



Nebraska Public Power District

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NLS2018007
January 31, 2018

U.S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, D.C. 20555-0001

Subject: Response to Nuclear Regulatory Commission Request for Additional Information Regarding Application to Revise Technical Specifications to Adopt TSTF-542, Revision 2, "Reactor Pressure Vessel Water Inventory Control"
Cooper Nuclear Station, Docket No. 50-298, License No. DPR-46

- References:**
1. Email from Thomas Wengert, U.S. Nuclear Regulatory Commission, to Jim Shaw, Nebraska Public Power District, dated January 24, 2018, "Cooper Nuclear Station - Final RAI RE: LAR to Adopt TSTF-542 (CAC MG0138; EPID L-2017-LLA-0290)"
 2. Letter from John Dent, Jr., Nebraska Public Power District, to the U.S. Nuclear Regulatory Commission, dated August 7, 2017, "Application to Revise Technical Specifications to Adopt TSTF-542, Revision 2, 'Reactor Pressure Vessel Water Inventory Control'"

Dear Sir or Madam:

The purpose of this letter is for the Nebraska Public Power District (NPPD) to respond to the Nuclear Regulatory Commission's (NRC) Request for Additional Information (RAI) (Reference 1) related to the Cooper Nuclear Station (CNS) "Application to Revise Technical Specifications to Adopt TSTF-542, Revision 2, 'Reactor Pressure Vessel Water Inventory Control'" (Reference 2).

In addition to the RAI response, it has been identified that a generic issue, related to Technical Specifications Task Force (TSTF) Traveler TSTF-542, applies to the NPPD request to adopt TSTF-542 for CNS. Specifically, in accordance with TSTF-542, TS Table 3.3.5.2-1, Function 1.a (Core Spray System Reactor Steam Dome Pressure - Low (Injection Permissive)), and Function 2.a (Low Pressure Coolant Injection (LPCI) Reactor Steam Dome Pressure - Low (Injection Permissive)) are required in Modes 4 and 5. Prior to TSTF-542, the analogous Functions 1.c and 2.c in Technical Specifications (TS) Table 3.3.5.1-1 had a Mode 4 and 5 applicability modified by a footnote specifying that these functions were only required when the associated emergency core cooling system (ECCS) subsystem(s) were required to be operable per limiting condition for operation (LCO) 3.5.2, "ECCS Shutdown." The footnote was inadvertently omitted from Table 3.3.5.2-1, Functions 1.a and 2.a in TSTF-542. Without the

ADD
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footnote, the Reactor Steam Dome Pressure - Low functions would be required to be operable for all low pressure ECCS subsystems, regardless of whether they are credited for meeting LCO 3.5.2. Requiring the functions for all ECCS subsystems is unnecessary. In Modes 4 and 5 with the reactor steam dome at atmospheric pressure, these functions only serve to satisfy permissives for opening low pressure ECCS injection valves for manual actuation. Accordingly, a variation is proposed to affix Footnote (a) (i.e., "Associated with an ECCS subsystem required to be OPERABLE by LCO 3.5.2, 'Reactor Pressure Vessel Water Inventory Control'") to the "Required Channels Per Function" column of Functions 1.a and 2.a of the CNS proposed TS Table 3.3.5.3-1. A new marked-up page and new clean-typed Page 3.3-49 with the appropriate footnote markings is provided in Attachments 2 and 3.

The response to the RAI is provided in Attachment 1 to this letter. The TS markups reflecting the corrections resulting from the RAIs and the variation discussed above are provided in Attachment 2. Clean-typed revised TS pages are provided in Attachment 3.

NPPD has reviewed the information supporting a finding of no significant hazards consideration and the environmental evaluation that were previously provided to the NRC in Reference 2. The additional information provided in this submittal does not affect the bases for concluding that the proposed license amendment does not involve a significant hazards consideration and does not affect the conclusion of the environmental evaluation.

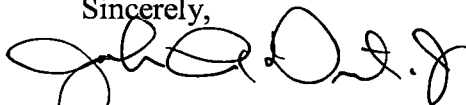
This letter does not contain any new regulatory commitments.

If you have any questions concerning this matter, please contact Jim Shaw, Licensing Manager, at (402) 825-2788.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on: 1/31/2018
(Date)

Sincerely,



John Dent, Jr.
Vice President – Nuclear and
Chief Nuclear Officer

/dv

Attachments: 1. Response to Request for Additional Information
2. Proposed Technical Specifications Changes (Mark-Up)
3. Revised Technical Specifications Pages

cc: Regional Administrator w/ attachments
USNRC - Region IV

Cooper Project Manager w/ attachments
USNRC - NRR Plant Licensing Branch IV

Senior Resident Inspector w/ attachments
USNRC - CNS

NPG Distribution w/o attachments

CNS Records w/ attachments

Attachment 1

Response to Request for Additional Information

Cooper Nuclear Station, Docket No. 50-298, License No. DPR-46

The Nuclear Regulatory Commission Request for Additional Information (RAI) regarding the License Amendment Request to revise Technical Specifications to adopt Technical Specifications Task Force (TSTF) Traveler TSTF-542, Revision 2, "Reactor Pressure Vessel Water Inventory Control" is shown in italics. The Nebraska Public Power District (NPPD) response to the request is shown in normal font.

RAI-1

The licensee's TS mark-up, page 3.3-47 (proposed new LCO 3.3.5.3, Required Action B.1) states:

Declare supported penetration flow path(s) incapable of automatic isolation. [underline added]

TSTF-542, Revision 2, LCO 3.3.5.2, Required Action B.1 states:

Declare associated penetration flow path(s) incapable of automatic isolation. [underline added]

Please justify the difference between the proposed LCO and the TSTF in a variation.

NPPD Response

The change in wording was inadvertent. A new marked-up page and new revised Page 3.3-47, with the correct wording from the TSTF, is provided in Attachments 2 and 3.

RAI-2

The licensee's TS mark-up, page 3.5-10 (proposed new SR 3.5.2.5), is not labeled correctly, as existing SR 3.5.2.5 is crossed out, and no new SR 3.5.2.5 "identification box" appears near the new text for SR 3.5.2.5.

Please correct the SR 3.5.2.5 "identification box" or explain that the licensee's proposed markup of SR 3.5.2.5 is correct, as shown.

NPPD Response

A new marked-up page of 3.5-10, undeleting "SR 3.5.2.5", is provided in Attachment 2.

Attachment 2

Proposed Technical Specifications Changes (Mark-Up)

Cooper Nuclear Station, Docket No. 50-298, License No. DPR-46

3.3-47

3.3-49

3.5-10

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 Enter the Condition referenced in Table 3.3.5.3-1 for the channel.	Immediately
B. As required by Required Action A.1 and referenced in Table 3.3.5.3-1.	B.1 Declare associated penetration flow path(s) incapable of automatic isolation.	Immediately
	<u>AND</u> B.2 Calculate DRAIN TIME.	Immediately
C. As required by Required Action A.1 and referenced in Table 3.3.5.3-1.	C.1 Place channel in trip.	1 hour

(continued)

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	CONDITIONS REFERENCED FROM REQUIRED ACTION A.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
1. Core Spray System					
a. Reactor Pressure - Low (Injection Permissive)	4,5	4 ^(a)	C	SR 3.3.5.3.2	≤ 436 psig
b. Core Spray Pump Discharge Flow - Low (Bypass)	4,5	1 per pump ^(a)	D	SR 3.3.5.3.2	≥ 1370 gpm
2. Low Pressure Coolant Injection (LPCI) System					
a. Reactor Pressure - Low (Injection Permissive)	4,5	4 ^(a)	C	SR 3.3.5.3.2	≤ 436 psig
b. Low Pressure Coolant Injection Pump Discharge Flow - Low (Bypass)	4,5	1 per subsystem ^(a)	D	SR 3.3.5.3.2	≥ 2107 gpm
3. RHR System Isolation					
a. Reactor Vessel Water Level - Low, Level 3	^(b)	2 in one trip system	B	SR 3.3.5.3.1 SR 3.3.5.3.2	≥ 3 inches
4. Reactor Water Cleanup (RWCU) System Isolation					
a. Reactor Vessel Water Level - Low Low, Level 2	^(b)	2 in one trip system	B	SR 3.3.5.3.1 SR 3.3.5.3.2	≥ -42 inches

(a) Associated with an ECCS subsystem required to be OPERABLE by LCO 3.5.2, "Reactor Pressure Vessel Water Inventory Control."

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

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
SR 3.5.2.4 Verify each required ECCS pump develops the specified flow rate against a system head corresponding to the specified reactor pressure. SYSTEM HEAD NO. CORRESPONDING OF TO A REACTOR SYSTEM FLOW RATE PUMPS PRESSURE OF CS ≥ 4720 gpm 1 ≥ 113 psig LPCI ≥ 7700 gpm 1 ≥ 20 psig	In accordance with the INSERVICE TESTING PROGRAM
SR 3.5.2.5 NOTE Vessel injection/spray may be excluded. Verify each required ECCS injection/spray subsystem actuates on an actual or simulated automatic initiation signal.	In accordance with the Surveillance Frequency Control Program

Operate the required ECCS injection/spray subsystem through the recirculation line for ≥ 10 minutes.

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

SR 3.5.2.7

~~NOTE~~
Vessel injection/spray may be excluded.
Verify the required ECCS injection/spray subsystem can be manually operated.

In accordance with the Surveillance Frequency Control Program

Attachment 3

Revised Technical Specifications Pages

Cooper Nuclear Station, Docket No. 50-298, License No. DPR-46

3.3-47

3.3-49

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 Enter the Condition referenced in Table 3.3.5.3-1 for the channel.	Immediately
B. As required by Required Action A.1 and referenced in Table 3.3.5.3-1.	B.1 Declare associated penetration flow path(s) incapable of automatic isolation.	Immediately
	<u>AND</u> B.2 Calculate DRAIN TIME.	Immediately
C. As required by Required Action A.1 and referenced in Table 3.3.5.3-1.	C.1 Place channel in trip.	1 hour

(continued)

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	CONDITIONS REFERENCED FROM REQUIRED ACTION A.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
1. Core Spray System					
a. Reactor Pressure - Low (Injection Permissive)	4,5	4 ^(a)	C	SR 3.3.5.3.2	≤ 436 psig
b. Core Spray Pump Discharge Flow - Low (Bypass)	4,5	1 per pump ^(a)	D	SR 3.3.5.3.2	≥ 1370 gpm
2. Low Pressure Coolant Injection (LPCI) System					
a. Reactor Pressure - Low (Injection Permissive)	4,5	4 ^(a)	C	SR 3.3.5.3.2	≤ 436 psig
b. Low Pressure Coolant Injection Pump Discharge Flow - Low (Bypass)	4,5	1 per subsystem ^(a)	D	SR 3.3.5.3.2	≥ 2107 gpm
3. RHR System Isolation					
a. Reactor Vessel Water Level - Low, Level 3	^(b)	2 in one trip system	B	SR 3.3.5.3.1 SR 3.3.5.3.2	≥ 3 inches
4. Reactor Water Cleanup (RWCU) System Isolation					
a. Reactor Vessel Water Level - Low Low, Level 2	^(b)	2 in one trip system	B	SR 3.3.5.3.1 SR 3.3.5.3.2	≥ -42 inches

(a) Associated with an ECCS subsystem required to be OPERABLE by LCO 3.5.2, "Reactor Pressure Vessel Water Inventory Control."

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