



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

January 28, 2014

Mr. Louis P. Cortopassi
Site Vice President and Chief Nuclear Officer
Omaha Public Power District
Fort Calhoun Station
9610 Power Lane, Mail Stop FC-2-4
Omaha, NE 68008

SUBJECT: FORT CALHOUN STATION, UNIT NO. 1 - ISSUANCE OF AMENDMENT RE: REVISION TO TECHNICAL SPECIFICATIONS 2.16, "RIVER LEVEL," AND 3.2, "EQUIPMENT AND SAMPLING TESTS," AND ESTABLISHMENT OF THE EMERGENCY ACTION LEVEL CLASSIFICATION CRITERIA FOR EXTERNAL FLOODING EVENTS UNDER THE RADIOLOGICAL EMERGENCY RESPONSE PLAN (TAC NO. ME8550)

Dear Mr. Cortopassi:

The U.S. Nuclear Regulatory Commission (NRC) has issued the enclosed Amendment No. 274 to Renewed Facility Operating License No. DPR-40 for the Fort Calhoun Station, Unit No. 1 (FCS). The amendment consists of changes to the Technical Specifications (TSs) in response to your application dated April 27, 2012, as supplemented by letter dated June 27, 2013.

The amendment revises FCS TS Limiting Condition for Operation 2.16, "River Level," and TS Surveillance Requirement 3.2, "Equipment and Sampling Tests," and a related change to the FCS Radiological Emergency Response Plan to revise two emergency action levels related to high water level in the Missouri River.

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 black ink, appearing to read "Joseph M. Sebrosky", written over a circular stamp or seal.

Joseph M. Sebrosky, Senior Project Manager
Plant Licensing Branch IV-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-285

Enclosures:

1. Amendment No. 274 to DPR-40
2. Safety Evaluation

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

OMAHA PUBLIC POWER DISTRICT

DOCKET NO. 50-285

FORT CALHOUN STATION, UNIT NO. 1

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 274
Renewed License No. DPR-40

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by the Omaha Public Power District (the licensee), dated April 27, 2012 as supplemented by letter dated June 27, 2013, 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.

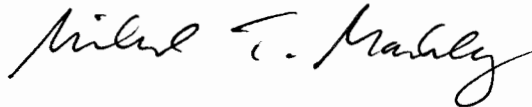
2. Accordingly, Renewed Facility Operating License No. DPR-40 is amended by changes as indicated in the attachment to this license amendment, and paragraph 3.B. of Renewed Facility Operating License No. DPR-40 is hereby amended to read as follows:

B. Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 274, 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 120 days from the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Michael T. Markley, Chief
Plant Licensing Branch IV-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Renewed Facility
Operating License No. DPR-40
and Technical Specifications

Date of Issuance: January 28, 2014

ATTACHMENT TO LICENSE AMENDMENT NO. 274

RENEWED FACILITY OPERATING LICENSE NO. DPR-40

DOCKET NO. 50-285

Replace the following page of the Renewed Facility Operating License No. DPR-40 and the Appendix A Technical Specifications with the attached revised page. The revised pages are identified by amendment number and contain vertical lines indicating the areas of change.

License Page

REMOVE

INSERT

-3-

-3-

Technical Specifications

REMOVE

INSERT

2.16 – Page 1

2.16 – Page 1

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2.16 – Page 2

3.2 – Page 5

3.2 – Page 5

3.2 – Page 14

3.2 – Page 14

3.2 – Page 15

3.2 – Page 15

- (4) Pursuant to the Act and 10 CFR Parts 30, 40 and 70, to receive, possess, and use in amounts as required any byproduct, source, or special nuclear material without restriction to chemical or physical form for sample analysis or instrument calibration or when associated with radioactive apparatus or components;
- (5) Pursuant to the Act and 10 CFR Parts 30 and 70, to possess, but not separate, such byproduct and special nuclear materials as may be produced by operation of the facility.

3. This renewed 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, Section 50.54 and 50.59 of Part 50, and Section 70.32 of Part 70; and 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:

A. Maximum Power Level

Omaha Public Power District is authorized to operate the Fort Calhoun Station, Unit 1, at steady state reactor core power levels not in excess of 1500 megawatts thermal (rate power).

B. Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 274 are hereby incorporated in the license. Omaha Public Power District shall operate the facility in accordance with the Technical Specifications.

C. Security and Safeguards Contingency Plans

The Omaha Public Power District 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 plans, which contain Safeguards Information protected under 10 CFR 73.21, are entitled: "Fort Calhoun Station Security Plan, Training and Qualification Plan, Safeguards Contingency Plan," submitted by letter dated May 19, 2006.

OPPD 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 OPPD CSP was approved by License Amendment No. 266.

TECHNICAL SPECIFICATIONS

2.0 **LIMITING CONDITIONS FOR OPERATION**

2.16 River Level

Applicability

At all times.

Objective

To specify maximum and minimum Missouri River levels as measured at the intake structure which must be present to assure safe reactor operation.

Specification

The water level of the Missouri River shall remain less than 1004 feet mean sea level and greater than or equal to 976 feet 9 inches mean sea level as measured at the intake structure.

Required Actions

- (1) When the Missouri River level reaches elevation 1004 feet mean sea level, the reactor shall be in a HOT SHUTDOWN condition and in COLD SHUTDOWN within 36 hours following entry into HOT SHUTDOWN; and
- (2) If the Missouri River level is less than 976 feet 9 inches mean sea level, the reactor shall be placed in HOT SHUTDOWN within 6 hours and COLD SHUTDOWN within the following 36 hours; and,
- (3) At Missouri River levels less than 980 feet or greater than 1002 feet mean sea level, a continuous watch will be maintained to monitor river levels to assure no sudden loss of water supply occurs on low river level and provide adequate response time for rising river levels.

Basis

At the Fort Calhoun Station (FCS) site, the probable maximum flood that might occur as a result of runoff from a probable maximum rainstorm over the area below the Gavins Point dam coupled with an assumed outflow of 50,000 cubic feet per second from Gavins Point reservoir is 1009.3 feet. In the unlikely event that the Oahe or Fort Randall dams fail at that time, the Corps of Engineers has estimated that the flood level could be as high as 1014 feet⁽¹⁾.

The intake structure can be protected from these Missouri River floods using removable flood gates on doorways and the screen wash discharge trough. The water level inside the intake cells can be controlled by positioning the exterior sluice gates to restrict the flow into the cells. The position of the exterior sluice gates must be verified by manual actuation, which requires access to the intake structure veranda. Access to the veranda is lost when the east doors to the intake structure are blocked by installing the flood barriers which must be installed prior to a river level of 1004 feet in order to allow egress to the north. This requires the station to be shutdown prior to 1004 feet. The 36-hour allowance to cold shutdown following hot shutdown entry allows for cool down by steaming to atmosphere, if desired. If the station desires to cool down by steaming to the condenser, shutdown cooling must be initiated prior to 1004 feet so that actions verifying sluice gate position can be completed before access to the veranda is lost. A continuous watch will be established at 1002 feet msl to provide adequate response time for rising river levels in accordance with the abnormal operating procedure. The FCS emergency plan will be implemented during these high and low river level conditions to protect the plant. The auxiliary building can be protected to 1014 feet with the installation of removable flood barriers and sandbagging at the 1013 foot elevation of the equipment hatch room (Room 66).

TECHNICAL SPECIFICATIONS

LIMITING CONDITIONS FOR OPERATION

2.16 River Level (Continued)

Basis (Continued)

The minimum river level of 976 feet 9 inches provides adequate suction to the raw water (RW) pumps for cooling plant components. The minimum elevation of the RW pump suction is 973 feet 9 inches. An intake cell level of 976 feet 9 inches is required for RW pump minimum submergence level (MSL)⁽²⁾. The partial loss of this supply is considered highly unlikely. However, provisions for low water levels during winter and spring ice conditions are considered necessary. When river level is low, head loss from debris and/or ice on the traveling screens and/or trash racks could reduce intake cell levels such that the required RW pump MSL is not achieved. This could lead to pump degradation from the formation of vortices at the free water surface. Thus, when the continuous watch requirement is in effect, in addition to monitoring river level to assure no sudden loss of water supply occurs, the level of the intake cells is monitored.

Intake cell levels are also adversely affected by the flows associated with the non-safety related circulating water (CW) pumps since the large flow rates associated with the CW pumps create significant head losses even with relatively clean intake cell conditions. However, the CW pumps have a much higher MSL requirement (983 feet 0 inches) and would become unstable and trip or be manually shutdown well before intake cell levels decrease to the RW pump MSL. The head loss associated with CW pump flow would then be recovered and intake cell levels would rise.

References

- (1) USAR, Section 2.7.1.2
- (2) USAR, Section 9.8

TECHNICAL SPECIFICATIONS

3.0 SURVEILLANCE REQUIREMENTS

3.2 Equipment and Sampling Tests (continued)

Table 3-5, Item 8b verifies that primary to secondary LEAKAGE is less or equal to 150 gallons per day through any one SG. Satisfying the primary to secondary LEAKAGE limit ensures that the operational LEAKAGE performance criterion in the Steam Generator Program is met. If this surveillance requirement is not met, compliance with LCO 3.17, "Steam Generator Tube Integrity," should be evaluated. The 150 gallons per day limit is measured at room temperature as described in Reference 5. The operational LEAKAGE rate limit applies to LEAKAGE through any one SG. If it is not practical to assign the LEAKAGE to an individual SG, all the primary to secondary LEAKAGE should be conservatively assumed to be from one SG.

The Surveillance is modified by a Note which states that the Surveillance is not required to be performed until 12 hours after establishment of steady state operation. For RCS primary to secondary LEAKAGE determination, steady state is defined as stable RCS pressure, temperature, power level, pressurizer and makeup tank levels, makeup and letdown, and RCP seal injection and return flows.

The Surveillance Frequency of daily is a reasonable interval to trend primary to secondary LEAKAGE and recognizes the importance of early leakage detection in the prevention of accidents. The primary to secondary LEAKAGE is determined using continuous process radiation monitors or radiochemical grab sampling in accordance with the EPRI guidelines (Ref. 5).

Table 3-5, Item 25 verifies adequate measurements are taken to ensure that facility protective actions will be taken (and power operation will be terminated) in the event of high and/or low river level conditions. The high river level limit of less than 1004 feet mean sea level is based on the maximum elevation at which facility flood control measures provide protection to safety related equipment (i.e., due to restricted access/egress to the intake structure veranda once the flood barriers are installed prior to river level reaching 1004 feet msl). A continuous watch will be established at 1002 feet mean sea level to provide adequate response time for rising river levels in accordance with the abnormal operating procedure. The river level surveillance requirement specified also ensures sufficient net positive suction head is available for operating the RW pumps. The minimum river level of 976 feet 9 inches provides adequate suction to the RW pumps for cooling plant components. The surveillance frequency of "Daily" is a reasonable interval and models guidance provided in NUREG-0212, Revision 2, "Standard Technical Specifications for Combustion Engineering Pressurized Water Reactors," Section 4.7.6. This surveillance requirement verifies that the Missouri River water level is maintained at a level greater than or equal to 976 feet 9 inches mean sea level. A continuous watch is established to monitor the river level when the river level reaches 980 feet mean sea level to assure no sudden loss of water supply occurs.

References

- 1) USAR, Section 9.10
- 2) ASTM D4057, ASTM D975, ASTM D4176, ASTM D2622, ASTM D287, ASTM 6217, ASTM D2709
- 3) ASTM D975, Table 1
- 4) Regulatory Guide 1.137
- 5) EPRI, "Pressurized Water Reactor Primary-to-Secondary Leak Guidelines."

TECHNICAL SPECIFICATIONS

TABLE 3-5
MINIMUM FREQUENCIES FOR EQUIPMENT TESTS

	<u>Test</u>	<u>Frequency</u>	<u>USAR Section Reference</u>
17.	DELETED		
18.	Shutdown Cooling		
	1. Verify required shutdown cooling loops are OPERABLE and one shutdown cooling loop is IN OPERATION.	S (when shutdown cooling is required by TS 2.8).	
	2. Verify correct breaker alignment and indicated power is available to the required shutdown cooling pump that is not IN OPERATION.	W (when shutdown cooling is required by TS 2.8).	

TECHNICAL SPECIFICATIONS

TABLE 3-5
MINIMUM FREQUENCIES FOR EQUIPMENT TESTS

	<u>Test</u>	<u>Frequency</u>	<u>USAR Section Reference</u>
19.	Refueling Water Level	Verify refueling water level is \geq 23 ft. above the top of the reactor vessel flange.	Prior to commencing, and daily during CORE ALTERATIONS and/or REFUELING OPERATIONS inside containment.
20.	Spent Fuel Pool Level	Verify spent fuel pool water level is \geq 23 ft. above the top of irradiated fuel assemblies seated in the storage racks.	Prior to commencing, and weekly during REFUELING OPERATIONS in the spent fuel pool.
21.	Containment Penetrations	Verify each required containment penetration is in the required status.	Prior to commencing, and weekly during CORE ALTERATIONS and/or REFUELING OPERATIONS in containment.
22.	Spent Fuel Assembly Storage	Verify by administrative means that initial enrichment and burnup of the fuel assembly is in accordance with Figure 2-10.	Prior to storing the fuel assembly in Region 2 (including peripheral cells).
23.	P-T Limit Curve	Verify RCS Pressure, RCS temperature, and RCS heatup and cooldown rates are within the limits specified by the P-T limit Figure(s) shown in the PTLR.	This test is only required during RCS heatup and cooldown operations and RCS inservice leak and hydrostatic testing. While these operations are occurring, this test shall be performed every 30 minutes.
24.	Spent Fuel Cask Loading	Verify by administrative means that initial enrichment and burnup of the fuel assembly is in accordance with Figure 2-11.	Prior to placing the fuel assembly in a spent fuel cask in the spent fuel pool.
25.	River Level	Verify water level is within limits by measurement at least once per 24 hours, when the water level is less than 1004 feet and greater than or equal to 976 feet 9 inches above mean sea level.	D 9.8



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 274 TO RENEWED FACILITY

OPERATING LICENSE NO. DPR-40

OMAHA PUBLIC POWER DISTRICT

FORT CALHOUN STATION, UNIT NO. 1

DOCKET NO. 50-285

1.0 INTRODUCTION

By application dated April 27, 2012, as supplemented by letter dated June 27, 2013 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML12121A565 and ML13183A390, respectively), Omaha Public Power District (OPPD) requested changes to the Technical Specifications (TS, Appendix A to Renewed Facility Operating License No. DPR-40) for the Fort Calhoun Station, Unit No. 1 (FCS).

The proposed amendment would revise FCS TS Limiting Condition for Operation (LCO) 2.16, "River Level," and TS Surveillance Requirement (SR) 3.2, "Equipment and Sampling Tests," and a related change to the FCS Radiological Emergency Response Plan to revise two emergency action levels (EALs) related to high water level in the Missouri River. Specifically, the proposed changes would correct a non-conservative deficiency in the LCO Required Actions and in the SR.

The supplemental letter dated June 27, 2013, 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 December 26, 2012 (77 FR 76082).

2.0 REGULATORY EVALUATION

The Commission's regulatory requirements related to the content of TS are set forth in Section 50.36, "Technical specifications," of Title 10 of the *Code of Federal Regulations* (10 CFR). This regulation requires that the TS include items in five specific categories. These categories include (1) safety limits, limiting safety system settings and limiting control settings, (2) LCOs, (3) SRs, (4) design features, and 5) administrative controls.

The NRC staff reviewed the proposed changes for compliance with 10 CFR 50.36. In general, licensees must fully describe and justify the desired TS changes. The staff then makes a determination as to whether the proposed changes maintain adequate safety. Changes that result in relaxation (less restrictive condition) of current TS requirements require detailed justification.

Licensees may revise the TSs provided that plant-specific review supports a finding of continued adequate safety because: (1) the change is editorial, administrative or provides clarification (i.e., no requirements are materially altered), (2) the change is more restrictive than the licensee's current requirement, or (3) the change is less restrictive than the licensee's current requirement, but nonetheless still affords adequate assurance of safety when judged against current regulatory standards. The detailed application of this general framework, and additional specialized guidance, are discussed in Section 3.0 in the context of specific proposed changes.

The NRC staff evaluated the TS changes contained in the licensee's amendment request by comparing them to the requirements of 10 CFR 50.36.

Section 50.47, "Emergency plans," of 10 CFR sets forth emergency plan requirements for nuclear power plant facilities. The regulations in 10 CFR 50.47(a)(1)(i) state, in part, that:

... no initial operating license for a nuclear power reactor will be issued unless a finding is made by the NRC that there is reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency.

Paragraph 10 CFR 50.47(b) establishes the standards that the onsite and offsite emergency response plans must meet for NRC staff to make a positive finding that there is reasonable assurance that the licensee can and will take adequate protective measures in the event of a radiological emergency. Planning Standard (4) of this section requires that a licensee's emergency response plan contain:

A standard emergency classification and action level scheme, the bases of which include facility system and effluent parameters, is in use by the nuclear facility licensee, and State and local response plans call for reliance on information provided by facility licensees for determinations of minimum initial offsite response measures.

The regulations in 10 CFR 50.47(b)(4) specify a standard emergency classification and action level scheme, and as such, the NRC staff will ensure that implementation methods are relatively consistent throughout the industry for a given reactor and containment design while simultaneously providing an opportunity for a licensee to modify its EAL scheme as necessary to address plant-specific design considerations or preferences.

Paragraph 10 CFR 50.54(q)(4) states, in part, that:

The changes to a licensee's emergency plan that reduce the effectiveness of the plan as defined in paragraph (q)(1)(iv) of this section may not be implemented without prior approval by the NRC.

Based on Regulatory Issue Summary 2005-02, Revision 1, "Clarifying the Process for Making Emergency Plan Changes," dated April 19, 2011 (ADAMS Accession No. ML100340545), a decrease (or reduction) in effectiveness occurs if:

[t]he proposed change to the EAL would potentially cause an overclassification, (e.g., what was considered a Site Area Emergency in the approved emergency plan would now be considered a General Emergency with potential consequences for public health and safety).

Because the licensee proposed changing the EAL for an Alert and a Notification of Unusual Event for external flooding, the proposed change was submitted to the NRC for a technical and regulatory review prior to implementation by the licensee, as required under 10 CFR 50.54(q).

3.0 TECHNICAL EVALUATION

3.1 Modification of TS 2.16

FCS TS 2.16 contains requirements for the operation of the plant based on the level of the Missouri River. The licensee proposed changes to the TS to address a non-cited violation of 10 CFR 50.36(c)(2)(ii)(B) transmitted in a letter from the NRC to OPPD dated July 26, 2010 (ADAMS Accession No. ML102080231), which identified that TS LCO 2.16 is inadequate should the Missouri River exceed 1009 feet mean sea level (msl). The inadequacy lies in the fact that normal operating procedures could not be used to shut down the plant with the Missouri River at 1009 feet. OPPD proposed to revise TS LCO 2.16 to address the high river level concerns and retain the existing low river level requirements in the current licensing basis.

Current TS LCO 2.16 states:

2.16 River Level

Applicability

Applied to Missouri River level as measured at the intake structure at the Fort Calhoun Station.

Objective

To specify maximum and minimum Missouri River levels which must be present to assure safe reactor operation.

Specifications

- 1) If the Missouri River level exceeds 1009⁽¹⁾ feet the reactor will be placed in a cold shutdown condition using normal operating procedures. When the river level reaches elevation 1004.2 feet and rising, the emergency plan to protect the plant will be instituted.
- (2) If the Missouri River level is less than 976 feet 9 inches the reactor will be placed in a cold shutdown condition using normal operating procedures. At river levels less than 980 feet a continuous watch will be maintained to assure no sudden loss of water supply occurs.

The licensee proposed revising the TS LCO to require shutting down the plant when the Missouri River level reaches 1004 feet to address the inadequacy. The licensee also proposed rearranging the text to model NUREG-0212, "Standard Technical Specifications for Combustion Engineering Pressurized Water Reactors."

Revised TS LCO 2.16 would state:

2.16 River Level

Applicability

At all times.

Objective

To specify maximum and minimum Missouri River levels as measured at the intake structure which must be present to assure safe reactor operation.

Specification

The water level of the Missouri River shall remain less than 1004 feet mean sea level and greater than or equal to 976 feet 9 inches mean sea level as measured at the intake structure.

Required Actions

- (1) When the Missouri River level reaches elevation 1004 feet mean sea level, the reactor shall be in a HOT SHUTDOWN condition and in COLD SHUTDOWN within 36 hours following entry into HOT SHUTDOWN; and
- (2) If the Missouri River level is less than 976 feet 9 inches mean sea level, the reactor shall be placed in HOT SHUTDOWN within

6 hours and COLD SHUTDOWN within the following 36 hours;
and,

- (3) At Missouri River levels less than 980 feet or greater than 1002 feet mean sea level, a continuous watch will be maintained to monitor river levels to assure no sudden loss of water supply occurs on low river level and provide adequate response time for rising river levels.

TS SR 3.2 specifies the minimum frequency and type of surveillances to be applied to critical plant equipment and conditions. The current TS SR 3.2 does not contain a SR to monitor river level. The licensee proposed adding item 25 to Table 3-5 to verify the Missouri River water level is within its required limits. The SR would be required on a daily frequency and would state:

25. River Level Verify water level is within limits by measurement at least once per 24 hours, when the water level is less than 1004 feet and greater than or equal to 976 feet 9 inches above mean sea level.

The licensee also submitted TS Basis changes for TSs LCO 2.16 and SR 3.2 for informational purposes. The NRC staff does not approve TS Bases; however, the TS Basis information clarified portions of the review of the proposed TS changes.

In a request for additional information (RAI) dated March 27, 2013 (ADAMS Accession No. ML13086A473), the NRC staff requested the licensee to provide further justification for using river level as the monitored parameter for low river level TS requirements when phenomena such as screen loading, etc., can cause a difference between the observed river level and the intake cell level. By letter dated June 27, 2013, the licensee stated, in part, that

The monitored parameter is river level at the intake structure because the purpose of the specification is to ensure that the river level is within the specified range (≥ 976 feet 9 inches and < 1004 feet). To facilitate this, the actual river level must be monitored at levels within this range to ensure no sudden loss of water supply occurs as river levels decrease, hence the continuous watch being established at 980 feet, and to provide adequate response time for rising river levels, hence the continuous watch being established at 1004 feet.

The licensee also described the Intake Structure in that it contains three cells separated by concrete walls perpendicular to the river whose function supports the use of river level as the monitored parameter for TS 2.16. By letter dated June 17, 2013, the licensee stated, in part, that

In addition, the Updated Safety Analysis Report (USAR) Section 9.8 indicates that although intake cell levels are also adversely affected by the flows associated with the non-safety related [circulating water (CW)] pumps (since the large flow rates associated with the CW pumps create significant head losses even with relatively clean intake cell conditions), the CW pumps have a much

higher [mean sea level (MSL)] requirement (983 feet 0 inches) and would become unstable and trip or be manually shutdown well before intake cell levels decrease to the [raw water (RW)] pump MSL of 976 feet 9 inches. The head loss associated with CW pump flow would then be recovered and intake cell levels would rise.

In its RAI dated March 27, 2013, the NRC staff stated that the proposed TS may not meet the requirements of 10 CFR 50.36. The TS Basis mentions the intake cells but TS Bases are technically not part of TS. The staff requested the licensee to explain why there is no mention of the intake cells in the proposed Required Action (3). By letter dated June 27, 2013, the licensee stated, in part, that

The verbiage provided in the proposed TS Required Action (3) is not a *new* TS required action; it is simply a renumbered and reworded version of the existing TS 2.16(2) for providing the continuous watch to monitor river levels to assure no sudden loss of water supply occurs at river levels less than 980 feet *and* to ensure that adequate steps are taken on rapid rise of river level.

...the purpose of the continuous watch is to monitor for the "rate of change" in river level to ensure sufficient time to take the additional required action. Likewise, above 1002 feet msl, the continuous watch monitors the "rate of change" to ensure sufficient time to take actions outside of the intake structure to protect the plant for rising river levels.

The licensee also attached a figure that depicts the river levels with respect to the RW and CW pumps suction.

The NRC staff reviewed the proposed TS changes as well as the licensee's justifications for the changes. The staff categorized the changes to TS LCO 2.16 as more restrictive because the changes require the licensee to shut down the reactor based on a lower maximum river level (i.e., 1004 feet instead of 1009 feet). The staff categorized the changes to TS SR 3.2 as more restrictive because the licensee will be required to monitor more parameters than required by the existing TS SR. The staff determined that the additional TS requirements provide for adequate safety and therefore address the inadequacy of the current TSs. The staff also determined that TS LCO 2.16 and TS SR 3.2, with the proposed changes applied, meet the requirements of 10 CFR 50.36. Based on the above, the NRC staff concludes that the proposed changes are acceptable.

3.2 EAL Changes Evaluation

FCS submitted a license amendment to revise the FCS Technical Specification 2.16, and TS Surveillance Requirement (SR) 3.2, as a result of a re-evaluation of the impact Missouri River level has on FCS. The FCS Radiological Response Plan EALs have related values that need to be revised to be consistent with this TS and TS SR change.

Specifically, EAL HU1.5 and HA1.6 will be revised to lower the high-level threshold from 1009 feet MSL to 1007 feet MSL. Therefore, a declaration of an Unusual Event (HU1.5) would

occur when river level is greater than 1004 feet MSL but less than 1007 feet MSL, and a declaration of an Alert (HA1.6) when river level is greater than 1007 feet MSL.

The licensee states that passive protection is provided to a flood elevation of 1007 feet MSL. Passive protection is accomplished by placing openings to portions of safety-related structures above 1007 feet. Below 1007 feet, portions of these structures containing safety-related equipment are constructed of sealed concrete.

The NRC staff has reviewed the technical basis for the proposed EAL change and the licensee's evaluation of the proposed changes. The NRC staff determined that this change is acceptable with the approval of the TS LCO 2.16 and TS SR 3.2 as stated in Section 3.1 of this safety evaluation.

Based on the above, the NRC staff has determined that the proposed changes meet the guidance in NEI 99-01, the requirements of 10 CFR 50.47(b)(4), and the standards in Appendix E to 10 CFR 50. Therefore, the NRC staff concludes that the proposed EAL changes continue to provide reasonable assurance that the licensee can and will take adequate protective measures in the event of a radiological emergency.

3.3 Administrative Changes to Table 3-5

By letter dated April 27, 2012, the licensee proposed to add a column titled "USAR Section Reference," to Table 3-5 on pages 3.2 – Page 14 and 3.2 – Page 15. In addition, adding this column causes the text under the "Frequency" column to "wrap" to the following line. These changes are administrative in nature and, therefore, 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 the 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 December 26, 2012 (77 FR 76082). 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 Contributors: M. Hamm
D. Johnson

Date: January 28, 2014

January 28, 2014

Mr. Louis P. Cortopassi
Site Vice President and Chief Nuclear Officer
Omaha Public Power District
Fort Calhoun Station
9610 Power Lane, Mail Stop FC-2-4
Omaha, NE 68008

SUBJECT: FORT CALHOUN STATION, UNIT NO. 1 - ISSUANCE OF AMENDMENT RE: REVISION TO TECHNICAL SPECIFICATIONS 2.16, "RIVER LEVEL," AND 3.2, "EQUIPMENT AND SAMPLING TESTS," AND ESTABLISHMENT OF THE EMERGENCY ACTION LEVEL CLASSIFICATION CRITERIA FOR EXTERNAL FLOODING EVENTS UNDER THE RADIOLOGICAL EMERGENCY RESPONSE PLAN (TAC NO. ME8550)

Dear Mr. Cortopassi:

The U.S. Nuclear Regulatory Commission (NRC) has issued the enclosed Amendment No. 274 to Renewed Facility Operating License No. DPR-40 for the Fort Calhoun Station, Unit No. 1 (FCS). The amendment consists of changes to the Technical Specifications (TSs) in response to your application dated April 27, 2012, as supplemented by letter dated June 27, 2013.

The amendment revises FCS TS Limiting Condition for Operation 2.16, "River Level," and TS Surveillance Requirement 3.2, "Equipment and Sampling Tests," and a related change to the FCS Radiological Emergency Response Plan to revise two emergency action levels related to high water level in the Missouri River.

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/

Joseph M. Sebrosky, Senior Project Manager
Plant Licensing Branch IV-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-285

Enclosures:

1. Amendment No. 274 to DPR-40
2. Safety Evaluation

cc w/encls: Distribution via Listserv

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MHamm, NRR/DSS/STSB

DJohnson, NSIR/DPR/ORLT

ADAMS Accession No. ML14003A003

*SE memo dated November 19, 2013

OFFICE	NRR/DORL/LPL4-1/PM	NRR/DORL/LPL4-1/PM	NRR/DORL/LPL4-1/LA	NSIR/DPR/ORLOLB/BC*
NAME	LWilkins (JSebrosky for)	JSebrosky	JBurkhardt	JAnderson
DATE	01/23/14	01/23/14	01/09/14	09/10/12
OFFICE	NRR/DSS/STSB/BC*	OGC - NLO	NRR/DORL/LPL4-1/BC	NRR/DORL/LPL4-1/PM
NAME	RElliott	BHarris	MMarkley	JSebrosky
DATE	11/19/13	01/24/14	01/28/14	01/28/14

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