sample)

(1) July 1, 2020, through March 31, 2021

71152 - Problem Identification and Resolution

Annual Follow-up of Selected Issues (IP Section 02.03) (1 Sample)

The inspectors reviewed the licensee's implementation of its corrective action program related to the following issues:

(1) Operating experience smart sample (OpESS) 2020/01 (ADAMS Accession No. ML20220A261) on May 28, 2021

INSPECTION RESULTS

Failure to Maintain in Effect all Provisions of the Fire Protection Program			
Cornerstone	Significance	Cross-Cutting Aspect	Report Section
Mitigating Systems	Green NCV 05000298/2021002-01 Open/Closed	[P.1] - Identification	71111.05
The inspectors identified a Green finding and associated non-cited violation of Facility Operating License 2.C(4) for failure to maintain in effect all provisions of the approved fire protection program. Specifically, the firefighting foam carts were not maintained in a condition to be effective in mitigating the effects of oil fires.			
Description: On March 2, 2021, the inspectors conducted a walkdown of a pre-fire plan, which included one of the portable firefighting foam carts credited in the licensee's NFPA 805 fire protection program. The inspectors questioned the frequency of the preventive maintenance (PM) for the foam concentrate in those carts, which consisted of a biennial			

analysis of the foam concentrate. The licensee canceled the PM in 2006 with the inaccurate technical basis that National Fire Protection Association (NFPA) 11 standard was not applicable because they are not systems and that the shelf life of the foam concentrate in the carts is 20-25 years.

The portable firefighting foam carts are covered as portable systems by the NFPA 11 standard because they are, "foam-producing equipment, materials, hose, and so forth, that are transported by hand." Additionally, the NFPA 11 standard also provides a list of firefighting systems that the standard is not applicable to and these portable firefighting foam carts do not fall under any of those categories, which are: "chemical foams and systems (considered obsolete), deluge foam-water sprinkler or spray systems (see NFPA 16), foam-water closed-head sprinkler systems (see NFPA 16), combined agent systems, mobile foam apparatus (see NFPA 1901), Class A foam and systems (see NFPA 1150)." The shelf life of 20-25 years that was quoted by the licensee from the vendor technical sheets applies only to foam concentrate in unopened manufacturer containers, which does not include the foam concentrate poured into in the licensee carts. The NFPA 11 standard requires testing the foam concentration and the foam carts on an annual basis and the vendor technical datasheets recommend the NFPA 11 standard. There is no other standard or industry guidance for the testing and maintenance of firefighting foam and foam delivery systems such as portable firefighting foam carts.

The applicable procedure for canceling the PM in 2006 was Procedure 7.0.2, “Preventative Maintenance Program Implementation,” Revision 37. It requires, in part, that a PM change notification has accurate information and that the technical bases of the PM process is maintained current and accurate. The current applicable Procedure 3-CNS-DC-324, “Preventative Maintenance Program,” has the same requirements. In 2017, the licensee initiated reinstatement of the performance of the PM on a yearly basis based on feedback from an industry review. In July 2019, the PM was performed and in 2020, the licensee changed the annual PM to biennial with the same inaccurate basis that was used to remove the PM in 2006.

On September 24, 2019, the vendor completed the analyses of the foam concentrate samples from each of the foam carts as required by the PM. As a result of the analyses, the licensee entered a condition report into their corrective action program to replace the foam concentrate in the carts because of the vendor comments: "Based on physical properties and lack of viscosity, this sample doesn't appear to be Thunderstorm 1x3 ATC F601A. Replacement is recommended." The licensee determined that the foam in the carts was functional based on their erroneous assumption that the test results were invalid due to the licensee not following the recommended guidance for taking samples. The work order to replace the foam concentrate was originally scheduled for 1 year after the samples were removed from the carts but was later rescheduled to 2 years after the removal of the samples.

The 2019 results of the foam concentrate analyses compared to the manufacturer datasheet show that for appearance, density, pH, and viscosity all the samples were outside of the manufacturer's specifications. Additionally, the reports for each sample listed "N/A" for the first and second fire extinguishment time, while the fire application time was listed as 90 seconds with application on 1000 milliliters of acetone.

The NFPA 11 standard, Section D.3, provides guidance for the interpretation of foam test results. It states, in part, "where the intent of conducting the tests is to check the operating

efficiency or standby condition, it is necessary only to compare the results with the manufacturers' standards. The manufacturers should be consulted if any appreciable deviations occur." The licensee did not compare the physical properties of the samples to the vendor datasheets and did not discuss the results with the vendor or the manufacturer.

As a result of the inspectors' initial questioning, the licensee reclassified the work order to replace the foam concentrate in the carts from the lowest priority to the highest. The work order was performed 14 weeks earlier than it was scheduled, which would have been 2 years after the samples were taken. The licensee discovered the contents of one of the carts was partially congealed. They entered this condition into the corrective action program, took the cart out of service, and staged a foam eductor in its place. After the foam concentrate in the carts was replaced, the vendor clarified their 2019 results to more clearly state that the samples did not extinguish fires.

Corrective Actions: The licensee replaced the foam concentrate in all portable firefighting foam carts and staged a foam eductor for the cart that was removed from service. The licensee initiated a condition report to revise the PM to be performed yearly, as required by the NFPA 11 standard.

Corrective Action References: Condition Reports CR-CNS-2021-01477, CR-CNS-2021-01583, CR-CNS-2021-01787, and CR-CNS-2021-01858

Performance Assessment:

Performance Deficiency: The inspectors determined that failure to follow the requirements of Procedure 7.0.2, "Preventative Maintenance Program Implementation," and Procedure 3-CNS-DC-324, "Preventative Maintenance Program," was a performance deficiency that was within the licensee's ability to foresee and prevent. Specifically, the licensee did not provide accurate technical bases for canceling the PM or for extending the reinstated PM from yearly to biennial, which resulted in the foam concentrate in the carts being unable to extinguish a fire.

Screening: The inspectors determined the performance deficiency was more than minor because it was associated with the Protection Against External Factors 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 delay in the extinguishment of a fire would allow more time for a fire to damage plant equipment.

Significance: The inspectors assessed the significance of the finding using Appendix F, "Fire Protection and Post - Fire Safe Shutdown SDP." The inspectors assessed the significance of the finding using Inspection Manual Chapter (IMC) 0609.04, "Initial Characterization of Findings," and IMC 0609, Appendix F, Attachment 1, and determined the finding to be of very low safety significance (Green) because the foam carts are classified as portable fire extinguishers not used for hot work fire watches.

Cross-Cutting Aspect: P.1 - Identification: The organization implements a corrective action program with a low threshold for identifying issues. Individuals identify issues completely, accurately, and in a timely manner in accordance with the program. Specifically, the licensee did not completely and accurately assess the vendor lab results of the foam concentrate analysis in a timely manner to identify that the foam concentrate would not extinguish fires.

Enforcement:

Violation: The Facility Operating License Condition 2.C(4) requires, in part, that the licensee maintain in effect all provisions of the approved fire protection program. The licensee included the foam carts as part of their Engineering Evaluations EE-12-013 and EE-15-011, which supported the basis for their License Amendment Request (ML121220216) dated April 24, 2012, to revise their fire protection licensing basis to NFPA 805. The foam carts are specifically listed in the bases sections of Table B-3, Fire Area Transition, for Fire Areas RB-V, RB-P, and RB-T of the License Amendment Request. The foam carts are also listed as part of the licensee's fire protection program in Chapter X, Section 9.3.2.7, Portable Extinguishers, of the Updated Safety Analysis Report. Contrary to the above, between September 2019, and March 2021, the licensee failed to maintain in effect all provisions of the approved fire protection program. Specifically, the licensee failed to maintain the foam carts, which were required for implementation of the fire protection program, in a condition to be available to perform the required functions.

Enforcement Action: This violation is being treated as a non-cited violation, consistent with Section 2.3.2 of the Enforcement Policy.

Licensee-Identified Non-Cited Violation	71111.13

This violation of very low safety significance was identified by the licensee and has been entered into the licensee corrective action program and is being treated as a non-cited violation, consistent with Section 2.3.2 of the Enforcement Policy.

Violation: Title 10 CFR 50.65(a)(4), "Requirements for monitoring the effectiveness of maintenance at nuclear power plants," requires, in part, that the licensee shall manage the increase in risk that may result from maintenance activities.

Contrary to the above, on May 18, 2021, the licensee failed to manage the increase in risk associated with planned maintenance activities. Specifically, maintenance personnel performed hot work activities in an area that was specifically posted to prohibit hot work as part of a fire risk management action for a separate system unavailability. The licensee identified this after the hot work activity had been completed while operations personnel were reviewing narrative logs.

Significance/Severity: Green. The inspectors assessed the significance of the finding using IMC 0609, Appendix K, "Maintenance Risk Assessment and Risk Management Significance Determination Process," and determined the finding to be of very low safety significance (Green) because the issue was associated with risk management actions only, and the associated incremental core damage probability was 5.1E-10, less than 1E-6.

Corrective Action References: Condition Report CR-CNS-2021-02419

Failure to Establish Emergency Notification Procedures Consistent with Regulatory Guidance			
Cornerstone	Significance	Cross-Cutting Aspect	Report Section
Emergency Preparedness	Green FIN 05000298/2021002-02 Open/Closed	None (NPP)	71114.01

The inspectors identified a Green finding for the licensee's failure to establish procedures for notification of State and local response organizations for which the content of initial and follow-up messages is consistent with regulatory guidance. The licensee is committed to NRC and industry guidance including NUREG-0654, Section II.E.3, which states, in part, that the established contents of the emergency messages shall contain information about "whether a release is taking place," and similar guidance in NEI 99-02, "Regulatory Assessment Performance Indicator Guideline."

Description: As a part of the May 25, 2021, biennial emergency preparedness exercise, the scenario included simulated conditions where a series of seismic events caused all three Fission Product Barriers to be lost as well as a breach in the secondary containment building siding. This resulted in a direct release path for gaseous radioactive materials from the plant to the environment which could not be directly monitored by installed instrumentation (i.e., an unmonitored release). In the scenario, the Fuel Clad and Reactor Coolant System Fission Product Barriers had been lost, resulting in the licensee declaring a Site Area Emergency at 8:57 a.m. At 10:20 a.m., a subsequent, larger seismic event was simulated to occur which resulted in the loss of the Containment Fission Product Barrier, and this seismic event also caused a portion of the reactor building (secondary containment) siding to fall off at the 1001 foot elevation.

With the loss of the third Fission Product Barrier, the licensee declared a General Emergency (GE) at 10:29 a.m. The licensee subsequently developed a Protective Action Recommendation (PAR) to evacuate the Emergency Planning Zone Sectors corresponding with a 2-mile radius around the plant and 5 miles downwind, and provided the official notification of the GE and PAR information to the Offsite Response Organizations (OROs), including the States of Nebraska and Missouri, at 10:38 a.m.. At the time at which the GE was declared and PAR developed, the licensee's Emergency Response Organization (ERO) representatives in the Emergency Operations Facility were aware of the simulated additional failure of the reactor building siding and unmonitored release path for gaseous radioactive materials to the environment. However, in that notification to the OROs, the licensee did not communicate that there was a "release in progress" attributable to the simulated events.

Specifically, the licensee's notification form to the OROs had been established such that the section would only be marked indicating a release of liquid or gaseous radioactive materials was occurring if the release was quantified and was in excess of the limits associated with the Notice of Unusual Event (NOUE) thresholds. Because the release was from an unmonitored point from the station at the time of the GE, the licensee's notification form transmitted at 10:38 a.m. indicated, "There is No Release of Radioactive Material Greater than NOUE Limits," despite the ERO's awareness that there was a release attributable to the event ongoing at the time, with no basis for determining it was below NOUE Limits. Subsequently, at 11:32 a.m., the licensee provided a periodic update notification to the OROs which still included the statement, "There is No Release of Radioactive Material Greater than NOUE Limits;" however, the licensee's Emergency Director handwrote into the form prior to transmittal the following statement, "An unmonitored release path exists. It is not yet quantified."

Therefore, for a period of approximately 1 hour after the GE was declared, the licensee had not provided the information to the States' emergency decision makers that an unmonitored release of radioactive materials attributable to the (simulated) events was ongoing (whether quantified or not). As such, the States' emergency decisionmakers were not afforded all of the relevant information regarding the release associated with the event to support the States' protective action decision making for the protection of the public and the States' emergency responders who were deploying to the immediate areas around the plant.

The content of the offsite notification form had been established and accepted by the licensee since 1995. Specifically, in follow-up inspection it was revealed that the licensee's notification form had originally included the statement to correctly mark that, "There is / is not a release associated with this event" (without including any thresholds for release levels), but the licensee had changed the form in consultation with the OROs (using the change process described in 10 CFR 50.54(q)) as a corrective action for an NRC-identified weakness in exercise performance in 1994. The associated 1994 inspection report (ADAMS Accession Nos. ML20077F356 and ML20077F361) and subsequent documentation/communications between the licensee and NRC Region IV (ADAMS Accession Nos. ML20077M675, ML20083L075, and ML20083L080) on the exercise weakness showed that the weakness identified was related to inconsistent communications from the licensee to all OROs (States and NRC). Specifically, the 1994 inspection report documented that during that exercise, in the licensee's notification of an Alert to the State/Locals, they indicated there was an airborne radioactive release in progress; however, in the licensee's subsequent notification to the NRC a few minutes later, no information regarding the airborne release was included. The conversations and other aspects discussed between the NRC and the licensee on the corrective actions at the time were not further documented, but a subsequent 1995 inspection report (ADAMS Accession No. ML20083L080) described that the licensee made changes to the applicable emergency procedures to include a definition of “release” and updated training materials. While the 1995 inspection report indicated that the licensee's corrective actions were “satisfactory,” such statements included in Regional Inspection Reports do not constitute NRC approval of an Emergency Plan change because the authority to approve operating reactor license changes has been delegated by the Commission to the Office of Nuclear Reactor Regulation from the Commission, and not to NRC regional offices.

The inspectors determined that the NRC guidance relative to ORO notification forms and the required information regarding the status of any release has been well established over the years. Specifically, in NUREG-0654, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants," Revision 1 (published November 1980), Section II.E.3 states, in part, that the established contents of the emergency messages shall contain information about "whether a release is taking place." The inspectors found that the Cooper Emergency Plan, in Appendix B, Section E.3, includes the identical wording from NUREG-0654, Section II.E.3, relative to "whether a release is taking place" in the Plan's cross-reference with NUREG-654. Additional NRC guidance amplifying that the content of ORO notification messages shall include whether "radioactive release attributable to the event is taking place" has been described in all revisions of NEI 99-02, "Regulatory Assessment Performance Indicator Guideline," after it was endorsed by the NRC in Regulatory Issue Summary (RIS) 2000-08, “Voluntary Submission of Performance Indicator Data,” Revision 1. This document, and its guidance, are integrated into the licensee’s procedures and defined in part the content of these notifications relative to the Drill and Exercise Performance (DEP) Performance Indicator (PI). Such notifications shall include appropriate information as to "whether a release is taking place" for an "Accurate" notification message to receive DEP PI opportunity success credit.

Based on their search, the inspectors determined that NRC guidance has been consistent in requiring that ORO notification forms include whether a release attributable to the event is occurring/has occurred. While NRC guidance has acknowledged that the information on the magnitude of the release attributed to the event may be included as part of the notification forms, such information is always expected to be secondary and distinct from the "release is occurring" determination.

Corrective Actions: The licensee entered this issue into the corrective action program and initiated discussions with the OROs to modify the notification form to ensure the status of a release and the quantity of any such release are two separate elements on the negotiated notification form.

Corrective Action References: CR-CNS-2021-03275

Performance Assessment:

Performance Deficiency: The licensee failed to establish procedures for notification of State and local response organizations for which the content of initial and follow-up messages are consistent with regulatory guidance, including NUREG-0654, Revision 1, and NEI 99-02, the guidance of both which the licensee has integrated into its processes and procedures.

Screening: The inspectors determined the performance deficiency was more than minor because it was associated with the ERO Performance attribute of the Emergency Preparedness cornerstone and adversely affected the cornerstone objective to ensure that the licensee is capable of implementing adequate measures to protect the health and safety of the public in the event of a radiological emergency. Specifically, the failure to provide complete information to the OROs regarding the release status associated with an emergency directly impacts the ORO decision maker's ability to make the most informed protective action decisions for the protection of the public and relative to the ORO's emergency workers responding to the event.

Significance: The inspectors assessed the significance of the finding using Inspection Manual Chapter 0609, Appendix B, “Emergency Preparedness SDP.” The finding was determined to be of very low safety significance (Green). Specifically, the inspectors determined that while the performance deficiency was related to a risk significant planning standard (RSPS), 10 CFR 50.47(b)(5), the failure did not result in a loss or degradation of the RSPS function, in that the notification process in which the licensee communicated the GE and PAR to all of the applicable OROs was completed in a timely manner, and most aspects of the information were accurate. However, the inspectors determined that the content of the message related to the release status for the notification was inconsistent with well-established NRC guidance. Consistent with IMC 0609, Appendix B, Attachment 2, for those performance deficiencies where a RSPS function is not found to be lost or degraded, the significance of such issues is Green.

Cross-Cutting Aspect: Not Present Performance. No cross-cutting aspect was assigned to this finding because the inspectors determined the finding did not reflect present licensee performance. Specifically, the licensee made the change to the offsite notification form in 1995, and despite many opportunities in demonstrating its appropriate use in subsequent exercises, it appears the combination of a challenging scenario and other issues with ERO performance during the 2021 exercise only now revealed the inadequacies of the form.

Enforcement: Inspectors did not identify a violation of regulatory requirements associated with this finding.

EXIT MEETINGS AND DEBRIEFS

The inspectors verified no proprietary information was retained or documented in this report.

- On July 7, 2021, the inspectors presented the integrated inspection results to Mr. J. Dent, Jr., and other members of the licensee staff.
- On July 14, 2021, the inspectors presented the emergency preparedness exercise inspection results to Mr. K. Dia, General Manager - Plant Operations, and other members of the licensee staff.

DOCUMENTS REVIEWED

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
71111.01	Procedures	2.1.14	Seasonal Weather Preparations	36
71111.04	Procedures	2.2A.RHRSW.DIV2	RHR Service Water Booster Pump System Component Checklist (Div 2)	11
71111.06	Miscellaneous	NEDC 09-102	Internal Flooding – HELB, MELB, and Feedwater Line Break	3
71111.11Q	Procedures	10.13	Control Rod Sequence and Movement Control	77
		10.9	Control Rod Scram Time Evaluation	72
		2.1.10	Station Power Changes	120
		2.2.6	Condensate System	100
	Work Orders	WO	5266938	
71111.12	Corrective Action Documents	CR-CNS-	2020-00744, 2020-02917, 2020-05737, 2021-01024	
	Miscellaneous		Maintenance Rule Function REC-F01 Performance Criteria Basis	6
	Procedures	7.3.26.9	Essential 3M Tape Installation	9
		7.3.28.1	Lead Removal/Installation and Lug Installation	32
	Work Orders	WO	5210671, 5337005, 5346586	
71111.13	Corrective Action Documents	CR-CNS-	2021-02091, 2021-02100, 2021-02145, 2021-02263, 2021-02265, 2021-02266, 2021-02419	
	Miscellaneous		Protected Equipment Posting for REC Maintenance Window	
			Protected Equipment Posting for Diesel Generator Division 2 Work W	
			Protected Equipment Posting for High-Pressure Coolant Injection System Work Week	
			Protected Equipment Posting for Emergent Diesel Generator Division 2 Work	
			Protected Equipment Posting for RHR and RHRSW Work	
		FP21-FP-SD-16 (1-8)	Fire Impairment Log	
	Procedures	0-CNS-WM-104A	On-Line Fire Risk Management Actions	7
		0-Protect-EQP	Protected Equipment Program	57, 58

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
	Work Orders	WO	5396090, 5396180, 5399040	
71111.15	Corrective Action Documents	CR-CNS-	2021-02033, 2021-02034, 2021-02061, 2021-02091, 2021-02100, 2021-02145, 2021-02439	
71111.19	Procedures	14.17.1	DG-1 Annual Calibration	41
		2.2.70	RHR Service Water Booster Pump System	95
		6.1DG.101	Diesel Generator 31 Day Operability Test	92
	Work Orders	WO	5288700, 5296094, 5336948, 5346632, 5368019	
71111.22	Procedures	6.1CS.101	Core Spray Test Mode Surveillance Operation	34
		6.1SWBP.101	RHR Service Water Booster Pump Flow Test and Valve Operability Test	38
		6.2DG.101	Diesel Generator 31 Day Operability Test	88
	Work Orders	WO	5295275, 5296906, 5396090	
71114.01	Corrective Action Documents	CR-CNS-	2018-04629, 2018-04662, 2018-04855, 2018-08663, 2019-01246, 2019-03881, 2019-03882, 2020-00007, 2020-00929, 2020-01015, 2020-01179, 2020-01341, 2020-02747, 2021-00911	
	Corrective Action Documents Resulting from Inspection	CR-CNS-	2021-03275, 2021-03276, 2021-03277	
	Miscellaneous		Cooper Nuclear Station - 2021 NRC Biennial Exercise Management Debrief	06/01/2021
			Exercise Participant Logs and Records from the EOF, TSC, OSC, JIC, and Control Room Simulator	05/25/2021
			2021 May IPX Exercise Scenario (Rev. 0)	05/14/2021
	Procedures	0-EN-EP-306	Drills and Exercises	10C0
		2.4FPC	Fuel Pool Cooling Trouble	39
		5.3ALT-STRATEGY	Alternate Core Cooling Mitigating Strategies	64
		5.7.1	Emergency Classification	67
		5.7.1.1	Emergency Classification Process	0
		5.7.17	CNS-Dose Assessment	52
		5.7.18	Off-Site and Site Boundary Monitoring	25
		5.7.19	On-Site Radiological Monitoring	15

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
		5.7.2	Emergency Director EPIP	40
		5.7.6	Notification	78
		5.7ENS	ENS Communicator	11
71114.04	Miscellaneous	50.54(q) Screen No. 2021-08	On-Shift Staffing Analysis, Rev. 3	04/01/2021
		50.54(q) Screen No. 2021-14	EPIP 5.7.6, Notification, Rev. 78	03/23/2021
71151	Corrective Action Documents	CR-CNS-	2020-02902, 2020-03004, 2020-03613, 2020-04543, 2021-02253	
	Miscellaneous		DEP PI Opportunity Data Packages - Emergency Response Organization Watchbill Turnover Opportunities (7/13/20, 7/27/20, 12/14/20, 1/18/21, 3/29/21) and Full Team Drill (2/2/21)	
			DEP PI Opportunity Data Packages - Licensed Operator Requalification Opportunities (7/1/20, 7/8/20, 11/25/20, & 12/18/20)	
		0-EN-LI-114, Att. 9.3	ERO Drill Participation Performance Indicator and Data Review Forms - 3Q/2020, 4Q/2020, & 1Q/2021	
		0-EN-LI-114, Att. 9.3	ANS Performance Indicator Documentation & Data Form - July, August, September, October, November, & December 2020	
		0-EN-LI-114, Att. 9.3	ANS Performance Indicator Documentation & Data Form - January, February, & March 2021	
	Procedures	0-EN-FAP-EP-005	Emergency Preparedness Performance Indicators	14C0
		0-EN-LI-114	Regulatory Performance Indicator Process	17C0
		6.LOG.601	Daily Surveillance Log – Modes 1, 2, and 3	141
		EPDG 2, Att. C-1	Semi-Monthly Alert and Notification System Siren Testing	21
71152	Corrective Action Documents	CR-CNS-	2020-02436	