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

February 10, 2012

Brian J. O'Grady, Vice President-Nuclear
and Chief Nuclear Officer
Nebraska Public Power – Cooper
Nuclear Station
72676 648A Avenue
Brownville, NE 68321

SUBJECT: COOPER NUCLEAR STATION – NRC INTEGRATED INSPECTION REPORT 05000298/2011005

Dear Mr. O'Grady:

On December 31, 2011, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Cooper Nuclear Station. The enclosed inspection report documents the inspection results which were discussed on December 27, 2011, with you and other members of your staff.

The inspections examined activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel.

Five NRC identified and self revealing findings of very low safety significance (Green) were identified during this inspection.

All of these findings were determined to involve violations of NRC requirements. Additionally, the NRC has determined that two traditional enforcement Severity Level IV violations occurred. One of these traditional enforcement violations was identified with an associated finding. Further, two licensee-identified violations which were determined to be of very low safety significance are listed in this report. The NRC is treating these violations as non-cited violations (NCVs) consistent with Section 2.3.2 of the Enforcement Policy.

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

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response (if any) will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's Agencywide Document 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/

Vince Gaddy, Branch Chief
Project Branch C
Division of Reactor Projects

Docket No.: 50-298
License No: DRP-46

Enclosure: Inspection Report 05000298/2011005
w/ Attachments:
1. Supplemental Information
2. Information Request for inspection activities documented in 2RS08

cc w/ encl: Electronic Distribution

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Senior Resident Inspector (Jeffrey.Josey@nrc.gov)
Resident Inspector (Michael.Chambers@nrc.gov)
Branch Chief, DRP/C (Vincent.Gaddy@nrc.gov)
Senior Project Engineer, DRP/C (Bob.Hagar@nrc.gov)
Project Engineer, DRP/C (Jonathan.Braisted@nrc.gov)
Project Engineer, DRP/C (Rayomand.Kumana@nrc.gov)
CNS Administrative Assistant (Amy.Elam@nrc.gov)
Public Affairs Officer (Victor.Dricks@nrc.gov)
Public Affairs Officer (Lara.Uselding@nrc.gov)
Project Manager (Lynnea.Wilkins@nrc.gov)
Acting Branch Chief, DRS/TSB (Ryan.Alexander@nrc.gov)
RITS Coordinator (Marisa.Herrera@nrc.gov)
Regional Counsel (Karla.Fuller@nrc.gov)
Congressional Affairs Officer (Jenny.Weil@nrc.gov)
OEMail Resource
ROPreports
RIV/ETA: OEDO (Lydia.Chang@nrc.gov)
Acting TSB BC (Ryan.Alexander@nrc.gov)

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SRI:DRP/PBC	RI:DRP/PBC	SPE:DRP/PBC	C:DRS/EB2	C:DRS/OB
JJosey	MChambers	BHagar	NFO'Keefe	MHaire
VGG Email	**VGG Email**	**/RA/**	**GMiller for**	**/RA/**
2/7/12	2/7/12	1/31/12	1/30/12	1/30/12

C:DRS/PSB1	C:DRS/PSB2	C:DRS/EB1	AC:TSB	C:ORA/ACES	C:DRP/C
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U.S. NUCLEAR REGULATORY COMMISSION

REGION IV

Docket:	05000298
License:	DRP-46
Report:	05000298/2011005
Licensee:	Nebraska Public Power District
Facility:	Cooper Nuclear Station
Location:	72676 648A Ave Brownville, NE 68321
Dates:	September 24, 2011 through December 31, 2011
Inspectors:	J. Josey, Senior Resident Inspector M. Chambers, Resident Inspector L. Carson II, Senior Health Physicist P. Elkmann, Senior Emergency Preparedness Inspector R. Hagar, Senior Project Engineer C. Graves, Health Physicist N. Greene, PhD., Health Physicist L. Ricketson, P.E., Senior Health Physicist
Approved By:	Vince Gaddy, Chief, Project Branch C Division of Reactor Projects

SUMMARY OF FINDINGS

IR 05000298/2011005; 09/24/2011 – 12/31/2011; Cooper Nuclear Station, Integrated Resident and Regional Report; Radiological Hazard Assessment and Exposure Controls, Radioactive Solid Waste Processing, Performance Indicator Verification, Problem Identification and Resolution.

The report covered a 3-month period of inspection by resident inspectors and announced baseline inspections by region-based inspectors. Five Green non-cited violations of significance and two Severity Level IV violations were identified. The significance of most findings is indicated by their color (Green, White, Yellow, or Red) using Inspection Manual Chapter 0609, "Significance Determination Process." The cross-cutting aspect is determined using Inspection Manual Chapter 0310, "Components Within the Cross Cutting Areas." Findings for which the significance determination process does not apply may be Green or be assigned a severity level after NRC management review. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 4, dated December 2006.

A. NRC-Identified Findings and Self-Revealing Findings

Cornerstone: Mitigating Systems

- Green. The inspectors identified a non-cited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," associated with the licensee's failure to assure that the design basis requirements associated with a turbine building high energy line break were correctly translated into the plant design to ensure the 4160 volt switchgear and emergency diesel generators would remain functional following a line break. This issue was entered into the licensee's corrective action program as Condition Report CR-CNS-2011-10618.

  The inspectors determined that the licensee's failure to ensure that design requirements were correctly translated into installed plant equipment was a performance deficiency. The performance deficiency was determined to be more than minor because it was associated with the design control attribute of the Mitigating Systems Cornerstone, and affected the associated cornerstone objective to ensure availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences, and is therefore a finding. Using Manual Chapter 0609, Attachment 4, "Phase 1 - Initial Screening and Characterization of Findings," the finding was determined to have very low safety significance because the finding: (1) was not a design or qualification issue confirmed not to result in a loss of operability or functionality; (2) did not represent an actual loss of safety function of the system or train; (3) did not result in the loss of one or more trains of nontechnical specification equipment; and (4) did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. The finding was determined to have a cross-cutting aspect in the area of problem identification and resolution, associated with the corrective action component, in that, the licensee failed to thoroughly

evaluate concerns with high energy line break doors and this resulted in the resolutions taken not addressing the causes [P.1(c)](Section 4OA2).

Cornerstone: Occupational Radiation Safety

- Green. The inspector identified a non-cited violation of Technical Specification 5.7.1, resulting from the licensee's failure to conspicuously post a high radiation area during Refueling Outage 26. As corrective action, the licensee immediately stopped work and posted the area as required. The licensee documented the issues in apparent cause evaluation performed for Condition Report CR-CNS-2011-04891.

  The failure to conspicuously post a high radiation area is a performance deficiency. The finding was more than minor because it was associated with the program and process attribute (exposure control) of the Occupational Radiation Safety Cornerstone and affected the cornerstone objective, in that, the failure to conspicuously post a high radiation area had the potential to increase personnel dose. Using NRC Manual Chapter 0609, Appendix C, "Occupational Radiation Safety Significance Determination Process," the inspector determined the finding to be of very low safety significance because: (1) it was not associated with as low as reasonably achievable (ALARA) planning or work controls; (2) there was no overexposure; (3) there was no substantial potential for an overexposure; and (4) the ability to assess dose was not compromised. The finding has a human performance cross-cutting aspect associated with work practices component because the licensee did not ensure appropriate supervisory oversight of work activities to support nuclear safety [H.4(c)](Section 2RS01).

- Green. The inspector identified a non-cited violation of Technical Specification 5.7.2, resulting from the licensee's failure to maintain controls by not providing continuous coverage in a posted locked high radiation area with dose rates greater than 1000 mrem per hour at 30 cm during Refueling Outage 26. As corrective action, the licensee performed an apparent cause evaluation and documented the issues identified in Condition Report CR-CNS-2011-09785.

  The failure to maintain controls in a posted locked high radiation area is a performance deficiency. The finding was more than minor because it was associated with the program and process attribute (exposure control) of the Occupational Radiation Safety Cornerstone and affected the cornerstone objective, in that, the failure to maintain controls and not provide continuous radiation protection coverage in a posted locked high radiation area with dose rates greater than 1000 mrem per hour at 30 cm had the potential to increase personnel dose. Using NRC Manual Chapter 0609, Appendix C, "Occupational Radiation Safety Significance Determination Process," the inspector determined the finding to be of very low safety significance because: (1) it was not associated with as low as reasonably achievable (ALARA) planning or work controls; (2) there was no overexposure; (3) there was no substantial potential for

an overexposure; and (4) the ability to assess dose was not compromised. The finding has a human performance cross-cutting aspect associated with work practices component because the licensee did not ensure appropriate supervisory oversight of work activities to support nuclear safety [H.4(c)](Section 2RS01).

- Green. The inspector reviewed a self revealing, non-cited violation of Technical Specification 5.4.1, resulting from workers who failed to follow procedures to exit the area when two dose rate alarms were received while performing decontamination work in the reactor cavity during Refueling Outage 26. As corrective action, the licensee performed an apparent cause evaluation and documented the issues identified in Condition Report CR-CNS-2011-04891.

  The failure to follow procedures is a performance deficiency. The finding was more than minor because it was associated with the program and process attribute (exposure control) of the Occupational Radiation Safety Cornerstone and affected the cornerstone objective, in that, the failure to follow radiation procedures and not leave the work area after receipt of a dose rate alarm had the potential to increase personnel dose. Using NRC Manual Chapter 0609, Appendix C, "Occupational Radiation Safety Significance Determination Process," the inspector determined the finding to be of very low safety significance because: (1) it was not associated with as low as is reasonably achievable (ALARA) planning or work controls; (2) there was no overexposure; (3) there was no substantial potential for an overexposure; and (4) the ability to assess dose was not compromised. The finding has a human performance cross-cutting aspect associated with work practices component because the individuals failed to use self- and peer-checking human error prevention techniques [H.4(a)](Section 2RS01).

Cornerstone: Emergency Preparedness

- Green. The inspector identified a non-cited violation of 10 CFR 50.47(b)(14) for failure to correct a deficiency in drill or exercise performance. Specifically, the licensee failed to identify an inaccurate protective action recommendation during the critique of a Control Room Simulator drill conducted May 18, 2011.

  The failure to identify an inaccurate protective action recommendation is a performance deficiency. This finding is more than minor because it impacted the drills and emergency response organization performance attributes of the Emergency Preparedness Cornerstone. The finding had a credible impact on the cornerstone objective because inaccurate protective action recommendations affect the licensee's ability to implement adequate measures to protect the health and safety of the public. This finding was evaluated using the Emergency Preparedness Significance Determination Process and was determined to be of very low safety significance because it was associated with the emergency preparedness planning standards and was not a functional failure or degraded performance. The finding was entered into the corrective action program as

Condition Report CR-CNS-2011-10277. The finding has a cross-cutting aspect in the area of problem identification and resolution associated with the corrective action program component because the program did not have a low enough threshold to completely and thoroughly identify incorrect performance [P.1(a)](Section 4OA1).

Miscellaneous

- Severity Level IV. Inspectors identified a non-cited violation of 10 CFR 50.9, "Completeness and Accuracy of Information," because the Annual Radiological Effluent Release Reports for 2008, 2009, and 2010 were not complete and accurate in all material respects with regard to solid radwaste shipped offsite from Cooper Nuclear Station. Specifically, the numbers of solid radwaste shipments, locations, burial volumes, and total activity amounts were not correct. This issue was entered in the licensee's corrective action program as Condition Reports CR-CNS-2011-06921 and CR-CNS-2011-11740.

  This issue was dispositioned using traditional enforcement because the failure to provide complete and accurate information in Annual Radiological Effluent Release Reports has the potential to impact the NRC's ability to perform its regulatory function. This violation is characterized as a Severity Level IV violation consistent with Sections 2.2.1 and 6.9 of the NRC Enforcement Policy. This finding was determined to be of very low safety significance. No cross-cutting aspect was identified because this performance deficiency was dispositioned using traditional enforcement (Section 2RS08).

- Severity Level IV. The inspectors identified a non-cited violation of 10 CFR 50.59, "Changes, Test, and Experiments," associated with the licensee's failure to adequately evaluate changes in order to ensure that they did not require prior NRC approval. Specifically, the inspectors determined that the re-analysis of the turbine building peak pressure in response to a high energy line break event that the licensee had performed used a different calculation method than what had originally been used to support the station's licensing basis. This re-analysis was performed for the purpose of gaining margin on the station doors credited with protecting safety-related equipment from the line break event. This new method resulted in a lower peak turbine building pressure. This issue was entered into the licensee's corrective action program as Condition Reports CR-CNS-2011-10391 and CR-CNS-2011-11861.

  The licensee's failure to implement the requirements of 10 CFR 50.59 and adequately evaluate changes was a performance deficiency. The performance deficiency is greater than minor because the failure to follow the requirements of 10 CFR 50.59 and receive prior NRC approval for changes in licensed actions impacted the NRC's regulatory ability, and is, therefore, a finding. Since violations of 10 CFR 50.59 are considered to impede or impact the regulatory process they are dispositioned using the traditional enforcement process. The enforcement manual specifies that the severity level is determined in parallel with

the Significance Determination Process. As such, the inspectors concluded that this issue also represented a performance deficiency under the Reactor Oversight Process because the licensee failed to appropriately evaluate the proposed change in accordance with the requirements of Station Procedure 0.8, "10CFR50.59 and 10CFR72.48 Reviews." The performance deficiency was determined to be more than minor because it was associated with the design control attribute of the Mitigating Systems Cornerstone, and affected the associated cornerstone objective to ensure availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences, and is therefore a finding. Using Manual Chapter 0609, Attachment 4, "Phase 1 – Initial Screening and Characterization of Findings," the finding was determined to have very low safety significance because the finding: (1) was not a design or qualification issue confirmed not to result in a loss of operability or functionality; (2) did not represent an actual loss of safety function of the system or train; (3) did not result in the loss of one or more trains of nontechnical specification equipment; and (4) did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. The inspectors reviewed this issue in accordance with NRC Inspection Manual Chapter 0612 and the NRC Enforcement Manual and Enforcement Policy and concluded that because the violation was determined to be of very low safety significance, was not repetitive or willful, and was entered into the corrective action program, this violation is being treated as a Severity Level IV non-cited violation consistent with the NRC Enforcement Policy. The finding was determined to have a cross-cutting aspect in the area of human performance, associated with the decision-making component in that the licensee failed to use conservative assumptions in decision making when they failed to recognize that the new calculation methodology was a change to a previously approved methodology [H.1(b)](Section 4OA2).

B. Licensee-Identified Violations

Violations of very low safety significance which were identified by the licensee have been reviewed by the inspectors. Corrective actions taken or planned by the licensee have been entered into the licensee's corrective action program. These violations and corrective action tracking numbers are listed in Section 4OA7 of this report.

REPORT DETAILS

Summary of Plant Status

Cooper Nuclear Station began the inspection period at full power on September 24, 2011. On September 26, 2011, at 10:25 a.m. plant power was lowered to approximately 57 percent due to equipment issues associated with the main lube oil vapor extractor. At 4:41 p.m. reactor power was increased to 100 percent power and remained there for the rest of the reporting period.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity

1R01 Adverse Weather Protection (71111.01)

Readiness for Seasonal Extreme Weather Conditions

a. Inspection Scope

The inspectors performed a review of the adverse weather procedures for seasonal extremes (e.g., extreme high temperatures, extreme low temperatures, or hurricane season preparations). The inspectors verified that weather-related equipment deficiencies identified during the previous year were corrected prior to the onset of seasonal extremes, and evaluated the implementation of the adverse weather preparation procedures and compensatory measures for the affected conditions before the onset of, and during, the adverse weather conditions.

During the inspection, the inspectors focused on plant-specific design features and the procedures used by plant personnel to mitigate or respond to adverse weather conditions. Additionally, the inspectors reviewed the Updated Final Safety Analysis Report and performance requirements for systems selected for inspection, and verified that operator actions were appropriate as specified by plant-specific procedures. Specific documents reviewed during this inspection are listed in the attachment. The inspectors also reviewed corrective action program items to verify that plant personnel were identifying adverse weather issues at an appropriate threshold and entering them into their corrective action program in accordance with station corrective action procedures. The inspectors' reviews focused specifically on the following plant systems:

- December 6, 2011, Department cold weather checklists for winter 2011

These activities constitute completion of one readiness for seasonal adverse weather sample as defined in Inspection Procedure 71111.01-05.

b. Findings

No findings were identified.

1R04 Equipment Alignments (71111.04)

Partial Walkdown

a. Inspection Scope

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

- October 18, 2011, Loop B of reactor equipment cooling while loop A out of service
- November 3, 2011, Service water Zurn strainer blowdown valve temporary modification restoration

The inspectors selected these systems based on their risk significance relative to the reactor safety cornerstones at the time they were inspected. The inspectors attempted to identify any discrepancies that could affect the function of the system, and, therefore, potentially increase risk. The inspectors reviewed applicable operating procedures, system diagrams, Updated Final Safety Analysis Report, technical specification requirements, administrative technical specifications, outstanding work orders, condition reports, and the impact of ongoing work activities on redundant trains of equipment in order to identify conditions that could have rendered the systems incapable of performing their intended functions. The inspectors also inspected accessible portions of the systems to verify system components and support equipment were aligned correctly and operable. The inspectors examined the material condition of the components and observed operating parameters of equipment to verify that there were no obvious deficiencies. The inspectors also verified that the licensee had properly identified and resolved equipment alignment problems that could cause initiating events or impact the capability of mitigating systems or barriers and entered them into the corrective action program with the appropriate significance characterization. Specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of two partial system walkdown samples as defined in Inspection Procedure 71111.04-05.

b. Findings

No findings were identified.

1R05 Fire Protection (71111.05)

Quarterly Fire Inspection Tours

a. Inspection Scope

The inspectors conducted fire protection walkdowns that were focused on availability, accessibility, and the condition of firefighting equipment in the following risk-significant plant areas:

- November 1, 2011, Intake structure service water pump room during week 1144 service water A outage, Zone 20A
- November 9, 2011, Reactor building northeast quad, 859 feet elevation, reactor core isolation cooling room, Zone 1A
- December 28, 2011, Residual heat removal heat exchanger room A, Zone 2B
- December 28, 2011, Residual heat removal heat exchanger room B, Zone 2D

The inspectors reviewed areas to assess if licensee personnel had implemented a fire protection program that adequately controlled combustibles and ignition sources within the plant; effectively maintained fire detection and suppression capability; maintained passive fire protection features in good material condition; and had implemented adequate compensatory measures for out of service, degraded or inoperable fire protection equipment, systems, or features, in accordance with the licensee's fire plan. The inspectors selected fire areas based on their overall contribution to internal fire risk as documented in the plant's Individual Plant Examination of External Events with later additional insights, their potential to affect equipment that could initiate or mitigate a plant transient, or their impact on the plant's ability to respond to a security event. Using the documents listed in the attachment, the inspectors verified that fire hoses and extinguishers were in their designated locations and available for immediate use; that fire detectors and sprinklers were unobstructed; that transient material loading was within the analyzed limits; and fire doors, dampers, and penetration seals appeared to be in satisfactory condition. The inspectors also verified that minor issues identified during the inspection were entered into the licensee's corrective action program. Specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of four quarterly fire-protection inspection samples as defined in Inspection Procedure 71111.05-05.

b. Findings

No findings were identified.

1R06 Flood Protection Measures (71111.06)

a. Inspection Scope

The inspectors reviewed the Updated Final Safety Analysis Report, the flooding analysis, and plant procedures to assess susceptibilities involving internal flooding; reviewed the corrective action program to determine if licensee personnel identified and corrected flooding problems; inspected underground bunkers/manholes to verify the adequacy of sump pumps, level alarm circuits, cable splices subject to submergence, and drainage for bunkers/manholes; and verified that operator actions for coping with flooding can reasonably achieve the desired outcomes. The inspectors also inspected the areas listed below to verify the adequacy of equipment seals located below the flood line, floor and wall penetration seals, watertight door seals, common drain lines and sumps, sump pumps, level alarms, and control circuits, and temporary or removable flood barriers. Specific documents reviewed during this inspection are listed in the attachment.

- November 8, 2011, Manholes P3, C3, P4 and C4
- December 28, 2011, Residual heat removal heat exchanger room A

These activities constitute completion of one flood protection measures inspection sample and one bunker/manhole sample as defined in Inspection Procedure 71111.06-05.

b. Findings

No findings were identified.

1R07 Heat Sink Performance (71111.07)

a. Inspection Scope

The inspectors reviewed licensee programs, verified performance against industry standards, and reviewed critical operating parameters and maintenance records for the reactor equipment cooling heat exchanger B performance test. The inspectors verified that performance tests were satisfactorily conducted for heat exchangers/heat sinks and reviewed for problems or errors; the licensee utilized the periodic maintenance method outlined in EPRI Report NP 7552, “Heat Exchanger Performance Monitoring Guidelines”; the licensee properly utilized biofouling controls; the licensee’s heat exchanger inspections adequately assessed the state of cleanliness of their tubes; and the heat exchanger was correctly categorized under 10 CFR 50.65, “Requirements for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants.” Specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of one heat sink inspection sample as defined in Inspection Procedure 71111.07-05.

b. Findings

No findings were identified.

1R11 Licensed Operator Requalification Program (71111.11)

a. Inspection Scope

On November 8, 2011, the inspectors observed a crew of licensed operators in the plant's simulator to verify that operator performance was adequate, evaluators were identifying and documenting crew performance problems, and training was being conducted in accordance with licensee procedures. The inspectors evaluated the following areas:

- Licensed operator performance
- Crew's clarity and formality of communications
- Crew's ability to take timely actions in the conservative direction
- Crew's prioritization, interpretation, and verification of annunciator alarms
- Crew's correct use and implementation of abnormal and emergency procedures
- Control board manipulations
- Oversight and direction from supervisors
- Crew's ability to identify and implement appropriate technical specification actions and emergency plan actions and notifications

The inspectors compared the crew's performance in these areas to preestablished operator action expectations and successful critical task completion requirements. Specific documents reviewed during this inspection are listed in the attachment.

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

b. Findings

No findings were identified.

1R12 Maintenance Effectiveness (71111.12)

a. Inspection Scope

The inspectors evaluated degraded performance issues involving the following risk significant system:

- November 1, 2011, Reactor recirculation pump isolation valve, RR-MO53A, indication light ground caused loss of control function

The inspectors reviewed events such as where ineffective equipment maintenance has resulted in valid or invalid automatic actuations of engineered safeguards systems and independently verified the licensee's actions to address system performance or condition problems in terms of the following:

- Implementing appropriate work practices
- Identifying and addressing common cause failures
- Scoping of systems in accordance with 10 CFR 50.65(b)
- Characterizing system reliability issues for performance
- Charging unavailability for performance
- Trending key parameters for condition monitoring
- Ensuring proper classification in accordance with 10 CFR 50.65(a)(1) or -(a)(2)
- Verifying appropriate performance criteria for structures, systems, and components classified as having an adequate demonstration of performance through preventive maintenance, as described in 10 CFR 50.65(a)(2), or as requiring the establishment of appropriate and adequate goals and corrective actions for systems classified as not having adequate performance, as described in 10 CFR 50.65(a)(1)

The inspectors assessed performance issues with respect to the reliability, availability, and condition monitoring of the system. In addition, the inspectors verified maintenance effectiveness issues were entered into the corrective action program with the appropriate significance characterization. Specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of one quarterly maintenance effectiveness sample as defined in Inspection Procedure 71111.12-05.

b. Findings

No findings were identified.

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

a. Inspection Scope

The inspectors reviewed licensee personnel's evaluation and management of plant risk for the maintenance and emergent work activities affecting risk-significant and safety-related equipment listed below to verify that the appropriate risk assessments were performed prior to removing equipment for work:

- October 17, 2011, Emergent repair of the reactor equipment cooling heat exchanger A service water piping due to corrosion
- October 19, 2011, Risk assessment for drilling activities in the 161KV switchyard

The inspectors selected these activities based on potential risk significance relative to the reactor safety cornerstones. As applicable for each activity, the inspectors verified that licensee personnel performed risk assessments as required by 10 CFR 50.65(a)(4) and that the assessments were accurate and complete. When licensee personnel performed emergent work, the inspectors verified that the licensee personnel promptly assessed and managed plant risk. The inspectors reviewed the scope of maintenance work, discussed the results of the assessment with the licensee's probabilistic risk analyst or shift technical advisor, and verified plant conditions were consistent with the risk assessment. The inspectors also reviewed the technical specification requirements and inspected portions of redundant safety systems, when applicable, to verify risk analysis assumptions were valid and applicable requirements were met. Specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of two maintenance risk assessments and emergent work control inspection samples as defined in Inspection Procedure 71111.13-05.

b. Findings

No findings were identified.

1R15 Operability Evaluations and Functionality Assessments (71111.15)

a. Inspection Scope

The inspectors reviewed the following issues:

- October 14, 2011, Emergency diesel generator 2 common cause evaluation following solenoid failure on emergency diesel generator 1

- October 18, 2011, Steam exclusion boundary doors R208 and R209

- November 3, 2011, Service water Zurn strainer B blowdown valve diaphragm failure compensatory actions

The inspectors selected these potential operability issues based on the risk significance of the associated components and systems. The inspectors evaluated the technical adequacy of the evaluations to ensure that technical specification operability was properly justified and the subject component or system remained available such that no unrecognized increase in risk occurred. The inspectors compared the operability and design criteria in the appropriate sections of the technical specifications and Updated Final Safety Analysis Report to the licensee personnel's evaluations to determine whether the components or systems were operable. Where compensatory measures were required to maintain operability, the inspectors determined whether the measures in place would function as intended and were properly controlled. The inspectors determined, where appropriate, compliance with bounding limitations associated with the evaluations. Additionally, the inspectors also reviewed a sampling of corrective action documents to verify that the licensee was identifying and correcting any deficiencies associated with operability evaluations. Specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of three operability evaluations inspection samples as defined in Inspection Procedure 71111.15-05.

b. Findings

No findings were identified.

1R18 Plant Modifications (71111.18)

a. Inspection Scope

To verify that the safety functions of important safety systems were not degraded, The inspectors reviewed the following temporary modifications:

- November 1, 2011, Leak repair activities upstream MS-V-53

- November 3, 2011, Service water Zurn strainer B blowdown valve temporary configuration change removal and modification

The inspectors reviewed the temporary modifications and the associated safety-evaluation screening against the system design bases documentation, including the Updated Final Safety Analysis Report and the technical specifications, and verified that the modification did not adversely affect the system operability/availability. The inspectors also verified that the installation and restoration were consistent with the modification documents and that configuration control was adequate. Additionally, the inspectors verified that the temporary modification was identified on control room drawings, appropriate tags were placed on the affected equipment, and licensee

personnel evaluated the combined effects on mitigating systems and the integrity of radiological barriers.

These activities constitute completion of two samples for temporary plant modifications as defined in Inspection Procedure 71111.18-05.

b. Findings

No findings were identified.

1R19 Postmaintenance Testing (71111.19)

a. Inspection Scope

The inspectors reviewed the following postmaintenance activities to verify that procedures and test activities were adequate to ensure system operability and functional capability:

- October 17, 2011, Emergency diesel generator 2 following modification implementation
- November 9, 2011, Postwork test of reactor core isolation cooling flow transmitter RCIC-FT-58 maintenance
- December 7, 2011, Postwork test of service water pump C

The inspectors selected these activities based upon the structure, system, or component's ability to affect risk. The inspectors evaluated these activities for the following (as applicable):

- The effect of testing on the plant had been adequately addressed; testing was adequate for the maintenance performed
- Acceptance criteria were clear and demonstrated operational readiness; test instrumentation was appropriate

The inspectors evaluated the activities against the technical specifications, the Updated Final Safety Analysis Report 10 CFR Part 50 requirements, licensee procedures, and various NRC generic communications to ensure that the test results adequately ensured that the equipment met the licensing basis and design requirements. In addition, the inspectors reviewed corrective action documents associated with postmaintenance tests to determine whether the licensee was identifying problems and entering them in the corrective action program and that the problems were being corrected commensurate with their importance to safety. Specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of three postmaintenance testing inspection samples as defined in Inspection Procedure 71111.19-05.

b. Findings

No findings were identified.

1R22 Surveillance Testing (71111.22)

a. Inspection Scope

The inspectors reviewed the Updated Final Safety Analysis Report, procedure requirements, and technical specifications to ensure that the surveillance activities listed below demonstrated that the systems, structures, and/or components tested were capable of performing their intended safety functions. The inspectors either witnessed or reviewed test data to verify that the significant surveillance test attributes were adequate to address the following:

- Preconditioning
- Evaluation of testing impact on the plant
- Acceptance criteria
- Test equipment
- Procedures
- Jumper/lifted lead controls
- Test data
- Testing frequency and method demonstrated technical specification operability
- Test equipment removal
- Restoration of plant systems
- Fulfillment of ASME Code requirements
- Updating of performance indicator data
- Engineering evaluations, root causes, and bases for returning tested systems, structures, and components not meeting the test acceptance criteria were correct
- Reference setting data
- Annunciators and alarms setpoints

The inspectors also verified that licensee personnel identified and implemented any needed corrective actions associated with the surveillance testing.

- November 1, 2011, Surveillance test of core spray division 1

Specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of one surveillance testing inspection sample as defined in Inspection Procedure 71111.22-05.

b. Findings

No findings were identified.

Cornerstone: Emergency Preparedness

1EP2 Alert Notification System Testing (71114.02)

a. Inspection Scope

The inspector discussed with licensee staff the operability of offsite siren emergency warning systems, tone alert radio systems, and backup alerting methods, to determine the adequacy of licensee methods for testing the alert and notification system in accordance with 10 CFR Part 50, Appendix E. The licensee's alert and notification system testing program was compared with criteria in NUREG-0654, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants," Revision 1; FEMA Report REP-10, "Guide for the Evaluation of Alert and Notification Systems for Nuclear Power Plants"; and the licensee's current FEMA-approved alert and notification system design report, "A Prompt Alert and Notification System Design Report for the Cooper Nuclear Station," Revision 12, May 2004. The specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of one sample as defined in Inspection Procedure 71114.02-05.

b. Findings

No findings were identified.

1EP3 Emergency Response Organization Augmentation Testing (71114.03)

a. Inspection Scope

The inspector discussed with licensee staff the operability of primary and backup systems for augmenting the on-shift emergency response staff to determine the adequacy of licensee methods for staffing emergency response facilities in accordance with their emergency plan. The inspector reviewed the documents and references listed

in the attachment to this report, to evaluate the licensee's ability to staff the emergency response facilities in accordance with the licensee's emergency plan and the requirements of 10 CFR Part 50, Appendix E. The specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of one sample as defined in Inspection Procedure 71114.03-05.

b. Findings

No findings were identified.

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

a. Inspection Scope

The inspector reviewed a summary of forty licensee 50.54(q) reviews of changes made to the licensee's emergency plan and emergency plan implementing procedures between August 2009 and September 2011, and selected six for detailed review against program requirements. The licensing reviews were compared to the standards in 10 CFR 50.47(b) and to the requirements of Procedure 0.29.4, "Other Regulatory Reviews," Revision 16, to determine if the reviews adequately implemented the requirements of 10 CFR 50.54(q). These reviews were not documented in a safety evaluation report and did not constitute approval of licensee-generated changes; therefore, the reviews are subject to future inspection. The specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of one sample as defined in Inspection Procedure 71114.04-05.

b. Findings

No findings were identified.

1EP5 Correction of Emergency Preparedness Weaknesses and Deficiencies (71114.05)

a. Inspection Scope

The inspector reviewed the licensee's corrective action program requirements in Site Procedures 0.5, "Conduct of the Condition Report Process," Revision 69, and 0.5.CR, "Condition Report Initiation, Review, and Classification," Revision 17. The inspector reviewed summaries of one-hundred sixty-two corrective action program documents assigned to the emergency preparedness department and emergency response organization between August 2009 and September 2011, and selected twenty-three for detailed reviews against the program requirements. The inspector also reviewed licensee after-action reports, quality assurance audits, drill evaluation reports, and self-assessments conducted between August 2009 and September 2011 to assess weaknesses and deficiencies identified by the licensee. The inspector evaluated the

licensee's response to corrective action program entries to determine the licensee's ability to identify, evaluate, and correct problems in accordance with the licensee program requirements, planning standard 10 CFR 50.47(b)(14), and 10 CFR Part 50, Appendix E. The specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of one sample as defined in Inspection Procedure 71114.05-05.

b. Findings

No findings were identified.

2. RADIATION SAFETY

Cornerstone: Occupational and Public Radiation Safety

2RS01 Radiological Hazard Assessment and Exposure Controls (71124.01)

a. Inspection Scope

This area was inspected to: (1) review and assess licensee's performance in assessing the radiological hazards in the workplace associated with licensed activities and the implementation of appropriate radiation monitoring and exposure control measures for both individual and collective exposures; and (2) identify those performance deficiencies that were reportable as a performance indicator and which may have represented a substantial potential for overexposure of the worker.

The inspector used the requirements in 10 CFR Part 20, the technical specifications, and the licensee's procedures required by technical specifications as criteria for determining compliance. During the inspection, the inspector reviewed interviews with the radiation protection manager, radiation protection supervisors, and radiation workers. The inspector reviewed the following items:

- Portions of 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 radiation work permits, actions for electronic dosimeter alarms, and changes to radiological conditions

- 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

Specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of the one required sample as defined in Inspection Procedure 71124.01-05.

b. Findings

(1) Failure to Conspicuously Post a High Radiation Area

Introduction. The inspector identified a Green non-cited violation of Technical Specification 5.7.1, resulting from the licensee's failure to conspicuously post a high radiation area as required during Refueling Outage 26.

Description. On April 21, 2011, at approximately 7:15 a.m., decontamination work was performed in the reactor cavity area on the refuel floor. A senior health physics technician was selected as the cavity decontamination supervisor and appointed to oversee this task. A decontamination technician performed this work by spraying down the reactor cavity walls with water after the cavity was drained down. Documentation reviewed, such as procedures and the apparent cause evaluation, showed that changing radiological conditions were anticipated when the cavity was drained down. However, an initial survey was not performed prior to spraying down the reactor cavity after it was drained, and dose rates increased from those known by the cavity decontamination supervisor. Current surveys are essential to inform workers of current general area dose rates and perhaps, unknown radiological hazards.

The cavity decontamination supervisor left the area of decontamination work and visited the radiation protection technician area in the administration building while this work was ongoing. While visiting, the cavity decontamination supervisor was questioned by the dayshift refuel floor radiation protection supervisor about the current dose rates around the reactor cavity. The cavity decontamination supervisor responded that there was one decontamination technician on the floor spraying the reactor cavity walls, and the dose rates around the handrails were 30 to 50 mrem per hour. The refuel floor supervisor informed the cavity decontamination supervisor that he had been watching teledosimetry, and the decontamination technician dose rate measurement had exceeded 100 mrem per hour. In fact, his dosimeter had reached 110 mrem per hour. The refuel floor supervisor then proceeded immediately to the refuel floor to establish radiological controls. When the radiation protection supervisor reached the refuel floor at around 8:25 a.m., approximately 60 minutes after the cavity decontamination supervisor left the area, the area was surveyed and general area radiation levels around the reactor cavity were found to be 110 to 150 mrem per hour. No high radiation area was pre-established around the reactor cavity handrail vicinity prior to completion of cavity drain down. The revised apparent cause evaluation performed for Condition Report CR-CNS-2011-04891 stated that "… CCTV [closed-circuit television] recordings were reviewed which determined that an un-posted high radiation area did exist on the

refuel floor for a time ranging from approximately 30 to 60 minutes." The radiation protection supervisor then posted the entire refuel floor as a high radiation area.

Analysis. The failure to conspicuously post a high radiation area is a performance deficiency. The finding was more than minor because it was associated with the program and process attribute (exposure control) of the Occupational Radiation Safety Cornerstone and affected the cornerstone objective, in that, the failure to conspicuously post a high radiation area had the potential to increase personnel dose. Using NRC Manual Chapter 0609, Appendix C, "Occupational Radiation Safety Significance Determination Process," the inspector determined the finding to be of very low safety significance because: (1) it was not associated with ALARA planning or work controls; (2) there was no overexposure; (3) there was no substantial potential for an overexposure; and (4) the ability to assess dose was not compromised. The finding has a human performance cross-cutting aspect associated with work practices component because the licensee did not ensure appropriate supervisory oversight of work activities to support nuclear safety [H.4(c)].

Enforcement. Technical Specification 5.7.1 states, in part, that each high radiation area in which the deep dose equivalent in excess of 100 mrem, but less than 1000 mrem in one hour (measures made at 30 cm from source of radiation) shall be conspicuously posted as a high radiation area. Contrary to the above, on April 21, 2011, a high radiation area existed for nearly 60 minutes without conspicuous posting. The dose rates were found to be in excess of 100 mrem per hour at 30 cm (i.e., 110 - 150 mrem per hour) as indicated by the survey measurements of the handrails around the reactor cavity. As corrective action, the licensee immediately stopped work and posted the area as required. The licensee also performed an evaluation and documented the issues identified in Apparent Cause Evaluation, Revision 1, for Condition Report CR-CNS-2011-04891. It was considered an inspector identified finding because the issue was not addressed in the original apparent cause evaluation performed for Condition Report CR-CNS-2011-04891. Because the violation was of very low safety significance and it was entered into the licensee's corrective action program, the violation is being treated as a non-cited violation, consistent with Section 2.3.2 of the NRC Enforcement Policy: NCV 05000298/2011005-01, "Failure to Conspicuously Post a High Radiation Area."

(2) Failure to Maintain Control and Continuous Coverage of a Posted Locked High Radiation Area

Introduction. The inspector identified a Green non-cited violation of Technical Specification 5.7.2, resulting from the licensee's failure to provide continuous radiation protection coverage in a posted locked high radiation area during Refueling Outage 26.

Description. While performing decontamination activities on April 21, 2011, the reactor cavity was drained down. Draining the reactor cavity resulted in changes to radiological conditions creating a locked high radiation area. Dose rates reviewed showed a maximum general area dose rate of 1980 mrem per hour. Technical Specification 5.7.2 defines a locked high radiation area as an area "with dose rates such that a major

portion of the body could receive in one hour a deep dose equivalent in excess of 1000 mrem (measurement at 12 inches from a source of radiation)." Work in this posted locked high radiation area was authorized by the use of Special Work Permit 2011-0438. Special Work Permit 2011-0438 required continuous radiation protection coverage while working in a posted lock high radiation area. However, information reviewed confirmed that the cavity decontamination supervisor actively performed work activities by hydro-lazing the reactor vessel studs rather than providing continuous radiation protection coverage. The individual was performing three different functions as the cavity decontamination supervisor, radiation protection technician providing radiation protection coverage, and a technician cleaning the reactor vessel studs. Performing these duties did not allow him to provide continuous radiation protection job coverage. The cavity decontamination supervisor did not continuously monitor dose rates and maintain a line of sight on the decontamination work activities. This was not in accordance with the assigned special work permit, and subsequently, not in accordance with controls of a locked high radiation area.

Analysis. The failure to maintain controls in a posted locked high radiation area is a performance deficiency. The finding was more than minor because it was associated with the program and process attribute (exposure control) of the Occupational Radiation Safety Cornerstone and affected the cornerstone objective, in that, the failure to maintain controls and not provide continuous radiation protection coverage in a posted locked high radiation area with dose rates greater than 1000 mrem per hour at 30 cm had the potential to increase personnel dose. Using NRC Manual Chapter 0609, Appendix C, "Occupational Radiation Safety Significance Determination Process," the inspector determined the finding to be of very low safety significance because: (1) it was not associated with ALARA planning or work controls; (2) there was no overexposure; (3) there was no substantial potential for an overexposure; and (4) the ability to assess dose was not compromised. The finding has a human performance cross-cutting aspect associated with work practices component because the licensee did not ensure appropriate supervisory oversight of work activities to support nuclear safety [H.4(c)].

Enforcement. Technical Specification 5.7.2 requires, in part, that control of a locked high radiation area be established by the issuance of a special work permit while accessed by personnel. The special work permit provides requirements that must be followed and maintained in order to establish controls of the accessible locked high radiation area. Special Work Permit 2011-0438 issued for decontamination work in the reactor cavity required continuous radiation protection coverage for work inside a locked high radiation area. Contrary to the above, on April 21, 2011, the cavity decontamination supervisor, a senior radiation protection technician, failed to maintain continuous radiation protection coverage of decontamination work in the reactor cavity while in a posted locked high radiation area with dose rates confirmed to be greater than 1000 mrem per hour at 30 cm. Specifically, this individual performed decontamination work activities on the reactor head studs during the time he was assigned to perform continuous radiation protection coverage. As corrective action, the licensee performed an apparent cause evaluation and documented the issues in Condition Report CR-CNS-2011-09785. Because the violation was of very low safety significance and it was entered into the licensee's corrective action program, the violation is being treated as a non-cited

violation, consistent with Section 2.3.2 of the NRC Enforcement Policy:
NCV 05000298/2011005-02, "Failure to Maintain Control and Continuous Coverage of a Posted Locked High Radiation Area."

(3) Failure to Follow Procedures for Dose Rate Alarms Received by Two Individuals

Introduction. The inspector reviewed a Green self revealing, non-cited violation of Technical Specification 5.4.1, resulting from workers who failed to follow procedures to exit the area when a dose rate alarm was received during Refueling Outage 26.

Description. On April 21, 2011, at approximately 1:00 p.m., the cavity decontamination supervisor and a decontamination worker both received dose rate alarms while performing the initial cavity decontamination work. However, both individuals continued to work after receiving these alarms. The apparent cause evaluation stated that, "When the alarms occurred the cavity decontamination supervisor informed the decontamination technician that he anticipated the alarms, and it was OK to continue working." However, this was not in compliance with requirements for Procedure 9.ALARA.1, "Personnel Dosimetry and Occupational Radiation Exposure Program," Revision 39. Step 4.2.4 states that "If while in use, a direct reading dosimeter reaches the preset continuous integrated dose alarm setting or the preset dose-rate alarm setting, the affected individual shall leave the area immediately and contact radiation protection. "Under no circumstances will an individual be allowed to work when their dosimeter is alarming." The dosimeter logs reviewed showed that the maximum dose rate for both the cavity decontamination supervisor and a decontamination worker was 1980 mrem per hour. The dose rate alarm set point was noted as 1100 mrem per hour on Radiological Work Permit/Specific Work Permit 2011-0438, Revision 9.

Analysis. The failure to follow procedures is a performance deficiency. The finding was more than minor because it was associated with the program and process attribute (exposure control) of the Occupational Radiation Safety Cornerstone and affected the cornerstone objective, in that, the failure to follow radiation procedures and not leave the work area post receipt of a dose rate alarm had the potential to increase personnel dose. Using NRC Manual Chapter 0609, Appendix C, "Occupational Radiation Safety Significance Determination Process," the inspector determined the finding to be of very low safety significance because: (1) it was not associated with ALARA planning or work controls; (2) there was no overexposure; (3) there was no substantial potential for an overexposure; and (4) the ability to assess dose was not compromised. The finding has a human performance cross-cutting aspect associated with work practices component because the licensee failed to use self- and peer-checking human error prevention techniques [H.4(a)].

Enforcement. Technical Specification 5.4.1.a requires implementation of applicable procedures recommended in Regulatory Guide 1.33, Revision 2, Appendix A, February 1978. Section 7(e) of the appendix requires procedures for access control to radiation areas. Procedure 9.ALARA.1, Step 4.2.4, requires that the individual affected by a dose rate alarm immediately exits the area and contacts radiation protection and is not allowed to work under any circumstance with a dosimeter alarming. Contrary to the

above, on April 21, 2011, the cavity decontamination supervisor and a decontamination worker failed to immediately exit the reactor cavity area when they each received a dose rate alarm. As corrective action, the licensee performed an apparent cause evaluation and entered the issue into the corrective action program as Condition Report CR-CNS-2011-04891. Because the violation was of very low safety significance and it was entered into the licensee's corrective action program, the violation is being treated as a non-cited violation, consistent with Section 2.3.2 of the NRC Enforcement Policy: NCV 05000298/2011005-03, "Failure to Follow Procedures for Dose Rate Alarms Received by Two Individuals."

2RS06 Radioactive Gaseous and Liquid Effluent Treatment (71124.06)

a. Inspection Scope

This area was inspected to: (1) ensure the gaseous and liquid effluent processing systems are maintained so radiological discharges are properly mitigated, monitored, and evaluated with respect to public exposure; (2) ensure abnormal radioactive gaseous or liquid discharges and conditions, when effluent radiation monitors are out-of-service, are controlled in accordance with the applicable regulatory requirements and licensee procedures; (3) verify the licensee's quality control program ensures the radioactive effluent sampling and analysis requirements are satisfied so discharges of radioactive materials are adequately quantified and evaluated; and (4) verify the adequacy of public dose projections resulting from radioactive effluent discharges. The inspectors used the requirements in 10 CFR Part 20; 10 CFR Part 50, Appendices A and I; 40 CFR Part 190; the Offsite Dose Calculation Manual and licensee procedures required by the Technical Specifications as criteria for determining compliance. The inspectors interviewed licensee personnel and reviewed and/or observed the following items:

- Radiological effluent release reports since the previous inspection and reports related to the effluent program issued since the previous inspection, if any
- Effluent program implementing procedures, including sampling, monitor setpoint determinations and dose calculations
- Equipment configuration and flow paths of selected gaseous and liquid discharge system components, filtered ventilation system material condition, and significant changes to their effluent release points, if any, and associated 10 CFR 50.59 reviews
- Selected portions of the routine processing and discharge of radioactive gaseous and liquid effluents (including sample collection and analysis)
- Controls used to ensure representative sampling and appropriate compensatory sampling
- Results of the inter-laboratory comparison program
- Effluent stack flow rates

- Surveillance test results of technical specification required ventilation effluent discharge systems since the previous inspection
- Significant changes in reported dose values, if any
- A selection of radioactive liquid and gaseous waste discharge permits
- Part 61 analyses and methods used to determine which isotopes are included in the source term
- Offsite dose calculation manual changes, if any
- Meteorological dispersion and deposition factors
- Latest land use census
- Records of abnormal gaseous or liquid tank discharges, if any
- Groundwater monitoring results
- Changes to the licensee's written program for indentifying and controlling contaminated spills/leaks to groundwater, if any
- Identified leakage or spill events and entries made into 10 CFR 50.75(g) records, if any, and associated evaluations of the extent of the contamination and the radiological source term
- Offsite notifications and reports of events associated with spills, leaks, or groundwater monitoring results, if any
- Audits, self-assessments, reports, and corrective action documents related to radioactive gaseous and liquid effluent treatment since the last inspection

Specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of the one required sample, as defined in Inspection Procedure 71124.06-05.

b. Findings

No findings were identified.

2RS07 Radiological Environmental Monitoring Program (71124.07)

a. Inspection Scope

This area was inspected to: (1) ensure that the radiological environmental monitoring program verifies the impact of radioactive effluent releases to the environment and sufficiently validates the integrity of the radioactive gaseous and liquid effluent release

program; (2) verify that the radiological environmental monitoring program is implemented consistent with the licensee's technical specifications and/or offsite dose calculation manual, and to validate that the radioactive effluent release program meets the design objective contained in Appendix I to 10 CFR Part 50; and (3) ensure that the radiological environmental monitoring program monitors non-effluent exposure pathways, is based on sound principles and assumptions, and validates that doses to members of the public are within the dose limits of 10 CFR Part 20 and 40 CFR Part 190, as applicable. The inspectors reviewed and/or observed the following items:

- Annual environmental monitoring reports and offsite dose calculation manual
- Selected air sampling and thermoluminescence dosimeter monitoring stations
- Collection and preparation of environmental samples
- Operability, calibration, and maintenance of meteorological instruments
- Selected events documented in the annual environmental monitoring report which involved a missed sample, inoperable sampler, lost thermoluminescence dosimeter, or anomalous measurement
- Selected structures, systems, or components that may contain licensed material and has a credible mechanism for licensed material to reach ground water
- Records required by 10 CFR 50.75(g)
- Significant changes made by the licensee to the offsite dose calculation manual as the result of changes to the land census or sampler station modifications since the last inspection
- Calibration and maintenance records for selected air samplers, composite water samplers, and environmental sample radiation measurement instrumentation
- Interlaboratory comparison program results
- Audits, self-assessments, reports, and corrective action documents related to the radiological environmental monitoring program since the last inspection

Specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of the one required sample as defined in Inspection Procedure 71124.07-05.

b. Findings

No findings were identified.

2RS08 Radioactive Solid Waste Processing, and Radioactive Material Handling, Storage, and Transportation (71124.08)

a. Inspection Scope

This area was inspected to verify the effectiveness of the licensee's programs for processing, handling, storage, and transportation of radioactive material. The inspectors used the requirements of 10 CFR Parts 20, 61, and 71 and Department of Transportation regulations contained in 49 CFR Parts 171-180 for determining compliance. The inspectors interviewed licensee personnel and reviewed the following items:

- The solid radioactive waste system description, process control program, and the scope of the licensee's audit program
- Control of radioactive waste storage areas including container labeling/marking and monitoring containers for deformation or signs of waste decomposition
- Changes to the liquid and solid waste processing system configuration including a review of waste processing equipment that is not operational or abandoned in place
- Radio-chemical sample analysis results for radioactive waste streams and use of scaling factors and calculations to account for difficult-to-measure radionuclides
- Processes for waste classification including use of scaling factors and 10 CFR Part 61 analysis
- Shipment packaging, surveying, labeling, marking, placarding, vehicle checking, driver instructing, and preparation of the disposal manifest
- Audits, self-assessments, reports, and corrective action reports radioactive solid waste processing, and radioactive material handling, storage, and transportation performed since the last inspection

Specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of the one required sample as defined in Inspection Procedure 71124.08-05.

b. Findings

Introduction. Inspectors identified a Severity Level IV non-cited violation of 10 CFR 50.9, "Completeness and Accuracy of Information." The Annual Radiological Effluent Release Reports for 2008, 2009, and 2010 were not complete and accurate in all material respects with regard to solid radwaste shipped offsite.

Description. While inspecting the licensee's Annual Radiological Effluent Release Reports activities related to solid radioactive material shipment records, inspectors identified that the low level radwaste shipments as reported were not described completely and accurately in all material respects. For instance, the 2010 Annual Radiological Effluents Report stated that the licensee made 26 radwaste shipments to the low-level radwaste burial site in Clive, Utah. However, the inspectors identified that the licensee's radwaste shipment logs (Form RP-15) indicated that solid radwaste was shipped to several other facilities for processing and eventual burial. The licensee's 2009 Annual Radiological Effluents Report also stated that 47 shipments were sent to the Clive, Utah facility. However, the inspectors further noted that shipment numbers as stated did not match the licensee's radwaste shipment logs.

In June 2011, the licensee issued Condition Report CR-CNS-2011-06921 to address the concerns the inspectors identified. The licensee concluded that they were not aligned with current industry practices. Specifically, NRC Regulatory Guide 1.21, "Measuring, Evaluating, and Reporting Radioactivity in Solid Waste and Releases of Radioactive Materials in Liquid and Gaseous Effluents from Light-Water Cooled Nuclear Power Plants," Revision 1, Section D states, in part, that solid waste transported from the site for the period should be reported in the Annual Radiological Effluent Release Report. During the week of November 28, 2011, the inspectors reviewed the implementation of licensee corrective actions and the extent of condition of their evaluation. The inspectors found that Condition Report CR-CNS-2011-06921 was closed and the corrective actions shown to be complete by November 23, 2011. However, the corrective actions and extent of condition evaluation were not complete. The licensee then issued Condition Report CR-CNS-2011-11740 and performed an apparent cause including an extent of condition evaluation from 2008-2011. The apparent cause report was completed December 22, 2011. The licensee determined that Annual Radiological Effluent Release Reports from 2008 through 2010 regarding solid radwaste shipments were inaccurate. The licensee further determined that their Offsite Dose Assessment Manual, Section DSR 3.5.1.3, for reporting radwaste shipments was incorrect and would have to be revised immediately to be consistent with NRC Regulatory Guide 1.21 Revision 1, Section D. The licensee planned to submit the changes and corrections in the 2011 Annual Radiological Effluent Release Report.

Analysis. The failure to submit complete and accurate solid radwaste shipment information to the NRC in all material respects on the 2008 through 2010 Annual Radiological Effluent Release Reports was the performance deficiency. This issue was dispositioned using traditional enforcement because the failure to provide complete and accurate information in Annual Radiological Effluent Release Reports has the potential to impact the NRC's ability to perform its regulatory function. This finding is characterized as a Severity Level IV violation because it is similar to examples in Section 6.9 of the NRC Enforcement Policy, and is consistent with Section 2.2.1.c, in that the violation impacted the regulatory process. No cross-cutting aspect was identified because this performance deficiency was dispositioned using traditional enforcement. This finding was determined to be of very low safety significance.

Enforcement. Title 10 CFR 50.9(a), "Completeness and Accuracy of Information,"

requires, in part, that information provided to the Commission by a licensee or information required by statute or by the Commission's regulations, orders, or license conditions to be maintained by the applicant or the licensee shall be complete and accurate in all material respects. Technical Specification 5.6.3 requires the licensee submit to the Commission Annual Radiological Effluent Release Reports in accordance with 10 CFR 50.36(a) including the quantities of solid radwaste released from the unit. Contrary to the above, information provided to the Commission by the licensee was not complete and accurate in all material respects. Specifically, the licensee provided inaccurate information to the NRC in the 2008, 2009 and 2010 Annual Radiological Effluent Release Reports related to radwaste shipments. The numbers of solid radwaste shipments, destinations, burial volumes, and total activity amounts were not correct. Because the finding was a Severity Level IV violation and has been entered into the licensee's corrective action program as Condition Reports CR-CNS-2011-06921 and CR-CNS-2011-011740, the finding is being treated as a non-cited violation, consistent with Section 2.3.2.a of the NRC Enforcement Policy: NCV 05000298/2011005-04, "Failure to Provide Complete and Accurate Solid Radwaste Shipment Information in Annual Reports."

4. OTHER ACTIVITIES

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

4OA1 Performance Indicator Verification (71151)

.1 Data Submission Issue

a. Inspection Scope

The inspectors performed a review of the data submitted by the licensee for the second quarter 2011 performance indicators for any obvious inconsistencies prior to its public release in accordance with Inspection Manual Chapter 0608, "Performance Indicator Program."

This review was performed as part of the inspectors' normal plant status activities and, as such, did not constitute a separate inspection sample.

b. Findings

No findings were identified.

.2 Mitigating Systems Performance Index - Emergency ac Power System (MS06)

a. Inspection Scope

The inspectors sampled licensee submittals for the mitigating systems performance index - emergency ac power system performance indicator for the period from the fourth

quarter 2010 through the third quarter 2011. To determine the accuracy of the performance indicator data reported during those periods, the inspectors used definitions and guidance contained in NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 6. The inspectors reviewed the licensee's operator narrative logs, mitigating systems performance index derivation reports, issue reports, event reports, and NRC integrated inspection reports for the period of October 2010 through September 2011, to validate the accuracy of the submittals. The inspectors reviewed the mitigating systems performance index component risk coefficient to determine if it had changed by more than 25 percent in value since the previous inspection, and if so, that the change was in accordance with applicable NEI guidance. The inspectors also reviewed the licensee's issue report database to determine if any problems had been identified with the performance indicator data collected or transmitted for this indicator and none were identified. Specific documents reviewed are described in the attachment to this report.

These activities constitute completion of one mitigating systems performance index - emergency ac power system sample as defined in Inspection Procedure 71151-05.

b. Findings

No findings were identified.

.3 Mitigating Systems Performance Index - High Pressure Injection Systems (MS07)

a. Inspection Scope

The inspectors sampled licensee submittals for the mitigating systems performance index - high pressure injection systems performance indicator for the period from the fourth quarter 2010 through the third quarter 2011. To determine the accuracy of the performance indicator data reported during those periods, the inspectors used definitions and guidance contained in NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 6. The inspectors reviewed the licensee's operator narrative logs, issue reports, mitigating systems performance index derivation reports, event reports, and NRC integrated inspection reports for the period of October 2010 through September 2011, to validate the accuracy of the submittals. The inspectors reviewed the mitigating systems performance index component risk coefficient to determine if it had changed by more than 25 percent in value since the previous inspection, and if so, that the change was in accordance with applicable NEI guidance. The inspectors also reviewed the licensee's issue report database to determine if any problems had been identified with the performance indicator data collected or transmitted for this indicator and none were identified. Specific documents reviewed are described in the attachment to this report.

These activities constitute completion of one mitigating systems performance index - high pressure injection system sample as defined in Inspection Procedure 71151-05.

b. Findings

No findings were identified.

.4 Mitigating Systems Performance Index - Heat Removal System (MS08)

a. Inspection Scope

The inspectors sampled licensee submittals for the mitigating systems performance index - heat removal system performance indicator for the period from the fourth quarter 2010 through the third quarter 2011. To determine the accuracy of the performance indicator data reported during those periods, the inspectors used definitions and guidance contained in NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 6. The inspectors reviewed the licensee's operator narrative logs, issue reports, event reports, mitigating systems performance index derivation reports, and NRC integrated inspection reports for the period of October 2010 through September 2011, to validate the accuracy of the submittals. The inspectors reviewed the mitigating systems performance index component risk coefficient to determine if it had changed by more than 25 percent in value since the previous inspection, and if so, that the change was in accordance with applicable NEI guidance. The inspectors also reviewed the licensee's issue report database to determine if any problems had been identified with the performance indicator data collected or transmitted for this indicator and none were identified. Specific documents reviewed are described in the attachment to this report.

These activities constitute completion of one mitigating systems performance index - heat removal system sample as defined in Inspection Procedure 71151-05.

b. Findings

No findings were identified.

.5 Mitigating Systems Performance Index - Residual Heat Removal System (MS09)

a. Inspection Scope

The inspectors sampled licensee submittals for the mitigating systems performance index - residual heat removal system performance indicator for the period from the fourth quarter 2010 through the third quarter 2011. To determine the accuracy of the performance indicator data reported during those periods, the inspectors used definitions and guidance contained in NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 6. The inspectors reviewed the licensee's operator narrative logs, issue reports, mitigating systems performance index derivation reports, event reports, and NRC integrated inspection reports for the period of October 2010 through September 2011, to validate the accuracy of the submittals. The inspectors reviewed the mitigating systems performance index component risk coefficient to determine if it had changed by more than 25 percent in value since the previous inspection, and if so, that the change was in accordance with applicable NEI guidance.

The inspectors also reviewed the licensee's issue report database to determine if any problems had been identified with the performance indicator data collected or transmitted for this indicator and none were identified. Specific documents reviewed are described in the attachment to this report.

These activities constitute completion of one mitigating systems performance index - residual heat removal system sample as defined in Inspection Procedure 71151-05.

b. Findings

No findings were identified.

.6 Mitigating Systems Performance Index - Cooling Water Systems (MS10)

a. Inspection Scope

The inspectors sampled licensee submittals for the mitigating systems performance index - cooling water systems performance indicator for the period from the fourth quarter 2010 through the third quarter 2011. To determine the accuracy of the performance indicator data reported during those periods, the inspectors used definitions and guidance contained in NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 6. The inspectors reviewed the licensee's operator narrative logs, issue reports, mitigating systems performance index derivation reports, event reports, and NRC integrated inspection reports for the period of October 2010 through September 2011, to validate the accuracy of the submittals. The inspectors reviewed the mitigating systems performance index component risk coefficient to determine if it had changed by more than 25 percent in value since the previous inspection, and if so, that the change was in accordance with applicable NEI guidance. The inspectors also reviewed the licensee's issue report database to determine if any problems had been identified with the performance indicator data collected or transmitted for this indicator and none were identified. Specific documents reviewed are described in the attachment to this report.

These activities constitute completion of one mitigating systems performance index - cooling water system sample as defined in Inspection Procedure 71151-05.

b. Findings

No findings were identified.

.7 Drill/Exercise Performance (EP01)

a. Inspection Scope

The inspectors sampled licensee submittals for the Drill and Exercise Performance, performance indicator for the period July 2010 through June 2011. To determine the accuracy of the performance indicator data reported during those periods, performance indicator definitions and guidance contained in NEI Document 99-02, "Regulatory

Assessment Performance Indicator Guideline," Revision 6, were used. The inspectors reviewed the licensee's records associated with the performance indicator to verify that the licensee accurately reported the indicator in accordance with relevant procedures and the NEI guidance. Specifically, the inspectors reviewed licensee records and processes including procedural guidance on assessing opportunities for the performance indicator; assessments of performance indicator opportunities during predesignated control room simulator training sessions, performance during the 2010 biennial exercise, and performance during other drills. The specific documents reviewed are described in the attachment to this report.

These activities constitute completion of the drill/exercise performance sample as defined in Inspection Procedure 71151-05.

b. Findings

Introduction. A Green non-cited violation was identified for failure to critique an inaccurate protective action recommendation during a Control Room Simulator drill conducted May 18, 2011, as required by 10 CFR 50.47(b)(14).

Description. The NRC identified that failure to critique an inaccurate protective action recommendation during a Control Room Simulator drill was a performance deficiency.

The licensee conducted a Control Room Simulator drill on May 18, 2011, using scenario SKL-05-401-34; the initiating event was a tornado leading to fission product barrier failures and a radiological release. The scenario necessitated a General Emergency declaration with an associated initial default protective action recommendation. An increasing radiological release required a subsequent expansion of protective measures based on dose assessment. The inspector reviewed the dose assessment report and identified that the integrated thyroid committed dose equivalent exceeded the protective action guide of 5 rem at 10 miles. The inspector reviewed the associated protective action recommendation and identified the revised protective action recommendation was to evacuate a 2 mile radius surrounding the plant, and Sectors E-F-G-H to 10 miles downwind. The inspector determined the revised protective action recommendation did not include areas outside of 10 miles.

The inspector reviewed Procedure 5.7.20, "Protective Action Recommendations," Revision 22, and determined that Step 4.1.4 stated in part, "If dose at 10 miles is projected to meet or exceed 5 rem CDE (Thyroid), then make a PAR to the offsite agencies." Based on the above, the inspector concluded the Control Room Simulator crew should have recognized that protective actions were required outside 10 miles and included this information in the remarks section of the CNS Notification Report Form. The inspector also reviewed the licensee's evaluation of the May 18, 2011, Control Room Simulator drill. The inspector determined the drill evaluators did not identify that the thyroid committed dose equivalent exceeded the protective action guide of 5 rem at 10 miles and, as a result, did not identify that the appropriate information was not included in the remarks section of the associated CNS Notification Report Form.

Therefore, the inspector concluded the drill evaluators did not identify the revised protective action recommendation was inaccurate according to licensee procedures.

Analysis. The inspector determined the failure to identify an inaccurate protective action recommendation is a performance deficiency within the licensee's ability to control. This finding is more than minor because it had the potential to affect safety and impacted the Emergency Preparedness Cornerstone objective attributes of drills and emergency response organization performance. The finding had a credible impact on the Emergency Preparedness Cornerstone objective because inaccurate protective action recommendations affect the licensee's ability to implement adequate measures to protect the health and safety of the public. The finding was associated with a violation of NRC requirements. This finding was evaluated using the Emergency Preparedness Significance Determination Process and was determined to be of very low safety significance because it was a failure to comply with NRC requirements, was associated with the emergency preparedness planning standards of 50.47(b), and was not a functional failure or degraded performance of the planning standard function. The finding was not a functional failure or degraded performance because the failure to identify an inaccurate protective action occurred in a single-facility drill. The finding was entered into the licensee's corrective action program as Condition Report CR-CNS-2011-10277. The finding has a cross-cutting aspect in the area of problem identification and resolution associated with the corrective action program component because the program did not have a low enough threshold to completely and thoroughly identify incorrect performance [P.1(a)].

Enforcement. Title 10 of the Code of Federal Regulations, Part 50.47(b)(14) states in part, "deficiencies identified as a result of exercises or drills are (will be) corrected." A deficiency is defined in Manual Chapter 0609, Appendix B, "Emergency Preparedness Significance Determination Process," Section 2.1(m), as a level of performance that could have precluded effective implementation of the emergency plan. Contrary to the above, following the May 18, 2011, Control Room Simulator drill the licensee failed to correct a deficiency. Specifically, the licensee failed to identify an inaccurate protective action recommendation made during the drill. An inaccurate protective action recommendation precludes effective implementation of the emergency plan. The protective action recommendation was inaccurate in that the need for protective actions beyond a 10 mile downwind distance was not recognized. Because this failure is of very low safety significance and has been entered into the licensee's corrective action system as Condition Report CR-CNS-2011-10277, this violation is being treated as a non-cited violation, consistent with Section 2.3.2 of the NRC Enforcement Policy: NCV 05000298/2011005-05, "Failure to Identify Deficient Performance During a Single-Facility Drill".

.8 Emergency Response Organization Drill Participation (EP02)

a. Inspection Scope

The inspectors sampled licensee submittals for the Emergency Response Organization Drill Participation performance indicator for the period July 2010 through June 2011. To determine the accuracy of the performance indicator data reported during those periods,

performance indicator definitions and guidance contained in NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 5, was used. The inspectors reviewed licensee records associated with the performance indicator to verify that the licensee accurately reported the indicator in accordance with relevant procedures and the NEI guidance. Specifically, the inspectors reviewed licensee records and processes including procedural guidance on assessing opportunities for the performance indicator, rosters of personnel assigned to key emergency response organization positions, and exercise participation records. The specific documents reviewed are described in the attachment to this report.

These activities constitute completion of the emergency response organization drill participation sample as defined in Inspection Procedure 71151-05.

b. Findings

No findings were identified.

.9 Alert and Notification System (EP03)

a. Inspection Scope

The inspectors sampled licensee submittals for the Alert and Notification System performance indicator for the period July 2010 through June 2011. To determine the accuracy of the performance indicator data reported during those periods, performance indicator definitions and guidance contained in NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 5, was used. The inspectors reviewed the licensee's records associated with the performance indicator to verify that the licensee accurately reported the indicator in accordance with relevant procedures and the NEI guidance. Specifically, the inspectors reviewed licensee records and processes including procedural guidance on assessing opportunities for the performance indicator and the results of periodic alert notification system operability tests. The specific documents reviewed are described in the attachment to this report.

These activities constitute completion of the alert and notification system sample as defined in Inspection Procedure 71151-05.

b. Findings

No findings were identified.

4OA2 Problem Identification and Resolution (71152)

.1 Routine Review of Identification and Resolution of Problems

a. Inspection Scope

As part of the various baseline inspection procedures discussed in previous sections of this report, the inspectors routinely reviewed issues during baseline inspection activities

and plant status reviews to verify that they were being entered into the licensee's corrective action program at an appropriate threshold, that adequate attention was being given to timely corrective actions, and that adverse trends were identified and addressed. The inspectors reviewed attributes that included the complete and accurate identification of the problem; the timely correction, commensurate with the safety significance; the evaluation and disposition of performance issues, generic implications, common causes, contributing factors, root causes, extent of condition reviews, and previous occurrences reviews; and the classification, prioritization, focus, and timeliness of corrective actions. Minor issues entered into the licensee's corrective action program because of the inspectors' observations are included in the attached list of documents reviewed.

These routine reviews for the identification and resolution of problems did not constitute any additional inspection samples. Instead, by procedure, they were considered an integral part of the inspections performed during the quarter and documented in Section 1 of this report.

b. Findings

No findings were identified.

.2 Daily Corrective Action Program Reviews

a. Inspection Scope

In order to assist with the identification of repetitive equipment failures and specific human performance issues for follow-up, the inspectors performed a daily screening of items entered into the licensee's corrective action program. The inspectors accomplished this through review of the station's daily corrective action documents.

The inspectors performed these daily reviews as part of their daily plant status monitoring activities and, as such, did not constitute any separate inspection samples.

b. Findings

Introduction. The inspectors identified a non-cited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," associated with the licensee's failure to assure that the applicable design basis for applicable structures, systems, and components were correctly translated into specifications, procedures, and instructions.

Description. On June 6, 1973 the licensee submitted Final Safety Analysis Report Amendment 25 to their license application. The purpose of this amendment was to address postulated high and medium energy pipe break requirements. In Section III.D.10(a)(2) of this amendment the licensee stated, in part, that the failure of either of the main steam lines (a high energy line break) in the turbine area would result in a peak turbine building pressure of 0.56 psig in the building area where the emergency diesel generators are located, and in the control corridor where the safety related 4160 volt switchgear rooms are located. The amendment also stated that only

electrical cables were required and evaluated to function in the steam environment, all other equipment needed to respond to the event was assumed to not be subjected to the steam environment during the high energy line break event. This amendment became part of the licensing basis for the sites high energy line break analysis.

On April 6, 2011, while the unit was shut down for Refueling Outage 26, Condition Report CR-CNS-2011-3972 was initiated to capture a question as to whether high energy line break doors N-103, H-105, H-307, R-208 and R-209 should be classified as safety related. The licensee determined that in the current mode, Mode 4/5, the doors were not required but classified this question as a startup restraint to have it resolved prior to the unit entering a mode where the doors were required.

During their review the licensee determined that doors H-105 and H-307 were blast doors and had been qualified to withstand 0.56 psid, and doors N-103, R-208 and R-209 were not blast doors and had no such evaluations associated with them. These doors protected the 4160 volt switchgear and emergency diesel generators. Using information contained in NEDC 02-092, "Capacity of RB Doors Subjected to HELB Differential Pressure Loadings," Revision 2, about similar doors, the licensee performed a qualitative analysis to demonstrate that the doors could withstand 0.56 psid and remove the startup restraint. This analysis was documented in the condition report.

The inspectors subsequently reviewed this condition report and the qualitative analysis. During their review the inspectors noted the licensee had performed the qualitative analysis to address the startup restraint, and were planning to use the results of another high energy line break analysis being performed as part of condition report CR-CNS-2010-5972 to determine if the doors needed to continue to be classified as high energy line break doors. The inspectors determined that the analysis in CR-CNS-2010-5972 was an operability evaluation for a degraded condition associated with two specific line break doors and had no bearing on the overall classification of station high energy line break doors. As such, the inspectors determined that the licensee did not have an analysis demonstrating that doors N-103, R-208 and R-209 would be able to withstand a differential pressure of 0.56 psid, and the licensee had not recognized this as an issue. The inspectors questioned this since these doors were in areas that had been identified as being subjected to this differential pressure. However, the inspectors determined that the qualitative analysis that had been performed to remove the startup restraint provided a reasonable assurance of operability for the doors pending a full evaluation.

The inspectors informed the licensee of their concerns about the lack of design calculations for these doors. The licensee initiated Condition Reports CR-CNS-2011-09892, CR-CNS-2011-09933, and CR-CNS-2011-10618 to capture these concerns in the stations corrective action program.

Analysis. The inspectors determined that the licensee's failure to ensure that design requirements were correctly translated into installed plant equipment was a performance deficiency. The performance deficiency was determined to be more than minor because it was associated with the design control attribute of the Mitigating Systems Cornerstone, and affected the associated cornerstone objective to ensure availability, reliability, and

capability of systems that respond to initiating events to prevent undesirable consequences, and is therefore a finding. Using Manual Chapter 0609, Attachment 4, "Phase 1 - Initial Screening and Characterization of Findings," the finding was determined to have very low safety significance because the finding: (1) was not a design or qualification issue confirmed not to result in a loss of operability or functionality; (2) did not represent an actual loss of safety function of the system or train; (3) did not result in the loss of one or more trains of nontechnical specification equipment; and (4) did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. The finding was determined to have a cross-cutting aspect in the area of problem identification and resolution, associated with the corrective action component, in that, the licensee failed to thoroughly evaluate concerns with high energy line break doors and this resulted in the resolutions taken not addressing the causes [P.1(c)].

Enforcement. Title 10 CFR 50, Appendix B, Criterion III, "Design Control," requires, in part, measures shall be established to assure that applicable regulatory requirements and the design basis, as defined in 10 CFR 50.2 and as specified in the license application, for those components to which this appendix applies are correctly translated into specifications, drawings, procedures, and instructions. Contrary to the above, as of December 31, 2011, the licensee failed to assure that applicable regulatory requirements and the design basis were correctly translated into specifications, drawings, procedures, and instructions. Specifically, the licensee failed to correctly translate regulatory and design basis requirements, associated with a turbine building high energy line break, into design information necessary to demonstrate that the protection of the safety related 4160 volt switchgear and emergency diesel generators. Because this finding is of very low safety significance and has been entered into the corrective action program as Condition Report CR-CNS-2011-10618, this violation is being treated as a non-cited violation consistent with Section 2.3.2 of the NRC Enforcement Policy: NCV 05000298/2011005-06, "Failure to Correctly Translate Design Requirements into Installed Plant Configuration."

.3 Semi-Annual Trend Review

a. Inspection Scope

The inspectors performed a review of the licensee's corrective action program and associated documents to identify trends that could indicate the existence of a more significant safety issue. The inspectors focused their review on repetitive equipment issues, but also considered the results of daily corrective action item screening discussed in Section 4OA2.2, above, licensee trending efforts, and licensee human performance results. The inspectors nominally considered the 12-month period of January 2011 through December 2011 although some examples expanded beyond those dates where the scope of the trend warranted.

The inspectors also included issues documented outside the normal corrective action program in major equipment problem lists, repetitive and/or rework maintenance lists, departmental problem/challenges lists, system health reports, quality assurance audit/surveillance reports, self-assessment reports, and Maintenance Rule assessments.

The inspectors compared and contrasted their results with the results contained in the licensee's corrective action program trending reports. Corrective actions associated with a sample of the issues identified in the licensee's trending reports were reviewed for adequacy.

These activities constitute completion of one single semi-annual trend inspection sample as defined in Inspection Procedure 71152-05.

b. Findings

No findings of significance were identified. The inspectors evaluated the licensee's trending methodology and observed that the licensee had performed a detailed review. The licensee routinely reviewed cause codes, involved organizations, key words, and system links to identify potential trends in their corrective action program data. The inspectors compared the licensee process results with the results of the inspectors' daily screening and did not identify any discrepancies or potential trends in the corrective action program data that the licensee had failed to identify. The inspectors did, however, identify additional insights into several of these issues as documented below:

Substantive Cross-Cutting Issues Trend Review

(1) Cross-cutting Theme in Decision Making H.1(b)

In the Cooper end of cycle assessment letter dated March 4, 2011 (ML 110620053), the NRC opened an substantive cross-cutting issue in the human performance area associated with the decision-making component related to the use of conservative assumptions in decision-making [H.1 (b)]. In the September 1, 2011, mid cycle letter the NRC noted Cooper has not fully implemented their corrective action plan, as evidenced by the identification of eleven findings over the previous four quarters with this same common theme. Therefore the substantive cross-cutting issue related to the use of conservative assumptions in decision-making [H.1 (b)] remained open.

This trend review continues to monitor for sustainable performance improvements as evidenced by effective implementation of an appropriate corrective action plan that results in no safety significant inspection findings and a notable reduction in the overall number of inspection findings with the same common theme. The inspectors reviewed five additional findings related to the use of conservative assumptions in decision-making that occurred during the 2011 assessment period. These findings included requalification issues, reactor building internal flooding analysis errors, tornado wind effects on diesel generator fuel oil storage vent errors, and unplanned exposure to radiation workers. These five findings in this theme occurred from January 2011 through June 2011, prior to full implementation of the licensee corrective actions August 2011. There was one finding documented in the fourth quarter baseline inspection report concerning a design calculation without a proper 10 CFR 50.59 review. The inspectors have reviewed the licensee corrective actions and this single finding does not refute the sustained improvement in the decision-making theme.

The licensee corrective actions focused on nuclear principles of decision-making reflects safety first, a questioning attitude is cultivated, and improving monitoring and oversight of performance related to decision making and assumptions. The licensee has implemented actions to monitor lower level decision making indicators and case study training to address these causes with each department along with measurable objectives to monitor the effectiveness of the training. These actions were completed in August 2011.

The inspectors have observed a sustained improvement in human performance decision-making behavior as demonstrated by the licensee's use of conservative assumptions in decision-making during the third and fourth inspection quarters with only one finding with that theme following full implementation of appropriate corrective actions.

(2) Cross-cutting Theme in Work Practices H.4(a)

In the midcycle performance review for Cooper Nuclear Station on September 1, 2011, the NRC identified a cross-cutting theme in the work practices component of the human performance area. Specifically, the NRC identified four findings associated with communicating and using human error prevention techniques and/or proceeding in the face of uncertainty [H.4(a)]. This cross-cutting theme is the same theme as a substantive cross-cutting issue that was closed in the NRC end of cycle assessment letter dated March 4, 2011. The NRC determined that a substantive cross-cutting issue did not exist at that time due to lack of full corrective action implementation time and the living human performance improvement plan.

Six findings were identified with the cross-cutting aspect of H.4(a) during 2011. Four previously reviewed in the NRC midcycle performance review and two new findings, one identified during the third quarter and one identified during the fourth quarter.

On July 28, 2011, the licensee acknowledged recurrence of this theme and initiated CR-CNS-2011-08283 ("NRC Findings with a CCA of H.4(a)"). The licensee investigation was completed October 2011 and, "determined that although there had been some improvement, sub standard human performance behaviors still exist…" and, "There are still isolated cases where personnel: (1) do not recognize when they should stop and get assistance; (2) rationalize away the risk and proceed with the task; (3) do not apply strict compliance to station procedures and work instructions." The new corrective actions include: (1) briefing sheets to validate workers are meeting site requirements; (2) tools to raise the accountability of observations by supervisors; (3) additional communications of site wide standards and expectations for the use of human performance tools; (4) and establishment of a new strategic site wide human performance plan. These actions were completed by November 2011 and the remaining self assessment effectiveness review is due March 30, 2012.

The six findings in 2011 have been identified with the cross-cutting aspect of H.4(a) and therefore comprise a cross-cutting theme. The licensee has implemented corrective actions that have reduced the occurrence of findings with this theme but not eliminated

them. The inspectors will continue to monitor the new actions aimed at eliminating this theme.

(3) Cross-cutting Theme in Problem Evaluation P.1(c)

In the Midcycle Performance Review for Cooper Nuclear Station on September 1, 2011, the staff identified that a cross-cutting theme existed in the corrective action program component of the problem identification and resolution area with six findings in the previous four quarters associated with thoroughness of problem evaluation such that the resolutions address causes and extent of conditions [P.1(c)]. The NRC determined that a substantive cross-cutting issue did not exist at that time due to the licensee scope of effort in addressing the theme and due to it being an emergent performance trend.

The licensee acknowledged this theme and initiated CR-CNS-2011-08284 ("NRC Findings with a CCA of P.1(c)") on July 28, 2011. Since CR-CNS-2011-08284 was initiated three additional findings were identified in this theme, one in the third quarter Integrated Inspection Report 2011004 on November 7, 2011, one in a Notice of Violation issued in Special Inspection Report 2011009 on June 10, 2011, and one in this fourth quarter Integrated Inspection Report. Therefore, a total of seven findings during 2011 is a continuing trend and a cross-cutting theme exists in P.1(c) with the licensee failing to thoroughly evaluate problems such that the resolutions address causes and extent of conditions.

The investigation by CR-CNS-2011-08284 ("NRC Findings with a CCA of P.1(c)") concluded that licensee failure to use internal operating experience to review recurring legacy problems was the common factor for most of the findings. The licensee corrective actions for this theme are: qualifications for performing apparent cause evaluations, and programmatic changes to require operating experience reviews along with independent checks.

Seven findings have been identified in 2011 with the cross-cutting aspect of P.1(c) and therefore comprise a cross-cutting theme. The licensee has implemented corrective actions to address this theme and the inspectors will continue to monitor for sustained improvement.

.4 Selected Issue Follow-up Inspection

Deficiencies Associated with the Stations High Energy Line Break Analysis

a. Inspection Scope

During a review of items entered in the licensee's corrective action program, the inspectors recognized a corrective action item documenting a potential issue with a system credited with protection of other equipment during a high energy line break event. The inspectors selected this issue for review because of the frequency at which issues were being identified with high energy line break mitigating equipment, and because the failure to properly address identified deficiencies or evaluate changes made to the facility and its supporting design analysis could have a significant impact on

station equipment and result in systems not being able to perform their design function. The inspectors considered the following, as applicable, during the review of the licensee's actions: (1) complete and accurate identification of the problem in a timely manner; (2) evaluation and disposition of operability/reportability issues; (3) consideration of extent of condition, generic implications, common cause, and previous occurrences; (4) classification and prioritization of the resolution of the problem; (5) identification of root and contributing causes of the problem; (6) identification of corrective actions; and (7) completion of corrective actions in a timely manner.

These activities constitute completion of one in-depth problem identification and resolution sample as defined in Inspection Procedure 71152-05.

b. Findings

Introduction. The inspectors identified a Severity Level IV non-cited violation of 10 CFR 50.59, "Changes, Test, and Experiments," associated with the licensee's failure to adequately evaluate changes in order to ensure that they did not require prior NRC approval.

Description. On June 6, 1973 the licensee submitted Final Safety Analysis Report Amendment 25 to their license application. The purpose of this amendment was to address postulated high and medium energy pipe break requirements. In Section III D.10(a)(2) of this amendment the licensee stated, in part, that the failure of either of the main steam lines (a high energy line break) in the turbine area would result in a peak turbine building pressure of 0.56 psig in the building area, and that the buildings siding would blow out at 0.5 psid which would completely vent the steam/water mixture in the upper building area to the outside atmosphere and completely pressure relieving the space. This amendment became part of the licensing basis for the sites high energy line break analysis.

In June 2003, the licensee generated station calculation NEDC 03-005, "Turbine Generator Building Siding Blowout Pressure," Revision 0. The purpose of this calculation was to provide the differential pressure at which the turbine generator building steel superstructure siding could be assured of failing. The outcome was siding failure at 0.5 psid, which confirmed what had been cited in Amendment 25 to the stations Final Safety Analysis Report.

On September 3, 2010, Condition Report CR-CNS-2010-07253 was initiated to capture a question associated with the adequacy of blast doors credited to protect station equipment during a turbine building high energy line break event. While reviewing this question the licensee determined that the current revision of NEDC 03-005 contained errors which made it overly conservative and possibly did not represent true material behavior at its limit state. Condition Report CR-CNS-2011-00501 was initiated to document this and revise calculation NEDC 03-005. Revision 3 of NEDC 03-005 was approved on March 3, 2011, and documented that the building siding would fail at 0.3 psid.

The inspectors reviewed this revision of NEDC 03-005. During their review, the inspectors noted that the licensee had used a different method for evaluating the siding failure pressure. Specifically, the original revision of NEDC 03-005 had used the allowable stress design method only, but the latest revision used both the allowable stress design method and the load and resistance factor design method to evaluate the failure pressure. Using this approach, the licensee had calculated two different pressures at which the siding would fail; the allowable stress design method yielded a failure pressure of 0.4 psid (the inspectors noted that this was essentially the same as what was documented in the previous revision of the calculation), and the load and resistance factor design method yielded a failure pressure 0.2 psid. The licensee then used these pressures as the upper and lower bounds for failure pressures and elected to 0.3 psid as the failure pressure of the siding.

The inspectors questioned whether this revision constituted a change in method of evaluation because of the use of the two different methods to arrive at an upper and lower bounds and then choosing a failure pressure in between the two. They reviewed the 10 CFR 50.59 screen (screen number 389) performed for the calculation revision, and Station Procedure 0.8, "10CFR50.59 and 10CFR72.48 Reviews," Revision 19. During their review they noted that screening question 5.3 required the preparer to determine if the activity involved revising or replacing an Updated Safety Analysis Report described design methodology used in establishing the design basis. The inspectors noted that the preparer simply stated that no changes in the analysis/evaluation methodology previously used were necessary. As such, the licensee's 10 CFR 50.59 screen determined that no further evaluation was required and the calculational change was acceptable.

The inspectors disagreed with the licensee's determination. Specifically, when the allowable stress method was re-performed to correct the conservatisms, it yielded a failure pressure of 0.4 psid, and the use of a different method to set a lower bound was a departure from the original analysis. The inspectors informed the licensee of their concerns. Subsequently, the stations 50.59 review board also raised concerns with the adequacy of the screen that had been performed. The licensee initiated Condition Report CR-CNS-2011-10391 to capture these concerns in the stations corrective action program. Subsequently, the licensee revised their 10 CFR 50.59 screen (screen number 389).

The inspectors reviewed the revised screen and noted that the revised response to question 5.3 now recognized the use of both the allowable stress design and the load and resistance factor design methods to provide the failure pressure of the turbine building siding as a design input for the stations turbine building high energy line break analysis. However, it had determined that this calculation was not establishing a new design basis to ensure the siding could withstand the design basis loadings required by the Updated Safety Analysis Report for a Class II structure, and therefore was not a change in method of evaluation.

The inspectors continued to disagree with the licensee's determination. Specifically, the 0.5 psid result was an outcome of the design basis for analysis for a high energy line

break in the turbine building and was documented as such in the Updated Safety Analysis Report. The inspectors consulted with the Office of Nuclear Reactor Regulation on this issue. Through these discussions, the inspectors determined that the new revision to NEDC 03-005 did represent a change in method of evaluation and should have required prior NRC approval.

Analysis. The licensee's failure to implement the requirements of 10 CFR 50.59 and adequately evaluate changes was a performance deficiency. The performance deficiency is greater than minor because the failure to follow the requirements of 10 CFR 50.59 and receive prior NRC approval for changes in licensed actions impacted the NRC's regulatory ability, and is therefore a finding. Since violations of 10 CFR 50.59 are considered to impede or impact the regulatory process they are dispositioned using the traditional enforcement process. The enforcement manual specifies that the severity level is determined in parallel with the Significance Determination Process. As such, the inspectors concluded that this issue also represented a performance deficiency under the Reactor Oversight Process because the licensee failed to appropriately evaluate the proposed change in accordance with the requirements of Station Procedure 0.8, "10CFR50.59 and 10CFR72.48 Reviews." The performance deficiency was determined to be more than minor because it was associated with the design control attribute of the Mitigating Systems Cornerstone, and affected the associated cornerstone objective to ensure availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences, and is therefore a finding. Using Manual Chapter 0609, Attachment 4, "Phase 1 – Initial Screening and Characterization of Findings," the finding was determined to have very low safety significance because the finding: (1) was not a design or qualification issue confirmed not to result in a loss of operability or functionality; (2) did not represent an actual loss of safety function of the system or train; (3) did not result in the loss of one or more trains of nontechnical specification equipment; and (4) did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. The inspectors reviewed this issue in accordance with NRC Inspection Manual Chapter 0612 and the NRC Enforcement Manual and Enforcement Policy and concluded that because the violation was determined to be of very low safety significance, was not repetitive or willful, and was entered into the corrective action program, this violation is being treated as a Severity Level IV non-cited violation consistent with the NRC Enforcement Policy. The finding was determined to have a cross-cutting aspect in the area of human performance, associated with the decision-making component in that the licensee failed to use conservative assumptions in decision making when they failed to recognize that the new calculation methodology was a change to a previously approved methodology [H.1(b)](Section 4OA2).

Enforcement. Title 10 CFR 50.59, "Changes, Tests, and Experiments," Section (c)(1) states, in part, that a licensee may make changes in the facility as described in the final safety analysis report (as updated) without obtaining a license amendment pursuant to 10 CFR 50.90 only if; (1) a change to the technical specifications incorporated in the license is not required, and (2) the change, test, or experiment does not meet any of the criteria in paragraph (c)(2). Paragraph (c)(2) states, in part, "a licensee shall obtain a license amendment pursuant to Section 50.90 prior to implementing a proposed change,

test, or experiment if the change, test, or experiment would result in a departure from a method of evaluation described in the FSAR (as updated) used in establishing the design bases or in the safety analyses." Contrary to the above, on March 10, 2011, the licensee implemented a change to a station calculation that constituted a change in method of evaluation without receiving prior NRC approval and without performing an evaluation that provided an adequate basis for the determination that the change did not require prior approval. This finding was determined to be applicable to traditional enforcement because the failure to follow the requirements of 10 CFR 50.59 and receive prior NRC approval for changes in licensed actions impacted the NRC's regulatory ability. The finding was evaluated in accordance with the NRC's Enforcement Policy. The finding was reviewed by NRC management and because the violation was of very low safety significance, was not repetitive or willful, and was entered into the corrective action program, this violation is being treated as a Severity Level IV non-cited violation, consistent with the NRC Enforcement Policy: NCV 05000298/2011005-07, "Failure to Perform Required 10 CFR 50.59 Evaluations for Changes."

4OA3 Followup of Events and Notices of Enforcement Discretion (71153)

.1 (Closed) LER 05000298/2011001-00, "Both Loops of Residual Heat Removal Inoperable Results in Loss of Safety Function"

a. Inspection Scope

On January 18, 2011, the open position indication light for reactor recirculation pump A discharge valve (RR-MO-53A) was discovered de-energized. Investigation found a damaged socket resistor for the bulb, causing fuses to the control power circuit for the valve to be open circuited, preventing valve RR-MO-53A from closing to support the residual heat removal loop A low pressure coolant injection safety function, if needed. At the time of discovery, the residual heat removal loop B of low pressure coolant injection was inoperable for planned maintenance. This condition resulted in a loss of safety function for the emergency core cooling system. The root cause evaluation determined that there were no significant barriers in existence that could have provided prompt indication that the starter circuit had become inoperable. To prevent recurrence, the station procedure was revised to include shiftly verification of the valves position and the plant management information system will be upgraded to indicate power loss to the starter circuits for valves RR-MO-53A and RR-MO-53B.

b. Findings

No findings were identified.

.2 (Closed) LER 05000298/2011003-00, "Potential Loss of Safety Function of Service Water Strainers"

a. Inspection Scope

On March 27, 2010, the service water strainer A failed to operate as expected. Cooper Nuclear Station found the strainer wiper motor-to-gearbox coupling was not engaged to

turn the gearbox shaft. The gear side key had become dislodged allowing the coupling half to move enough to disengage the coupling sleeve. This condition impacted the ability of the strainer to perform the automatic backwash function to keep it clear of debris. Cooper Nuclear Station did not enter the applicable Technical Specification limiting condition for operation due to acceptable differential pressure across the strainer, the ability to take actions to maintain the strainer operable, and the lack of available information indicating an inoperable condition existed. The root cause evaluation identified a history of performance problems for both divisions of service water strainer couplings, and prior corrective action program evaluations had failed to recognize an original design deficiency with the reduction gear to motor shaft configuration; specifically, the length of the worm gear shaft keyway is too short for adequate engagement of the coupling on the shaft. The design inadequacies were introduced at the time of initial installation of the service water strainers in 1973. Previous actions to correct the conditions have not prevented failure.

b. Findings

A "Green" finding was identified associated with this issue, and documented as NCV 05000298/2011003-06, "Failure to Correctly Translate Design Requirements into Installed Plant Configuration."

.3 (Closed) LER 05000298/2011006-00, "Loss of Safety Function and Past Inoperability of Service Water Strainers"

a. Inspection Scope

On August 15, 2011, the service water strainer A backwash outlet air-operated valve failed to open as expected. Cooper Nuclear Station found the air-operated valve's internal rubber sleeve had ruptured and caused the air-operated valve to fail. This condition impacted the ability of the strainer to perform the automatic backwash function to keep it clear of debris. Cooper Nuclear Station personnel replaced the sleeve, but it ruptured again prior to returning the subsystem to operable. Cooper Nuclear Station replaced the air-operated valve with a temporary pipe spool piece and returned service water A subsystem to operable on August 19, 2011. The stations evaluation identified a history of ruptures with the strainer backwash outlet air-operated valve's internal rubber sleeve for both divisions of service water. The previous sleeve ruptures did not result in either service water subsystem being declared inoperable. Cooper Nuclear Station identified two root causes: (1) Inadequate application of the design process to ensure vendor specifications and design functions are met; and (2) nonconservative decision making resulted in the failure to implement actions to resolve equipment problems. Cooper Nuclear Station initiated compensatory measures to maintain both service water strainers operable and subsequently installed manual ball valves. To prevent recurrence, Cooper Nuclear Station will ensure that a valve that incorporates the lessons learned from the root cause evaluation is specified in the service water strainer replacement modification. This event has low risk significance.

b. Findings

This Green, licensee-identified finding involved a violation of 10 CFR 50, Appendix B, Criterion III, Design Control. The enforcement aspects of the violation are discussed in Section 4OA7.2 of this report. This Licensee Event Report is closed.

4OA5 Other Activities

.1 IP 92723, "Follow Up Inspection for Three or More Severity Level IV Traditional Enforcement Violations in the Same Area in a 12-Month Period"

a. Inspection Scope

As announced in the Mid-Cycle Performance Review and Inspection Plan letter (ML112430651) and in accordance with IP 92723, the inspectors reviewed the licensee's responses to the five traditional-enforcement violations identified during the 12-month period that ended on June 30, 2012. Those violations were non-cited and were designated as follows:

- NCV 05000298/2011002-05, "Failure to Notify the NRC within Eight Hours of a Nonemergency Event."
- NCV 05000298/2011003-04, "Communication of an NRC Inspector's Presence by Station Personnel."
- NCV 05000298/2011006-02, "Failure to Report Conditions Prohibited by Technical Specifications and Safety System Functional Failures."
- NCV 05000289/2011006-03, "Failure to Perform a 10 CFR 50.59 Evaluation for Design Change."
- NCV 05000298/2010007-06, "Failure to Perform a 10 CFR 21 (a)(1) Evaluation for Faulty General Electric Switches"

The inspectors reviewed the licensee's responses to these violations to verify that the licensee understood the causes of these violations, identified the extent-of-condition and extent-of-cause associated with these violations, and had taken corrective actions that are sufficient to address the causes of the violations.

Documents reviewed are listed in the attachment.

b. Findings

No findings were identified.

4OA6 Meetings

Exit Meeting Summary

On September 30, 2011, the inspector presented the results of the radiation safety inspections to Mr. D. Van Der Kamp, Licensing Manager, and other members of the licensee staff. The licensee acknowledged the issues presented. The inspector asked the licensee whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

On October 6, 2011, the inspector presented the onsite emergency preparedness inspection results to Mr. D. Willis, General Manager, Plant Operations, and other members of the licensee's staff. The licensee acknowledged the issues presented. The inspector asked the licensee whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

On November 17, 2011, the inspectors presented the results of the IP 92723 inspection to Mr. B. O'Grady, Site Vice-President, and other members of the licensee staff. The inspectors asked the licensee whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

On November 29, 2011, the inspectors presented the results of the radiation safety inspections to Mr. D. Willis, General Manager, Plant Operations, and other members of the licensee staff. The licensee acknowledged the issues presented. The inspectors asked the licensee whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

On December 27, 2011, the inspectors presented the inspection results to Mr. B. O'Grady, and other members of the licensee staff. The licensee acknowledged the issues presented. The inspector asked the licensee whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

4OA7 Licensee-Identified Violations

The following violations of very low safety significance (Green) were identified by the licensee and are violations of NRC requirements which meet the criteria of Section 2.3.2 of the NRC Enforcement Policy for being dispositioned as a non-cited violation.

.1 Procedure 9.EN-RP-101, "Access Control for Radiologically Controlled Areas," Revision 9, Step 6.8.7, states that each person entering a locked high radiation area shall have a documented pre-job brief using Form RP-800 given by radiation protection personnel. Additionally, Radiological Work Permit/Specific Work Permit 2011-0438, Task 5, which was used by the decontamination workers during the work activities within the Reactor Cavity, stated that, "All entries into locked high radiation areas require a documented pre-job briefing by radiation protection using the Form RP-800 prior to entry. This briefing will include established stay times, and work areas will have turn back dose rates." Contrary to this requirement, on April 21, 2011, the decontamination workers were not briefed with the use of Form RP-800. Thus, they were not provided stay times

and turn back dose rates while working in the reactor cavity, which was posted as a locked high radiation area. Since the failure to perform a required pre-job brief using Form RP-800 in a posted locked high radiation area was addressed in the licensee's original apparent cause evaluation for Condition Report CR-CNS-2011-04891 in detail, this violation is being treated as a licensee-identified non-cited violation.

.2 10 CFR 50, Appendix B, Criterion III, Design Control, states in part that measures shall be established to ensure the suitability of parts that are essential to the safety-related functions of systems. Contrary to this requirement, Cooper Nuclear Station identified in their root cause evaluation legacy issues with inadequate design control of both the service water strainer and the strainer blowdown valve. The design inadequacies were introduced at the time of initial installation of the service water strainers in 1973. Previous actions to correct the conditions had not prevented failure. The performance deficiency was determined to be more than minor because it was associated with the equipment performance attribute of the Mitigating Systems Cornerstone, and affected the associated cornerstone objective to ensure availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences, and is therefore a finding. Using Manual Chapter 0609, Attachment 4, "Phase 1 - Initial Screening and Characterization of Findings," the finding was determined to have very low safety significance because the finding: (1) was not a design or qualification issue confirmed not to result in a loss of operability or functionality; (2) did not represent an actual loss of safety function of the system or train; (3) did not result in the loss of one or more trains of nontechnical specification equipment; and (4) did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event.

SUPPLEMENTAL INFORMATION
KEY POINTS OF CONTACT

Licensee Personnel

T. Barker, Manager, Quality Assurance
J. Bednar, Supervisor, Radiation Protection
R. Beilke, Manager, Chemistry
D. Buman, Director, Engineering
J. Corey, Manager, Radiation Protection
L. Dewhirst, Manager, Corrective Actions and Assessment
G. Mace, Manager, Nuclear Assets
D. Madsen, Licensing Engineer
E. McCutchen, Senior Licensing Engineer, Licensing
D. Montgomery, Manager, Emergency Preparedness
R. Penfield, Manager, Operations
S. Rezab, Staff Health Physicist
J. Teton, Supervisor, Chemistry
D. Van Der Kamp, Manager, Licensing
D. Willis, General Manager, Plant Operations
A. Zaremba, Director, Nuclear Safety Assurance

NRC Personnel

M. Chambers, Resident Inspector
J. Josey, Senior Resident Inspector

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened and Closed

05000298-2011005-01	NCV	Failure to Conspicuously Post a High Radiation Area (Section 2RS01)
05000298-2011005-02	NCV	Failure to Maintain Control and Continuous Coverage of a Posted Locked High Radiation Area (Section 2RS01)
05000298-2011005-03	NCV	Failure to Follow Procedures for Dose Rate Alarms Received by Two Individuals (Section 2RS01)
05000298/2011005-04	NCV	Failure to Provide Complete and Accurate Solid Radwaste Shipment Information in Annual Reports (Section 2RS08)
05000298/2011005-05	NCV	Failure to Identify Deficient Performance During a Single-Facility Drill (Section 4OA1)
05000298/2011005-06	NCV	Failure to Correctly Translate Design Requirements into Installed Plant Configuration (Section 4OA2)
05000298/2011005-07	NCV	Failure to Perform Required 10 CFR 50.59 Evaluations for Changes (Section 4OA2)

Closed

05000298/2011-001-00	LER	Both Loops of Residual heat Removal Inoperable Results in Loss of Safety Function (Section 4OA3)
05000298/2011-003-00	LER	Potential Loss of Safety Function of Service Water Strainers (Section 4OA3)
05000298/2011-006-00	LER	Loss of Safety Function and Past Inoperability of Service Water Strainer (Section 4OA3)

LIST OF DOCUMENTS REVIEWED

Section 1RO1: Adverse Weather Protection

WORK ORDERS

4813451

Section 1RO4: Equipment Alignment

MISCELLANEOUS DOCUMENTS

NUMBER	TITLE
4844944	Temporary Change Configuration

CONDITION REPORTS

CR-CNS- 2011-08812 CR-CNS- 2011-09651 CR-CNS- 2011-09886 CR-CNS- 2011-11068

Section 1RO5: Fire Protection

MISCELLANEOUS DOCUMENTS

	TITLE	DATE
	CNS Fire Hazards Analysis	July 28, 2011

Section 1RO6: Flood Protection Measures

MISCELLANEOUS DOCUMENTS

	TITLE	REVISION / DATE
	CNS Fire Hazards Analysis	July 28, 2011
38	Design Control Document, “Internal Flooding”	February 2, 2009
NEDC 09-102	“Internal Flooding – HELB, MELB and Feedwater Line Break”	0

CONDITION REPORTS

CR-CNS-2011-08518

NOTIFICATION

10828637

WORK ORDERS

4749661

Section 1R07: Heat Sink Performance

MISCELLANEOUS DOCUMENTS

NUMBER	TITLE	DATE
	Graph of Reactor Equipment Cooling Heat Exchanger B Fouling Factor vs. Time	2002 - 2011
94-021	NEDC	

PROCEDURES

NUMBER	TITLE	REVISION
13.15.1	Performance Evaluation Procedure, “Reactor Equipment Cooling Heat Exchanger Performance Analysis”	32

WORK ORDERS

4754557

Section 1R11: Licensed Operator Requalification Program

MISCELLANEOUS DOCUMENTS

NUMBER	TITLE	DATE
2011	Annual Exercise (PI Counter) Scenario	November 8. 2011

Section 1R12: Maintenance Effectiveness

MISCELLANEOUS DOCUMENTS

NUMBER	TITLE	DATE
10783842	Functional Failure Evaluation Notification, “Function RHR-SD1, Provide LPCI for RCS Inventory Control”	February 4, 2011

Section 1R13: Maintenance Risk Assessment and Emergent Work Controls

MISCELLANEOUS DOCUMENTS

NUMBER	TITLE
1.3	Technical Specification, “Completion Times”, Amendment No. 178

PROCEDURES

NUMBER	TITLE	REVISION
2.0.11	Conduct of Operations Procedure, “Entering and Exiting Technical Specification/TRM/ODAM LCO Condition(s)”	34

WORK ORDERS

4855940

Section 1R15: Operability Evaluations

PROCEDURES

NUMBER	TITLE	REVISION
0.8	Administrative Procedure, “10CFR50.59 and 10CFR72.48 Reviews”, Attachment 2, “Applicability Determination Form”	21
0.8	Administrative Procedure, “10CFR50.59 and 10CFR72.48 Reviews”, Attachment 3, “50.59 Screen Form”	21
6.LOG.601	Surveillance Procedure, “ Daily Surveillance Log – Mode 1,2,3”, November 2, 2011, 2100	109

CONDITION REPORTS

CR-CNS-2011-09651 CR-CNS-2011-10618 CR-CNS-2011-11068

Section 1R18: Plant Modifications

PROCEDURES

NUMBER	TITLE	REVISION
7.0.16	Maintenance Procedure, “Repairing Leaks with Sealing Compounds”	0

CONDITION REPORTS

CR-CNS-2011-09651 CR-CNS-2011-11068

WORK ORDERS

4832393

Section 1R19: Postmaintenance Testing

PROCEDURES

NUMBER	TITLE	REVISION
2.0.11.1	Conduct of Operations Procedure, “Safety Function Determination Program”	5
6.RCIC.102	Surveillance Procedure, “RCIC IST and 92 Day Test”, performed 11/9/11	25
6.1SW.101	Surveillance Procedure, “Service Water Surveillance Operation (DIV 1)(IST)”	36

WORK ORDERS

4749098

Section 1R22: Surveillance Testing

PROCEDURES

NUMBER	TITLE	REVISION
6.1CS.101	Surveillance Procedure, “Core Spray Test Mode Surveillance Operation (IST)(Div 1)”	22

WORK ORDERS

4813724

Section 1EP2: Alert Notification System Testing

PROCEDURES

NUMBER	TITLE	REVISION
5.7.27	Alert and Notification System	17
5.7.27.1	EAS Tone-Activated Radio Malfunction	9

Section 1EP2: Alert Notification System Testing

PROCEDURES

NUMBER	TITLE	REVISION
5.7.21.2	False Activation of Alert and Notification System Sirens	6

Section 1EP3: Emergency Response Organization Augmentation Testing

MISCELLANEOUS DOCUMENTS

NUMBER	TITLE	REVISION
5.7 Commun	Communications	13
	Evaluation Report for Pager Test conducted August 24, 2009	
	Evaluation Report for Pager Test conducted December 22, 2009	
	Evaluation Report for Pager Test conducted February 17, 2010	
	Evaluation Report for Pager Test conducted April 26, 2010	
	Evaluation Report for Pager Test conducted June 2, 2010	
	Evaluation Report for Pager Test conducted August 12, 2010	
	Evaluation Report for Pager Test conducted October 12, 2010	
	Evaluation Report for Pager Test conducted December 10, 2010	
	Evaluation Report for Pager Test conducted February 26, 2011	
	Evaluation Report for Pager Test conducted June 26, 2011	
	Evaluation Report for Pager Test conducted August 31, 2011	

Section 1EP4: Emergency Action Level and Emergency Plan Changes

MISCELLANEOUS DOCUMENTS

TITLE	DATE
Emergency Plan Regulatory Review: EPIP 5.7.10, Revision 32	November 16, 2009
Emergency Plan Regulatory Review: EPIP 5.7.14, Revision 18	July 20, 2011

Section 1EP4: Emergency Action Level and Emergency Plan Changes

MISCELLANEOUS DOCUMENTS

TITLE	DATE
Emergency Plan Regulatory Review: EPIP 5.7.17, Revision 35	March 11, 2010
Emergency Plan Regulatory Review: EPIP 5.7.2, Revision 29	October 4, 2010
Emergency Plan Regulatory Review: EPIP 5.7.20, Revision 20	March 29, 2010
Emergency Plan Regulatory Review: EPIP 5.7.6, Revision 51	February 24, 2011

Section 1EP5: Correction of Emergency Preparedness Weaknesses and Deficiencies

PROCEDURES

NUMBER	TITLE	REVISION / DATE
0-EP-01	Emergency Response Organization Responsibilities	19
0-QA-05	QA Audit Requirements, Frequencies, and Scheduling	8
0.40	Work Control Program	79
0.5.TRNG-ANALYIS	Performance and Training Needs Analysis	0
0.5.TRND	Corrective Action Program Trending	14
4.15.1	Elevated Release Point Radiation Monitoring System	22
5.7.2	Emergency Director EPIP	29
5.7.6	Notification	51
5.7.16	Release Rate Determination	23
5.7.17	Dose Assessment	35
5.7.18	Offsite and Site Boundary Monitoring	22
5.7.21	Maintaining Emergency Preparedness – Emergency Exercises, Drills, Tests and Evaluations	40
5.7.28	Administration of Positional Instruction Manuals	8
14.MET.301	Meteorological Maintenance Procedure for Ten Meter Tower	5

Section 1EP5: Correction of Emergency Preparedness Weaknesses and Deficiencies

PROCEDURES

NUMBER	TITLE	REVISION / DATE
14.MET.302	Meteorological Maintenance Procedure for Hundred Meter Tower System A	9
5.7COMMUN	Communications	14
2.2.4	Communications Systems	41
2.0.5	Reports to NRC Operations Center	39
5.7ENS	ENS Communicator	4, 5, 6, 7
	WS-2000/2500 Siren Checklist	
	WS-2000/2800 Siren Checklist	
	WPS-2900 Siren Checklist	
	WPS-3000 Siren Checklist	
WO-4807425	Peru Boat Dock Three-Year Mechanical Siren Inspection	March 15, 2011
	Briefing Checklist for Licensed Operator EP Training, Cycle 2011-01	
	Organizational Roles of the Cooper Emergency Medical Response Team	August 10, 2011
QAD20100060	Quality Assurance Audit Report: Emergency Plan	January 12, 2011
	Self Directed Training: EP Fundamentals – Emergency Response	12
	Self Directed Training; EP Fundamentals – Emergency Planning	3
	Missouri River Flood Protection Plan, Revision 11	September 28, 2011
	Emergency Response Organization Watchbill Meeting Agendas: (2010) June 28, July 19, August 23, October 11, November 15, December 20; (2011) January 3, January 10, January 17, April 5, May 17	
	Departmental Assessment: Region IV EP Manager Winter Workshop	January 18-20, 2011
LO-WTCNS-	Trip Report: 2011 NRC Outreach Meeting	

Section 1EP5: Correction of Emergency Preparedness Weaknesses and Deficiencies

PROCEDURES

NUMBER	TITLE	REVISION / DATE
2010-00139		
LO-CSNLO-2011-00014	Departmental Assessment: Alternative for Site Assembly	
	Benchmark Report: NRC Notification during declared Emergencies	April 5, 2011
LO-WTCNS-2009-00101	Benchmark Report: Determine whether other sites periodically review offsite emergency plans for consistency with the onsite plan	
	After Action Report: October 12, 2009, Notice of Unusual Event	October 14, 2009
	After Action Report: Notice of Unusual Event, June 22 through June 25, 2010	July 18, 2010
	After Action Report: Notice of Unusual Event, June 19 through July 12, 2011	July 5, 2011
	Regulatory Required Audit Frequency Evaluation (Emergency Preparedness)	September 1, 2011
CNSLO 2011-122	Benchmark Report: Frequencies for Conducting Regulatory Required Audits	September 15, 2011
	2010 Audit Schedule, Revision 3	July 8, 2010
	Self Directed Training: Dose Assessment	4
	Self Directed Training: Protective Action Recommendations	4

CONDITION REPORTS

CR-CNS-2009-07962	CR-CNS-2009-08207	CR-CNS-2009-09798	CR-CNS-2009-10504
CR-CNS-2009-10879	CR-CNS-2010-00923	CR-CNS-2010-04822	CR-CNS-2010-05256
CR-CNS-2010-05270	CR-CNS-2010-05467	CR-CNS-2010-08557	CR-CNS-2010-08637
CR-CNS-2010-08993	CR-CNS-2010-09065	CR-CNS-2010-09067	CR-CNS-2010-09068
CR-CNS-2010-09069	CR-CNS-2010-09484	CR-CNS-2011-00095	CR-CNS-2011-00770
CR-CNS-2011-03801	CR-CNS-2011-04669	CR-CNS-2011-07818	CR-CNS-2011-08365
CR-CNS-2011-10234	CR-CNS-2011-10274	CR-CNS-2011-10275	CR-CNS-2011-10277
CR-CNS-2011-10278	CR-CNS-2011-10279	CR-CNS-2011-10280	

Section 2RS01: Radiological Hazard Assessment and Exposure Controls

MISCELLANEOUS DOCUMENTS

	TITLE	REVISION / DATE
	Work Order Dose Report for SWP 2011-0438	April 21, 2011
	Apparent Cause Evaluation for CR-2011-04891	May 11, 2011
	Apparent Cause Evaluation for CR-2011-04891	Revision 1

PROCEDURES

NUMBER	TITLE	REVISION
9.ALARA.1	Personnel Dosimetry and Occupational Radiation Exposure Program	39
9.ALARA.4	Radiation Work Permits	14
9.RADOP.1	Radiation Protection at CNS	9
9.EN-RP-101	Access Control for Radiologically Controlled Areas	9
9.EN-RP-108	Radiation Protection Posting	5
9.EN-RP-141	Job Coverage	8

RADIATION SURVEY RECORD

NUMBER	TITLE	DATE
CNS-1106-0056	Reactor Building-1001	April 21, 2011

RADIATION WORK PERMIT

NUMBER	TITLE
2011-0438	Refuel Floor Support Activities

CONDITION REPORTS

CR-CNS-2011-04981 CR-CNS-2011-07175 CR-CNS-2011-09785

Section 2RS06: Radioactive Gaseous and Liquid Effluent Treatment

IN-PLACE FILTER TESTING

TITLE	DATE
SGT A (DIV 1)	March 8, 2011
SGT B (DIV 2)	March 9, 2011
SGT B (DIV 2) Re-test	March 10, 2011
Control Room	July 12, 2010

MISCELLANEOUS DOCUMENTS

TITLE	DATE
Chemistry Crosscheck Program Results	2009
Chemistry Crosscheck Program Results	2010
Radioactive Effluents Release Report	2009
Radioactive Effluents Release Report	2010
Kaman Radiation Monitor Upgrades (CED6015501)	2009
Offsite Dose Assessment Manual	2008

PROCEDURES

NUMBER	TITLE	REVISION
8.8.1.31	Radiochemical Analysis of Tritium	10
8.8.11	Liquid Radioactive Waste discharge Authorization	29
6.HV.104	Control Room Emergency Fan Charcoal and HEPA Filter Leak Test, Fan Capacity Test, and Charcoal Sampling	13
8.8RW	Particulate and Iodine Sample Collection for Radwaste Building Effluent	6
8.8RX	Particulate and Iodine Sample Collection for Reactor Building Effluent	6
8.ENV.9	Ground Water Monitoring Program Sampling, Monitoring, and Administrative Requirements	4
6.1SGT.501	SGT A Carbon Sample, Carbon Adsorber and HEPA Filter In-Place Leak Test, and Components Leak Test (Div1)	11

PROCEDURES

NUMBER	TITLE	REVISION
6.2SGT.501	SGT B Carbon Sample, Carbon Adsorber and HEPA Filter In-Place Leak Test, and Components Leak Test (Div2)	13

CONDITION REPORTS

CR-CNS-2009-4164 CR-CNS-2010-1216 CR-CNS-2010-1680 CR-CNS-2010-4603
CR-CNS-2010-5773

10 CFR 50.75g CONDITION REPORTS

2011-4275

RELEASE PERMITS

WST 09-16	WST 10-03	WST 10-07	WST 11-01
WST 11-02	FD 10-11	FD 10-12	FD 11-03

Section 2RS07: Radiological Environmental Monitoring Program

AUDITS, SELF-ASSESSMENTS, AND SURVEILLANCES

NUMBER	TITLE	DATE
QA Audit 09-08	Radiological Effluent and Environmental Monitoring and Chemistry	September 24, 2009
LO 2009-122	Groundwater Monitoring Program Snapshot	December 9, 2009 through January 10, 2010

CALIBRATION AND MAINTENANCE RECORDS

NUMBER	TITLE
6744/6651	Air sampler at location number 1
6652/6548	Air sampler at location number 4

MISCELLANEOUS DOCUMENTS

	TITLE	DATE
	Radiological Environmental Monitoring Program 2010 Annual Report	January 1 - December 31, 2010
	Annual Radiological Environmental Operating Report	January 1 - December 31, 2009
	Offsite Dose Assessment Manual	April 30, 2008
	2010 Waste Stream Analysis	

PROCEDURES

	TITLE	DATE
0.ODAM.1	Offsite Dose Assessment Manual Program	1
8.ENV.1	Radiological Environmental Monitoring Administration	0
8.ENV.2	Sampling Manual for the Radiological Environmental Monitoring Program	1
8.ENV.8	Administering the Meteorological Program	0
8.ENV.9	Ground Water Monitoring Program Sampling, Monitoring, and Administrative Requirements	4

CONDITION REPORTS

CR-CNS-2009-03562	CR-CNS-2009-05499	CR-CNS-2009-06877	CR-CNS-2010-05616
CR-CNS-2010-07109	CR-CNS-2011-00773	CR-CNS-2011-04424	CR-CNS-2011-04524

Section 2RS08: Radioactive Solid Waste Processing and Radioactive Material Handling, Storage, and Transportation

AUDITS, SELF-ASSESSMENTS, AND SURVEILLANCES

NUMBER	TITLE	DATE
LO-WLO-2010-00147	Radioactive Solid Waste Processing and Radioactive Material Handling, Storage, and Transportation	September 16, 2011
QA-14/15-2009-W3-1	Quality Assurance Audit Report: Radiation Protection/Radwaste	September 28, 2009
QS-2010-W3-04	QA Follow-up Surveillance of Radiation Protection/Radwaste QA 14/15-2009-W3-1	March 31, 2010
QS-2010-W3-012	Roll-up of Training Review Group Meeting Observations	June 23, 2010

MISCELLANEOUS DOCUMENTS

	TITLE	DATE
	Annual Radioactive Effluent Release Report	2009
	Annual Radioactive Effluent Release Report	2010

PROCEDURES

NUMBER	TITLE	DATE
9.RW.1	Radioactive Shipments	22
9.RW.3	Dry Radioactive Classification/Listing Radioactive Material Shipments	4
9.RW.3	Scaling Factors	8
9.RW.3	Process Control Program	1
9.RW.3	Integrated Transportation Security Plan	2
	Radioactive Shipment Accident Response	0
	Spent Resin Operations	7
	Collection and Packaging of Solid Radioactive Waste	302

RADIOACTIVE MATERIAL SHIPMENTS

NUMBER	TITLE	DATE
10-05	Resin Metal Oxides (LSA-II, UN3321)	April 20, 2010

RADIOACTIVE MATERIAL SHIPMENTS

NUMBER	TITLE	DATE
10-06G	MSIV Metal Oxides (LSA-II, UN2910)	June 24, 2010
10-07	RWCU Resin (Type B, UN2916, Yellow III	August 10, 2010
10-10A	Low Level Waste Materials (LSA-II, UN3321)	October 18, 2010
10-3063	Liquid/Solid Metals (Excepted, UN2910)	August 10, 2010
11-11F	Dry Active Waste (LSA-II, UN3321)	May 4, 2011

CONDITION REPORTS

CR-HQN-2009-00400	CR-HQN-2011-01116	CR-CNS-2009-03792	CR-CNS-2009-04899
CR-CNS-2009-04918	CR-CNS-2009-05288	CR-CNS-2009-05396	CR-CNS-2009-06220
CR-CNS-2009-07556	CR-CNS-2010-02524	CR-CNS-2010-05458	CR-CNS-2011-00958
CR-CNS-2011-01060	CR-CNS-2011-01188	CR-CNS-2011-06451	CR-CNS-2011-06769
CR-CNS-2011-07366	CR-CNS-2011-07482	CR-CNS-2011-11740	

Section 4OA1: Performance Indicator Verification

PROCEDURES

NUMBER	TITLE	REVISION
O-PI-01	Administrative Procedure, “Performance Indicator Program”, Attachment 7 for RHR, DG, EAC, SW, RCIC and HPCI from October 2010 through June 2011	32
2.0.11.1	Conduct of Operations Procedure, “Safety Function Determination Program”	5
5.7.1	Emergency Classification	41
5.7.6	Notification	50
5.7.20	Protective Action Recommendations	20
5.7Commun	Communications	13

MISCELLANEOUS DOCUMENTS

NUMBER	TITLE	REVISION
	Cooper Nuclear Station Emergency Plan	59
	NPPD CNS MSPI Basis Document	7
EPDG-2	Emergency Equipment Testing, Preventative Maintenance, and Documentation	22

Section 4OA5.1, IP 92723, "Follow Up Inspection for Three or More Severity Level IV Traditional Enforcement Violations in the Same Area in a 12-Month Period"

PROCEDURES

NUMBER	TITLE	REVISION
0.5	Conduct of the Condition Report Process	69
0.5.EVAL	Preparation of Condition Reports	22
0.5.CR	Condition Report Initiation, Review, and Classification	18
2.0.5	Reports to NRC Operations Center	38
2.0.11	Entering and Exiting Technical Specification/TRM/ODAM LCO Condition(s)	34
2.0.11.1	Safety Function Determination Program	4

CONDITION REPORTS

CR-CNS-2010-05629	CR-CNS-2011-00461	CR-CNS-2011-00618	CR-CNS-2011-04124
CR-CNS-2011-05502	CR-CNS-2011-06524	CR-CNS-2011-06778	CR-CNS-2011-07130
CR-CNS-2011-08282			

MISCELLANEOUS DOCUMENTS

NUMBER	TITLE	REVISION
10-075	(calculation) "Cable Sizing for RHR Motors 1B and 1C"	1

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.

The following items are requested for the

Public Radiation Safety Team Inspection

at Cooper Nuclear Station

June 13-17, 2011

and

November 28-29, 2011

Integrated Report 2011005

Inspection areas are Radioactive Gaseous and Liquid Effluent Treatment (71124.06), Radiological Environmental Monitoring Program (71124.07), and Radioactive Solid Waste Processing, and Radioactive Material Handling, Storage, and Transportation (71124.08)

If you have any questions or comments, please contact me at (817) 276-6542 or e-mail me at chris.graves@nrc.gov or Lou Carson (817) 860-8221, Louis.Carson@nrc.gov

1. Radioactive Gaseous And Liquid Effluent Treatment (71124.06)

NOTE: Please submit this information using the same lettering system as below. For example, all contacts and phone numbers for the above inspector should be in a file/folder titled 1- A, Applicable organization charts in file/folder 1- B, etc.

Please provide the requested information in Sections C, D, E, F, and G for Regional Inspector review by May 31, 2011. Please provide the remainder of the information by June 9, 2011.

A List of contacts and telephone numbers for the following areas:

1 Radiological effluent control

2 Engineered safety feature air cleaning systems

B Applicable organization charts

C Audits, self assessments, surveillances, vendor or NUPIC audits of contractor support, and LERs written since May 1, 2009, related to:

1. Radioactive effluents

2. Engineered Safety Feature Air cleaning systems

D Procedure indexes for the following areas

1. Radioactive effluents

2. Engineered Safety Feature Air cleaning systems

E Please provide specific procedures related to the following areas. Additional Specific Procedures will be requested by number after the inspector reviews the procedure indexes.

1. Sampling of radioactive effluents

2. Sample analysis

3. Generating radioactive effluent release permits

4. Laboratory instrumentation quality control

5. In-place testing of HEPA filters and charcoal adsorbers

7. New or applicable procedures for effluent programs (e.g., including ground water monitoring programs),

F List of corrective action documents (including corporate and subtiered systems) written since May 1, 2009, associated with:

1. Radioactive effluents

2. Effluent radiation monitors

3. Engineered Safety Feature Air cleaning systems

NOTE; The lists should indicate the significance level of each issue and the search criteria used.

G 2009 and 2010 Annual Radioactive Effluent Release Report

H Current Copy of the Offsite Dose Calculation Manual

I Copy of the 2009 and 2010 interlaboratory comparison results for laboratory quality control performance of effluent sample analysis

J Effluent sampling schedule for the week of the inspection

K New entries into 10 CFR 50.75(g) files since May 1, 2009

L Operations Dept (or other responsible dept) log records for effluent monitors removed from service or out of service since May 2009

M Listing or log of liquid and gaseous release permits since May 1, 2009

N For technical specification-required air cleaning systems, the most recent surveillance test results of in-place filter testing (of HEPA filters and charcoal adsorbers) and laboratory testing (of charcoal efficiency)

2. Radiological Environmental Monitoring Program (71124.07)

NOTE: In an effort to keep the requested information organized, please submit this information to us using the same lettering system below. For example, all contacts and phone numbers for the above inspector should be in a file/folder titled 2- A, Applicable organization charts in file/folder 2- B, etc.

Please provide the requested information in Sections C, D, E, F, H and I for Regional Inspector review by May 31, 2011. Please provide the remainder of the information by June 9, 2011.

List of contacts and telephone numbers for the following areas:

1 Radiological environmental monitoring

2 Meteorological monitoring

3 Control, survey and release of materials for unrestricted use

B. Applicable organization charts

C. Copies of QA audits, self-assessments, surveillances, and LERs, written since May 1, 2009, related to the following areas:

1 Radiological environmental monitoring program (including contractor environmental laboratory audits, if used to perform environmental program functions)

2 Environmental TLD processing facility

3 Meteorological monitoring program

D. Procedure index for the following areas:

1 Radiological environmental monitoring program

2 Meteorological monitoring program

E. Please provide specific procedures related to the following areas. Additional Specific Procedures will be requested by number after the inspector reviews the procedure indexes.

1 Environmental Program Description

2 Sampling, collection and preparation of environmental samples

4 Sample analysis (if applicable)

5 Laboratory instrumentation quality control

6 Procedures associated with the Offsite Dose Calculation Manual

7 Appropriate QA Audit and Surveillance program procedures, and/or sections of the station's QA manual (which pertain to the REMP)

F. A summary list of corrective action documents (including corporate and subtiered systems) written since May 1, 2009, related to the following programs:

1 Radiological environmental monitoring

2 Meteorological monitoring

NOTE; The lists should indicate the significance level of each issue and the search criteria used.

G. Wind Rose data and evaluations used for establishing environmental sampling locations

H. Copies of the 2 most recent calibration packages for the meteorological tower instruments

I. Copy of the 2009 and 2010 Annual Radiological Environmental Operating Report and Land Use Census, and current revision of the Offsite Dose Calculation Manual

J. Scheduled time to observe environmental sampling activities in the field and visit selected environmental sample locations

K. Scheduled time to meet with the meteorological tower system engineer and/or meteorologist to visit/observe the meteorological tower and associated equipment

L. Copy of the environmental laboratory's interlaboratory comparison program results for 2009 and 2010

M. Data from the environmental laboratory documenting the analytical detection sensitivities for the various environmental sample media (ie. air, water, soil, vegetation, and milk)

N. Quality Assurance audits (e.g. NUPIC) for contracted services

O. Current NEI Groundwater Initiative Plan and status

3. Radioactive Solid Waste Processing, and Radioactive Material Handling, Storage, and Transportation (71124.08)

NOTE: In an effort to keep the requested information organized, please submit this information to us using the same lettering system below. For example, all contacts and phone numbers for the above inspector should be in a file/folder titled 3- A, Applicable organization charts in file/folder 3- B, etc.

Please provide the requested information in Sections C, D, E, and F for Regional Inspector review by May 31, 2011. Please provide the remainder of the information by June 9, 2011.

A List of contacts and telephone numbers for the following areas:

1 Solid Radioactive waste processing

2 Transportation of radioactive material/waste

B Applicable organization charts (and list of personnel involved in solid radwaste processing, transferring, and transportation of radioactive waste/materials)

C Copies of audits, surveillances, department self-assessments, and LERs written since May 1, 2009, related to:

1 Solid radioactive waste management

2 Radioactive material/waste transportation program

D Procedure index for the following areas:

1 Solid radioactive waste management

2 Radioactive material/waste transportation

E Please provide specific procedures related to the following areas. Additional Specific Procedures will be requested by number after the inspector reviews the procedure indexes.

1 Process control program

2 Solid and liquid radioactive waste processing

3 Radioactive material/waste shipping

4 Methodology used for waste concentration averaging, if applicable

5 Waste stream sampling and analysis

F A summary list of corrective action documents (including corporate and subtiered systems) written since May 1, 2009, related to:

1 Solid radioactive waste

2 Transportation of radioactive material/waste

NOTE: The lists should indicate the significance level of each issue and the search criteria used.

G Copies of training lesson plans for 49CFR172 subpart H, for radwaste processing, packaging, and shipping.

H A summary of radioactive material and radioactive waste shipments made from May 1, 2009 to present

I Waste stream sample analyses results and resulting scaling factors for 2009 and 2010

J Waste classification reports if performed by vendors (such as for irradiated hardware)

Although it is not necessary to compile the following information, the inspector will also review:

K Training, and qualifications records of personnel responsible for the conduct of radioactive waste processing, package preparation, and shipping