



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

December 20, 2021

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

SUBJECT: COOPER NUCLEAR STATION - ISSUANCE OF AMENDMENT NO. 270 RE:
ADOPTION OF TECHNICAL SPECIFICATIONS TASK FORCE TRAVELER
TSTF-582, REVISION 0 (EPID L-2021-LLA-0087)

Dear Mr. Dent:

The U.S. Nuclear Regulatory Commission (NRC) has issued the enclosed Amendment No. 270 to Renewed Facility Operating License No. DPR-46 for Cooper Nuclear Station (Cooper). The amendment consists of changes to the Technical Specifications (TSs) in response to your application dated May 11, 2021.

The amendment revises the Cooper TSs related to reactor pressure vessel (RPV) water inventory control (WIC) based on Technical Specifications Task Force (TSTF) Traveler TSTF-582, Revision 0, "RPV WIC Enhancements."

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

Sincerely,

/RA/

Thomas J. Wengert, Senior Project Manager
Plant Licensing Branch IV
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-298

Enclosures:

1. Amendment No. 270 to DPR-46
2. Safety Evaluation
3. Notice and Environmental Finding

cc: Listserv



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. 270
Renewed 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 May 11, 2021, 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 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. 270, 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

Jennifer L. Dixon-Herrity, Chief
Plant Licensing Branch IV
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

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

Date of Issuance: December 20, 2021

ATTACHMENT TO LICENSE AMENDMENT NO. 270

RENEWED FACILITY OPERATING LICENSE NO. DPR-46

COOPER NUCLEAR STATION

DOCKET NO. 50-298

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

Renewed Facility Operating License

REMOVE

-3-

INSERT

-3-

Technical Specifications

REMOVE

1.1-3
3.3-47
3.3-48
3.3-49
3.3-67
3.5-7
3.5-8
3.5-9
3.5-10
3.6-8
3.6-11
3.8-12

INSERT

1.1-3
3.3-47
3.3-48
3.3-49
3.3-67
3.5-7
3.5-8
3.5-9
3.5-10
3.6-8
3.6-11
3.8-12

(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. 270, 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: $\text{DOSE EQUIVALENT I-131} = (I-131) + 0.0060 (I-132) + 0.17 (I-133) + 0.0010 (I-134) + 0.029 (I-135)$. 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.

DRAIN TIME

The DRAIN TIME is the time it would take for the water inventory in and above the Reactor Pressure Vessel (RPV) to drain to the top of the active fuel (TAF) seated in the RPV assuming:

- a. The water inventory above the TAF is divided by the limiting drain rate;
- b. The limiting drain rate is the larger of the drain rate through a single penetration flow path with the highest flow rate, or the sum of the drain rates through multiple penetration flow paths susceptible to a common mode failure, for all penetration flow paths below the TAF except:
 1. Penetration flow paths connected to an intact closed system, or isolated by manual or automatic valves that are closed and administratively controlled in the closed position, blank flanges, or other devices that prevent flow of reactor coolant through the penetration flow paths;
 2. Penetration flow paths capable of being isolated by valves that will close automatically without offsite power prior to the RPV water level being equal to the TAF when actuated by RPV water level isolation instrumentation; or
 3. Penetration flow paths with isolation devices that can be closed prior to the RPV water level being equal to the TAF by a dedicated operator trained in the task, who in continuous communication with the control room, is stationed at the controls, and is capable of closing the penetration flow path isolation device without offsite power.

(continued)

3.3 INSTRUMENTATION

3.3.5.3 Reactor Pressure Vessel (RPV) Water Inventory Control Instrumentation

LCO 3.3.5.3 The RPV Water Inventory Control Instrumentation for each Function in Table 3.3.5.3-1 shall be OPERABLE.

APPLICABILITY: According to Table 3.3.5.3-1.

ACTIONS

-----NOTE-----
Separate Condition entry is allowed for each channel.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more channels inoperable.	A.1 Initiate action to place channel in trip.	Immediately
	<u>OR</u>	
	A.2.1 Declare associated penetration flow path(s) incapable of automatic isolation.	Immediately
	<u>AND</u>	
	A.2.2 Initiate action to calculate DRAIN TIME.	Immediately

SURVEILLANCE REQUIREMENTS

-----NOTE-----

These SRs apply to each Function in Table 3.3.5.3-1.

SURVEILLANCE	FREQUENCY
SR 3.3.5.3.1 Perform CHANNEL CHECK.	In accordance with the Surveillance Frequency Control Program
SR 3.3.5.3.2 Perform CHANNEL FUNCTIONAL TEST.	In accordance with the Surveillance Frequency Control Program

Table 3.3.5.3-1 (page 1 of 1)
RPV Water Inventory Control Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER FUNCTION	ALLOWABLE VALUE
1. [DELETED]			
2. [DELETED]			
3. RHR System Isolation			
a. Reactor Vessel Water Level - Low, Level 3	(b)	2 in one trip system	≥ 3 inches
4. Reactor Water Cleanup (RWCU) System Isolation			
a. Reactor Vessel Water Level - Low Low, Level 2	(b)	2 in one trip system	≥ -42 inches

(a) [DELETED]

(b) When automatic isolation of the associated penetration flow path(s) is credited in calculating DRAIN TIME.

3.3 INSTRUMENTATION

3.3.8.1 Loss of Power (LOP) Instrumentation

LCO 3.3.8.1 The LOP instrumentation for each Function in Table 3.3.8.1-1 shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3

ACTIONS

-----NOTE-----
Separate Condition entry is allowed for each channel.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more channels inoperable.	A.1 Restore channel to OPERABLE status.	1 hour
B. Required Action and associated Completion Time not met.	B.1 Declare associated diesel generator (DG) inoperable.	Immediately

3.5 EMERGENCY CORE COOLING SYSTEMS (ECCS), RPV WATER INVENTORY CONTROL, AND REACTOR CORE ISOLATION COOLING (RCIC) SYSTEM

3.5.2 Reactor Pressure Vessel (RPV) Water Inventory Control

LCO 3.5.2 DRAIN TIME of RPV water inventory to the top of active fuel (TAF) shall be \geq 36 hours.

AND

One low pressure ECCS injection/spray subsystem shall be OPERABLE.

APPLICABILITY: MODES 4 and 5.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Required ECCS injection/spray subsystem inoperable.	A.1 Restore required ECCS injection/spray subsystem to OPERABLE status.	4 hours
B. Required Action and associated Completion Time of Condition A not met.	B.1 Initiate action to establish a method of water injection capable of operating without offsite electrical power.	Immediately

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>C. DRAIN TIME < 36 hours and ≥ 8 hours.</p>	<p>C.1 Verify secondary containment boundary is capable of being established in less than the DRAIN TIME.</p> <p><u>AND</u></p> <p>C.2 Verify each secondary containment penetration flow path is capable of being isolated in less than the DRAIN TIME.</p> <p><u>AND</u></p> <p>C.3 Verify one standby gas treatment (SGT) subsystem is capable of being placed in operation in less than the DRAIN TIME.</p>	<p>4 hours</p> <p>4 hours</p> <p>4 hours</p>
<p>D. DRAIN TIME < 8 hours.</p>	<p>D.1 -----NOTE----- Required ECCS injection/spray subsystem or additional method of water injection shall be capable of operating without offsite electrical power. ----- Initiate action to establish an additional method of water injection with water sources capable of maintaining RPV water level > TAF for ≥ 36 hours.</p> <p><u>AND</u></p>	<p>Immediately</p> <p>(continued)</p>

ACTIONS			
CONDITION	REQUIRED ACTION	COMPLETION TIME	
D. (continued)	D.2	Initiate action to establish secondary containment boundary.	Immediately
	<u>AND</u>		
	D.3	Initiate action to isolate each secondary containment penetration flow path or verify it can be manually isolated from the control room.	Immediately
	<u>AND</u>		
	D.4	Initiate action to verify one SGT subsystem is capable of being placed in operation.	Immediately
E. Required Action and associated Completion Time of Condition C or D not met. <u>OR</u> DRAIN TIME < 1 hour.	E.1	Initiate action to restore DRAIN TIME to ≥ 36 hours.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.5.2.1	Verify DRAIN TIME \geq 36 hours.	In accordance with the Surveillance Frequency Control Program
SR 3.5.2.2	Verify, for a required ECCS injection/spray subsystem, the suppression pool water level is \geq 12 ft 7 inches.	In accordance with the Surveillance Frequency Control Program
SR 3.5.2.3	Verify, for the required ECCS injection/spray subsystem, the piping is filled with water from the pump discharge valve to the injection valve.	In accordance with the Surveillance Frequency Control Program
SR 3.5.2.4	[DELETED]	[DELETED]
SR 3.5.2.5	<p>-----NOTES-----</p> <ol style="list-style-type: none"> 1. Operation may be through the test return line. 2. Credit may be taken for normal system operation to satisfy this SR. <p>-----</p> <p>Operate the required ECCS injection/spray subsystem for \geq 10 minutes.</p>	In accordance with the Surveillance Frequency Control Program
SR 3.5.2.6	Verify each valve credited for automatically isolating a penetration flow path actuates to the isolation position on an actual or simulated isolation signal.	In accordance with the Surveillance Frequency Control Program

(continued)

3.6 CONTAINMENT SYSTEMS

3.6.1.3 Primary Containment Isolation Valves (PCIVs)

LCO 3.6.1.3 Each PCIV, except reactor building-to-suppression chamber vacuum breakers, shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3

ACTIONS

NOTES

1. Penetration flow paths may be unisolated intermittently under administrative controls.
2. Separate Condition entry is allowed for each penetration flow path.
3. Enter applicable Conditions and Required Actions for systems made inoperable by PCIVs.
4. Enter applicable Conditions and Required Actions of LCO 3.6.1.1, "Primary Containment," when PCIV leakage results in exceeding overall containment leakage rate acceptance criteria.

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>A. -----NOTE----- Only applicable to penetration flow paths with two PCIVs. ----- One or more penetration flow paths with one PCIV inoperable except for MSIV leakage not within limit.</p>	<p>A.1 Isolate the affected penetration flow path by use of at least one closed and de-activated automatic valve, closed manual valve, blind flange, or check valve with flow through the valve secured.</p> <p><u>AND</u></p>	<p>4 hours except for main steam line</p> <p><u>AND</u></p> <p>8 hours for main steam line</p> <p>(continued)</p>

ACTIONS (continued)		
CONDITION	REQUIRED ACTION	COMPLETION TIME
D. One or more penetration flowpaths with one or more MSIVs not within leakage rate limit.	D.1 Restore leakage rate to within limit.	8 hours
E. Required Action and associated Completion Time of Condition A, B, C, or D not met.	E.1 Be in MODE 3.	12 hours
	<u>AND</u> E.2 Be in MODE 4.	36 hours

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. One required DG inoperable.	B.1 Suspend CORE ALTERATIONS.	Immediately
	<u>AND</u>	
	B.2 Suspend movement of irradiated fuel assemblies in secondary containment.	Immediately
	<u>AND</u>	
	B.3 Initiate action to restore required DG to OPERABLE status.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY								
<p>SR 3.8.2.1</p> <p>-----NOTE-----</p> <p>The following SRs are not required to be performed: SR 3.8.1.3 and SR 3.8.1.9.</p> <p>-----</p> <p>The following SRs are applicable for AC sources required to be OPERABLE:</p> <table style="margin-left: 40px;"> <tr> <td>SR 3.8.1.1</td> <td>SR 3.8.1.5</td> </tr> <tr> <td>SR 3.8.1.2</td> <td>SR 3.8.1.6</td> </tr> <tr> <td>SR 3.8.1.3</td> <td>SR 3.8.1.9</td> </tr> <tr> <td>SR 3.8.1.4</td> <td></td> </tr> </table>	SR 3.8.1.1	SR 3.8.1.5	SR 3.8.1.2	SR 3.8.1.6	SR 3.8.1.3	SR 3.8.1.9	SR 3.8.1.4		In accordance with applicable SRs
SR 3.8.1.1	SR 3.8.1.5								
SR 3.8.1.2	SR 3.8.1.6								
SR 3.8.1.3	SR 3.8.1.9								
SR 3.8.1.4									



UNITED STATES
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WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO
AMENDMENT NO. 270 TO RENEWED FACILITY OPERATING LICENSE NO. DPR-46
NEBRASKA PUBLIC POWER DISTRICT
COOPER NUCLEAR STATION
DOCKET NO. 50-298

<u>Application (i.e., initial and supplements)</u> <ul style="list-style-type: none">• May 11, 2021, ADAMS Accession No. ML21132A062.	<u>Safety Evaluation Date</u> December 20, 2021
	<u>Principal Contributor to Safety Evaluation</u> <ul style="list-style-type: none">• Josh Wilson

1.0 PROPOSED CHANGES

Nebraska Public Power District (the licensee) requested changes to the technical specifications (TSs) for Cooper Nuclear Station (Cooper) by a license amendment request (application). In its application, the licensee requested that the U.S. Nuclear Regulatory Commission (NRC, the Commission) process the proposed amendment under the Consolidated Line Item Improvement Process (CLIP). The proposed changes would revise the TSs related to reactor pressure vessel (RPV) water inventory control (WIC) based on Technical Specifications Task Force (TSTF) Traveler TSTF-582, Revision 0, "RPV WIC Enhancements" (Agencywide Documents Access and Management System (ADAMS) Accession No. ML19240A260), and the associated NRC staff safety evaluation (SE) of TSTF-582 (ADAMS Accession No. ML20219A333).

The boiling-water reactor (BWR) RPV design includes multiple penetrations located below the top of active fuel (TAF). These penetrations provide entry for control rods, recirculation flow, reactor water cleanup, and shutdown cooling. Since these penetrations are below the TAF, this creates a potential to drain the reactor vessel water inventory and lose effective core cooling. The loss of water inventory and effective core cooling can potentially lead to fuel cladding failure and radioactive release. Drain Time is the time it would take for the water inventory in and above the RPV to drain to the TAF.

1.1 Proposed TS Changes to Adopt TSTF-582

In accordance with NRC staff-approved TSTF-582, the licensee proposed changes that would revise the TS related to RPV WIC to incorporate operating experience and to correct errors and omissions that the licensee incorporated into the Cooper TSs when adopting TSTF-542, Revision 2, "Reactor Pressure Vessel Water Inventory Control" (ADAMS Accession No. ML16074A448). Specifically, the licensee proposed the following changes to adopt TSTF-582:

- The Drain Time definition in TS 1.1. "Definitions," would be revised to move the examples of common mode failure mechanisms to the Bases and delete seismic events.
- In TS 1.1, Drain Time definition, the exception from considering the Drain Time for penetration flow paths isolated with manual or automatic valves that are "locked, sealed, or otherwise secured" would be revised to apply the exception for manual or automatic valves that are "closed and administratively controlled."
- The Actions of TS 3.3.5.3, "Reactor Pressure Vessel (RPV) Water Inventory Control Instrumentation," would be revised to permit placing an inoperable isolation channel in trip as an alternative to declaring the associated penetration flow path incapable of automatic isolation.
- TS 3.3.5.3, Required Action B.2 requires calculating Drain Time with a Completion Time of "immediately." The Required Action would be renumbered as A.2.2 and revised to state, "Initiate action to calculate DRAIN TIME."
- The TS 3.3.5.3 functions, surveillance requirements (SRs), and Actions that only support manual initiation using an emergency core cooling system (ECCS) signal (including interlocks and minimum flow instruments) would be eliminated.
- The TS 3.5.2 SR related to manual initiation using the ECCS signal (verifying automatic alignment of valves on an initiation signal) would be eliminated. In TS 3.5.2, "Reactor Pressure Vessel (RPV) Water Inventory Control," the first use of the acronym "SGT" (standby gas treatment) would be defined in Required Action C.3 and the acronym "SGT" would be used in Required Action D.4.
- SR 3.5.2.5, which requires operating the required ECCS injection/spray subsystem for at least 10 minutes through the recirculation line, would be modified by the addition of two Notes. The existing SR that requires the ECCS subsystem to be operated through the recirculation line would be modified with a Note that states that operation may be through the test return line. The second Note would permit crediting normal operation of the low-pressure ECCS injection/spray subsystem for performance of the SR.
- The Applicability of TS 3.6.1.3, "Primary Containment Isolation Valves (PCIVs)," would be revised to delete the phrase, "When associated instrumentation is required to be OPERABLE per LCO [Limiting Condition for Operation] 3.3.6.1, 'Primary Containment Isolation Instrumentation'." This would make TS 3.6.1.3 only applicable in Modes 1, 2, and 3. Following adoption of TSTF-542, no functions in LCO 3.3.6.1 should have been applicable outside of Modes 1, 2, or 3. Action E of TS 3.6.1.3 would be revised to reflect this change.

- TS 3.8.2, “AC [Alternating Current] Sources - Shutdown,” SR 3.8.2.1, would be revised to not require SRs that test the diesel generator (DG) automatic start function capability in Modes 4 and 5. TSTF-542 eliminated the automatic ECCS initiation in Modes 4 and 5.

1.2 Additional Proposed TS Changes

The licensee proposed to make the following changes in accordance with TSTF-583-T, “TSTF-582 Diesel Generator Variation” (ADAMS Accession No. ML20248H330):

- TS 3.3.8.1, “Loss of Power (LOP) Instrumentation,” would be revised to delete “When the associated diesel generator is required to be OPERABLE by LCO 3.8.2, ‘AC Sources – Shutdown,’” from the Applicability.
- SR 3.8.2.1 would be revised to include SR 3.8.1.7, SR 3.8.1.10, and SR 3.8.1.11 in those TS 3.8.1 SRs that are not applicable under SR 3.8.2.1. The format of SR 3.8.2.1 would also be restructured to list the SRs that are still applicable, instead of listing the SRs that are not applicable.

In accordance with TSTF-587-T, “Delete LCO 3.5.2 Note,” the licensee proposed to delete the following note in LCO 3.5.2: “A Low Pressure Coolant Injection (LPCI) subsystem may be considered OPERABLE during alignment and operation for decay heat removal if capable of being manually realigned and not otherwise inoperable.”

1.3 Editorial Variations

The licensee noted that the Cooper TSs have different numbering than ISTS for the RPV WIC related TSs.

2.0 REGULATORY EVALUATION

The regulation at Title 10 of the *Code of Federal Regulations* (10 CFR) Section 50.36(c)(2) requires that TS include LCOs. Per 10 CFR 50.36(c)(2)(i), LCOs “are the lowest functional capability or performance levels of equipment required for safe operation of the facility.” The regulation also requires that when an LCO of a nuclear reactor is not met, the licensee shall shut down the reactor or follow any remedial action permitted by the TS until the condition can be met.

The regulation at 10 CFR 50.36(c)(3) requires that TS include items in the category of SRs, which are requirements relating to test, calibration, or inspection to assure that the necessary quality of systems and components is maintained, that facility operation will be within safety limits, and that the LCOs will be met.

The NRC staff’s guidance for the review of TSs is in Chapter 16.0, “Technical Specifications,” of NUREG-0800, Revision 3, “Standard Review Plan for the Review of Safety Analysis Reports for Nuclear Power Plants: LWR [Light-Water Reactor] Edition” (SRP), March 2010 (ADAMS Accession No. ML100351425). As described therein, as part of the regulatory standardization effort, the NRC staff has prepared STS for each of the LWR nuclear designs. Accordingly, the NRC staff’s review includes consideration of whether the proposed changes are consistent with the “Standard Technical Specifications, General Electric, BWR/4 Plants,” NUREG-1433,

Volume 1, "Specifications," and Volume 2, "Bases," Revision 4.0, April 2012 (ADAMS Accession Nos. ML12104A192 and ML12104A193, respectively), as modified by NRC-approved travelers.

Traveler TSTF-582 revised the STSs related to RPV WIC to incorporate operating experience and to correct editorial errors in TSTF-542, Revision 2. The NRC staff approved TSTF-542, Revision 2, on December 20, 2016 (ADAMS Package Accession No. ML16343B066). The NRC staff approved TSTF-582 under the CLIIP in its letter dated August 13, 2020 (ADAMS Accession No. ML20219A333). The TSTF-582 SE states that a licensee may adopt the STS changes approved in TSTF-582, if the licensee has already adopted the STS changes approved in TSTF-542.

3.0 TECHNICAL EVALUATION

3.1 Proposed TS Changes to Adopt TSTF-582

The NRC staff compared the licensee's proposed TS changes in Section 1.1 of this SE against the changes approved in TSTF-582. In accordance with the SRP Chapter 16.0, the NRC staff determined that the STS changes approved in TSTF-582 are applicable to the Cooper TSs because Cooper is a BWR/4 design, and the NRC staff approved the TSTF-582 changes for BWR/4 designs. The licensee meets the TSTF-582 SE provision for adoption of TSTF-582 since the licensee adopted Traveler TSTF-542 on August 1, 2018 (ADAMS Accession No. ML18186A549). Therefore, the NRC staff concludes that the licensee's proposed changes to the Cooper TSs in Section 1.1 of this SE are acceptable in that they are consistent with TSTF-582 and the terms for use stated in the NRC staff's SE for TSTF-582.

The NRC staff finds that proposed changes to TS 1.1 and LCOs 3.3.5.3, 3.5.2, and 3.6.1.3 correctly specify the lowest functional capability or performance levels of equipment required for safe operation of the facility in accordance with 10 CFR 50.36(c)(2)(i). Also, the NRC staff finds that proposed changes to the Actions of LCOs 3.5.2, and 3.6.1.3 are adequate remedial actions to be taken until each LCO can be met provide protection to the health and safety of the public, thereby satisfying 10 CFR 50.36(c)(2)(i).

The NRC staff finds that the proposed revisions to the SRs in TS 3.3.5.3, 3.5.2, and 3.8.2 continue to provide requirements relating to test, calibration, or inspection to assure that the necessary quality of systems and components is maintained, that facility operation will be within safety limits, and that the LCOs will be met in accordance with 10 CFR 50.36(c)(3).

Thus, the proposed changes continue to meet the requirements of 10 CFR 50.36(c)(2)(i) and 10 CFR 50.36(c)(3) as discussed in Section 3.0 of the NRC staff's SE for TSTF-582.

3.2 Additional Proposed TS Changes

3.2.1 TS 3.3.8.1, Applicability

The licensee stated that TS 3.8.2 does not require automatic start and loading of a DG within 14 seconds on an ECCS initiation signal or a loss of offsite power signal. Currently, TS 3.3.8.1 is applicable in Modes 1, 2, and 3, and when the associated DG is required to be operable by TS 3.8.2. The NRC staff confirmed that TS 3.8.2 no longer requires automatic start and loading of a DG on an LOP signal. The NRC staff finds it acceptable to revise the Applicability of LCO 3.3.8.1 by deleting "When the associated diesel generator is required to be OPERABLE by LCO 3.8.2, 'AC Sources – Shutdown,'" because the LOP instrumentation that generates the

LOP signal does not need to be operable when the DG is required to be operable by TS 3.8.2. Therefore, the NRC staff concludes that the LCO applicability changes will continue to provide for the lowest functional capability or performance levels of equipment required for safe operation of the facility and, therefore, meet the LCO requirements of 10 CFR 50.36(c)(2).

3.2.2 SR 3.8.2.1

LCO 3.8.2 requires one offsite circuit and one DG capable of supplying one division of the onsite Class 1E AC electrical power distribution subsystem(s) required by LCO 3.8.8, "Distribution Systems-Shutdown," to be operable in shutdown conditions. The existing SR 3.8.2.1 lists the TS 3.8.1 SRs that are applicable in shutdown conditions with some exceptions.

SR 3.8.1.7 requires that the DG starts from standby conditions and achieves required voltage and frequency within 14 seconds, and maintains required voltage and frequency ranges after steady state conditions are reached. The 14-second start requirement associated with the DG automatic start supports the assumptions in the design basis loss-of-coolant accident analysis. The NRC staff confirmed that 14-second timing is not required during a manual DG start to respond to a draining event, which has a minimum Drain Time of 1 hour. In addition, SR 3.8.1.2, which requires the DG to start from standby conditions and achieve the required steady state voltage and frequency ranges, is applicable under SR 3.8.2. The NRC staff finds that the SR 3.8.1.7 testing of the DG's capability to achieve required steady state voltage and frequency ranges will be performed in SR 3.8.1.2, because SR 3.8.1.2 provides the test for this DG capability. Therefore, the NRC staff finds it acceptable to add SR 3.8.1.7 to the list of TS 3.8.1 SRs that are not applicable under SR 3.8.2.1.

TS SR 3.8.1.10 states, "Verify interval between each sequenced load is within $\pm 10\%$ [percent] of nominal timer setpoint." This SR verifies the 10 percent load sequence time interval tolerance between each sequenced load block when loads are sequentially connected to the engineered safety features (ESF) bus by an automatic sequencer while the DG is tied to the ESF bus. TS 3.5.2 requires manual starting of the equipment for water injection to respond to a draining event so that the DG will be manually loaded during a draining event. No other postulated events require automatic loading of the DG during shutdown conditions. The NRC staff confirmed that with respect to SR 3.8.1.10, the load sequencers are used for the automatic loading of the DG and are not used during a manual loading of the DG. Therefore, the NRC staff finds it acceptable to add SR 3.8.1.10 to the list of TS 3.8.1 SRs that are not applicable under SR 3.8.2.1.

Additionally, the licensee proposed to recast SR 3.8.2.1 from a listing of exceptions (i.e., a list of TS 3.8.1 SRs that do not need to be performed) to a listing the SRs that need to be performed to demonstrate the operability of the offsite and onsite AC power sources during shutdown conditions. The NRC staff confirmed that the SRs that need to be performed during shutdown conditions are correctly listed in SR 3.8.2.1. The NRC staff finds that the proposed revision of SR 3.8.2.1 is acceptable because it is an editorial clarification and does not substantively change TS requirements.

The NRC staff finds that the proposed changes to SR 3.8.2.1 are acceptable because the remaining applicable SRs will continue to demonstrate the operability of the required AC power sources and, as such, ensure the availability of the AC power required to operate the plant in a safe manner and mitigate postulated events during shutdown conditions. Therefore, the NRC staff finds the proposed changes to SR 3.8.2.1 are acceptable because the changes continue to

assure that the necessary quality of systems and components is maintained, that facility operation will be within safety limits, and that the associated LCO will continue to be met in accordance with 10 CFR 50.36(c)(3).

3.2.3 Deletion of LCO 3.5.2 Note

SR 3.5.2.5 requires operating the ECCS subsystem periodically to verify its operability. TSTF-582 added a Note to SR 3.5.2.5 that permits a subsystem to be credited for operating in normal mode as demonstrating operation of the required ECCS subsystem. As stated in the TSTF-582 justification, "This Note permits crediting the normal operation of an RHR [Residual Heat Removal] Shutdown Cooling subsystem to satisfy the SR. The revised SR continues to ensure the ECCS injection/spray subsystem can inject water into the RPV if needed for defense-in-depth, while eliminating unnecessary testing."

The NRC staff confirmed that removal of SR 3.5.2.4 by TSTF-582 and the addition of the second SR Note to SR 3.5.2.5 eliminates the need for the LCO Note to consider the ECCS subsystem (LPCI subsystem) operable while operating in decay heat removal mode. The NRC staff finds the proposed deletion of the LCO 3.5.2 Note acceptable because the NOTE in SR 3.5.2.5 will continue to demonstrate the operability of the ECCS subsystem and the associated LCO will continue to be met in accordance with 10 CFR 50.36(c)(3).

Additionally, the first SR Note to SR 3.5.2.5 states that "Operation may be through the test return line." The term "test return line" is more generic than "recirculation line," but otherwise provides the same intent and is therefore acceptable.

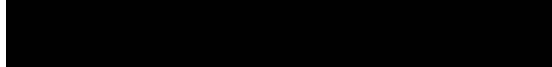
3.3 Editorial Variations

The licensee noted that the Cooper TS have different numbering than STSs for the RPV WIC related TSs. The NRC staff finds that the different TS numbering changes are acceptable because they are editorial clarifications and do not substantively change TS requirements.

4.0 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.

NOTICE AND ENVIRONMENTAL FINDING
 RELATED TO
 AMENDMENT NO. 270 TO RENEWED FACILITY OPERATING LICENSE NO. DPR-46
 NEBRASKA PUBLIC POWER DISTRICT
 COOPER NUCLEAR STATION
 DOCKET NO. 50-298

<u>Application (i.e., initial and supplements)</u> <ul style="list-style-type: none"> May 11, 2021, ADAMS Accession No. ML21132A062. 	<u>Safety Evaluation Date</u> December 20, 2021 
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1.0 INTRODUCTION

Nebraska Public Power District (the licensee) requested changes to the technical specifications (TSs) for Cooper Nuclear Station by license amendment request (application). In its application, the licensee requested that the U.S. Nuclear Regulatory Commission (NRC, the Commission) process the proposed amendment under the Consolidated Line Item Improvement Process. The proposed changes would revise the TS related to reactor pressure vessel (RPV) water inventory control (WIC) based on Technical Specifications Task Force (TSTF) Traveler TSTF-582, Revision 0, "RPV WIC Enhancements" (Agencywide Documents Access and Management System (ADAMS) Accession No. ML19240A260), and the associated NRC staff safety evaluation of TSTF-582 (ADAMS Accession No. ML20219A333).

2.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Nebraska State official was notified of the proposed issuance of the amendment on October 21, 2021. The State official had no comments.

3.0 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 and changes surveillance requirements. 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 published in the *Federal Register* on July 13, 2021 (86 FR 36780), and there has been no public comment on such finding. 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.

SUBJECT: COOPER NUCLEAR STATION - ISSUANCE OF AMENDMENT NO. 270 RE:
ADOPTION OF TECHNICAL SPECIFICATIONS TASK FORCE TRAVELER
TSTF-582, REVISION 0 (EPID L-2021-LLA-0087) DATED DECEMBER 20, 2021

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ADAMS Accession No. ML21340A236

***concurrence by e-mail**

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