



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

December 31, 2012

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 CALHOON STATION, UNIT NO. 1 - ISSUANCE OF AMENDMENT RE:
INCORPORATION OF NEW RADIAL PEAKING FACTOR DEFINITION AND
CLARIFY LIMITING CONDITIONS FOR OPERATION (LCO) 2.10.2(6)
(TAC NO. ME7796)

Dear Mr. Cortopassi:

The U.S. Nuclear Regulatory Commission (NRC) has issued the enclosed Amendment No. 269 to Renewed Facility Operating License No. DPR-40 for the Fort Calhoun Station, Unit No. 1. The amendment consists of changes to the Technical Specifications (TSs) in response to your application dated December 23, 2011, as supplemented by letter dated June 18, 2012.

The amendment revises the TSs to incorporate a new Radial Peaking Factor definition and to clarify Limiting Condition for Operation 2.10.2(6), "Shutdown CEA [Control Element Assembly] Insertion Limit During Power Operation." Specifically, the amendment removes requirements for, and references to, the "Unrodded Integrated Radial Peaking Factor." The amendment also added a definition of, and references to, the "Maximum Radial Peaking Factor (F_R^T)." Additional clarifications and editorial changes are made to TS 2.10, "Reactor Core" and Surveillance Requirement 3.10, "Reactor Core Parameters."

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 "Lynnea E. Wilkins".

Lynnea E. Wilkins, Project Manager
Plant Licensing Branch IV
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-285

Enclosures:

1. Amendment No. 269 to DPR-40
2. Safety Evaluation

cc w/encls: Distribution via Listserv



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. 269
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 December 23, 2011, as supplemented by letter dated June 18, 2012, 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.

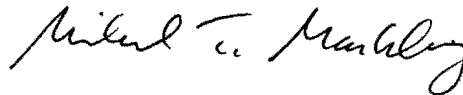
2. Accordingly, Renewed Facility Operating License No. DPR-40 is amended by changes as indicated in the attachment to this license amendment, and paragraph 3.B. of Renewed Facility Operating License No. DPR-40 is hereby amended to read as follows:

B. Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 269, 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
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: December 31, 2012

ATTACHMENT TO LICENSE AMENDMENT NO. 269

RENEWED FACILITY OPERATING LICENSE NO. DPR-40

DOCKET NO. 50-285

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

License Page

REMOVE

INSERT

-4-

-4-

Technical Specifications

REMOVE

INSERT

TOC - Page 1
Definitions - Page 7
2.10 - Page 6
2.10 - Page 15
2.10 - Page 17
3.10 - Page 2

TOC - Page 1
Definitions - Page 7
2.10 - Page 6
2.10 - Page 15
2.10 - Page 17
3.10 - Page 2

- (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. 269 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 SPECIFICATION

TECHNICAL SPECIFICATIONS

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TECHNICAL SPECIFICATION

DEFINITIONS

Azimuthal Power Tilt - T_q

Azimuthal Power Tilt shall be the power asymmetry between azimuthally symmetric fuel assemblies.

Maximum Radial Peaking Factor (F_R^T)

The Maximum Radial Peaking Factor is the maximum ratio of the individual fuel pin power to the core average pin power integrated over the total core height, including tilt. The F_R^T limit is provided in the Core Operating Limits Report.

Process Control Program (PCP)

The document(s) that contain the current formulas, sampling, analyses, tests, and determinations to be made to ensure that processing and packaging of solid radioactive wastes based on demonstrated processing of actual or simulated wet solid wastes will be accomplished in such a way as to assure compliance with 10 CFR 20, 61, 71, State Regulations, burial ground requirements, and other requirements governing the disposal of solid waste.

Dose Equivalent I-131

That concentration of I-131 ($\mu\text{Ci/gm}$) which alone would produce the same thyroid dose as the quantity and isotopic mixture of I-131, I-132, I-133, I-134 and I-135 actually present. In other words,

$$\begin{aligned} \text{Dose Equivalent I-131 } (\mu\text{Ci/gm}) &= \mu\text{Ci/gm of I-131} \\ &+ 0.0361 \times \mu\text{Ci/gm of I-132} \\ &+ 0.270 \times \mu\text{Ci/gm of I-133} \\ &+ 0.0169 \times \mu\text{Ci/gm of I-134} \\ &+ 0.0838 \times \mu\text{Ci/gm of I-135} \end{aligned}$$

TECHNICAL SPECIFICATIONS

2.0 LIMITING CONDITIONS FOR OPERATION

2.10 Reactor Core (Continued)

2.10.2 Reactivity Control Systems and Core Physics Parameters Limits (Continued)

(5) Non-trippable CEA Position During Power Operation

All non-trippable CEAs (NTCEA) shall be withdrawn to at least 114 inches (actual position). If one or more NTCEAs becomes misaligned from other NTCEAs by more than 12 inches (actual position) either:

- a. Restore the NTCEA to within the specified alignment requirements within one hour, or
- b. Be in at least hot shutdown within an additional 6 hours.

(6) Shutdown CEA Insertion Limit During Power Operation

All shutdown CEAs shall be withdrawn to at least 114 inches as a condition for reactor criticality, or with one or more shutdown CEAs withdrawn less than 114 inches, except for surveillance testing, within one hour, either:

- a. Withdraw the CEAs to at least 114 inches, or
- b. Declare the CEAs inoperable and apply Specification 2.10.2(4).

(7) Regulating CEA Insertion Limits During Hot Standby and Power Operation

The regulating CEA groups shall be positioned within the acceptable operating range for regulating rod position of the Power Dependent Insertion Limits Figure provided in the COLR except during CEA exercises above 114 inches. With all CEAs operable, CEA insertion beyond the Long Term Insertion Limits is restricted to:

1. 4 hours per 24 hour interval,
 2. 4 EFPD per 30 EFPD interval, and
 3. 14 EFPD per fuel cycle.
- a. When the regulating CEA groups are inserted beyond the Transient Insertion Limits within two hours, either:
 - (i) Restore the regulating CEA groups to above the Transient Insertion Limits, or
 - (ii) Reduce reactor power to the allowed power of the Power Dependent Insertion Limit Figure of the COLR which permits continued operation above the Transient Insertion Limit using the existing CEA group position.

TECHNICAL SPECIFICATIONS

2.0 LIMITING CONDITIONS FOR OPERATION

2.10 Reactor Core (Continued)

2.10.4 Power Distribution Limits (Continued)

- (c) When the linear heat rate is continuously monitored by the excore detectors, withdraw the full length CEAs beyond the long term insertion limits of Specification 2.10.2(7) and maintain the Axial Shape Index, Y_I within the limits of Limiting Condition for Operations for the Excore Monitoring of LHR Figure provided in the COLR. If the linear heat rate is exceeding its limits as determined by the Axial Shape Index, Y_I , being outside the limits of the Limiting Condition for Operation for Excore Monitoring of LHR Figure provided in the COLR:
- (i) Restore the reactor power and Axial Shape Index, Y_I , to within the limits of the Limiting Condition for Operations for Excore Monitoring of LHR Figure provided in the COLR within 2 hours, or
 - (ii) Be in at least hot standby within the next 6 hours.
- (d) When calibration of the ex-core detectors has not been accomplished within the previous 30 equivalent full power days, then:
- (i) reduce the axial power distribution monitoring trip setpoints as shown in the Axial Power Distribution LSSS for 4 Pump Operation Figure provided in the COLR by 0.03 ASI units; and
 - (ii) reduce the axial power distribution monitoring Limiting Condition for Operations (LCO for Excore Monitoring of LHR and LCO for DNB Monitoring Figures provided in the COLR) by 0.03 ASI units.

When calibration of the ex-core detectors has not been accomplished within the previous 200 equivalent full power days, the power shall be limited to less than that corresponding to 75% of the peak linear heat rate permitted by Specification 2.10.4(1).

(2) Maximum Radial Peaking Factor (F_R^T)

The value of F_R^T shall be within the limit provided in the COLR. F_R^T is determined with all full length CEAs at or above the Long Term Steady State Insertion Limit.

TECHNICAL SPECIFICATIONS

2.0 **LIMITING CONDITIONS FOR OPERATION**

2.10 Reactor Core (Continued)

2.10.4 Power Distribution Limits (Continued)

(4) Azimuthal Power Tilt (T_q)

When operating above 70% of rated power,

- (a) The azimuthal power tilt (T_q) shall not exceed 0.10 whenever the CEAs are at or above the Long Term Insertion Limit and F_R^T is being monitored with the incore detectors.
- (b) The azimuthal power tilt (T_q) shall not exceed 0.03 whenever the provisions of 2.10.4(4)(a) do NOT allow F_R^T to be monitored with the incore detectors. With the indicated azimuthal power tilt determined to be >0.03 but <0.10 , correct the power tilt within two hours or determine within the next 6 hours and at least once per subsequent 8 hours, that the maximum radial peaking factor, F_R^T , is within the COLR limit, or reduce power to less than 70% of rated power within 8 hours of confirming $T_q > 0.03$.
- (c) With the indicated power tilt determined to be ≥ 0.10 , power operation may proceed up to 2 hours provided F_R^T does not exceed the limit provided in the COLR, or be in at least hot standby within 6 hours. Subsequent operation for the purpose of measurement to identify the cause of the tilt is allowable provided the power level is restricted to 20% of the maximum allowable thermal power level.

TECHNICAL SPECIFICATIONS

3.0 **SURVEILLANCE REQUIREMENTS**

3.10 Reactor Core Parameters (Continued)

(2) Moderator Temperature Coefficient

The MTC shall be determined at the following frequencies and power conditions during each fuel cycle:

1. Prior to initial operation above 5% of rated power, after each fuel loading.
2. At any power level within 500 MWD/T of initial operation after each refueling.
3. At any power level within ± 14 EFPD of reaching a rated power equilibrium boron concentration of 300 ppm.

(3) Regulating CEA Insertion Limits

- a. The position of each regulating CEA group shall be determined to be above the Transient Insertion Limits at least once per shift.
- b. The accumulated times during which the regulating CEA groups are inserted beyond the Steady State Insertion Limits but above the Transient Insertion Limits shall be determined once per day.

(4) Linear Heat Rate Monitoring Systems

- a. The incore detector monitoring system may be used for monitoring the core power distribution provided that at least once per 31 days of accumulated power operation the incore detector alarms generated by the plant computer are verified to be valid and satisfy the requirements of the core distribution map.
- b. The excore detector monitoring system may be used for monitoring the core power distribution by:
 1. Verifying at least once per 31 days of accumulated power operation that the axial shape index, Y_L , monitoring limit setpoints are maintained within the allowable limits of the Limiting Condition for Operations for Excore LHR Monitoring Figure provided in the COLR, as adjusted by Specification 2.10.4(1).

(5) Maximum Radial Peaking Factor (F_R^T)

F_R^T shall be determined to be within the COLR limit at the following intervals:

- a. After each refueling and prior to operation above 70 percent of rated power.
- b. At least once per 31 EFPDs of accumulated power operation.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 269 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 December 23, 2011, as supplemented by letter dated June 18, 2012 (Agencywide Documents Access and Management System Accession Nos. ML120030225 and ML12171A408, respectively), Omaha Public Power District (OPPD, the licensee) requested changes to the Technical Specifications (TSs) (Appendix A to Renewed Facility Operating License No. DPR-40) for Fort Calhoun Station, Unit No. 1 (FCS).

The amendment would revise the TSs to incorporate a new Radial Peaking Factor definition and to clarify Limiting Condition for Operation (LCO) 2.10.2(6), "Shutdown CEA [Control Element Assembly] Insertion Limit During Power Operation." Specifically, the amendment would remove requirements for, and references to, the "Unrodded Integrated Radial Peaking Factor." The amendment would also add a definition of, and references to, the "Maximum Radial Peaking Factor (F_R^T)." Additional clarifications and editorial changes would be made to TS 2.10, "Reactor Core" and Surveillance Requirement 3.10, "Reactor Core Parameters."

The supplemental letter dated June 18, 2012, 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 April 17, 2012 (77 FR 22816).

2.0 REGULATORY EVALUATION

2.1 System Description (as stated by the licensee)

The monitoring of a nuclear reactor core is performed to guarantee that predictions of core behavior used as an input for the calculated plant response to transient events is bounding of actual core operation. Fuel design limits are protected by ensuring that the starting conditions for the core distribution prior to

the occurrence of a transient are bounded by the assumptions used in the analysis. This monitoring ensures that no fuel damage will occur during anticipated operational occurrences (AOO) and ensures that radiation releases for other postulated design basis accidents will be bounded by the predicted acceptable values.

Older core monitoring methods have used the concept of "tilt" as a way of augmenting measured power distributions to account for a core-wide power shift toward one of the core quadrants. Modern core monitoring methods use full-core models that do not require the concept of tilt to achieve an accurate measurement of the limiting core peaking factors. Full-core models were not previously feasible due to limitations in computer processing power and storage.

The concept of "unrodded" peaking factors is also no longer necessary due to advances in core monitoring technology. Pre-calculated power distributions derived with unrodded models are no longer required to be augmented with additional peaking caused by control rod insertion. Peaking from control rod insertion can now be directly calculated, so the concept of unrodded peaking factors is an anachronism.

More direct comparisons between the radial peaking factor limits that are used for the prediction of departure from nucleate boiling ratio (DNBR) and the actual radial peaking factors measured during core operation can now be made. However, a limitation on azimuthal power tilt is still necessary to alert operators to abnormal core behavior and ensure a thorough investigation into the cause of the phenomenon.

2.2 General Requirements

Section 182a of the Atomic Energy Act requires applicants for nuclear power plant operating licenses to include TS as part of the license. The Commission's regulatory requirements related to the content of TS 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 five specific categories related to station operation: (1) safety limits, limiting safety system settings, and limiting control settings; (2) limiting conditions for operation (LCOs); (3) surveillance requirements; (4) design features; and (5) administrative controls. The regulations in 10 CFR 50.36(c)(2)(ii) state, in part, that

A technical specification limiting condition for operation of a nuclear reactor must be established for each item meeting one or more of the following criteria:

- (B) *Criterion 2.* A process variable, design feature, or operating restriction that is an initial condition of a design basis accident or transient analysis that either assumes the failure of or presents a challenge to the integrity of a fission product barrier.

In a memorandum dated September 18, 1992 (ADAMS Accession No. ML003763736), the Commission approved the NRC staff's proposal in SECY-92-223, "Resolution of Deviations

Identified During the Systematic Evaluation Program," not to apply 10 CFR Part 50, Appendix A, "General Design Criteria for Nuclear Power Plants," to plants with construction permits issued prior to May 21, 1971. FCS was licensed for construction prior to May 21, 1971, and at that time committed to the draft General Design Criteria (GDC). The draft GDC, which are similar to Appendix A, "General Design Criteria for Nuclear Power Plants," in 10 CFR Part 50, are contained in Appendix G, "Response to 70 Criteria," of the FCS Updated Safety Analysis Report (USAR).

The following FCS Design Criteria apply to this license amendment request:

FCS Design Criterion 6 – Reactor Core Design:

The reactor core shall be designed to function throughout its design lifetime without exceeding acceptable fuel damage limits which have been stipulated and justified. The core design together with reliable process and decay heat removal systems, shall provide for this capability under all expected conditions of normal operation with appropriate margins for uncertainties and for transient situations which can be anticipated, including the effects of the loss of power to recirculation pumps, tripping out of a turbine generator set, isolation of the reactor from its primary heat sink, and loss of all off-site power.

3.0 TECHNICAL EVALUATION

3.1 Proposed Changes

The licensee proposed the following changes:

1. TS Table of Contents: Change "Parameter" to "Parameters" in 2.10.2 title.
2. TS Definitions: Delete "Unrodded Integrated Radial Peaking Factor - F_R "
The Unrodded Integrated Radial Peaking Factor is the ratio of the peak pin power to the average pin power in an unrodded core, excluding azimuthal tilt, T_q . The maximum F_R limit is provided in the Core Operating Limits Report."
3. TS Definitions: Add "Maximum Radial Peaking Factor (F_R^T) - The Maximum Radial Peaking Factor is the maximum ratio of the individual fuel pin power to the core average pin power integrated over the total core height, including tilt. The F_R^T limit is provided on the Core Operating Limits Report."
4. TS 2.10.2(5), TS 2.10.2(6), TS 2.10.4(4) and TS 2.10.2(7): Remove apostrophes from "CEA's" and "NTCEA's."
5. TS 2.10.2(6): Replace "inserted to more than 114 inches withdrawn" with "withdrawn less than 114 inches."
6. 2.10.4(2): Revise title to replace "Total Integrated" with "Maximum." Add F_R^T to the title. Revise LCO to read "The value of F_R^T shall be within the limit provided

in the COLR. F_R^T is determined with all full length CEAs at or above the Long Term Steady State Insertion Limit.”

7. 2.10.4(4)(b): Replace “the total integrated radial peaking factor, F_R^T , is within the limit of Specification 2.10.4(2)” with “the maximum radial peaking factor, F_R^T , is within the COLR limit.”

2.10.4(4)(c): Replace “power limits of the F_R^T and the Core Power Limitations Figure provided in the COLR” with “limit provided in the COLR” and delete “for the existing reactor coolant pump combination.”

8. Surveillance Requirement (SR) 3.10(5): Replace “Total Integrated” with “Maximum.” Replace “within the limits of Specification 2.10.4” with “within the COLR limit.” Remove the apostrophe from “EFPD’s.”

The NRC staff concludes that changes 1, 4, and 5 are editorial clarifications in nature and are acceptable. The remainder of this safety evaluation will address changes 2, 3, 6, 7, 8 and 9.

3.2 Background

Unrodded integrated radial peaking factor (F_R) was used to ensure that the assumptions in the analysis for establishing the departure from nucleate boiling (DNB) margin, linear heat generation rate, thermal margin/low pressure, and high pressure trip setpoints remain valid during operation at the various allowable control rod group insertion limits. AREVA NP, the supplier of nuclear fuel for FCS, has upgraded the safety analysis methodology applied to FCS several times in response to plant changes and new technology that has been developed for safety analysis calculations. The current FCS safety analysis methodology uses Maximum Radial Peaking Factor (F_R^T) directly without separating the azimuthal tilt (T_q) from F_R^T . The three factors are related by the following equation:

$$F_R^T = F_R (1+T_q)$$

3.3 NRC Staff Evaluation

By letter dated December 23, 2011, the licensee stated, in part, that “in Cycle 25, OPPD began to use GARDEL core monitoring software.” The incore monitoring system, GARDEL, uses a full core model and is capable of calculating both F_R^T and T_q directly without using F_R . Various models and setpoint calculations use the Core Operating Limits Report (COLR) limit on F_R^T while none require F_R as an input. The measured power distribution is used to verify that the TS limits for Linear Heat Rate (LHR), F_R^T , T_q are not exceeded. Therefore, the licensee requested to delete all references to F_R , unrodded integrated radial peaking factor, and add Maximum Radial Peaking Factor (F_R^T) to the definitions section to reflect that F_R^T is calculated directly.

In addition, the licensee has requested to change all references to “Total Integrated Radial Peaking Factor” to “Maximum Radial Peaking Factor.” By letter dated December 23, 2012, the licensee stated, in part, that:

"Integrated" is a term previously used to provide a distinction between the planar radial peaking factor (F_{xy}) and the "integrated" radial peaking factor used for DNBR calculations. Since F_{xy} is no longer used as a limit due to modern full-core methods, the term "integrated" is no longer relevant. Similarly, it is more accurate to replace the term "total" with "maximum" to denote the maximum value of F_R^T in the core to which the limit is compared.

Proposed changes 6, 7, 8, and 9 replace specific references to a TS limit that references the COLR with a direct reference to the COLR limit. These changes are consistent with NUREG-1432, "Standard Technical Specifications for Combustion Engineering Plants" (STS) and are, therefore, acceptable.

TS LCO 2.10.4(4)(c) is applicable when operating above (greater than) 70% of rated thermal power. TS LCO 2.1.1(1), "Reactor Critical," requires four reactor coolant pumps to be in operation when the reactor is critical with an exception for physics tests provided the power level is less than or equal to 1% of rated power and specific reactor coolant system flow requirements are met. Additionally, the STS for azimuthal power tilt does not include a requirement for reactor coolant pump combinations or for reactor coolant pumps to be in operation. Therefore, the phrase "for the existing reactor coolant pump combination," is unnecessary and it is acceptable to delete it from TS 2.10.4(4)(c).

Operation of the plant in accordance with the proposed TSs does not add new equipment, change any equipment or instrument settings, or alter plant operating practices. Therefore, no new or different accidents from those previously evaluated need be considered.

Based on the above, the NRC staff concludes that these changes are in accordance with the licensee's approved safety analysis methodologies and are consistent with the STS, and, therefore, are acceptable.

3.4 Conclusion

The NRC staff concludes that the requirements for, and references to, the unrodded integrated radial peaking factor in the FCS TSs are unnecessary under the current analytic methodologies, and the removal of these requirements from and references to this term in the TSs is acceptable. The staff also concludes that the addition of Maximum Radial Peaking Factor to the definitions section and changing references from "Total Integrated Radial Peaking Factor" to "Maximum Radial Peaking Factor" throughout the TSs are in accordance with the licensee's safety analysis methodologies and 10 CFR 50.36(c)(2)(ii) and is consistent with the STS and are, therefore, 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 April 17, 2012 (77 FR 22816). 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: A. Proffitt
J. Gall

Date: December 31, 2012

December 31, 2012

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:
INCORPORATION OF NEW RADIAL PEAKING FACTOR DEFINITION AND
CLARIFY LIMITING CONDITIONS FOR OPERATION (LCO) 2.10.2(6)
(TAC NO. ME7796)

Dear Mr. Cortopassi:

The U.S. Nuclear Regulatory Commission (NRC) has issued the enclosed Amendment No. 269 to Renewed Facility Operating License No. DPR-40 for the Fort Calhoun Station, Unit No. 1. The amendment consists of changes to the Technical Specifications (TSs) in response to your application dated December 23, 2011, as supplemented by letter dated June 18, 2012.

The amendment revises the TSs to incorporate a new Radial Peaking Factor definition and to clarify Limiting Condition for Operation 2.10.2(6), "Shutdown CEA [Control Element Assembly] Insertion Limit During Power Operation." Specifically, the amendment removes requirements for, and references to, the "Unrodded Integrated Radial Peaking Factor." The amendment also added a definition of, and references to, the "Maximum Radial Peaking Factor (F_R^T)." Additional clarifications and editorial changes are made to TS 2.10, "Reactor Core" and Surveillance Requirement 3.10, "Reactor Core Parameters."

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/

Lynnea E. Wilkins, Project Manager
Plant Licensing Branch IV
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-285

Enclosures:

1. Amendment No. 269 to DPR-40
2. Safety Evaluation

cc w/encls: Distribution via Listserv

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ADAMS Accession No. ML12333A119

*via memo dated September 21, 2012

OFFICE	NRR/LPL4/PM	NRR/LPL4/LA	NRR/DSS/SNPB/BC	NRR/DSS/STSB/BC	OGC NLO	NRR/LPL4/BC	NRR/LPL4/PM
NAME	LWilkins	JBurkhardt	AMendiola*	RElliott	STurke	MMarkley	LWilkins
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