



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

May 17, 2016

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

SUBJECT: COOPER NUCLEAR STATION - NRC EVALUATION OF CHANGES, TESTS,
AND EXPERIMENTS AND PERMANENT PLANT MODIFICATIONS BASELINE
INSPECTION REPORT 05000298/2016007

Dear Mr. Limpias:

On April 21, 2016, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Cooper Nuclear Station. On April 21, 2016, the NRC inspectors discussed the results of this inspection with you and other members of your staff. The inspectors documented the results of this inspection in the enclosed inspection report.

The NRC inspectors did not identify any findings or violations of more-than-minor significance.

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

Sincerely,

/RA/

Thomas R. Farnholtz, Chief
Engineering Branch 1
Division of Reactor Safety

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

Enclosure:
Inspection Report 05000298/2016007
w/Attachment: Supplemental Information

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| NAME | RLatta | SMakor | LBrandt | TFarnholtz | | | |
| SIGNATURE | /RA/ | /RA/ | /RA/ | /RA/ | | | |
| DATE | 5/12/16 | 5/17/16 | 5/12/16 | 5/17/16 | | | |

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Letter to Oscar A. Limpias from Thomas R. Farnholtz, dated May 17, 2016

SUBJECT: COOPER NUCLEAR STATION - NRC EVALUATION OF CHANGES, TESTS,
AND EXPERIMENTS AND PERMANENT PLANT MODIFICATIONS BASELINE
INSPECTION REPORT 05000298/2016007

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U.S. NUCLEAR REGULATORY COMMISSION

REGION IV

Docket(s): 05000298

License(s): DPR-46

Report(s): 05000298/2016007

Licensee: Nebraska Public Power District

Facility: Cooper Nuclear Station

Location: 72676 648A Ave.
Brownville, NE

Dates: April 4 through April 21, 2016

Inspectors: R. Latta, Senior Reactor Inspector
L. Brandt, Project Engineer
S. Makor, Reactor Inspector

Approved By: Thomas R. Farnholtz
Chief, Engineering Branch 1
Division of Reactor Safety

Enclosure

SUMMARY

IR 05000298/2016007; 04/04/2016 – 04/21/2016: Cooper Nuclear Station, Evaluations of Changes, Tests, and Experiments and Permanent Plant Modifications.

This report covers a two-week announced baseline inspection on evaluations of changes, tests, and experiments and permanent plant modifications. The inspection was conducted by Region IV based engineering inspectors. No findings of more-than-minor significance were identified. The significance of most findings is indicated by their color (i.e., greater than Green, or Green, White, Yellow, Red) using Inspection Manual Chapter (IMC) 0609, "Significance Determination Process" (SDP). Cross-cutting aspects were determined using IMC 0310, "Aspects Within the Cross-Cutting Areas." Findings for which the SDP does not apply may be Green or be assigned a severity level after NRC management review. All violations of NRC requirements are dispositioned in accordance with the NRC's Enforcement Policy, dated July 9, 2013. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 5, dated February 2014.

A. NRC-Identified Findings and Self-Revealed Findings

No findings of more-than-minor significance were identified.

B. Licensee-Identified Violations

No findings of more-than-minor significance were identified.

REPORT DETAILS

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity, and Emergency Preparedness

1R17 Evaluations of Changes, Tests, and Experiments and Permanent Plant Modifications (71111.17T)

.1 Evaluations of Changes, Tests, and Experiments

a. Inspection Scope

The inspectors reviewed nine evaluations performed pursuant to Title 10 of the *Code of Federal Regulations* (CFR), Part 50, Section 59, to determine whether the evaluations were adequate and that prior NRC approval was obtained as appropriate. The inspectors also reviewed 30 screenings where licensee personnel had determined that a 10 CFR 50.59 evaluation was not necessary. The inspectors reviewed these documents to determine if:

- the changes, tests, and experiments performed were evaluated in accordance with 10 CFR 50.59 and that sufficient documentation existed to confirm that a license amendment was not required;
- the safety issue requiring the change, tests, and experiment was resolved;
- the licensee's conclusions for evaluations of changes, tests, and experiments were correct and consistent with 10 CFR 50.59; and
- the design and licensing basis documentation was updated to reflect the change.

The inspectors used, in part, Nuclear Energy Institute (NEI) 96-07, "Guidelines for 10 CFR 50.59 Implementation," Revision 1, to determine acceptability of the completed evaluations and screenings. The NEI document was endorsed by the NRC in Regulatory Guide 1.187, "Guidance for Implementation of 10 CFR 50.59, Changes, Tests, and Experiments," dated November 2000. The list of evaluations, screenings, and/or applicability determinations reviewed by the inspectors is included as an attachment to this report.

This inspection constituted 9 samples of evaluations and 30 samples of screenings and/or applicability determinations as defined in IP 71111.17-04.

b. Findings

No findings were identified.

.2 Permanent Plant Modifications

a. Inspection Scope

The inspectors reviewed 13 permanent plant modifications that had been installed in the plant during the last three years. This review included in-plant walkdowns for portions of the affected systems. The modifications were selected based upon risk significance, safety significance, and complexity. The inspectors reviewed the modifications selected to determine if:

- the supporting design and licensing basis documentation was updated;
- the changes were in accordance with the specified design requirements;
- the procedures and training plans affected by the modification had been adequately updated;
- the test documentation as required by the applicable test programs had been updated; and
- post-modification testing adequately verified system operability and/or functionality.

The inspectors also used applicable industry standards to evaluate acceptability of the modifications. The list of modifications and other documents reviewed by the inspectors is included in the attachment to this report.

This inspection constituted 13 permanent plant modification samples as defined in IP 71111.17-04.

.2.1 HPCI MOV-14 Valve Replacement

The inspectors reviewed Change Evaluation Document CED 6017820, implemented to replace the high pressure coolant injection steam supply to turbine valve HPCI-MOV-MO14. The valve isolates reactor steam from the turbine inlet and allows the steam supply piping to be kept at an elevated temperature while the high pressure coolant injection system is in standby. The existing valve had a history of steam leakage due to wear on the valve seat and disk. This engineering change involved replacement of the existing valve with a new valve with improved disc guides and actuator with a different overall gear ratio. The engineering change also installed a new variable spring hanger support assembly from the valve to the concrete ceiling to accommodate the increased analyzed weight of the replacement valve. The inspectors did not identify any concerns with the design change package.

.2.2 Reactor Recirculation Pump Impeller Replacements

The inspectors reviewed Change Evaluation Document CED 6030460, implemented to replace the reactor recirculation pump B internals. The reactor recirculation system

provides coolant flow to the reactor core for adjusting reactor power level and provides protection against radioactive material release, or loss of coolant, for all normal or abnormal transients or accidents. Industry operating experience indicated that plants with the existing reactor recirculation pump design had experienced shaft and cover cracking caused by thermal cyclic fatigue. General Electric Hitachi Nuclear Energy recommended that licensees with the existing pump design consider implementation of a pump upgrade to eliminate the reactor recirculation pump thermal shaft and cover cracking concern. This engineering change involved replacement of the existing reactor recirculation pump internals with an upgraded pump design. The inspectors did not identify any concerns with the design change package.

.2.3 Strong Motion Accelerograph Replacement

The inspectors reviewed Change Evaluation Document CED 6035941, implemented to replace the analog Kinometrics seismic monitoring system with a digital SYSCOM system. The seismic monitoring system activates at 0.01g, provides indication of an earthquake to operations personnel, and records seismic acceleration data. The existing Kinometrics seismic monitoring system was an analog system that recorded data on magnetic tapes and had the potential for corrupting and/or erasing the seismic data while the tapes were contained within the recording unit. This engineering change involved replacement of the existing Kinometrics system with a new SYSCOM system utilizing digital technology to communicate and record seismic events on Flash memory media. The inspectors did not identify any concerns with the design change package.

.2.4 Reliable Spent Fuel Pool Level Instrumentation

The inspectors reviewed Change Evaluation Document CED 6036741, implemented to install a new spent fuel pool level measurement system in order to comply with NRC Order EA-12-051, "Order Modifying Licenses with Regard to Reliable Spent Fuel Pool Instrumentation (Effective Immediately)." The spent fuel pool level measurement system measures the amount of water covering the spent fuel in the spent fuel pool. The existing spent fuel pool level monitoring system did not satisfy the requirements of the NRC order as they only indicated if the water level was above or below a certain threshold rather than give an actual water level reading. This engineering change involved installing two new level indication systems that provide actual water level measurements. The engineering change also installed new signal cables, conduit and cable trays, and signal processors for remote indication capability. The inspectors did not identify any concerns with the design change package.

.2.5 HPCI RO-135 Replacement

The inspectors reviewed Change Evaluation Document CED 6036743, implemented to replace the high pressure coolant injection restricting orifice, RO-135. The restricting orifice is designed to simulate reactor pressures and flow rates in the high pressure coolant injection test return line. The existing restricting orifice had become fouled with material released during the previous refueling outage buried pipe inspection of the suction line from the emergency condensate storage tanks. This engineering change involved replacement of the original restricting orifice with a new, equivalent restricting

orifice. The engineering change also evaluated the code differences from the original component USAS-B31.7 1969 class II piping requirements which had been superseded by ASME Section II 1989 class II piping requirements. The inspectors did not identify any concerns with the design change package.

.2.6 Revise Control Logic for Reactor Building Doors

The inspectors reviewed Change Evaluation Document CED 6036160, implemented to revise the control logic for the reactor building inner and outer doors, to prevent inadvertent breaches of secondary containment. The previous control logic allowed both doors to be normally unlocked that resulted in numerous breaches of secondary containment and corresponding unplanned entry into Technical Specification Limiting Condition for Operation 3.6.4.1. This engineering change involved revising the control logic such that both doors are normally locked and installation of palm switches and position indication lights on both sides of each door. The inspectors did not identify any concerns with the design change package.

.2.7 Service Water Pump Room Instrument Rack Replacement

The inspectors reviewed Change Evaluation Document CED 6035942, implemented to replace the five instrument racks previously installed in the Service Water Pump Rooms in accordance with Temporary Configuration Change TCC 4881013. The Temporary Configuration Change was necessary to compensate for the presence of excessive corrosion around the post bases and anchorage which impacted the structural integrity of the instrument racks. Specifically, the replacement instrument racks incorporated a corrosion-resistant design, consistent with the design requirements specified in Change Evaluation Document CED 6029209, "Zurn Service Water Strainer Replacements." This revised configuration eliminated carbon steel components from contacting wetted surfaces and the new rack posts were sealed (top and bottom). The inspectors did not identify any concerns with the design change package.

.2.8 Replace Installed Instrumentation for Emergency Condensate Storage Tank 1A(B) Level Indicator

The inspectors reviewed Change Evaluation Document (CED) 6034624, implemented to conform with the "Overall Integrated Plan for Diverse and Flexible Coping Strategies (FLEX)" in response to NRC Order EA-12-049, "Modifying Licensees with Regard to Requirements for Mitigating Strategies for Beyond-Design-Basis External Events." As described in this design modification, the local pressure indicators for high pressure coolant injection (HPCI)-PI-117A(B) are credited with determining inventory levels of emergency condensate storage tank 1A(B) for coping with the FLEX evaluations. Specifically, this engineering change involved replacing the non-essential level instrumentation for emergency condensate storage tank 1A(B) with Seismic Class IS, essential grade piping and components. This modification included the capability to monitor Emergency Condensate Storage Tank levels during an extended loss of ac power event consistent with the plan to maintain the requisite core cooling in the FLEX Coping Strategies. The inspectors did not identify any concerns with the design change package.

.2.9 Replace Reactor Recirculation Eagle Signal Timers

The inspectors reviewed Change Evaluation Document CED 6038102, implemented to replace the existing Eagle Signal cam-type timers used in the reactor recirculation system with digital programmable logic control timers. The replacement timers are configured to duplicate the timing function previously performed by the motor driven cam timers, with greater dependability and accuracy. The modification included two timers used to apply excitation to the reactor recirculation motor generator sets and two timers used to “jog” open the reactor recirculation pump discharge valves when bringing the second loop of reactor recirculation into service. The inspectors did not identify any concerns with the design change package.

.2.10 National Fire Protection Association 805, Cable Tray Radiant Energy Heat Shields

The inspectors reviewed Change Evaluation Document CED 6034801, implemented to install three radiant energy heat shields that provide passive fire protection to safe shutdown equipment. This modification was instituted as a part of the transition to National Fire Protection Association 805. Specifically, the need for this modification was identified after completing two calculations involving multiple areas that contained safe shutdown equipment and required additional fire protection measures. The inspectors did not identify any concerns with the design change package.

.2.11 Electrical Connections

The inspectors reviewed Change Evaluation Document CED 6037041, implemented to modify the power circuit from the transfer switches to the 125 and 250 VDC 1 C battery chargers. Specifically, this modification established a connection from the FLEX equipment diesel generator, to power the battery chargers, in the event that normal sources are not available in an extended loss of ac power (ELAP) beyond design basis event. The inspectors did not identify any concerns with the design change package.

.2.12 National Fire Protection Association (NFPA) 805 Battery Charger Cable Re-Route

The inspectors reviewed Change Evaluation Document CED 6034802, implemented to reroute two power cables to 125V charger 1A and 250V charger 1A. Specifically, the cables were rerouted to provide adequate separation between Division II cables for 125V charger 1B and 250V charger 1B. The inspectors reviewed the design package, discussed the change with the design engineer, and visually inspected the modification. The inspectors did not identify any concerns with the design change package.

.2.13 Cable Reel Installation for Emergency Procedures

The inspectors reviewed Change Evaluation Document CED 6034623, implemented to install permanent cable reels/racks in the turbine and water treatment building. These cable reels were designed to store and protect the severe accident management guidelines, diesel fuel oil transfer pump emergency repair cables, associated with the 125V and 250V battery charger 1B emergency repair cables, and the battery room exhaust fan emergency repair cable. The inspectors did not identify any concerns with the design change package.

b. Findings

No findings were identified.

4. OTHER ACTIVITIES

4OA2 Problem Identification and Resolution

.1 Review of Corrective Action Program Documents

a. Inspection Scope

The inspectors reviewed 40 corrective action program documents that identified or were related to 10 CFR 50.59 program and permanent plant modifications. The inspectors reviewed these documents to evaluate the effectiveness of corrective actions related to permanent plant modifications and evaluations of changes, tests, and experiments. In addition, corrective action documents written on issues identified during the inspection were reviewed to verify adequate problem identification and incorporation of the problems into the corrective action system. The list of specific corrective action documents that were sampled and reviewed by the inspectors are listed in the attachment to this report.

b. Findings

No findings were identified.

4OA6 Meetings

Exit Meeting Summary

On April 21, 2016, the inspectors presented the preliminary inspection results to Mr. O. Limpas, Vice President-Nuclear and Chief Nuclear Officer, and other members of the licensee's staff. The licensee acknowledged the results as presented. The inspectors verified no proprietary information was retained or documented in the report.

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee Personnel

O. Limpias, Vice President-Nuclear and Chief Nuclear Officer
R. Penfield, Director of Nuclear Safety Assurance
K. Higginbotham, General Manager of Plant Operations
D. Buman, Director of Engineering
J. Houston, Manager, Production
J. Shaw, Manager, Licensing
A. Walters, Manager, Chemistry
K. Dia, Manager, Systems Engineering
R. Estrada, Manager, Design Engineering
L. Dewhirst, Manager, Corrective Action and Assessment
T. Barker, Manager, Engineering Programs and Components
K. Treme, Manager, Finance Manager
J. Horn, Supervisor, Design Engineering - Mechanical
A. Able, Supervisor, Design Engineering – Instrument and Control
M. Van Winkle, Supervisor, Design Engineering - Electrical
K. Kuker, Design Engineering - Mechanical
J. Campbell, Support, Design Engineering
J. Flaherty, Engineer, Senior Staff
T. Forland, Engineer, Licensing
D. Van Der Kamp, Technical Specialist, Licensing

LIST OF ITEMS OPENED, CLOSED, DISCUSSED, AND UPDATED

None.

LIST OF DOCUMENTS REVIEWED

The following is a list of documents reviewed during the inspection. Inclusion on this list does not imply that the NRC inspectors reviewed the documents in their entirety, but rather that selected sections of portions of the documents were evaluated as part of the overall inspection effort. Inclusion of a document on this list does not imply NRC acceptance of the document or any part of it, unless this is stated in the body of the inspection report.

Permanent Plant Modifications

| <u>Number</u> | <u>Description or Title</u> | <u>Revision Date</u> |
|---------------|---|----------------------|
| CED 6017820 | HPCI MOV-14 Valve Replacement | July 10, 2013 |
| CED 6030460 | Reactor Recirculation Pump Impeller Replacements | October 18, 2013 |
| CED 6035941 | Seismic Monitor/Strong Motion Accelerograph Replacement | April 9, 2014 |
| CED 6036741 | Spent Fuel Pool Level Instrumentation | January 30, 2015 |
| CED 6036743 | HPCI RO-135 Replacement | January 31, 2014 |
| CED 6036160 | Revise Control Logic for Reactor Building Door | October 3, 2013 |
| CED 6035942 | Service Water Pump Room Instrument Rack Replacement | September 5, 2013 |
| CED 6034624 | Replace Installed instrumentation for Emergency Condensate Storage Tank 1A(B) Level Indicator | December 23, 2013 |
| CED 6034801 | NFPA 805 Cable Tray Radiant Energy Heat Shields | October 10, 2013 |
| CED 6037041 | FLEX Electrical Connections | May 20, 2015 |
| CED 6034623 | Cable Reel Installation for Emergency Procedures | February 27, 2013 |
| CED 6034802 | NFPA 805 Battery Charger Cable Re-Route | October 9, 2013 |
| CED 6038102 | Replace Reactor Recirculation Eagle Signal Timers | September 11, 2014 |

10 CFR 50.59 Screenings

| <u>Number</u> | <u>Description or Title</u> | <u>Revision</u> |
|---------------|--|-----------------|
| 1043 | NEDC 11-072 Rev. 1 | 0 |
| 1088 | Compensatory Measures for CR 2013-4815 | 0 |

10 CFR 50.59 Screenings

| <u>Number</u> | <u>Description or Title</u> | <u>Revision</u> |
|---------------|---|-----------------|
| 1099 | RHR SWBP FCU 50.59 Inadequate for USAR Change LCR 93-10 – CR-CNS-2012-10656 | 0 |
| 1101 | EE 12-002 Rev. 1 | 1 |
| 1130 | CED 6036160 Rev. 1 | 0 |
| 1140 | TE-1096789, PE-10967849, Replacement of Pratt Model 2FII Butterfly Valves | 0 |
| 1221 | TE-10980711, PE-4964503 Replacement of the 125/250 VDC Battery Charger Output Breaker | 0 |
| 1309 | Leak Repair/ TCC 5002050 | 0 |
| 1343 | LBDCR 2014-004, Move RHR Containment Spray from TRM to Technical Specifications | 0 |
| 1444 | EC 14-040 Rev. 1 | 1 |
| 1484 | EC 14-02 | 0 |
| 934 | Inspection of 125.250 VDC Buses and Switchgear A and B | 0 |
| 1541 | WO 5074887/CR-CNS-2015-02366 Op Evaluation | 0 |
| 1273 | UCR 2014-009 | 1 |
| 1017 | Engineering Evaluation EE-13-028, Revise Thermal and Cyclic/Mechanical Life for GE QMR Panel Boards and Associated Equipment. | 0 |
| 1427 | EE 14-037 | 0 |
| 1040 | NEDC 13-006 | 0 |
| 1340 | Maintenance Procedure 7.3.8.2 | 0 |
| 1284 | EC-13-060, ASCO AC & DC Power Transformer Switch Life Extension to 60 Years | 0 |
| 1006 | RHR/SWBP Div.1, Compensatory Measures | 1 |
| 2015-1 | EC 14-012 | 0 |
| 2015-3 | EC 6038525 – REC-FS-463 Abandonment | 0 |
| 2014-5 | UCR 2004-025/EE 04-063 | 0 |

10 CFR 50.59 Screenings

| <u>Number</u> | <u>Description or Title</u> | <u>Revision</u> |
|---------------|---|-----------------|
| 2014-6 | CR-CNS-2014-05366 | 0 |
| 1137 | Turbine Building Blowout Panels/ Metal Wall System | 3 |
| 1168 | Temporary Repair of Leaks by Injection of Sealing Compound | 0 |
| 1237 | License Renewal Commitment NLS2013100-01 | 0 |
| 1512 | Reliable Hardened Containment Venting 1292 | 0 |
| 1257 | EE-13-061/NEDC-91-103 Air Density Correction | 0 |
| 1191 | Revise NEDC 01-080 Drywell Temperature Data | 0 |
| 1134 | Revise USAR Section K-2.1.36 to Relocate Blowout Panels | 1 |
| 1106 | Deletes Option b from Surveillance Requirement (SR) 3.5.2.1 | 0 |
| 1082 | CNS License Renewal Buried Pipe and Tanks Program | 0 |

Engineering Change

| <u>Number</u> | <u>Description or Title</u> | <u>Revision</u> <u>Date</u> |
|---------------|---|--------------------------------|
| 14-012 | Control Building Essential Ventilation System Calculation Corrections | 0 |
| 6038525 | REC-FS-463 Abandonment | 0 |
| 4950240 | B Reactor Recirculation Motor Replacement | June 19, 2014 |

Corrective Action Program Documents (Issued)

| <u>Number</u> | <u>Description or Title</u> | <u>Date</u> |
|-------------------|---|----------------|
| CR-CNS-2016-02205 | Heater Bay Temperature Switch Function Change | April 21, 2016 |
| CR-CNS-2016-02205 | 50.59 Evaluation 2013-3 | April 21, 2016 |

Corrective Action Program Documents (Reviewed)

| | | | |
|-------------------|-------------------|-------------------|-------------------|
| CR-CNS-2011-02506 | CR-CNS-2012-10656 | CR-CNS-2013-02068 | CR-CNS-2013-05961 |
| CR-CNS-2014-05366 | CR-CSN-2014-08851 | CR-CSN-2014-08918 | CR-CSN-2015-00593 |
| CR-CSN-2015-00691 | CR-CSN-2015-00833 | CR-CSN-2015-00908 | CR-CSN-2015-01052 |
| CR-CSN-2015-01130 | CR-CSN-2015-01256 | CR-CSN-2015-01271 | CR-CSN-2015-01375 |

Corrective Action Program Documents (Reviewed)

| | | | |
|-------------------|-------------------|-------------------|-------------------|
| CR-CSN-2015-01404 | CR-CSN-2015-01511 | CR-CSN-2015-01513 | CR-CSN-2015-01566 |
| CR-CSN-2015-01829 | CR-CSN-2015-01860 | CR-CSN-2015-01908 | CR-CSN-2015-02203 |
| CR-CSN-2015-02271 | CR-CSN-2015-02357 | CR-CNS-2015-02366 | CR-CSN-2015-02407 |
| CR-CSN-2015-02441 | CR-CSN-2015-02601 | CR-CSN-2015-02650 | CR-CSN-2015-02718 |
| CR-CSN-2015-03667 | CR-CSN-2015-03794 | CR-CSN-2015-04829 | CR-CSN-2015-05295 |
| CR-CSN-2015-05705 | CR-CSN-2015-05946 | CR-CSN-2015-06008 | CR-CSN-2015-07150 |

10 CFR 50.59 Evaluations

| <u>Number</u> | <u>Description or Title</u> | <u>Revision</u> |
|---------------|---|-----------------|
| 2013-4 | RHR SWBP FCU 50.59 Inadequate for USAR Change LCR 93-10 – CR-CNS-2012-10656 | 0 |
| 2014-5 | Updated Safety Analysis Report, UCR 2004-025/ EE 04-063 Change Request | 0 |
| 2014-6 | Compensatory Measures Applied to Operability Determinations for CR-CNS-2014-05366 | 0 |
| 2015-1 | EC 14-012, Control Building Essential Ventilation System - Manual Actions | 0 |
| 2015-3 | EC 6038525 – REC-FS-463 Abandonment | 0 |
| 2013-3 | Remove Heater Bay Steam Leak Detection Temperature Switches From Group 1 Isolation Logic | 1 |
| 2013-5 | Revise Time Critical Procedure to Require Operator to Open SW Pump Room Door | 0 |
| 2014-3 | Vacate the License Renewal Commitment to Recoat the Torus | 0 |
| 2015-4 | Revise CNS Procedure time Critical Operator Action to Manually Align RHR Following ATWS | 0 |

Procedures

| <u>Number</u> | <u>Description or Title</u> | <u>Revision Date</u> |
|---------------|---|--------------------------|
| NEDC 14-056 | Essential Control Building Ventilation Desired Thermostat Setpoints and Hydrogen Concentration Calculation | 0 |
| NEDC 92-064 | Transient Temperature Rise in SWBP Room After Loss of Cooling | 3 |

Procedures

| <u>Number</u> | <u>Description or Title</u> | <u>Revision Date</u> |
|---------------|--|--------------------------|
| NEDC 09-102 | Internal Flooding – HELB, MELB, and Feedwater Line Break | 1 |
| NEDC 06-007 | Reactor Building Ventilation Exhaust Plenum Are Dose Rate Following a FHA | 2 |
| NEDC 05-031 | Radiological Dose Analysis for a Fuel Handling Accident (FHA) at Cooper Nuclear Station | 4 |
| NEDC-94-018 | Critical Control Panel Calculation | 6C31 |
| NEDC-13-006 | Buried Pipe FAC Evaluation | 0 |
| NEDC88-299A | Review of S & L Calculation No. COOLC-01, HVAC Load Calculation for Control Building EL 903'-6" | 9 |
| NEDC-14-056 | Essential Control Building Ventilation Desired Thermostat Setpoints and Hydrogen Concentration Calculation | 0 |
| 5.3EMPWR | Emergency Power During Modes 1, 2, or 3 | 55 |
| 5.3EMPWR | Emergency Power During Modes 1, 2, or 3 | 50 |
| 5.3EMPWR | Emergency Power During Modes 1, 2, or 3 | 48 |
| 2.3_R-1 | Alarm Procedure 2.3_R-1: Panel R – Annunciator R-1 | 16 |
| 2.3_R-1 | Alarm Procedure 2.3_R-1: Panel R – Annunciator R-1 | 15 |
| 2.3_R-1 | Alarm Procedure 2.3_R-1: Panel R – Annunciator R-1 | 14 |
| 2.2.38 | System Operating Procedure: HVAC Control Building | 42 |
| 2.2.38 | System Operating Procedure: HVAC Control Building | 40 |
| 7.1.8 | Maintenance Procedure: Rigging and Lifting at CNS | 33 |
| 7.1.8 | Maintenance Procedure: Rigging and Lifting at CNS | 38 |
| 6.LOG.601 | Surveillance Procedure: Daily Surveillance Log – Modes 1, 2, and 3 | 122 |
| 6.LOG.601 | Surveillance Procedure: Daily Surveillance Log – Modes 1, 2, and 3 | 118 |
| SP 12-003 | Special Procedure: Diesel Generator Air Receiver Capacity Test | 0 |
| 2.2.69.3 | System Operating Procedure: RHR Suppression Pool Cooling and Containment Spray | 46 |
| 5.8.9 | Emergency Operating Procedure: Average Suppression Pool Temperature Calculation | 10 |
| 2.2.70 | System Operating Procedure: RHR Service Water Booster Pump System | 75 |
| 2.2.38 | HVAC Control Building | 42 |

Procedures

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| 2.4TOX | Toxic Gas in Control Room | 12 |
| 3.3SAFE | Safety Assessment | 20 |
| 0-EN-LI-112 | 10 CFR 72.48 Evaluations | 9C0 |
| 0-EN-LI-101 | 10 CFR 50.59 Evaluations | February 16, 2012 |
| 0-EN-LI-100 | Process Applicability Determination | June 26, 2014 |
| 0.4 | Procedure Change Process | September 23, 2015 |
| 3-EN-DC-126 | Engineering Calculation Process | April 24, 2015 |
| 3-EN-DC-115 | Engineering Change Process | February 8, 2016 |
| 3-EN-DC-138 | Technical Evaluation Process | June 24, 2014 |
| 3-CNS-DC-138.1 | Part Evaluations | October 22, 2013 |
| 3.4 | Configuration Change Control | March 25, 2013 |

Design Change

| <u>Number</u> | <u>Description or Title</u> | <u>Date</u> |
|---------------|---|-------------------|
| DC 88-053B | Essential Control Building Ventilation System | February 21, 1990 |

Miscellaneous

| <u>Number</u> | <u>Description or Title</u> | <u>Revision Date</u> |
|---------------|---|----------------------|
| MR2002 | Seismic Smart Switch Technical Specification | November 19, 2008 |
| SKL0603429 | Lesson: 10 CFR 50.59 Reviews-Reviewer | 5 |
| INT032-01-03 | Lesson: OPS CNS Administrative Procedure Conduct of Operations and General Alarm Procedures (Formal Classroom/Pre-OJT Training) | 9 |
| LCR 93-0010 | Specify a Summer Design Temperature of 131°F for the RHR SWBP Room | February 5, 1993 |
| PIR 2-24423 | Problem Identification Report: LCR 93-0010 Deficiency | April 15, 1998 |
| UCR 98-019 | USAR Change Request: SWBP Fan Coil Unit Description Removal | April 28, 1998 |
| EE 12-002 | Engineering Evaluation 24 Month Cycle Dose Calculations | 1 |
| PCR 12-003 | Procedure Change Request: SP 12-003 | 0 |

Miscellaneous

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|---------------|--|--------------------------|
| AMP-TBD01 | EOP/SAG Technical Basis Document: Plant Specific Design Document | 7 |
| AMP-TBD00 | EOP/SAG Technical Basis Document: Plant Specific Technical Guidelines & Severe Accident Technical Guidelines | 8 |
| MS-H278 | CADD Drawing: Pipe Support MS System | 0 |
| 2044 | Flow Diagram – High Pressure Coolant Injection and Reactor Feed Systems Cooper Nuclear Station | 1 |
| 2041 | Cooper Nuclear Station Flow Diagram – Reactor Building Main Steam System | 2 |