

September 30, 2015

Mr. Joseph W. Shea
Vice President, Nuclear Licensing
Tennessee Valley Authority
3R-C Lookout Place
1101 Market Street
Chattanooga, TN 37402-2801

SUBJECT: SEQUOYAH NUCLEAR PLANT, UNITS 1 AND 2 – ISSUANCE OF AMENDMENTS FOR THE CONVERSION TO THE IMPROVED TECHNICAL SPECIFICATIONS WITH BEYOND SCOPE ISSUES (TAC NOS. MF3128 AND MF3129)

Dear Mr. Shea:

The U.S. Nuclear Regulatory Commission (NRC, the Commission) has issued the enclosed Amendment No. 334, to Renewed Facility Operating License No. DPR-77, and Amendment No. 327, to Renewed Facility Operating License DPR-79, for the Sequoyah Nuclear Plant (SQN), Units 1 and 2, respectively. The amendments consist of changes to the technical specifications (TS) and the license conditions for SQN. These amendments are in response to your application dated November 22, 2013, as supplemented by letters dated December 16, 2014, June 19, July 24, August 5, and August 31, 2015 (Agencywide Documents and Management System Accession Nos. ML13329A881, ML14350B364, ML15176A678, ML15205A404, ML15218A185 and ML15244A781, respectively).

These amendments convert the current TS (CTS) to the improved TS (ITS) and relocates certain requirements to other licensee-controlled documents. The ITS are based on:

- NUREG-1431, "Standard Technical Specifications - Westinghouse Plants," Revision 4.0;
- "Final Policy Statement on Technical Specification Improvements for Nuclear Power Reactors," dated July 22, 1993 (58 FR 39132); and
- Title 10, *Code of Federal Regulations*, Part 50, Section 36, "Technical specifications."

Technical Specification Task Force changes were also incorporated. The purpose of the conversion is to provide clearer and more readily understandable requirements in the TS for SQN to ensure safe operation. In addition, the amendment includes a number of issues that were considered beyond the scope of NUREG-1431.

Included in the amendments are the following two conditions for the SQN renewed operating license:

- the requirement to relocate certain CTS requirements into licensee-controlled documents during the implementation of the ITS, and
- the schedule for the first performance of new and revised surveillance requirements for the ITS.

These license conditions, which are discussed in the enclosed safety evaluation (SE), are part of the implementation of the ITS and constitute regulatory commitments that the NRC staff is relying upon in approving the amendments.

The ITS will become the governing TS for SQN upon the date of implementation. This means that until the implementation of the ITS is complete, the CTS shall remain in effect. Upon complete implementation of the ITS, please submit a letter stating as such within 14 days of the date of completion.

A copy of the related SE and its Attachments are enclosed. The Notice of Issuance will be included in the Commission's biweekly *Federal Register* notice.

If you have any questions concerning this letter and the SE, contact me at 301-415-8480 or e-mail Andrew.Hon@nrc.gov.

Sincerely,

/RA/

Andrew Hon, Project Manager
Plant Licensing Branch II-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. 50-327 and 50-328

Enclosures:

1. Amendment No. 334 to DPR-77
2. Amendment No. 327 to DPR-79
3. Safety Evaluation and Attachments
4. Tables of Technical Specification Changes:
 - (1) Table A - Administrative Changes
 - (2) Table L - Less Restrictive Changes
 - (3) Table M - More Restrictive Changes
 - (4) Table R - Relocated Specifications and Removed Details
5. Improved Technical Specifications and Removed Details

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These license conditions, which are discussed in the enclosed safety evaluation (SE), are part of the implementation of the ITS and constitute regulatory commitments that the NRC staff is relying upon in approving the amendments.

The ITS will become the governing TS for SQN upon the date of implementation. This means that until the implementation of the ITS is complete, the CTS shall remain in effect. Upon complete implementation of the ITS, please submit a letter stating as such within 14 days of the date of completion.

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If you have any questions concerning this letter and the SE, contact me at 301-415-8480 or e-mail Andrew.Hon@nrc.gov.

Sincerely,

/RA/

Andrew Hon, Project Manager
 Plant Licensing Branch II-2
 Division of Operating Reactor Licensing
 Office of Nuclear Reactor Regulation

Docket Nos. 50-327 and 50-328

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 - (4) Table R - Relocated Specifications and Removed Details
5. Improved Technical Specifications and Removed Details

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**ADAMS Accession Nos.: PKG ML15238B499, Amendment ML15238B460, Safety Evaluations ML15236A351
 Tables A, L, M, & R ML15254A509
 TS Pages Units 1 and 2 ML15258A511 and ML15258A516**

*by email

OFFICE	LPL2-2/PM	LPL2-2/LA	EEEE/BC*	SRXB/BC*	APLA/BC*	ARCB/BC*	ITSB/BC*	OGC NLO	LPL2-2/BC	LPL2-2/PM
NAME	AHon	BClayton	JZimmerman	CJackson	SRosenberg	UShoop	RElliott	BMizuno (subject to edits)	SHelton (w/edits)	AHon
DATE	9/15/15	9/15/15	8/13/2015	9/3/2015	8/13/2015	8/17/2015	8/11/2015	9/24/15	9/29/2015	9/30/15

OFFICIAL RECORD COPY

Letter to Joseph W. Shea from Andrew Hon dated September 30, 2015

SUBJECT: SEQUOYAH NUCLEAR PLANT, UNITS 1 AND 2 – ISSUANCE OF AMENDMENTS FOR THE CONVERSION TO THE IMPROVED TECHNICAL SPECIFICATIONS WITH BEYOND SCOPE ISSUES (TAC NOS. MF3128 AND MF3129)

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TENNESSEE VALLEY AUTHORITY

DOCKET NO. 50-327

SEQUOYAH NUCLEAR PLANT, UNIT 1

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 334
Renewed License No. DPR-77

1. The Nuclear Regulatory Commission (the Commission or NRC) has found that:
 - A. The application for amendment by the Tennessee Valley Authority (the licensee), dated November 22, 2013, as supplemented by letters dated December 16, 2014, June 19, 2015, July 24, 2015, August 5, 2015, and August 31, 2015, 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, as amended, 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.

Enclosure 1

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-77 is hereby amended to read as follows:
 - (2) Technical Specifications
The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 334, are hereby incorporated in this renewed license. The licensee shall operate the facility in accordance with the Technical Specifications.
3. This amendment authorizes the relocation of certain Technical Specification requirements to other licensee-controlled documents. Implementation of this amendment shall include the relocation of these requirements to the other documents, as described in (1) Sections D and E of the NRC staff's Safety Evaluation, and (2) Table R of Relocated Specifications and Removed Details attached to the NRC staff's Safety Evaluation, which is enclosed with this amendment.
4. New license conditions are added to Section C of this license to address performance of new and revised Surveillance Requirements (SRs):
 - (a) For SRs that are new in this amendment, the first performance is due at the end of the first Surveillance interval, which begins on the date of implementation of this amendment.
 - (b) For SRs that existed prior to this amendment whose intervals of performance are being reduced, the first reduced Surveillance interval begins upon completion of the first Surveillance performed after implementation of this amendment.
 - (c) For SRs that existed prior to this amendment whose intervals of performance are being extended, the first extended Surveillance interval begins upon completion of the last Surveillance performed prior to the implementation of this amendment.
 - (d) For SRs that existed prior to this amendment that have modified acceptance criteria, the first performance subject to the modified acceptance criteria is due at the end of the first Surveillance interval that began on the date the Surveillance was last performed prior to the implementation of this amendment.

5. This license amendment is effective as of the date of its issuance, and shall be implemented no later than 180 days from the date of its issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

Shana R. Helton, Chief
Plant Licensing Branch II-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Attachment:
Changes to Renewed Facility
Operating License No. DPR-77
and Technical Specifications

Date of Issuance: September 30, 2015

ATTACHMENT TO LICENSE AMENDMENT NO. 334
RENEWED FACILITY OPERATING LICENSE NO. DPR-77
DOCKET NO. 50-327

Replace the following pages of the Renewed Facility Operating License No. DPR-77 with the attached revised pages. The changed area is identified by a marginal line.

REMOVE

Page 3

Page 14

INSERT

Page 3

Page 14

Page 14a

Replace the following pages of Appendix A, Technical Specifications, with the attached revised pages. The revised pages are identified by amendment number. A marginal line to indicate the area of change is not used since all pages are new.

REMOVE

All pages

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All pages

- (3) Pursuant to the Act and 10 CFR Parts 30, 40 and 70, to receive, possess and use at any time any byproduct, source and special nuclear material as sealed neutron sources for reactor startup, sealed sources for reactor instrumentation and radiation monitoring equipment calibration, and as fission detectors in amounts as required;
- (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 associated with radioactive apparatus or components; and
- (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 the operation of the Sequoyah and Watts Bar Unit 1 Nuclear Plants.

C. This renewed license shall be deemed to contain and is subject to the conditions specified in the Commission's regulations set forth in 10 CFR Chapter I 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:

(1) Maximum Power Level

The Tennessee Valley Authority is authorized to operate the facility at reactor core power levels not in excess of 3455 megawatts thermal.

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 334 are hereby incorporated into this renewed license. The licensee shall operate the facility in accordance with the Technical Specifications.

(3) Initial Test Program

The Tennessee Valley Authority shall conduct the post-fuel-loading initial test program (set forth in Section 14 of Tennessee Valley Authority's Final Safety Analysis Report, as amended), without making any major modifications of this program unless modifications have been identified and have received prior NRC approval. Major modifications are defined as:

- a. Elimination of any test identified in Section 14 of TVA's Final Safety Analysis Report as amended as being essential;
- b. Modification of test objectives, methods, or acceptance criteria for any test identified in Section 14 of TVA's Final Safety Analysis Report as amended as being essential;

1. TVA shall implement those new programs and enhancements to existing programs no later than March 17, 2020.
2. TVA shall complete those designated inspection and testing activities, as noted in Appendix A of the "Safety Evaluation Report Related to the License Renewal of Sequoyah Nuclear Plant, Units 1 and 2," dated January 2015, no later than March 17, 2020, or the end of the last refueling outage prior to the period of extended operation, whichever occurs later.
3. TVA shall notify the NRC in writing within 30 days after having accomplished item (b)1 above and include the status of those activities that have been or remain to be completed in item (b)2 above.

(32) Improved Technical Specifications License Conditions

1. Relocation of Certain Technical Specification Requirements

License Amendment 334 authorizes the relocation of certain Technical Specifications previously included in Appendix A to other licensee-controlled documents. Implementation of this amendment shall include relocation of the requirements to the specified documents, as described in Table R, Relocated Specifications and Removed Detail Changes, attached to the NRC staff's Safety Evaluation, which is enclosed in this amendment.

2. Schedule for New and Revised Surveillance Requirements (SRs)
The schedule for performing SRs that are new or revised in License Amendment 334 shall be as follows:

- (a) For SRs that are new in this amendment, the first performance is due at the end of the first Surveillance interval, which begins on the date of implementation of this amendment.
- (b) For SRs that existed prior to this amendment, whose intervals of performance are being reduced, the first reduced Surveillance interval begins upon completion of the first Surveillance performed after implementation of this amendment.
- (c) For SRs that existed prior to this amendment, whose intervals of performance are being extended, the first extended Surveillance interval begins upon completion of the last Surveillance performed prior to implementation of this amendment.

(d) For SRs that existed prior to this amendment that have modified acceptance criteria, the first performance subject to the modified acceptance criteria is due at the end of the first Surveillance interval that began on the date the Surveillance was last performed prior to the implementation of this amendment.

D. Exemptions from certain requirements of Appendices G and J to 10 CFR Part 50 are described in the Office of Nuclear Reactor Regulation's Safety Evaluation Report, Supplements No. 1. These exemptions are authorized by law and will not endanger life or property or the common defense and security and are otherwise in the public interest. The exemptions are, therefore, hereby granted. The granting of these exemptions are authorized with the issuance of the License for Fuel Loading and Low Power Testing, dated February 29, 1980. The facility will operate, to the extent authorized herein, Act, and the regulations of the Commission.

E. Physical Protection

- (1) 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, is entitled: "Sequoyah Nuclear Plant Security Plan, Training And Qualification Plan, And Safeguards Contingency Plan" submitted by letter dated May 8, 2006.
- (2) The licensee 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 licensee CSP was approved by License Amendment No. 329, as amended by changes approved by License Amendment No. 333.

TENNESSEE VALLEY AUTHORITY

DOCKET NO. 50-328

SEQUOYAH NUCLEAR PLANT, UNIT 2

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 327
Renewed License No. DPR-79

1. The Nuclear Regulatory Commission (the Commission or NRC) has found that:
 - A. The application for amendment by the Tennessee Valley Authority (the licensee), dated November 22, 2013, as supplemented by letters dated December 16, 2014, June 19, 2015, July 24, 2015, August 5, 2015, and August 31, 2015, 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, as amended, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
 - D. The issuance of this license amendment will not be inimical to the common defense and security or to the health and safety of the public;
and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Facility Operating Renewed DPR-79 is hereby amended to read as follows:
 - (2) Technical Specifications
The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 327, are hereby incorporated into the renewed license. The licensee shall operate the facility in accordance with the Technical Specifications.
3. This amendment authorizes the relocation of certain Technical Specification requirements to other licensee-controlled documents. Implementation of this amendment shall include the relocation of these requirements to the other documents, as described in (1) Sections D and E of the NRC staff's Safety Evaluation, and (2) Table R of Relocated Specifications and Removed Details attached to the NRC staff's Safety Evaluation, which is enclosed with this amendment.
4. New license conditions are added to Section C of this license to address performance of new and revised Surveillance Requirements (SRs):
 - (a) For SRs that are new in this amendment, the first performance is due at the end of the first Surveillance interval, which begins on the date of implementation of this amendment.
 - (b) For SRs that existed prior to this amendment whose intervals of performance are being reduced, the first reduced Surveillance interval begins upon completion of the first Surveillance performed after implementation of this amendment.
 - (c) For SRs that existed prior to this amendment whose intervals of performance are being extended, the first extended Surveillance interval begins upon completion of the last Surveillance performed prior to the implementation of this amendment.
 - (d) For SRs that existed prior to this amendment that have modified acceptance criteria, the first performance subject to the modified acceptance criteria is due at the end of the first Surveillance interval that began on the date the Surveillance was last performed prior to the implementation of this amendment.

5. This license amendment is effective as of the date of its issuance, and shall be implemented no later than 180 days from the date of its issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

Shana R. Helton, Chief
Plant Licensing Branch II-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Attachment:
Changes to Renewed Facility
Operating License No. DPR-79
and Technical Specifications

Date of Issuance: September 30, 2015

ATTACHMENT TO LICENSE AMENDMENT NO. 327
RENEWED FACILITY OPERATING LICENSE NO. DPR-79
DOCKET NO. 50-328

Replace the following pages of the Renewed Facility Operating License No. DPR-79 with the attached revised pages. The changed area is identified by a marginal line.

REMOVE

Page 3

Page 13

INSERT

Page 3

Page 13

Page 13a

Replace the following pages of Appendix A, Technical Specifications, with the attached revised pages. The revised pages are identified by amendment number. A marginal line to indicate the area of change is not used since all pages are new.

REMOVE

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- (3) Pursuant to the Act and 10 CFR Parts 30, 40, and 70, to receive, possess, and use at any time any byproduct, source and special nuclear material as sealed neutron sources for reactor startup, sealed sources for reactor instrumentation and radiation monitoring equipment calibration, and as fission detectors in amounts as required;
 - (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 associated with radioactive apparatus or components; and
 - (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 the operation of the Sequoyah and Watts Bar Unit 1 Nuclear Plants.
- C. This renewed license shall be deemed to contain and is subject to the conditions specified in the Commission's regulations set forth in 10 CFR Chapter I 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:
- (1) Maximum Power Level

The Tennessee Valley Authority is authorized to operate the facility at reactor core power levels not in excess of 3455 megawatts thermal.
 - (2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 327 are hereby incorporated into the renewed license. The licensee shall operate the facility in accordance with the Technical Specifications.
 - (3) Initial Test Program

The Tennessee Valley Authority shall conduct the post-fuel-loading initial test program (set forth in Section 14 of Tennessee Valley Authority's Final Safety Analysis Report, as amended), without making any major modifications of this program unless modifications have been identified and have received prior NRC approval. Major modifications are defined as:

 - a. Elimination of any test identified in Section 14 of TVA's Final Safety Analysis Report as amended as being essential;
 - b. Modification of test objectives, methods or acceptance criteria for any test identified in Section 14 of TVA's Final Safety Analysis Report as amended as being essential;

- (c) The first performance of the periodic measurement of CRE pressure, Specification 6.17.d, shall be within 18 months, plus the 138 days allowed by SR 4.0.2, as measured from May 30, 2007, the date of the most recent successful pressure measurement test, or within 138 days if not performed previously.

(24) License Renewal License Conditions

- (a) The information in the Updated Final Safety Analysis Report (UFSAR) supplement, submitted pursuant to 10 CFR 54.21(d), is henceforth part of the UFSAR which will be updated in accordance with 10 CFR 50.71(e). As such, the licensee may make changes to the programs and activities described in the UFSAR supplement, without prior Commission approval, provided the licensee evaluates such changes pursuant to the criteria set forth in 10 CFR 50.59 and otherwise complies with the requirements in that section.
- (b) The licensee's UFSAR supplement submitted pursuant to 10 CFR 54.21(d), as revised during the license renewal application review process, and as revised in accordance with license condition 2.C.(24)(a), describes certain programs to be implemented and activities to be completed prior to the period of extended operation.
 - 1. TVA shall implement those new programs and enhancements to existing programs no later than March 15, 2021.
 - 2. TVA shall complete those designated inspection and testing activities, as noted in Appendix A of the "Safety Evaluation Report Related to the License Renewal of Sequoyah Nuclear Plant, Units 1 and 2," dated January 2015, no later than March 15, 2021, or the end of the last refueling outage prior to the period of extended operation, whichever occurs later.
 - 3. TVA shall notify the NRC in writing within 30 days after having accomplished item (b)1 above and include the status of those activities that have been or remain to be completed in item (b)2 above.

(25) Improved Technical Specifications License Conditions

1. Relocation of Certain Technical Specification Requirements

License Amendment 327 authorizes the relocation of certain Technical Specifications previously included in Appendix A to other licensee-controlled documents. Implementation of this amendment shall include

relocation of the requirements to the specified documents, as described in Table R, Relocated Specifications and Removed Detail Changes, attached to the NRC staff's Safety Evaluation, which is enclosed in this amendment.

2. Schedule for New and Revised Surveillance Requirements (SRs)

The schedule for performing SRs that are new or revised in License Amendment 327 shall be as follows:

- (a) For SRs that are new in this amendment, the first performance is due at the end of the first Surveillance interval, which begins on the date of implementation of this amendment.
- (b) For SRs that existed prior to this amendment, whose intervals of performance are being reduced, the first reduced Surveillance interval begins upon completion of the first Surveillance performed after implementation of this amendment.
- (c) For SRs that existed prior to this amendment, whose intervals of performance are being extended, the first extended Surveillance interval begins upon completion of the last Surveillance performed prior to implementation of this amendment.
- (d) For SRs that existed prior to this amendment that have modified acceptance criteria, the first performance subject to the modified acceptance criteria is due at the end of the first Surveillance interval that began on the date the Surveillance was last performed prior to the implementation of this amendment.