Tennessee Valley Authority, Post Office Box 2000, Soddy-Daisy, Tennessee 37379

June 22, 2000

TVA-SQN-TS-00-08 10 CFR 50.90

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D. C. 20555

Gentlemen:

In the Matter of	)	Docket Nos. 50-327
Tennessee Valley Authority	)	50-328

SEQUOYAH NUCLEAR PLANT (SQN) - UNITS 1 AND 2 - TECHNICAL SPECIFICATION (TS) CHANGE NO. 00-08, "REVISION OF CORE ALTERATION REQUIREMENTS FOR SPECIFICATIONS ASSOCIATED WITH FUEL HANDLING ACCIDENT MITIGATION AND PENETRATIONS DURING REFUELING OPERATIONS"

In accordance with the provisions of 10 CFR 50.4 and 50.90, TVA is submitting a request for an amendment to SQN's Licenses DPR-77 and 79 to change the TSs for Units 1 and 2. The proposed revision removes the applicability of core alteration requirements for those specifications that are designed to mitigate the consequences of a fuel handling accident. This revision is consistent with NRC approved Technical Specification Task Force Item 51, Revision 2. The proposed revision also includes a clarification supporting the closure of containment penetrations by equivalent methods. The proposed revision incorporates the Bases discussions from standard TSs (NUREG-1431) associated with equivalent containment building penetration closure during fuel movement.

TVA has determined that there are no significant hazards considerations associated with the proposed change and that

D030

the change is exempt from environmental review pursuant to the provisions of 10 CFR 51.22(c)(9). The SQN Plant Operations Review Committee and the SQN Nuclear Safety Review Board have reviewed this proposed change and determined that operation of SQN Units 1 and 2, in accordance with the proposed change, will not endanger the health and safety of the public. Additionally, in accordance with 10 CFR 50.91(b)(1), TVA is sending a copy of this letter to the Tennessee State Department of Public Health.

Enclosure 1 to this letter provides the description and evaluation of the proposed change. This includes TVA's determination that the proposed change does not involve a significant hazards consideration, and is exempt from environmental review. Enclosure 2 contains copies of the appropriate TS pages from Units 1 and 2 marked up to show the proposed change.

The implementation of the proposed revision will allow better utilization of resources during refueling outages and help in reducing outage duration. The next outage in which this provision could be utilized is the Unit 2 refueling outage that is currently scheduled for late October 2000. Therefore, TVA requests expedited review and approval in hopes of supporting the October 2000 outage activities and that the revised TSs be made effective within 45 days of NRC approval. If you have any questions about this change, please telephone me at (423)-843-7170 or J. D. Smith at (423) 843-6672.

Sincerely,

Pedro Salas
Licensing and Industry Affairs Manager

Subscribed and sworn to before me
on this 22nd day of June

Peggy M. Billingsley
Notary Public

My Commission Expires October 9, 2002

Enclosures
cc: See page 3

cc (Enclosures):

Mr. R. W. Hernan, Project Manager
Nuclear Regulatory Commission
One White Flint, North
11555 Rockville Pike
Rockville, Maryland 20852-2739

Mr. Michael H. Mobley, Director (w/o Enclosures)
Division of Radiological Health
Third Floor
L&C Annex
401 Church Street
Nashville, Tennessee 37243-1532

NRC Resident
Sequoyah Nuclear Plant
2600 Igou Ferry Road
Soddy-Daisy, Tennessee 37384-2000

Regional Administrator
U.S. Nuclear Regulatory Commission
Region II
Atlanta Federal Center
61 Forsyth St., SW, Suite 23T85
Atlanta, Georgia 30303-3415

ENCLOSURE 1

TENNESSEE VALLEY AUTHORITY
SEQUOYAH NUCLEAR PLANT (SQN)
UNITS 1 AND 2
DOCKET NOS. 327 AND 328

PROPOSED TECHNICAL SPECIFICATION (TS) CHANGE 00-08
DESCRIPTION AND EVALUATION OF THE PROPOSED CHANGE

I. DESCRIPTION OF THE PROPOSED CHANGE

TVA proposes a revision that will eliminate the requirements associated with core alterations from those limiting condition of operations (LCOs) that provide safety functions to mitigate the consequences of a fuel handling accident (FHA). The affected specifications are LCOs 3.7.7, 3.9.4, 3.9.9, and 3.9.10. The proposed revision involves the deletion of applicability, action, and surveillance requirements (SRs) that involve or impact core alteration conditions by these LCOs. The core alteration requirement is simply deleted for each occurrence with one exception in SR 4.9.9 that requires the addition of a requirement for the movement of irradiated fuel.

In addition, Specification 3.9.4, "Containment Building Penetrations," will be revised to provide a clarification to Item c that supports the use of equivalent methods for the isolation of penetrations. This change adds the words "or equivalent" to the list of isolation methods included in Item c.1 of LCO 3.9.4. Appropriate Bases revisions for LCO 3.9.4 have been included to address the proposed revision.

II. REASON FOR THE PROPOSED CHANGE

TVA proposes the revision of requirements for functions during core alteration to improve the performance of outage activities. Without these restrictions during core alterations, several outage tasks can be continued to enhance performance of outage activities. The most significant of these is the ability to keep containment penetrations open during this period of time. 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 LCO 3.9.4 has been added, consistent with Standard TSs (NUREG-1431), to describe the appropriate use of this provision.

III. SAFETY ANALYSIS

The specifications affected by the proposed revision are intended to protect against the consequences of an FHA while in Mode 6 or no Mode. Specification 3.7.7, for Control Room Emergency Ventilation, provides functions to maintain an acceptable environment in the control room to shutdown the units and maintain the plant in a shutdown condition during recovery from an FHA. Containment Building Penetrations, in Specification 3.9.4, ensures that radioactive material does not escape to the environment in excess of the 10 CFR 100 limits during an FHA as does the Containment Ventilation Isolation requirements in Specification 3.9.9. The Reactor Vessel Water Level requirements in Specification 3.9.10 provides sufficient water depth to remove significant portions of iodine resulting from an FHA to support acceptable limits in accordance with 10 CFR 100.

The elimination of the core alteration requirements is proposed consistent with the recent NRC approved revision to NUREG-1431 by Technical Specification Task Force TSTF-51, Revision 2. TSTF-51 provides allowances to revise the requirements for engineered safety features after a sufficient decay of the core has been achieved. TVA is not pursuing the use of this provision of the TSTF-51 allowances at this time, but the additional provision to eliminate the need to restrict these features during core alterations, other than fuel movement, can be utilized. This additional provision allows the removal of core alteration requirements from those LCOs that provide mitigation functions for an FHA. These functions will continue to be required during the movement of irradiated fuel. 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 is the FHA, the proposed requirements omitting core alterations is acceptable because the movement of irradiated fuel provisions are maintained.

The core alteration provisions contained in LCOs that provide for the inadvertent boron dilution event, inadvertent criticality event, or loss of core cooling capability have not been affected by the proposed revision and continue to apply to core alteration activities. This maintains those functions necessary to ensure that these events, that could occur during core alteration activities or could be intensified by the continuation of core alterations, are properly protected against. The elimination of the core alteration provision from the proposed LCOs will not adversely impact nuclear safety.

The clarification for the use of equivalent methods to isolate containment penetration flow paths is consistent with plant practices and is proposed to clearly indicate the acceptability of isolation methods that are not specifically listed. These methods provide an acceptable level of isolation during the conditions associated with fuel movement or the FHA event. The necessary isolation functions are maintained by this clarification and no impact to plant safety will result from the proposed revision. This revision is also consistent with the provisions in NUREG-1431. The Bases discussions provided in conjunction with this clarification was taken from NUREG-1431.

IV. NO SIGNIFICANT HAZARDS CONSIDERATION DETERMINATION

TVA has concluded that operation of SQN Units 1 and 2, in accordance with the proposed change to the technical specifications, does not involve a significant hazards consideration. TVA's conclusion is based on its evaluation, in accordance with 10 CFR 50.91(a)(1), of the three standards set forth in 10 CFR 50.92(c).

A. <u>The proposed amendment does not involve a significant increase in the probability or consequences of an accident previously evaluated.</u>

The proposed revision eliminates requirements associated with core alterations for specifications that are intended to mitigate the consequences of a fuel handling accident (FHA). These functions will not impact accident generation because their function is to support mitigation of accidents and they are not

considered to be the source of a postulated accident. The removal of these actions and surveillance requirements affects functions that are not necessary during core alterations because postulated events during these activities do not have the potential to result in major fuel cladding damage like that assumed for an FHA. Therefore, there is no adverse impact to nuclear safety by eliminating core alteration requirements for specifications that provide for the mitigation of an FHA.

The proposed revision also clarifies the use of equivalent methods for isolation of containment penetrations. Equivalent isolation methods will maintain acceptable isolation capability for postulated conditions that could occur during the movement of irradiated fuel. This change does not alter the current intent or expectations for containment closure requirements during the movement of irradiated fuel and only serves to delineate other methods that provide an acceptable level of isolation. The status of penetration isolation methods during fuel movement does not impact the generation of an accident. This is based on these functions only providing a radiation barrier in the event of an FHA and not as a potential initiator for postulated accidents.

Based on the previous discussions, the proposed revision does not alter any plant equipment or operating practices; therefore, the probability of an accident is not significantly increased. In addition, the consequences of an accident is not significantly increased by eliminating core alteration requirements for specifications that only support the mitigation of FHAs or by using equivalent isolation methods for containment penetrations. This is based on sufficient safety function capabilities being available for the mitigation of an FHA or other potential events that could occur during core alteration activities.

B. <u>The proposed amendment does not create the possibility of a new or different kind of accident from any accident previously evaluated.</u>

The proposed allowance to eliminate core alteration requirements for FHA related specifications and utilize equivalent isolation methods for containment penetrations will not alter plant functions or equipment operating practices. The proposed elimination of core alteration requirements will not

impact accident generation because these functions provide for FHA mitigation and are not postulated to be an initiator of postulated accidents. Containment penetration isolation methods are not considered to be the source of a postulated accident. Therefore, since plant functions and equipment are not altered and the availability of FHA mitigation functions and isolation of containment penetrations do not contribute to the initiation of postulated accidents, the proposed revision will not create a new or different kind of accident.

C. **The proposed amendment does not involve a significant reduction in a margin of safety.**

The elimination of core alteration requirements for specifications that provide mitigation functions for FHAs will not affect the ability of these functions to perform as necessary. This is based on postulated events during core alteration not having the potential to result in fuel cladding damage that is assumed for the FHA and therefore, not requiring functions necessary to mitigate the FHA event. The proposed revision will continue to provide acceptable provisions for activities that could result in an FHA or events postulated during core alterations to maintain the necessary margin of safety.

The equivalent methods for containment penetration isolation provide the same level of isolation for conditions that may occur during fuel movement. Therefore, the equivalent isolation methods provide an acceptable barrier to the release of radiation as do the other listed methods and maintains the required margin of safety.

Therefore, the margin of safety provided by the containment building penetration requirements and other specifications for the mitigation of FHAs is not significantly reduced by the proposed allowance to eliminate affected core alteration requirements or to use equivalent methods for containment penetration isolation.

V. ENVIRONMENTAL IMPACT CONSIDERATION

The proposed change does not involve a significant hazards consideration, a significant change in the types of or significant increase in the amounts of any effluents that may be released offsite, or a significant increase in individual or cumulative occupational radiation exposure. Therefore, the proposed change meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Therefore, pursuant to 10 CFR 51.22(b), an environmental assessment of the proposed change is not required.

ENCLOSURE 2

TENNESSEE VALLEY AUTHORITY
SEQUOYAH PLANT (SQN)
UNITS 1 AND 2

PROPOSED TECHNICAL SPECIFICATION (TS) CHANGE 00-08
MARKED PAGES

I. AFFECTED PAGE LIST

Unit 1

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

Unit 2

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

II. MARKED PAGES

See attached.

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 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 ~~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.

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, and 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~~, or~~ manual valve, or equivalent, or

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

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

ACTION:

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.

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 ~~CORE ALTERATIONS or~~ 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 ~~CORE ALTERATIONS or~~ 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 ~~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.

REFUELING OPERATIONS

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:

~~a. During CORE ALTERATIONS, except during latching and unlatching of control rod drive shafts or,~~

~~b.~~ During movement of irradiated fuel assemblies within containment.

ACTION:

With the requirements of the above specification not satisfied, immediately suspend ~~all CORE ALTERATIONS and~~ 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 ~~CORE ALTERATIONS and~~ 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.

Insert

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. Both sets of the containment personnel airlock doors may be open during movement of irradiated fuel in containment ~~and during core alterations~~ 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 ~~CORE ALTERATIONS or~~ 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.

Insert

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.

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 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 ~~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.

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~~, or~~ manual valve, or equivalent, or

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

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

ACTION:

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.

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 ~~CORE ALTERATIONS or~~ 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 ~~CORE ALTERATIONS or~~ 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 ~~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.

3/4.9.10 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:

~~a. During CORE ALTERATIONS, except during latching and unlatching of control rod drive shafts or,~~

~~b.~~ During movement of irradiated fuel assemblies within containment.

ACTION:

With the requirements of the above specification not satisfied, immediately suspend ~~all CORE ALTERATIONS and~~ 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 ~~CORE ALTERATIONS and~~ operations involving 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

Insert

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. Both sets of the containment personnel airlock doors may be open during movement of irradiated fuel in containment ~~and during core alterations~~ 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 ~~CORE ALTERATIONS or~~ 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.

Insert

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.