ATTACHMENT 1

TECHNICAL SPECIFICATION CHANGES

(MARKED-UP)

TSI 43

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, and~~ → INSERT 1

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

2) Be capable of being closed by an OPERABLE automatic containment purge 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.

SURVEILLANCE REQUIREMENTS

4.9.4.1 Each of the above required containment building penetrations shall be determined to be either in its ~~closed/isolated~~ required condition or capable of being closed by an OPERABLE automatic containment purge isolation valve within 100 hours prior to the start of and at least once per 7 days during CORE ALTERATIONS or movement of irradiated fuel in the containment building by:

a. Verifying the penetrations are in their ~~closed/isolated~~ required condition, or

b. Testing the containment purge isolation valves per the applicable portions of Specification 4.6.3.2.

4.9.4.2 Verify the trip setpoint concentration value for Containment Purge Monitors (GT-RE-22, GT-RE-33) is set at less than or equal to 5E-3 µCi/cc during CORE ALTERATIONS or movement of irradiated fuel within the containment.

3/4.9 REFUELING OPERATIONS

BASES

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. The limitation on K_{eff} of no greater than 0.95 is sufficient to prevent reactor criticality during refueling operations. The locking closed of the required valves during refueling operations precludes the possibility of uncontrolled boron dilution of the filled portions of the Reactor Coolant System via the CVCS blending tee. This action prevents flow to the RCS of unborated water by closing all automatic flow paths from sources of unborated water. Administrative controls will limit the volume of unborated water which can be added to the refueling pool for decontamination activities in order to prevent diluting the refueling pool below the limits specified in the LCO. These limitations are consistent with the initial conditions assumed for the boron dilution incident in the safety 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 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 fuel handling accident radiological consequence and spent fuel pool thermal-hydraulic 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~~ from containment will be ~~restricted from leakage to the environment~~ minimized. 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.

INSERT 2 →

The OPERABILITY of this system ensures the containment purge penetrations will be automatically isolated upon detection of high radiation levels within containment. The OPERABILITY of this system is required to restrict the release of radioactive materials from the containment atmosphere to the environment.

The restriction on the setpoint for GT-RE-22 and GT-RE-33 is based on a fuel handling accident inside the Containment Building with resulting damage to one fuel rod and subsequent release of 0.1% of the noble gas gap activity, except for 0.3% of the Kr-85 gap activity. The setpoint concentration of 5E-3 μCi/cc is equivalent to approximately 150 mR/hr submersion dose rate.

INSERT 1 (3/4.9.4.b)

A minimum of one door in the emergency airlock is closed and one door in the personnel airlock is capable of being closed, and

INSERT 2 (B3/4.9.4)

Both containment personnel airlock doors may be open during movement of irradiated fuel or during CORE ALTERATIONS provided one airlock door is capable of being closed.

ATTACHMENT 2

TECHNICAL SPECIFICATION CHANGES

(RE-TYPED)

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 the emergency airlock is closed and one door in the personnel airlock is capable ofbeing closed, 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

2) Be capable of being closed by an OPERABLE automatic containment purge 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.

SURVEILLANCE REQUIREMENTS

4.9.4.1 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 purge isolation valve within 100 hours prior to the start of and at least 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 purge isolation valves per the applicable portions of Specification 4.6.3.2.

4.9.4.2 Verify the trip setpoint concentration value for Containment Purge Monitors (GT-RE-22, GT-RE-33) is set at less than or equal to 5E-3 µCi/cc during CORE ALTERATIONS or movement of irradiated fuel within the 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. The limitation on K_{eff} of no greater than 0.95 is sufficient to prevent reactor criticality during refueling operations. The locking closed of the required valves during refueling operations precludes the possibility of uncontrolled boron dilution of the filled portions of the Reactor Coolant System via the CVCS blending tee. This action prevents flow to the RCS of unborated water by closing all automatic flow paths from sources of unborated water. Administrative controls will limit the volume of unborated water which can be added to the refueling pool for decontamination activities in order to prevent diluting the refueling pool below the limits specified in the LCO. These limitations are consistent with the initial conditions assumed for the boron dilution incident in the safety analyses.

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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.

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The minimum requirement for reactor subcriticality prior to movement of irradiated fuel assemblies in the reactor 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 fuel handling accident radiological consequence and spent fuel pool thermal-hydraulic analyses.

3/4.9.4 CONTAINMENT BUILDING PENETRATIONS

The requirements on containment building penetration closure and OPERABILITY ensure that a release of radioactive material from containment will be minimized. 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 containment personnel airlock doors may be open during movement of irradiated fuel or during CORE ALTERATIONS provided one airlock door is capable of being closed.

The OPERABILITY of this system ensures the containment purge penetrations will be automatically isolated upon detection of high radiation levels within containment. The OPERABILITY of this system is required to restrict the release of radioactive materials from the containment atmosphere to the environment.

The restriction on the setpoint for GT-RE-22 and GT-RE-33 is based on a fuel handling accident inside the Containment Building with resulting damage to one fuel rod and subsequent release of 0.1% of the noble gas gap activity, except for 0.3% of the Kr-85 gap activity. The setpoint concentration of 5E-3 µCi/cc is equivalent to approximately 150 mR/hr submersion dose rate.

ATTACHMENT 3

SAFETY EVALUATION

SAFETY EVALUATION

This application requests a revision to the Callaway Plant Technical Specifications (TS) 3.9.4 "Containment Building Penetrations" and its associated Bases, to allow the containment personnel airlock doors to be open during core alterations and movement of irradiated fuel in the containment. In Surveillance Requirement 4.9.4, the description of the penetration status is changed from a "closed/isolated condition" to a "required condition" to allow for the revised requirement for the personnel airlock.

Background

The containment personnel airlock is a welded steel assembly consisting of two doors with double gaskets in series. The containment personnel airlock doors are electrically and mechanically interlocked so that one door cannot be opened unless the second door is sealed. A pressure-equalizing valve at each door is provided to equalize pressure across the doors when personnel are entering or leaving the containment. The valves are interlocked so that both cannot be opened at the same time and each valve can be opened only when the opposite door is closed and locked. Provisions are made to bypass the interlock to permit both doors to be opened, when safe to do so.

During a refueling outage, other work inside containment continues during fuel movement and core alterations. This requires that personnel operate the containment personnel airlock doors frequently to enter and exit containment. Such heavy use of the containment personnel airlock was not anticipated during its design. As a result of this heavy use, failures of the door hinge pin, door seals, three-way equalizing valves and other components have occurred throughout the industry. Potential failures of this type could raise the concern that the containment personnel airlock may not seal in the event of an accident.

Proposed Change

Technical Specification 3.9.4 requires that a minimum of one containment personnel airlock door, as well as other containment penetrations, be closed during core alterations and movement of irradiated fuel assemblies within containment. This requirement ensures that offsite radiation exposures are maintained well within the guideline values of 10 CFR 100 by limiting the fission product radioactivity that may be released from containment following a fuel handling accident.

During core alterations or movement of irradiated fuel within containment, the most severe radiological consequences result from a fuel handling accident. The fuel handling accident is a postulated event that involves damage to irradiated fuel from the dropping of a single irradiated fuel assembly and handling tool or a heavy object onto other irradiated fuel assemblies.

The fuel handling accident is evaluated in Callaway FSAR Chapter 15. This analysis assumes that the radioactive material from the damaged fuel assemblie(s) is released to the environment via the containment shutdown purge line, since the containment shutdown purge subsystem is normally operating during refueling operations. It is also assumed that isolation of the containment purge line does not occur until 25 seconds after the event. After the containment is isolated, no additional offsite release would occur, so the major portion of the activity release would be confined to containment.

The fuel handling analysis also accounts for the requirements of the minimum decay time of 100 hours prior to core alterations and the minimum refueling pool water level of 23 feet over the top of the reactor vessel flange as specified in TS 3.9.3 and 3.9.10.1, respectively. These requirements ensure that the release of fission product radioactivity, subsequent to a fuel handling accident, results in doses that are well within the guideline values specified in 10 CFR 100.

From a practical standpoint, TS 3.9.4 will not prevent all radioactive releases from the containment following a postulated fuel handling accident. There are a large number of people in containment during a refueling outage, even during fuel movement and core alterations. Should a fuel handling accident occur, it would take a number of cycles of the containment personnel airlock to evacuate personnel from within containment. With each cycle of the personnel airlock doors, more containment air would be released. While waiting for their turn to exit, the workers would be exposed to the released activity. Alternatively, the Shift Supervisor could invoke 10 CFR 50.54(x), order both doors of the containment personnel airlock opened while the personnel in the containment are evacuated, and then close the doors. In either case, there would be a release of activity out of the containment. Under the proposed change, the containment could be evacuated without invoking 10 CFR 50.54(x) and then sealed. This would reduce the dose to workers in the event of an accident while maintaining acceptable doses to the public.

A dose calculation was performed to assess the potential radiological consequences resulting from the occurrence of a postulated fuel handling accident when the personnel airlock

doors are left open during core alterations or fuel movement. The total-body dose due to the immersion from direct radiation and the thyroid dose due to inhalation was calculated for the 0-2 hour time period at the exclusion area boundary and at the low-population zone outer boundary. The potential radiological consequences are higher than that of the current licensing basis analysis. However, the potential doses are still within the guideline values of the Standard Review Plan, Section 15.7.4, i.e., 6 rem and 75 rem respectively, for the whole-body and thyroid doses. The potential radiation dose to control room personnel for the postulated fuel handling accident were also calculated. The resultant thyroid dose to control room personnel was calculated to be 8.33 rem which is within the exposure guidelines of General Design Criterion 19. The potential radiological consequenses resulting from a postulated fuel handling accident with both personnel airlock doors open are listed in Table 1.

TABLE 1 - DOSE CONSEQUENCES (Rem)

	Current FSAR Dose	Revised Dose	Standard Review Plan Guidelines
Site Boundary (0-2 hr)			
Thyroid	32.2	73.1	75
Whole Body	0.147	0.334	6
Low-Population Zone (Duration)			
Thyroid	3.22	7.31	75
Whole Body	0.0147	0.0334	6

The assumptions used in the analyses of the radiological consequences of a fuel handling accident inside containment coincident with the personnel doors being open are consistent with the assumptions of Regulatory Guide 1.25, "Assumptions used for Evaluating the Potential Radiological Consequences of a Fuel Handling Accident in the Fuel Handling and Storage Facility for Boiling and Pressurized Water Reactors".

The effluent escaping from the refueling pool in containment releases directly to the environment through the open personnel airlock and the adjacent auxiliary building without mixing in the surrounding atmosphere. No credit is taken for the atmosphere filtration system provided in the auxiliary building to reduce

the amount of radioactive material available for release to the environment. All the activity is released from containment over a 2 hour time period.

The proposed change represents the potential for increased offsite doses because the containment personnel airlock doors are assumed to be open at the time of the accident. However, the results of the reanalysis indicate that the potential dose consequences would remain below the acceptable regulatory limits. The increase in doses would be offset by the decreased potential radiation dose to workers in the event of a fuel handling accident, and the increased reliability of the containment personnel airlock door in the event of an accident.

Precedents

Similar license amendments have been approved or have been submitted and are awaiting approval. In particular, Baltimore Gas and Electric had a similar change approved for Calvert Cliffs Nuclear Power Plant. The significant differences between Calvert Cliffs change and the change proposed herein is that the Calvert Cliffs Technical Specifications require that: 1) an individual be designated to close the operable airlock door in the event of a fuel handling accident, 2) the plant be in Mode 6, and 3) there is 23 feet of water above the fuel.

The requirement to have an individual designated to close the personnel airlock is not included in this proposed change. The reason for the difference is that the stationing of an individual to close the airlock door at Calvert Cliffs was considered a conservative measure to deal with the plant specific design feature that the airlock does not open into an area whose exhaust is filtered. At Callaway Plant, the airlock opens into an area of the auxiliary building which is exhausted through filters in the ventilation system.

The requirement to have the plant in Mode 6 is not included in this proposed change. The requirement is redundant since Technical Specification 3.9.4 is applicable only during core alterations and movement of irradiated fuel. As a result, the plant by definition must be in Mode 6.

The requirement to maintain 23 feet of water above the fuel is not included in this proposed change. The requirement would be redundant since Technical Specification 3.9.10.1 places restrictions on the required minimum refueling pool water level during movement of irradiated fuel within containment. Also, Technical Specification 3.9.10.2, which is being relocated to Chapter 16 of the FSAR in accordance with Amendment No. 103,

places restrictions on the required minimum refueling pool water level during movement of control rods within the reactor pressure vessel.

Evaluation

This license amendment request proposes revising TS 3.9.4, "Containment Building Penetrations" and its associated Bases, to allow the containment personnel airlock doors to be open during core alterations and movement of irradiated fuel in containment provided that one containment personnel airlock door is capable of being closed. In Surveillance Requirement 4.9.4, the description of the penetration status is changed from a "closed/isolated condition" to a "required condition" to allow for the revised requirement for the personnel airlock.

The proposed changes to the Callaway TS which govern the containment airlocks, penetrations and associated Bases do not involve an unreviewed safety question because operation of Callaway Plant with this change would not:

1. Increase the probability of occurrence or the consequences of an accident or malfunction of equipment important to safety previously evaluated in the Safety Analysis Report.

The proposed change to TS 3.9.4 would allow the containment personnel airlock to be open during fuel movement and core alterations. The containment personnel airlock is currently closed during fuel movement and core alterations to prevent the escape of radioactive material in the event of a fuel handling accident.

The containment airlocks are passive components integral to the containment structure and are not evaluated to be accident initiators; therefore, the proposed amendment does not involve an increase in the probability of an accident previously evaluated.

The proposed change alters assumptions previously made in evaluating the radiological consequences of the fuel handling accident inside the containment building because the containment personnel airlock is assumed to be open. The radiological consequences described in this change are bounded by the Loss of Coolant Accident and General Design Criteria 19. All doses for the proposed change are less than the acceptance criteria, therefore, there is no increase in the consequences of any accident previously analyzed.

In evaluating the consequences of this accident, NRC states in Section 15.4.6 of the Callaway Plant Safety Evaluation Report (NUREG-0830) that: "The potential doses for the fuel handling accident are well within the guideline values given in 10 CFR Part 100." Section II.1 of the Standard Review Plan defines "well within" to be 25% or less of the 10 CFR Part 100 exposure guideline values. NSAC 125, Guidelines for 10 CFR 50.59 Safety Evaluations, Section 3.6, states: "If in licensing the plant the NRC explicitly found that the plant's response to a particular event was acceptable because the dose was less than the SRP guidelines (without further qualification), then the NRC implicitly accepted the SRP guideline as the licensing basis for the plant and the particular event, and the licensee may make changes that increase the consequences for the particular event, up to this value without prior NRC approval." Therefore, in the case of the fuel handling accident, NRC has implicitly accepted 25% of the 10 CFR Part 100 exposure guidelines as the acceptance limit.

Since the probability of a fuel handling accident is unaffected by the airlock door positions, and the increased doses do not exceed acceptance limits, operation of the facility in accordance with the proposed amendment would not affect the probability or consequence of an accident previously analyzed. Therefore, these changes do not involve an increase in the probability or consequences of any accident previously evaluated.

2. Create the possibility for an accident or malfunction of equipment of a different type than any previously evaluated in the Safety Analysis Report.

The proposed change to allow the containment personnel airlock to be open during core alteration and movement of irradiated fuel affects a previously evaluated accident, (e.g., a fuel handling accident inside containment). The existing accident analysis has been modified to account for the containment personnel airlock doors being opened at the time of the accident. It does not represent a significant change in the configuration or operation of the plant. Therefore, operation of the facility in accordance with the proposed amendment would not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. Reduce the margin of safety as defined in the basis for any technical specification.

The margin of safety is reduced when the offsite and control room doses exceed the acceptance criteria in General Design

Criteria 19 and the Standard Review Plan. As previously discussed in the response to Item 1, the offsite and control room doses are below the acceptance criteria. Therefore, operation of the facility in accordance with the proposed amendment would not involve a reduction in the margin of safety.

Conclusion

Based on the above discussions it has been determined that the requested technical specification revision does not involve a increase in the probability or consequences of an accident or other adverse condition over previous evaluations; or create the possibility of a new or different kind of accident or condition over previous evaluations; or involve a reduction in a margin of safety. The requested license amendment does not adversely affect or endanger the health or safety of the general public or involve an unreviewed safety question.

ATTACHMENT 4

SIGNIFICANT HAZARDS EVALUATION

SIGNIFICANT HAZARDS EVALUATION

This application requests a revision to the Callaway Plant Technical Specifications (TS) 3.9.4 "Containment Building Penetrations" and its associated Bases, to allow the containment personnel airlock doors to be open during core alterations and movement of irradiated fuel in the containment. In Surveillances Requirement 4.9.4, the description of the penetration status is changed from a "closed/isolated condition" to a "required condition" to allow for the revised requirement for the personnel airlock.

Background

Technical Specification 3.9.4 requires that a minimum of one containment personnel airlock door, as well as other containment penetrations, be closed during core alterations and movement of irradiated fuel assemblies within containment. This requirement ensures that offsite radiation exposures are maintained well within the guideline values of 10 CFR 100 by limiting the fission product radioactivity that may be released from containment following a fuel handling accident.

During core alterations or movement of irradiated fuel within containment, the most severe radiological consequences result from a fuel handling accident. The fuel handling accident is a postulated event that involves damage to irradiated fuel from the dropping of a single irradiated fuel assembly and handling tool or a heavy object onto other irradiated fuel assemblies.

The fuel handling accident is evaluated in Callaway FSAR Chapter 15. This analysis assumes that the radioactive material from the damaged fuel assemblie(s) is released to the environment via the containment shutdown purge line, since the containment shutdown purge subsystem is normally operating during refueling operations. It is also assumed that isolation of the containment purge line does not occur until 25 seconds after the event. After the containment is isolated, no additional offsite release would occur, so the major portion of the activity release would be confined to containment.

The fuel handling analysis also accounts for the requirements of the minimum decay time of 100 hours prior to core alterations and the minimum refueling pool water level of 23 feet over the top of the reactor vessel flange as

specified in TS 3.9.3 and 3.9.10.1, respectively. These requirements ensure that the release of fission product radioactivity, subsequent to a fuel handling accident, results in doses that are well within the guideline values specified in 10 CFR 100.

From a practical standpoint, TS 3.9.4 will not prevent all radioactive releases from the containment following a postulated fuel handling accident. There are a large number of people in containment during a refueling outage, even during fuel movement and core alterations. Should a fuel handling accident occur, it would take a number of cycles of the containment personnel airlock to evacuate personnel from within containment. With each cycle of the personnel airlock doors, more containment air would be released. While waiting for their turn to exit, the workers would be exposed to the released activity. Alternatively, the Shift Supervisor could invoke 10 CFR 50.54(x), order both doors of the containment personnel airlock opened while the personnel in the containment are evacuated, and then close the doors. In either case, there would be a release of activity out of the containment. Under the proposed change, the containment could be evacuated without invoking 10 CFR 50.54(x) and then sealed. This would reduce the dose to workers in the event of an accident while maintaining acceptable doses to the public.

A dose calculation was performed to assess the potential radiological consequences resulting from the occurrence of a postulated fuel handling accident when the personnel airlock doors are left open during core alterations or fuel movement. The total-body dose due to the immersion from direct radiation and the thyroid dose due to inhalation was calculated for the 0-2 hour time period at the exclusion area boundary and at the low-population zone outer boundary. The potential radiological consequences are higher than that of the current licensing basis analysis. However, the potential doses are still within the guideline values of the Standard Review Plan, Section 15.7.4, i.e., 6 rem and 75 rem respectively, for the whole-body and thyroid doses. The potential radiation dose to control room personnel for the postulated fuel handling accident were also calculated. The resultant thyroid dose to control room personnel was calculated to be 8.33 rem which is within the exposure guidelines of General Design Criterion 19. The potential radiological consequenses resulting from a postulated fuel handling accident with both personnel airlock doors open are listed in Table 1.

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The assumptions used in the analyses of the radiological consequences of a fuel handling accident inside containment coincident with the personnel doors being open are consistent with the assumptions of Regulatory Guide 1.25, "Assumptions used for Evaluating the Potential Radiological Consequences of a Fuel Handling Accident in the Fuel Handling and Storage Facility for Boiling and Pressurized Water Reactors".

The effluent escaping from the refueling pool in containment releases directly to the environment through the open personnel airlock and the adjacent auxiliary building without mixing in the surrounding atmosphere. No credit is taken for the atmosphere filtration system provided in the auxiliary building to reduce the amount of radioactive material available for release to the environment. All the activity is released from containment over a 2 hour time period.

The proposed change represents the potential for increased offsite doses because the containment personnel airlock doors are assumed to be open at the time of the accident. However, the results of the reanalysis indicate that the potential dose consequences would remain below the acceptable regulatory limits. The increase in doses would be offset by the decreased potential radiation dose to workers in the event of a fuel handling accident, and the increased reliability of the containment personnel airlock door in the event of an accident.

Evaluation

This license amendment request proposes revising TS 3.9.4, "Containment Building Penetrations" and its associated Bases, to allow the containment personnel airlock doors to be open during core alterations and movement of irradiated fuel in containment provided that one containment personnel airlock door is capable of being closed. In Surveillance Requirement 4.9.4, the description of the penetration status is changed from a "closed/isolated condition" to a "required condition" to allow for the revised requirement for the personnel airlock.

The proposed changes to the Callaway TS which govern the containment airlocks, penetrations and associated Bases do not involve a significant hazards consideration because operation of Callaway Plant with this change would not:

1. Involve a significant increase in the probability of occurrence or the consequences of an accident or malfunction of equipment important to safety previously evaluated in the Safety Analysis Report.

The proposed change to TS 3.9.4 would allow the containment personnel airlock to be open during fuel movement and core alterations. The containment personnel airlock is currently closed during fuel movement and core alterations to prevent the escape of radioactive material in the event of a fuel handling accident.

The containment airlocks are passive components integral to the containment structure and are not evaluated to be accident initiators; therefore, the proposed amendment does not involve an increase in the probability of an accident previously evaluated.

The proposed change alters assumptions previously made in evaluating the radiological consequences of the fuel handling accident inside the containment building because the containment personnel airlock is assumed to be open. The radiological consequences described in this change are bounded by the Loss of Coolant Accident and General Design Criteria 19. All doses for the proposed change are less than the acceptance criteria, therefore, there is no significant increase in the consequences of an accident previously analyzed.

In evaluating the consequences of this accident, NRC states in Section 15.4.6 of the Callaway Plant Safety Evaluation

Report (NUREG-0830) that: "The potential doses for the fuel handling accident are well within the guideline values given in 10 CFR Part 100." Section II.1 of the Standard Review Plan defines "well within" to be 25% or less of the 10 CFR Part 100 exposure guideline values. NSAC 125, Guidelines for 10 CFR 50.59 Safety Evaluations, Section 3.6, states: "If in licensing the plant the NRC explicitly found that the plant's response to a particular event was acceptable because the dose was less than the SRP guidelines (without further qualification), then the NRC implicitly accepted the SRP guideline as the licensing basis for the plant and the particular event, and the licensee may make changes that increase the consequences for the particular event, up to this value without prior NRC approval." Therefore, in the case of the fuel handling accident, NRC has implicitly accepted 25% of the 10 CFR Part 100 exposure guidelines as the acceptance limit.

Since the probability of a fuel handling accident is unaffected by the airlock door positions, and the increased doses do not exceed acceptance limits, operation of the facility in accordance with the proposed amendment would not involve a significant increase in the probability or consequences of any accident previously evaluated.

Therefore, these changes do not

2. Create the possibility of a new or different kind of accident from any previously evaluated in the Safety Analysis Report.

The proposed change to allow the containment personnel airlock to be open during core alteration and movement of irradiated fuel affects a previously evaluated accident, (e.g., a fuel handling accident inside containment). The existing accident analysis has been modified to account for the containment personnel airlock doors being opened at the time of the accident. It does not represent a significant change in the configuration or operation of the plant. Therefore, operation of the facility in accordance with the proposed amendment would not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. Involve a significant reduction in a margin of safety.

The margin of safety is reduced when the offsite and control room doses exceed the acceptance criteria in General Design Criteria 19 and the Standard Review Plan. As previously

discussed in the response to Item 1, the offsite and control room doses are below the acceptance criteria. Therefore, operation of the facility in accordance with the proposed amendment would not involve a significant reduction in the margin of safety.

Conclusion

Given the above discussions as well as those presented in the Safety Evaluation , the proposed change does not adversely affect or endanger the health or safety of the general public or involve a significant hazards consideration.

ATTACHMENT 5

ENVIRONMENTAL CONSIDERATION

ENVIRONMENTAL CONSIDERATION

This application requests a revision to the Callaway Plant Technical Specifications (TS) 3.9.4 "Containment Building Penetrations" and its associated Bases, to allow the containment personnel airlock doors to be open during core alterations and movement of irradiated fuel in the containment. In Surveillances Requirement 4.9.4, the description of the penetration status is changed from a "closed/isolated condition" to a "required condition" to allow for the revised requirement for the personnel airlock.

The proposed amendment involves changes with respect to the use of facility components located within the restricted area, as defined in 10 CFR 20, and changes a surveillance requirement. Union Electric has determined that the proposed amendment does not involve:

(1) A significant hazard consideration, as discussed in Attachment 4 of this amendment application;

(2) A significant change in the types or significant increase in the amounts of any effluents that may be released offsite;

(3) A significant increase in individual or cumulative occupational radiation exposure, as discussed in Attachment 3 of this amendment application.

Accordingly, the proposed 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 enviromental assessment need be prepared in connection with the issuance of this amendment.