August 28, 2000

Mr. J. A. Scalice
Chief Nuclear Officer and
Executive Vice President
Tennessee Valley Authority
6A Lookout Place
1101 Market Street
Chattanooga, TN 37402-2801

SUBJECT: SEQUOYAH NUCLEAR PLANT, UNITS 1 AND 2 - ISSUANCE OF AMENDMENTS REGARDING CORE ALTERATION REQUIREMENTS (TAC NOS. MA9341 AND MA9342)

Dear Mr. Scalice:

The Commission has issued the enclosed Amendment No. 260 to Facility Operating License No. DPR-77 and Amendment No. 251 to Facility Operating License No. DPR-79 for the Sequoyah Nuclear Plant, Units 1 and 2, respectively. These amendments are in response to your license amendment application dated June 22, 2000.

These amendments revise the Technical Specifications (TS) to remove the applicability of core alteration requirements from those TS that are designed to mitigate the consequences of a fuel handling accident. The applicable TS bases are also revised.

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

Sincerely,

/RA/

Ronald W. Hernan, Senior Project Manager, Section 2
Project Directorate II
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket Nos. 50-327 and 50-328

Enclosures: 1. Amendment No. 260 to License No. DPR-77
2. Amendment No. 251 to License No. DPR-79
3. Safety Evaluation

cc w/enclosures: See next page

Mr. J. A. Scalice
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Enclosures: 1. Amendment No. 260 to DPR-77
2. Amendment No. 251 to DRP-79
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cc w/enclosures: See next page

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Accession Number ML003745655

* No substantive change to SE

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Date	7/5/00	7/5 /00	7/26/00	8/21/00	8/24/00

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TENNESSEE VALLEY AUTHORITY

DOCKET NO. 50-327

SEQUOYAH NUCLEAR PLANT, UNIT 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 260
License No. DPR-77

1. The Nuclear Regulatory Commission (the Commission) has found that:

   A. The application for amendment by Tennessee Valley Authority (the licensee) dated June 22, 2000, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;

   B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;

   C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;

   D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and

   E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment and paragraph 2.C.(2) of 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. 260, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of its date of issuance and shall be implemented within 45 days from the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

Richard P. Correia, Chief, Section 2
Project Directorate II
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical Specifications

Date of Issuance: August 28, 2000

ATTACHMENT TO LICENSE AMENDMENT NO. 260

FACILITY OPERATING LICENSE NO. DPR-77

DOCKET NO. 50-327

Replace the following pages of the Appendix A Technical Specifications with the attached pages. The revised pages are identified by amendment number and contain marginal lines indicating the areas of change.

REMOVE	INSERT
3/4 7-17	3/4 7-17
3/4 9-4	3/4 9-4
3/4 9-9	3/4 9-9
3/4 9-10	3/4 9-10
B 3/4 9-1	B 3/4 9-1

3/4.7.7 CONTROL ROOM EMERGENCY VENTILATION SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.7 Two independent control room emergency ventilation systems (CREVS) shall be OPERABLE.

APPLICABILITY: ALL MODES and during movement of irradiated fuel assemblies

ACTION:

MODES 1, 2, 3 and 4

a. With one CREVS inoperable, restore the inoperable system to OPERABLE status within 7 days or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

b. With both CREVS inoperable due to actions taken as a result of a tornado warning, restore at least one train to operable status within 8 hours or be in a least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

c. With both CREVS inoperable for other than Action b., be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

MODES 5, 6, and during movement of irradiated fuel assemblies

a. With one CREVS inoperable, restore the inoperable system to OPERABLE status within 7 days or initiate and maintain operation of the operable CREVS in the recirculation mode
or
suspend movement of irradiated fuel assemblies.

b. With both CREVS inoperable, suspend all operations involving movement of irradiated fuel assemblies.

c. The provisions of Specification 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.7.7 Each CREVS shall be demonstrated OPERABLE:

a. At least once per 12 hours by verifying that the control room air temperature is less than or equal to 104° F.

b. At least once per 31 days on a STAGGERED TEST BASIS by initiating, from the control room, flow through the HEPA filters and charcoal adsorbers and verifying that the system operates for at least 15 minutes.

c. At least once per 18 months or (1) after any structural maintenance on the HEPA filter or charcoal adsorber housings, or (2) following painting, fire or chemical release in any ventilation zone communicating with the system by:

REFUELING OPERATIONS

3/4.9.4 CONTAINMENT BUILDING PENETRATIONS

LIMITING CONDITION FOR OPERATION

3.9.4 The containment building penetrations shall be in the following status:

a. The equipment door closed and held in place by a minimum of four bolts,

b. A minimum of one door in each airlock is closed, or both doors of both containment personnel airlocks may be open if:

1. One personnel airlock door in each airlock is capable of closure, and

2. One train of the Auxiliary Building Gas Treatment System is OPERABLE in accordance with Technical Specification 3.9.12, and

c. Each penetration* providing direct access from the containment atmosphere to the outside atmosphere shall be either:

1. Closed by an isolation valve, blind flange, manual valve, or equivalent, or

2. Be capable of being closed by an OPERABLE automatic Containment Ventilation isolation valve.

APPLICABILITY: During movement of irradiated fuel within the containment.

ACTION:

With the requirements of the above specification not satisfied, immediately suspend all operations involving movement of irradiated fuel in the containment building. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.9.4 Each of the above required containment building penetrations shall be determined to be either in its required condition or capable of being closed by an OPERABLE automatic Containment Ventilation isolation valve once per 7 days during movement of irradiated fuel in the containment building by:

a. Verifying the penetrations are in their required condition, or

b. Testing the Containment Ventilation isolation valves per the applicable portions of Specification 4.6.3.2.

. . . . .

* Penetration flow path(s) providing direct access from the containment atmosphere that transverse and terminate in the Auxiliary Building Secondary Containment Enclosure may be unisolated under administrative controls.

3/4.9.9 CONTAINMENT VENTILATION ISOLATION SYSTEM

LIMITING CONDITION FOR OPERATION

3.9.9 The Containment Ventilation isolation system shall be OPERABLE.

APPLICABILITY: During movement of irradiated fuel within the containment.

ACTION:

With the Containment Ventilation isolation system inoperable, close each of the Ventilation penetrations providing direct access from the containment atmosphere to the outside atmosphere. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.9.9 The Containment Ventilation isolation system shall be demonstrated OPERABLE within 100 hours prior to the start of and at least once per 7 days during movement of irradiated fuel within containment by verifying that Containment Ventilation isolation occurs on manual initiation and on a high radiation test signal from each of the containment radiation monitoring instrumentation channels.

3/4.9.10 WATER LEVEL - REACTOR VESSEL

LIMITING CONDITIONS FOR OPERATIONS

3.9.10 At least 23 feet of water shall be maintained over the top of the reactor pressure vessel flange.

APPLICABILITY:

During movement of irradiated fuel assemblies within containment.

ACTION:

With the requirements of the above specification not satisfied, immediately suspend operations involving movement of irradiated fuel assemblies within containment.

SURVEILLANCE REQUIREMENTS

4.9.10 The water level shall be determined to be at least its minimum required depth within 2 hours prior to the start of and at least once per 24 hours thereafter during movement of irradiated fuel assemblies within containment.

3/4.9.1 BORON CONCENTRATION

The limitations on reactivity conditions during REFUELING ensure that: 1) the reactor will remain subcritical during CORE ALTERATIONS, and 2) a uniform boron concentration is maintained for reactivity control in the water volume having direct access to the reactor vessel. Maintaining the listed valves in the closed position precludes an uncontrolled boron dilution accident by closing the flow paths for possible sources of unborated water. These limitations are consistent with the initial conditions assumed for the boron dilution incident in the accident analyses.

3/4.9.2 INSTRUMENTATION

The OPERABILITY of the source range neutron flux monitors ensures that redundant monitoring capability is available to detect changes in the reactivity condition of the core.

3/4.9.3 DECAY TIME

The minimum requirement for reactor subcriticality prior to movement of irradiated fuel assemblies in the reactor pressure vessel ensures that sufficient time has elapsed to allow the radioactive decay of the short lived fission products. This decay time is consistent with the assumptions used in the accident analyses.

3/4.9.4 CONTAINMENT BUILDING PENETRATIONS

The requirements on containment building penetration closure and OPERABILITY ensure that a release of radioactive material within containment will be restricted from leakage to the environment. The OPERABILITY and closure restrictions are sufficient to restrict radioactive material release from a fuel element rupture based upon the lack of containment pressurization potential while in the REFUELING MODE. Containment penetrations that provide direct access from containment atmosphere to outside atmosphere must be isolated on at least one side. Isolation may be achieved by an OPERABLE automatic isolation valve, or by a manual isolation valve, blind flange, or equivalent. Equivalent isolation methods must be approved and may include use of a material that can provide a temporary, atmospheric pressure, ventilation barrier for containment penetrations during fuel movements. Both sets of the containment personnel airlock doors may be open during movement of irradiated fuel in containment provided one train of Auxiliary Building Gas Treatment System (ABGTS) is available for manual operation. The basis of this is that SQN is analyzed for a fuel handling accident (FHA) in either the containment or the auxiliary building; however, a manual ABGTS start may be necessary for a containment FHA. The requirement for an airlock door to be capable of closure is provided to allow for long-term recovery from a FHA in containment.

The LCO is modified by a footnote allowing penetration flow paths with direct access from the containment atmosphere to the Auxiliary Building Secondary Containment Enclosure (ABSCE) to be unisolated under administrative controls. These flow paths must be within the ABSCE structure or in qualified piping that constitutes the ABSCE boundary and either terminate or have an isolation device within the ABSCE. Administrative controls ensure that 1) appropriate personnel are aware of the open status of the penetration flow path during movement of irradiated fuel assemblies within containment, 2) specified individuals are designated and readily available to isolate the flow path in the event of an FHA, and 3) one train of the ABGTS is OPERABLE in accordance with Technical Specification 3.9.12. As discussed above for the containment airlock doors, the basis for this allowance is the SQN analysis for an FHA in containment or the auxiliary building and the potential need for a manual start of the ABGTS for an FHA in containment. This allowance is not applicable to the containment ventilation isolation flow paths because of the potential motive force associated with the containment purge system that could result in additional releases of radioactivity. Additionally, this allowance is not applicable to those flow paths that terminate or are routed outside the ABSCE in piping that does not meet the requirements for an ABSCE boundary.

TENNESSEE VALLEY AUTHORITY

DOCKET NO. 50-328

SEQUOYAH NUCLEAR PLANT, UNIT 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 251
License No. DPR-79

1. The Nuclear Regulatory Commission (the Commission) has found that:

   A. The application for amendment by Tennessee Valley Authority (the licensee) dated June 22, 2000, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;

   B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;

   C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;

   D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and

   E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment and paragraph 2.C.(2) of Facility Operating License No. 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. 251, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of its date of issuance and shall be implemented within 45 days from the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

Richard P. Correia, Chief, Section 2
Project Directorate II
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical Specifications

Date of Issuance: August 28, 2000

ATTACHMENT TO LICENSE AMENDMENT NO. 251

FACILITY OPERATING LICENSE NO. DPR-79

DOCKET NO. 50-328

Replace the following pages of the Appendix A Technical Specifications with the attached pages. The revised pages are identified by amendment number and contain marginal lines indicating the areas of change.

REMOVE	INSERT
3/4 7-17	3/4 7-17
3/4 9-5	3/4 9-5
3/4 9-11	3/4 9-11
3/4 9-12	3/4 9-12
B 3/4 9-1	B 3/4 9-1

3/4.7.7 CONTROL ROOM EMERGENCY VENTILATION SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.7 Two independent control room emergency ventilation systems (CREVS) shall be OPERABLE.

APPLICABILITY: ALL MODES and during movement of irradiated fuel assemblies

ACTION:

MODES 1, 2, 3 and 4

a. With one CREVS inoperable, restore the inoperable system to OPERABLE status within 7 days or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

b. With both CREVS system inoperable due to actions taken as a result of a tornado warning, restore at least one train to operable status within 8 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

c. With both CREVS inoperable for other than Action b., be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

MODES 5, 6, and during movement of irradiated fuel assemblies

a. With one CREVS inoperable, restore the inoperable system to OPERABLE status within 7 days or initiate and maintain operation of the operable CREVS in the recirculation mode
or
suspend movement of irradiated fuel assemblies.

b. With both CREVS inoperable, suspend all operations involving movement of irradiated fuel assemblies.

c. The provisions of Specification 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.7.7 Each CREVS shall be demonstrated OPERABLE:

a. At least once per 12 hours by verifying that the control room air temperature is less than or equal to 104° F.

b. At least once per 31 days on a STAGGERED TEST BASIS by initiating, from the control room, flow through the HEPA filters and charcoal adsorbers and verifying that the system operates for at least 15 minutes.

c. At least once per 18 months or (1) after any structural maintenance on the HEPA filter or charcoal adsorber housings, or (2) following painting, fire or chemical release in any ventilation zone communicating with the system by:

3/4.9.4 CONTAINMENT BUILDING PENETRATIONS

LIMITING CONDITION FOR OPERATION

3.9.4 The containment building penetrations shall be in the following status:

a. The equipment door closed and held in place by a minimum of four bolts,

b. A minimum of one door in each airlock is closed, or both doors of both containment personnel airlocks may be open if:

1. One personnel airlock door in each airlock is capable of closure, and

2. One train of the Auxiliary Building Gas Treatment System is OPERABLE in accordance with Technical Specification 3.9.12, and

c. Each penetration* providing direct access from the containment atmosphere to the outside atmosphere shall be either:

1. Closed by an isolation valve, blind flange, manual valve, or equivalent, or

2. Be capable of being closed by an OPERABLE automatic Containment Ventilation isolation valve.

APPLICABILITY: During movement of irradiated fuel within the containment.

ACTION:

With the requirements of the above specification not satisfied, immediately suspend all operations involving movement of irradiated fuel in the containment building. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.9.4 Each of the above required containment building penetrations shall be determined to be either in its required condition or capable of being closed by an OPERABLE automatic Containment Ventilation isolation valve once per 7 days during movement of irradiated fuel in the containment building by:

a. Verifying the penetrations are in their required condition, or

b. Testing the Containment Ventilation isolation valves per the applicable portions of Specification 4.6.3.2.

. . . . .

* Penetration flow path(s) providing direct access from the containment atmosphere that transverse and terminate in the Auxiliary Building Secondary Containment Enclosure may be unisolated under administrative controls.

3/4.9.9 CONTAINMENT VENTILATION ISOLATION SYSTEM

LIMITING CONDITION FOR OPERATION

3.9.9 The Containment Ventilation Isolation System shall be OPERABLE.

APPLICABILITY: During movement of irradiated fuel within the containment.

ACTION:

With the Containment Ventilation Isolation System inoperable, close each of the Ventilation penetrations providing direct access from the containment atmosphere to the outside atmosphere. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.9.9 The Containment Ventilation Isolation System shall be demonstrated OPERABLE within 100 hours prior to the start of and at least once per 7 days during movement of irradiated fuel within containment by verifying that Containment Ventilation isolation occurs on manual initiation and on a high radiation test signal from each of the containment radiation monitoring instrumentation channels.

3/4.9.10 WATER LEVEL - REACTOR VESSEL

LIMITING CONDITION FOR OPERATION

3.9.10 At least 23 feet of water shall be maintained over the top of the reactor pressure vessel flange.

APPLICABILITY: During movement of irradiated fuel assemblies within containment.

ACTION:

With the requirements of the above specification not satisfied, immediately suspend operations involving movement of irradiated fuel assemblies within containment.

SURVEILLANCE REQUIREMENTS

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3/4.9.l BORON CONCENTRATION

The limitations on reactivity conditions during REFUELING ensure that: 1) the reactor will remain subcritical during CORE ALTERATIONS, and 2) a uniform boron concentration is maintained for reactivity control in the water volume having direct access to the reactor vessel. Maintaining the listed valves in the closed position precludes an uncontrolled boron dilution accident by closing the flow paths for possible sources of unborated water. These limitations are consistent with the initial conditions assumed for the boron dilution incident in the accident analyses.

3/4.9.2 INSTRUMENTATION

The OPERABILITY of the source range neutron flux monitors ensures that redundant monitoring capability is available to detect changes in the reactivity condition of the core.

3/4.9.3 DECAY TIME

The minimum requirement for reactor subcriticality prior to movement of irradiated fuel assemblies in the reactor pressure vessel ensures that sufficient time has elapsed to allow the radioactive decay of the short lived fission products. This decay time is consistent with the assumptions used in the accident analyses.

3/4.9.4 CONTAINMENT BUILDING PENETRATIONS

The requirements on containment building penetration closure and OPERABILITY ensure that a release of radioactive material within containment will be restricted from leakage to the environment. The OPERABILITY and closure restrictions are sufficient to restrict radioactive material release from a fuel element rupture based upon the lack of containment pressurization potential while in the REFUELING MODE. Containment penetrations that provide direct access from containment atmosphere to outside atmosphere must be isolated on at least one side. Isolation may be achieved by an OPERABLE automatic isolation valve, or by a manual isolation valve, blind flange, or equivalent. Equivalent isolation methods must be approved and may include use of a material that can provide a temporary, atmospheric pressure, ventilation barrier for containment penetrations during fuel movements. Both sets of the containment personnel airlock doors may be open during movement of irradiated fuel in containment provided one train of Auxiliary Building Gas Treatment System (ABGTS) is available for manual operation. The basis of this is that SQN is analyzed for a fuel handling accident (FHA) in either the containment or the auxiliary building; however, a manual ABGTS start may be necessary for a containment FHA. The requirement for an airlock door to be capable of closure is provided to allow for long-term recovery from a FHA in containment.

The LCO is modified by a footnote allowing penetration flow paths with direct access from the containment atmosphere to the Auxiliary Building Secondary Containment Enclosure (ABSCE) to be unisolated under administrative controls. These flow paths must be within the ABSCE structure or in qualified piping that constitutes the ABSCE boundary and either terminate or have an isolation device within the ABSCE. Administrative controls ensure that 1) appropriate personnel are aware of the open status of the penetration flow path during movement of irradiated fuel assemblies within containment, 2) specified individuals are designated and readily available to isolate the flow path in the event of an FHA, and 3) one train of the ABGTS is OPERABLE in accordance with Technical Specification 3.9.12. As discussed above for the containment airlock doors, the basis for this allowance is the SQN analysis for an FHA in containment or the auxiliary building and the potential need for a manual start of the ABGTS for an FHA in containment. This allowance is not applicable to the containment ventilation isolation flow paths because of the potential motive force associated with the containment purge system that could result in additional releases of radioactivity. Additionally, this allowance is not applicable to those flow paths that terminate or are routed outside the ABSCE in piping that does not meet the requirements for an ABSCE boundary.

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 260 TO FACILITY OPERATING LICENSE NO. DPR-77

AND AMENDMENT NO. 251 TO FACILITY OPERATING LICENSE NO. DPR-79

TENNESSEE VALLEY AUTHORITY

SEQUOYAH NUCLEAR PLANT, UNITS 1 AND 2

DOCKET NOS. 50-327 AND 50-328

1.0 INTRODUCTION

The Tennessee Valley Authority (TVA) submitted a request to the U.S. Nuclear Regulatory Commission (NRC) in an application dated June 22, 2000, to amend the Technical Specifications (TS) for the Sequoyah Nuclear Plant, Units 1 and 2. These amendments would revise the TS to remove the operability requirements during core alterations for certain engineered safety features (ESFs) and reactor vessel water level indications, and to provide for equivalent containment isolation methods during irradiated fuel movement activities.

2.0 BACKGROUND

The NRC issued 38 changes to the Westinghouse Standard TS (NUREG-1431) in a letter to the Nuclear Energy Institute (NEI) dated July 6, 2000. Included in the letter was TS Traveler Form (TSTF) No. 51, Revision 2. TSTF-51 is to be incorporated in Revision 2 to NUREG-1431. TSTF-51 revised containment requirements during handling of irradiated fuel and core alterations. The changes allowed commercial nuclear power plants the flexibility to move personnel and equipment and perform work which would affect containment operability during the handling of irradiated fuel. Specifically, TSTF-51 approved removal of the words “CORE ALTERATIONS” from a number of TS. The accidents postulated to occur during core alterations are the inadvertent criticality due to either control rod removal error or continuous rod withdrawal error during refueling and the inadvertent loading of and subsequent operation with a fuel assembly in an improper location. These events are not postulated to result in fuel cladding integrity damage. Since the only accident postulated to occur during core alterations that results in a significant release of radioactivity, and thus the need for containment integrity, is the Fuel Handling Accident (FHA). The proposed requirements omitting core alterations do not affect mitigation of an FHA because the movement of irradiated fuel provisions are maintained in TS.

The Sequoyah TS definition of “core alterations” is “the movement of any fuel, sources, reactivity control components (e.g., control rod drive mechanisms), or other components affecting reactivity within the reactor vessel with the head removed and fuel in the vessel.” Application of this term to activities that would not be expected to result in release of airborne or waterborne radioactivity if performed improperly has been determined by the NRC staff, as

discussed above, to be overly restrictive to nuclear power plant operation with no net safety benefit. Therefore, on the basis of TSTF-51, Revision 2, TVA proposed revisions to the TS requirements during core alteration to improve the performance of outage activities. Without the restrictions in the current TS that apply during "core alterations," several outage tasks could be continued to enhance the performance of outage activities with no change in reactor safety. The most significant of these is the ability to keep containment penetrations open during the period of time that the definition of core alterations technically applies but no irradiated fuel handling activities are in progress. With the current TS requirements, several outage tasks must be interrupted as a result of equipment hatch closure until the completion of core alterations and fuel handling activities. The proposed revision will allow a portion of the required time for hatch closure to be reduced during the core alteration portion of the outage. Hatch closure will continue to be required during fuel movement.

The clarification to use equivalent methods for the isolation of containment penetrations is proposed to clearly delineate the acceptability of this allowance. A Bases addition for Limiting Condition for Operation (LCO) 3.9.4 has been added to describe the appropriate use of this provision and is consistent with NUREG-1431.

3.0 PROPOSED CHANGES

The changes listed below were proposed by TVA to incorporate the allowances approved by the NRC staff in its July 6, 2000 letter to NEI. Underlined text indicates an addition and strikeout text indicates a deletion.

3.1 LCO 3.7.7, Plant Systems - Control Room Emergency Ventilation System (CREVS)

TVA proposed to change the action statement for Modes 5, 6 and during the movement of irradiated fuel assemblies to state:

a. With one CREVS inoperable, restore the inoperable system to OPERABLE status within 7 days or initiate and maintain operation of the operable CREVS in the recirculation mode,
or
suspend ~~CORE ALTERATIONS and suspend~~ movement of irradiated fuel assemblies.

b. With both CREVS inoperable, suspend all operations involving ~~CORE ALTERATIONS and suspend~~ movement of irradiated fuel assemblies.

3.2 TS 3/4.9.4, Refueling Operations - Containment Building Penetrations

TVA proposed to change LCO 3.9.4.c to read:

c. Each penetration* providing direct access from the containment atmosphere to the outside atmosphere shall be either:

1. Closed by an isolation valve, blind flange, ~~or~~ manual valve, or equivalent, or

TVA proposed to change the applicability statement to read:

> APPLICABILITY: During ~~CORE ALTERATIONS or~~ movement of irradiated fuel within the containment.

TVA proposed the following change to the action statement:

> With the requirements of the above specification not satisfied, immediately suspend all operations involving ~~CORE ALTERATIONS or~~ movement of irradiated fuel in the containment building. The provisions of Specification 3.0.3 are not applicable.

TVA proposed to change the associated surveillance requirements as follows:

> 4.9.4 Each of the above required containment building penetrations shall be determined to be either in its required condition or capable of being closed by an OPERABLE automatic Containment Ventilation isolation valve once per 7 days during ~~CORE ALTERATIONS or~~ movement of irradiated fuel in the containment building by: ....

3.3 TS 3/4.9.9, Refueling Operations - Containment Ventilation Isolation System

TVA proposed to change the applicability statement to read:

> APPLICABILITY: During ~~CORE ALTERATIONS OR~~ movement of irradiated fuel within the containment.

TVA also proposed to change the surveillance requirements as follows:

> 4.9.9 The Containment Ventilation isolation system shall be demonstrated OPERABLE within 100 hours prior to the start of and at least once per 7 days during ~~CORE ALTERATIONS~~ movement of irradiated fuel within containment by verifying that Containment Ventilation isolation occurs on manual initiation and on a high radiation test signal from each of the containment radiation monitoring instrumentation channels.

3.4 TS 3/4.9.10, Refueling Operations - Water Level - Reactor Vessel

TVA proposed to change the applicability statement to read:

> APPLICABILITY:
>
> ~~a. During CORE ALTERATIONS, except during latching and unlatching of control rod drive shafts or,~~
>
> ~~b.~~ During movement of irradiated fuel assemblies within containment.

TVA proposed the following change to the action statement:

> With the requirements of the above specification not satisfied, immediately suspend ~~all CORE ALTERATIONS and~~ operations involving movement of irradiated fuel assemblies within containment.

TVA proposed to change the surveillance requirements as follows:

> 4.9.10 The water level shall be determined to be at least its minimum required depth within 2 hours prior to the start of and at least once per 24 hours thereafter during ~~CORE ALTERATIONS and~~ movement of irradiated fuel assemblies within containment.

4.0 EVALUATION

The NRC evaluated the proposed changes on a generic basis prior to approving TSTF-51, Revision 2, as indicated in its July 6, 2000, letter to NEI. The staff evaluation for the TSTF included the following justification:

> To support this change in requirements during the handling of irradiated fuel, the OPERABILITY requirements during CORE ALTERATIONS for ESF mitigation features are deleted. The accidents postulated to occur during core alterations, in addition to fuel handling accidents, are: inadvertent criticality (due to a control rod removal error or continuous control rod withdrawal error during refueling or boron dilution) and the inadvertent loading of, and subsequent operation with, a fuel assembly in an improper location. These events are not postulated to result in fuel cladding integrity damage. Since the only accident postulated to occur during CORE ALTERATIONS that results in a significant radioactive release is the fuel handling accident, the proposed Technical Specification requirements omitting CORE ALTERATIONS is justified.
>
> Also, the Technical Specifications only allow the handling of irradiated fuel in the reactor vessel when the water level in the reactor cavity is at the high water level. Therefore, the proposed changes only affect containment requirements during periods of relatively low shutdown risk during refueling outages. Therefore, the proposed changes do not significantly increase the shutdown risk.

The NRC staff has determined that the deletion of the core alterations term as proposed by TVA for Sequoyah is acceptable for the reasons discussed above, namely that an FHA is the only event during core alterations that is postulated to result in fuel damage and radiological release, and the action statements would still address the movement of irradiated fuel assemblies.

The deletion of the phrase "except during latching and unlatching of control rod drive shafts" in the applicability statement for TS 3/4 9.10 has no effect on the TS because this phrase stated an exception which is no longer necessary due to the deletion of TS 3.9.10.a in its entirety. Thus, this is an administrative change only and is acceptable.

5.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Tennessee State official was notified of the proposed issuance of the amendments. The State official had no comments.

6.0 ENVIRONMENTAL CONSIDERATION

The amendments change a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 and changes surveillance requirements. The NRC staff has determined that the amendments involve 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 (65 FR 46017). 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.

7.0 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) 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.

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