



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

July 25, 2016

Mr. Oscar A. Limpias
Vice President-Nuclear and CNO
Nebraska Public Power District
72676 648A Avenue
Brownville, NE 68321

SUBJECT: COOPER NUCLEAR STATION - ISSUANCE OF AMENDMENT RE:
REPLACEMENT OF TECHNICAL SPECIFICATION FIGURE 4.1-1 WITH TEXT
(CAC NO. MF6692)

Dear Mr. Limpias:

The U.S. Nuclear Regulatory Commission has issued the enclosed Amendment No. 255 to Renewed Facility Operating License No. DPR-46 for the Cooper Nuclear Station. The amendment consists of changes to the Technical Specifications (TSs) in response to your application dated September 8, 2015, as supplemented by letter dated June 13, 2016.

The amendment deletes TS 4.1.1, "Site Area and Exclusion Boundary"; TS 4.1.2, "Low Population Zone"; and TS Figure 4.1-1, "Site and Exclusion Area Boundaries and Low Population Zone," with a text description of the site in TS 4.1, "Site Location." In addition, typographical errors were corrected in Section 1.1, "Definitions."

A copy of the related Safety Evaluation is also enclosed. The Notice of Issuance will be included in the Commission's next biweekly *Federal Register* notice.

Sincerely,

A handwritten signature in cursive that reads "Alan Wang for".

Thomas J. Wengert, Project Manager
Plant Licensing IV-2 and Decommissioning
Transition Branch
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-298

Enclosures:

1. Amendment No. 255 to DPR-46
2. Safety Evaluation

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

NEBRASKA PUBLIC POWER DISTRICT

DOCKET NO. 50-298

COOPER NUCLEAR STATION

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 255
License No. DPR-46

1. The U.S. Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Nebraska Public Power District (the licensee), dated September 8, 2015, as supplemented by letter dated June 13, 2016, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
 - D. The issuance of this license amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Renewed Facility Operating License No. DPR-46 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendix A as revised through Amendment No. 255, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. The license amendment is effective as of its date of issuance and shall be implemented within 60 days from the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Shaun M. Anderson, Acting Chief
Plant Licensing IV-2 and Decommissioning
Transition Branch
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Renewed Facility
Operating License No. DPR-46
and Technical Specifications

Date of Issuance: July 25, 2016

ATTACHMENT TO LICENSE AMENDMENT NO. 255

COOPER NUCLEAR STATION

RENEWED FACILITY OPERATING LICENSE NO. DPR-46

DOCKET NO. 50-298

Replace the following pages of the Renewed Facility Operating License No. DPR-46 and Appendix A Technical Specifications with the enclosed revised pages. The revised pages are identified by amendment number and contain marginal lines indicating the areas of change.

Renewed Facility Operating License

REMOVE

INSERT

-3-

-3-

Technical Specifications

REMOVE

INSERT

1.1-3

1.1-3

4.0-1

4.0-1

4.0-3

(5) Pursuant to the Act and 10 CFR Parts 30, 40, and 70, to possess, but not separate, such byproduct and special nuclear materials as may be produced by operation of the facility.

C. This license shall be deemed to contain and is subject to the conditions specified in the following Commission regulations in 10 CFR Chapter I: Part 20, Section 30.34 of Part 30, Section 40.41 of Part 40, Sections 50.54 and 50.59 of Part 50, and Section 70.32 of Part 70; is subject to all applicable provisions of the Act and to the rules, regulations, and orders of the Commission now or hereafter in effect; and is subject to the additional conditions specified or incorporated below:

(1) Maximum Power Level

The licensee is authorized to operate the facility at steady state reactor core power levels not in excess of 2419 megawatts (thermal).

(2) Technical Specifications

The Technical Specifications contained in Appendix A as revised through Amendment No. 255, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

(3) Physical Protection

The licensee shall fully implement and maintain in effect all provisions of the Commission-approved physical security, training and qualification and safeguards contingency plans including amendments made pursuant to provisions of the Miscellaneous Amendments and Search Requirements revisions to 10 CFR 73.55 (51 FR 27817 and 27822) and to the authority of 10 CFR 50.90 and 10 CFR 50.54(p). The combined set of plans, which contain Safeguards Information protected under 10 CFR 73.21, are entitled: "Cooper Nuclear Station Safeguards Plan," submitted by letter dated May 17, 2006.

NPPD shall fully implement and maintain in effect all provisions of the Commission-approved cyber security plan (CSP), including changes made pursuant to the authority of 10 CFR 50.90 and 10 CFR 50.54(p). The NPPD CSP was approved by License Amendment No. 238 as supplemented by changes approved by License Amendments 244 and 249.

(4) Fire Protection

NPPD shall implement and maintain in effect all provisions of the approved fire protection program that comply with 10 CFR 50.48(a) and 10 CFR 50.48(c), as specified in the license amendment request dated April 24, 2012 (and supplements dated July 12, 2012, January 14, 2013, February 12, 2013, March 13, 2013, June 13, 2013, December 12, 2013, January 17, 2014, February 18, 2014, and April 11, 2014), and as approved in the safety evaluation dated April 29, 2014. Except where NRC approval for changes or deviations is required by 10 CFR 50.48(c), and provided no other regulation, technical specification, license condition or requirement would require prior NRC approval, the licensee may make changes to the fire protection program without prior approval of the Commission if

1.1 Definitions

DOSE EQUIVALENT I-131 (continued)	I-133, I-134, and I-135 actually present. The DOSE EQUIVALENT I-131 concentration is calculated as follows: DOSE EQUIVALENT I-131 = (I-131) + 0.0060 (I-132) + 0.17 (I-133) + 0.0010 (I-134) + 0.029 (I-135). The dose conversion factors used for this calculation are those listed in Federal Guidance Report (FGR) 11, "Limiting Values of Radionuclide Intake and Air Concentration and Dose Conversion Factors for Inhalation, Submersion, and Ingestion," 1989.
LEAKAGE	<p>LEAKAGE shall be:</p> <p>a. <u>Identified LEAKAGE</u></p> <ol style="list-style-type: none"> 1. LEAKAGE into the drywell, such as that from pump seals or valve packing, that is captured and conducted to a sump or collecting tank; or 2. LEAKAGE into the drywell atmosphere from sources that are both specifically located and known either not to interfere with the operation of leakage detection systems or not to be pressure boundary LEAKAGE; <p>b. <u>Unidentified LEAKAGE</u></p> <p>All LEAKAGE into the drywell that is not identified LEAKAGE;</p> <p>c. <u>Total LEAKAGE</u></p> <p>Sum of the identified and unidentified LEAKAGE;</p> <p>d. <u>Pressure Boundary LEAKAGE</u></p> <p>LEAKAGE through a nonisolable fault in a Reactor Coolant System (RCS) component body, pipe wall, or vessel wall.</p>
LINEAR HEAT GENERATION RATE (LHGR)	The LHGR shall be the heat generation rate per unit length of fuel rod. It is the integral of the heat flux over the heat transfer area associated with the unit length.
LOGIC SYSTEM FUNCTIONAL TEST	A LOGIC SYSTEM FUNCTIONAL TEST shall be a test of all logic components required for OPERABILITY of a logic circuit,

(continued)

4.0 DESIGN FEATURES

4.1 Site Location

The station site is located in Nemaha County, Nebraska, on the west bank of the Missouri River, at river mile 532.5. This part of the river is referred to by the Corps of Engineers as the Lower Brownville Bend. The site consists of 1,351 acres of land owned by NPPD. About 205 acres of this property is located in Atchison County, Missouri, opposite the Nebraska portion of the station site. The land which the station physically occupies is bounded by the Missouri River on the east and by privately-owned property on the north, south, and west. The boundary of the exclusion area is delineated by the property lines. The distance from the reactor center to the boundary of the low population zone is a radius of 1 mile.

4.2 Reactor Core

4.2.1 Fuel Assemblies

The reactor shall contain 548 fuel assemblies. Each assembly shall consist of a matrix of Zircaloy or ZIRLO fuel rods with an initial composition of natural or slightly enriched uranium dioxide (UO_2) as fuel material, and water rods. Limited substitutions of zirconium alloy or stainless steel filler rods for fuel rods, in accordance with approved applications of fuel rod configurations, may be used. Fuel assemblies shall be limited to those fuel designs that have been analyzed with NRC staff approved codes and methods and have been shown by tests or analyses to comply with all safety design bases. A limited number of lead test assemblies that have not completed representative testing may be placed in nonlimiting core regions.

4.2.2 Control Rod Assemblies

The reactor core shall contain 137 cruciform shaped control rod assemblies. The control material shall be boron carbide or hafnium metal as approved by the NRC.

(continued)



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SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 255 TO

RENEWED FACILITY OPERATING LICENSE NO. DPR-46

NEBRASKA PUBLIC POWER DISTRICT

COOPER NUCLEAR STATION

DOCKET NO. 50-298

1.0 INTRODUCTION

By letter dated September 8, 2015 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML15258A185), as supplemented by letter dated June 13, 2016 (ADAMS Accession No. ML16175A320), Nebraska Public Power District (NPPD, the licensee) submitted a license amendment request (LAR) regarding the technical specifications (TSs) for Cooper Nuclear Station (CNS). The supplemental letter dated June 13, 2016, provided additional information that clarified the application, did not expand the scope of the application as originally noticed, and did not change the U.S. Nuclear Regulatory Commission (NRC) staff's original proposed no significant hazards consideration determination as published in the *Federal Register* on November 10, 2015 (80 FR 69712).

Specifically, the proposed amendment would delete TS 4.1.1, "Site Area and Exclusion Boundary"; TS 4.1.2, "Low Population Zone"; and TS Figure 4.1-1, "Site and Exclusion Area Boundaries and Low Population Zone," with a text description of the site in TS 4.1, "Site Location." In addition, typographical errors were corrected in Section 1.1, "Definitions."

2.0 REGULATORY EVALUATION

Section 182a of the Atomic Energy Act requires nuclear power plant operating licenses to include TSs. The NRC's regulatory requirements related to the content of the TSs are contained in Title 10 of the *Code of Federal Regulations* (10 CFR), Part 50, Section 50.36, "Technical specifications." The TS requirements in 10 CFR 50.36 include the following categories: (1) safety limits, limiting safety systems settings and control settings, (2) limiting conditions for operation, (3) surveillance requirements, (4) design features, and (5) administrative controls.

The regulation at 10 CFR 50.36(c)(4) describes the contents of the TS design features section. Details to be included are those features of the facility such as materials of construction and geometric arrangements, which, if altered or modified, would have a significant effect on safety and are not covered in categories described in paragraphs (c)(1), (2), and (3) of 10 CFR 50.36.

In addition to the above regulatory requirements, the NRC staff considered the following guidance document during this review: NUREG-1433, "Standard Technical Specifications [STS], General Electric BWR/4 Plants," Volume 1, Revision 4.0 (ADAMS Accession No. ML12104A192).

2.1 Technical Specification Changes

The licensee proposed to change CNS TS as follows:

The current TS 4.1, "Site Location," states:

4.1.1 Site Area and Exclusion Area Boundary

The Site and Exclusion Area Boundaries coincide with each other and shall be as shown on Figure 4.1-1.

4.1.2 Low Population Zone

The low population zone is all the land within a circle with its center at the reactor and a radius of 1 mile as shown on Figure 4.1-1.

The revised TS 4.1, "Site Location," would state:

The station site is located in Nemaha County, Nebraska, on the west bank of the Missouri River, at river mile 532.5. This part of the river is referred to by the Corps of Engineers as the Lower Brownville Bend. The site consists of 1,351 acres of land owned by NPPD. About 205 acres of this property is located in Atchison County, Missouri, opposite the Nebraska portion of the station site. The land which the station physically occupies is bounded by the Missouri River on the east and by privately-owned property on the north, south, and west. The boundary of the exclusion area is delineated by the property lines. The distance from the reactor center to the boundary of the low population zone is a radius of 1 mile.

In addition, Figure 4.1-1, which is referenced in both TSs 4.1.1 and 4.1.2, would be deleted.

The licensee also proposed to correct typographical errors in Section 1.1, Definitions. The errors were introduced into a final typed TS page for CNS License Amendment 251 (ADAMS Accession No. ML15168A171). In the definition for Dose Equivalent I-131, the I was mistakenly typed as a "1" and for Linear Heat Generation Rate, the acronym was mistakenly typed as LGHR instead of LHGR.

3.0 TECHNICAL EVALUATION

Current CNS TSs 4.1.1 and 4.1.2 describe the Site and Exclusion Area Boundaries, and the Low Population Zone by way of reference to Figure 4.1-1. The licensee proposed to modify the TSs by deleting TS Figure 4.1-1, which reflects the current site layout, and replace the figure

with a text description of the CNS site. In the application, the licensee states, in part, that “The proposed change does not modify the plant design, nor does the proposed change alter the operation of the plant or equipment involved in either routine plant operation or in the mitigation of design basis accidents.” Therefore, the NRC staff finds that the changes to TS 4.1 would not affect the materials of construction or geometric arrangements of the facility and continues to meet the requirements of 10 CFR 50.36(c)(4).

The proposed changes to TS 1.1 in the Dose Equivalent and LHGR definitions corrects a typing error that was introduced in Amendment No. 251. The NRC staff finds that these are editorial changes that clarify the requirement.

The NRC staff finds the proposed changes are consistent with the guidance of NUREG-1433, Revision 4, in which STS 4.1 recommends licensees add a “text description of site location.” The NRC staff reviewed the licensee’s application and concluded that the proposed changes are non-technical and editorial in nature. Based on the above, the NRC staff concludes that the proposed changes are acceptable.

4.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Nebraska State official was notified of the proposed issuance of the amendment. The State official had no comments.

5.0 ENVIRONMENTAL CONSIDERATION

The amendment changes a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. The NRC staff has determined that the amendment involves no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendment involves no significant hazards consideration, and there has been no public comment on such finding published in the *Federal Register* on November 10, 2015 (80 FR 69712). Accordingly, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendment.

6.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) there is reasonable assurance that such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: K. West

Date: July 25, 2016

July 25, 2016

Mr. Oscar A. Limpias
Vice President-Nuclear and CNO
Nebraska Public Power District
72676 648A Avenue
Brownville, NE 68321

SUBJECT: COOPER NUCLEAR STATION - ISSUANCE OF AMENDMENT RE:
REPLACEMENT OF TECHNICAL SPECIFICATION FIGURE 4.1-1 WITH TEXT
(CAC NO. MF6692)

Dear Mr. Limpias:

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A copy of the related Safety Evaluation is also enclosed. The Notice of Issuance will be included in the Commission's next biweekly *Federal Register* notice.

Sincerely,
/RA/
Thomas J. Wengert, Project Manager
Plant Licensing IV-2 and Decommissioning
Transition Branch
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-298

Enclosures:

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DATE	6/29/16	7/7/16	7/25/16

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