3.8 REFUELING AND FUEL HANDLING

Applicability

Applies to operating limitations associated with fuel-handling operations, CORE ALTERATIONS, and crane operations in the spent fuel pool enclosure.

Objectives

To ensure that no incident could occur during fuel handling, CORE ALTERATIONS and crane operations that would affect public health and safety.

Specification

A. Core Alterations

1. During CORE ALTERATIONS the following conditions shall be satisfied (except as specified in 3.8.A.2 and 3 below):

a. 1) The equipment hatch and at least one door in each personnel air lock shall be closed. In addition, at least one isolation valve shall be OPERABLE or locked closed in each line which penetrates the containment and provides a direct path from containment atmosphere to the outside.

2) Airlock doors

a) At least one door in each air lock is closed, or

b) Both doors in each air lock may be open if:

i. The containment (high flow) purge system is isolated,

ii. The inservice (low flow) purge system is capable of automatic isolation,

iii. At least one door in each air lock is OPERABLE, under procedural control, and capable of being closed within 30 minutes following a fuel handling accident in containment, and

iv. At least two containment fan coil unit fans are capable of operating in the high speed mode following a fuel handling accident in containment.

b. Radiation levels in the fuel handling areas of the containment shall be monitored continuously.

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3.8.A.1.c. The core subcritical neutron flux shall be continuously monitored by at least two neutron monitors, each with continuous visual indication in the control room and one with audible indication in the containment, which are in service whenever core geometry is being changed. When core geometry is not being changed, at least one neutron flux monitor shall be in service.

d. The plant shall be in the REFUELING condition.

e. During movement of fuel assemblies or control rods out of the reactor vessel, at least 23 feet of water shall be maintained above the reactor vessel flange. The required water level shall be verified prior to moving fuel assemblies or control rods and at least once every day while the cavity is flooded.

f. At least one residual heat removal pump shall be OPERABLE and running. The pump may be shut down for up to one hour to facilitate movement of fuel or core components.

g. If the water level above the top of the reactor vessel flange is less than 20 feet, except for control rod unlatching/latching operations or upper internals removal/replacement, both residual heat removal loops shall be OPERABLE.

h. Direct communication between the control room and the operating floor of the containment shall be available whenever CORE ALTERATIONS are taking place.

i. No movement of irradiated fuel in the reactor shall be made until the reactor has been subcritical for at least 100 hours.

j. The radiation monitors which initiate isolation of the Containment Purge System shall be tested and verified to be OPERABLE prior to CORE ALTERATIONS.

2. If any of the above conditions are not met, CORE ALTERATIONS shall cease. Work shall be initiated to correct the violated conditions so that the specifications are met, and no operations which may increase the reactivity of the core shall be performed.

3. If Specification 3.8.A.1.f or 3.8.A.1.g cannot be satisfied, all fuel handling operations in containment shall be suspended, the requirements of Specification 3.8.A.1.a.1) shall be satisfied, at least one door in each personnel air lock shall be closed, and no reduction in reactor coolant boron concentration shall be made.

3.8 REFUELING AND FUEL HANDLING

Bases

Core alteration containment isolation specifications are provided to minimize releases following a fuel handling accident (FHA). Allowing both airlock doors open during core alterations will facilitate evacuation of containment following a FHA and help maintain the seals in good working order. The FHA does not cause containment pressurization, however, with an assumed single failure the operating purge system supply fan is assumed to continue supplying air to containment. To maintain post-FHA releases well within the limits of 10CFR100, only the inservice purge system is allowed to be operating during core alterations. Two containment fan coil unit fans are required to operate in the high speed mode following a fuel handling accident in containment to assure that radioactive material in containment is well mixed and any releases will leave containment at a lower concentration over the duration of the accident. The provision that one door is OPERABLE and under procedural control will ensure that at least one door will be closed in within 30 minutes as required, thus assuring radioactive releases are well within the limits of 10CFR100.

The equipment and general procedures to be utilized during refueling are discussed in the FSAR. Detailed instructions, the precautions specified above, and the design of the fuel handling equipment incorporating built-in interlocks and safety features, provide assurance that no incident could occur during CORE ALTERATIONS that would result in a hazard to public health and safety (Reference 1). Whenever changes are not being made in core geometry, one flux monitor is sufficient. This permits maintenance of the instrumentation. Continuous monitoring of radiation levels and neutron flux provides immediate indication of an unsafe condition. The residual heat removal pump is used to maintain a uniform boron concentration.

Under rodded and unrodded conditions, the K_{eff} of the reactor must be less than or equal to 0.95 and the boron concentration must be greater than or equal to 2000 ppm. Periodic checks of refueling water boron concentration insure that proper shutdown margin is maintained. 3.8.A.1.h allows the control room operator to inform the manipulator operator of any impending unsafe condition detected from the main control board indicators during fuel movement.

No movement of fuel in the reactor is permitted until the reactor has been subcritical for at least 100 hours to permit decay of the fission products in the fuel. The delay time is consistent with the fuel handling accident analysis (Reference 2).

Fuel will not be inserted into a spent fuel cask unless a minimum boron concentration of 1800 ppm is present. The 1800 ppm will ensure that k_{eff} for the spent fuel cask, including statistical uncertainties, will be less than or equal to 0.95 for all postulated arrangements of fuel within the cask.

The number of recently discharged assemblies in Pool No. 1 has been limited to 45 to provide assurance that in the event of loss of pool cooling capability, at least eight hours are available under worst case conditions to make repairs until the onset of boiling.

3.8 REFUELING AND FUEL HANDLING

<u>Bases</u> continued

The Spent Fuel Pool Special Ventilation System (Reference 3) is a safeguards system which maintains a negative pressure in the spent fuel enclosure upon detection of high area radiation. The Spent Fuel Pool Normal Ventilation System is automatically isolated and exhaust air is drawn through filter modules containing a roughing filter, particulate filter, and a charcoal filter before discharge to the environment via one of the Shield Building exhaust stacks. Two completely redundant trains are provided. The exhaust fan and filter of each train are shared with the corresponding train of the Containment In-service Purge System. High efficiency particulate absolute (HEPA) filters are installed before the charcoal adsorbers to prevent clogging of the iodine adsorbers in each SFPSVS filter train. The charcoal adsorbers are installed to reduce the potential release of radioiodine to the environment.

During movement of irradiated fuel assemblies or control rods, a water level of 23 feet is maintained to provide sufficient shielding.

The water level may be lowered to the top of the RCCA drive shafts for latching and unlatching. The water level may also be lowered below 20 feet for upper internals removal/replacement. The basis for these allowance(s) are (1) the refueling cavity pool has sufficient level to allow time to initiate repairs or emergency procedures to cool the core, (2) during latching/unlatching and upper internals removal/replacement the level is closely monitored because the activity uses this level as a reference point, (3) the time spent at this level is minimal.

The Prairie Island spent fuel storage racks have been analyzed (Reference 4) to allow for the storage of fuel assemblies with enrichments up to 5.0 weight percent U-235 while maintaining $K_{eff} \leq 0.95$ including uncertainties. This criticality analysis utilized the following storage configurations or regions to ensure that the spent fuel pool will remain subcritical during the storage of fuel assemblies with all possible combinations of burnup and initial enrichment:

1. The first region utilizes a checkerboard loading pattern to accommodate new or low burnup fuel with a maximum enrichment of 5.0 wt% U-235. This configuration stores "burned" and "fresh" fuel assemblies in a 2x2 checkerboard pattern. Fuel assemblies stored in "burned" cell locations must have an initial enrichment less than 2.5 wt% U-235 (nominal) or satisfy a minimum burnup requirement. The use of empty cells is also an acceptable option for the "burned" cell locations. Fuel assemblies stored in the "fresh" cell locations can have enrichments up to 5.0 wt% U-235 with no requirements for burnup or burnable absorbers.

2. The second region does not utilize any special loading pattern. Fuel assemblies with burnup and initial enrichments which fall into the unrestricted range of Figure TS.3.8-1 can be stored anywhere in the region with no special placement restrictions. Fuel assemblies which fall into the restricted range of Figure TS.3.8-1 must be stored in the checkerboard region in accordance with Specification 5.6.A.1.d.

3.8 <u>REFUELING AND FUEL HANDLING</u>

<u>Bases</u> continued

The burned/fresh fuel checkerboard region can be positioned anywhere within the spent fuel racks, but the boundary between the checkerboard region and the unrestricted region must be either:

1. separated by a vacant row of cells, or

2. the interface must be configured such that there is one row carryover of the pattern of burned assemblies from the checkerboard region into the first row of the unrestricted region (Figure TS.5.6-1).

Figure TS.3.8-1, which specifies the minimum burnup requirements for unrestricted storage in the spent fuel pool, is based on enrichments from 3.87 to 5.0 weight percent U-235. Enrichments lower than 3.87 weight percent are conservatively bounded by the minimum burnup requirement for 3.87 weight percent U-235 which is 2000 MWD/MTU. Therefore, Figure TS.3.8-1 has been drawn to require that fuel with an initial enrichment of less than 3.87 weight percent U-235 have 2000 MWD/MTU burnup or greater before unrestricted storage in the spent fuel pool will be allowed.

The water in the spent fuel pool normally contains soluble boron, which results in large subcriticality margins under actual operating conditions. However, the NRC guidelines, based upon the accident condition in which all soluble poison is assumed to have been lost, specify that the limiting k_{eff} of 0.95 be evaluated in the absence of soluble boron. Hence, the design of both regions is based on the use of unborated water, which ensures that each region is maintained in a subcritical condition during normal operation with the regions fully loaded.

Most accident conditions do not result in a significant increase in the activity of either of the two regions. Examples of these accident conditions are the loss of cooling, the dropping of a fuel assembly on the top of the rack, and the dropping of a fuel assembly between rack modules and wall (rack design precludes this condition). However, accidents can be postulated that could increase the reactivity. For these accident conditions, the double contingency principle of ANSI N16.1-1975 can be applied. This states that one is not required to assume two unlikely, independent, concurrent events to ensure protection against a criticality accident.

The double contingency principle allows credit for soluble boron under abnormal or accident conditions, since only a single accident need be considered at one time. For example, the most severe accident scenario is the accidental misloading of a fuel assembly into a rack location for which the restrictions on location, enrichment or burnup are not satisfied. This could potentially increase the reactivity in spent fuel racks. To mitigate these postulated criticality related accidents, Specification 3.8.E.2 ensures the spent fuel pool contains adequate dissolved boron anytime fuel assemblies with a combination of burnup and initial enrichment in the restricted range of Figure TS.3.8-1 are stored in the fuel pool and a spent fuel pool verification has not been performed since the last movement of any fuel assembly in the spent fuel pool. The negative reactivity effect of the soluble boron would compensate for the increased reactivity caused by a mispositioned fuel assembly.

3.8 REFUELING AND FUEL HANDLING

Bases continued

The boron concentration requirements of Specification 3.8.E.2 are no longer imposed when no fuel movements are occurring and a spent fuel pool verification has been completed, because the storage requirements of Specifications 3.8.E.1 and 5.6.A.1.d are then adequate to prevent criticality.

Specification 3.8.E.2.a is not imposed when only fuel assemblies with a combination of burnup and initial enrichment in the unrestricted range of Figure TS.3.8-1 are stored in the spent fuel pool. The requirements of Specification 3.8.E.2.a are not required in that case because with only fuel assemblies that have burnup and initial enrichment in the unrestricted range of Figure TS.3.8-1 it is not possible to cause an inadvertent criticality by mispositioning a fuel assembly in the spent fuel pool.

When the requirements of Specification 3.8.E.2.a are applicable, and the concentration of boron in the spent fuel pool is less than required, immediate action must be taken to preclude the occurrence of an accident or to mitigate the consequences of an accident in progress. This is most efficiently achieved by immediately suspending the movement of fuel assemblies. The concentration of boron is restored simultaneously with suspending movement of fuel assemblies. An acceptable alternative is to complete a spent fuel pool verification. However, prior to resuming movement of fuel assemblies, the concentration of boron must be restored. This does not preclude movement of a fuel assembly to a safe position.

A spent fuel pool verification is required following the last movement of fuel assemblies in the spent fuel pool, if fuel assemblies with a combination of burnup and initial enrichment in the restricted range of Figure TS.3.8-1 are stored in the spent fuel pool. This verification will confirm that any fuel assemblies with a combination of burnup and initial enrichment in the restricted range of Figure TS.3.8-1 are stored in accordance with the requirements of Specification 5.6.A.1.d.

References

1. USAR, Section 10.2.1.2
2. USAR, Section 14.5.1
3. USAR, Section 10.3.7
4. "Criticality Analysis of the Prairie Island Units 1 & 2 Fresh and Spent Fuel Racks", Westinghouse Commercial Nuclear Fuel Division, February 1993.

ATTACHMENT 2
USNRC, May 15, 1995

SUPPLEMENT TO LICENSE AMENDMENT REQUEST DATED December 5, 1994

Changes in Containment Refueling Integrity Requirements

Appendix A, Technical Specification Pages
Revised Pages

TS.3.8-1
TS.3.8-2
B.3.8-1
B.3.8-2
B.3.8-3
B.3.8-4

3.8 REFUELING AND FUEL HANDLING

Applicability

Applies to operating limitations associated with fuel-handling operations, CORE ALTERATIONS, and crane operations in the spent fuel pool enclosure.

Objectives

To ensure that no incident could occur during fuel handling, CORE ALTERATIONS and crane operations that would affect public health and safety.

Specification

A. Core Alterations

1. During CORE ALTERATIONS the following conditions shall be satisfied (except as specified in 3.8.A.2 and 3 below):

   a. 1) The equipment hatch shall be closed. In addition, at least one isolation valve shall be OPERABLE or locked closed in each line which penetrates the containment and provides a direct path from containment atmosphere to the outside.

      2) Airlock doors

         a) At least one door in each air lock is closed, or

         b) Both doors in each air lock may be open if:

            i. The containment (high flow) purge system is isolated,

            ii. The inservice (low flow) purge system is capable of automatic isolation,

            iii. At least one door in each air lock is OPERABLE, under procedural control, and capable of being closed within 30 minutes following a fuel handling accident in containment, and

            iv. At least two containment fan coil unit fans are capable of operating in the high speed mode following a fuel handling accident in containment.

   b. Radiation levels in the fuel handling areas of the containment shall be monitored continuously.

3.8.A.1.c. The core subcritical neutron flux shall be continuously monitored by at least two neutron monitors, each with continuous visual indication in the control room and one with audible indication in the containment, which are in service whenever core geometry is being changed. When core geometry is not being changed, at least one neutron flux monitor shall be in service.

d. The plant shall be in the REFUELING condition.

e. During movement of fuel assemblies or control rods out of the reactor vessel, at least 23 feet of water shall be maintained above the reactor vessel flange. The required water level shall be verified prior to moving fuel assemblies or control rods and at least once every day while the cavity is flooded.

f. At least one residual heat removal pump shall be OPERABLE and running. The pump may be shut down for up to one hour to facilitate movement of fuel or core components.

g. If the water level above the top of the reactor vessel flange is less than 20 feet, except for control rod unlatching/latching operations or upper internals removal/replacement, both residual heat removal loops shall be OPERABLE.

h. Direct communication between the control room and the operating floor of the containment shall be available whenever CORE ALTERATIONS are taking place.

i. No movement of irradiated fuel in the reactor shall be made until the reactor has been subcritical for at least 100 hours.

j. The radiation monitors which initiate isolation of the Containment Purge System shall be tested and verified to be OPERABLE prior to CORE ALTERATIONS.

2. If any of the above conditions are not met, CORE ALTERATIONS shall cease. Work shall be initiated to correct the violated conditions so that the specifications are met, and no operations which may increase the reactivity of the core shall be performed.

3. If Specification 3.8.A.1.f or 3.8.A.1.g cannot be satisfied, all fuel handling operations in containment shall be suspended, the requirements of Specification 3.8.A.1.a.1) shall be satisfied, at least one door in each personnel air lock shall be closed, and no reduction in reactor coolant boron concentration shall be made.

3.8 REFUELING AND FUEL HANDLING

Bases

Core alteration containment isolation specifications are provided to minimize releases following a fuel handling accident (FHA). Allowing both airlock doors open during core alterations will facilitate evacuation of containment following a FHA and help maintain the seals in good working order. The FHA does not cause containment pressurization, however, with an assumed single failure the operating purge system supply fan is assumed to continue supplying air to containment. To maintain post-FHA releases well within the limits of 10CFR100, only the inservice purge system is allowed to be operating during core alterations. Two containment fan coil unit fans are required to operate in the high speed mode following a fuel handling accident in containment to assure that radioactive material in containment is well mixed and any releases will leave containment at a lower concentration over the duration of the accident. The provision that one door is OPERABLE and under procedural control will ensure that at least one door will be closed in within 30 minutes as required, thus assuring radioactive releases are well within the limits of 10CFR100.

The equipment and general procedures to be utilized during refueling are discussed in the FSAR. Detailed instructions, the precautions specified above, and the design of the fuel handling equipment incorporating built-in interlocks and safety features, provide assurance that no incident could occur during CORE ALTERATIONS that would result in a hazard to public health and safety (Reference 1). Whenever changes are not being made in core geometry, one flux monitor is sufficient. This permits maintenance of the instrumentation. Continuous monitoring of radiation levels and neutron flux provides immediate indication of an unsafe condition. The residual heat removal pump is used to maintain a uniform boron concentration.

Under rodded and unrodded conditions, the K_{eff} of the reactor must be less than or equal to 0.95 and the boron concentration must be greater than or equal to 2000 ppm. Periodic checks of refueling water boron concentration insure that proper shutdown margin is maintained. 3.8.A.1.h allows the control room operator to inform the manipulator operator of any impending unsafe condition detected from the main control board indicators during fuel movement.

No movement of fuel in the reactor is permitted until the reactor has been subcritical for at least 100 hours to permit decay of the fission products in the fuel. The delay time is consistent with the fuel handling accident analysis (Reference 2).

Fuel will not be inserted into a spent fuel cask unless a minimum boron concentration of 1800 ppm is present. The 1800 ppm will ensure that k_{eff} for the spent fuel cask, including statistical uncertainties, will be less than or equal to 0.95 for all postulated arrangements of fuel within the cask.

The number of recently discharged assemblies in Pool No. 1 has been limited to 45 to provide assurance that in the event of loss of pool cooling capability, at least eight hours are available under worst case conditions to make repairs until the onset of boiling.

3.8 REFUELING AND FUEL HANDLING

Bases continued

The Spent Fuel Pool Special Ventilation System (Reference 3) is a safeguards system which maintains a negative pressure in the spent fuel enclosure upon detection of high area radiation. The Spent Fuel Pool Normal Ventilation System is automatically isolated and exhaust air is drawn through filter modules containing a roughing filter, particulate filter, and a charcoal filter before discharge to the environment via one of the Shield Building exhaust stacks. Two completely redundant trains are provided. The exhaust fan and filter of each train are shared with the corresponding train of the Containment In-service Purge System. High efficiency particulate absolute (HEPA) filters are installed before the charcoal adsorbers to prevent clogging of the iodine adsorbers in each SFPSVS filter train. The charcoal adsorbers are installed to reduce the potential release of radioiodine to the environment.

During movement of irradiated fuel assemblies or control rods, a water level of 23 feet is maintained to provide sufficient shielding.

The water level may be lowered to the top of the RCCA drive shafts for latching and unlatching. The water level may also be lowered below 20 feet for upper internals removal/replacement. The basis for these allowance(s) are (1) the refueling cavity pool has sufficient level to allow time to initiate repairs or emergency procedures to cool the core, (2) during latching/unlatching and upper internals removal/replacement the level is closely monitored because the activity uses this level as a reference point, (3) the time spent at this level is minimal.

The Prairie Island spent fuel storage racks have been analyzed (Reference 4) to allow for the storage of fuel assemblies with enrichments up to 5.0 weight percent U-235 while maintaining $K_{eff} \leq 0.95$ including uncertainties. This criticality analysis utilized the following storage configurations or regions to ensure that the spent fuel pool will remain subcritical during the storage of fuel assemblies with all possible combinations of burnup and initial enrichment:

1. The first region utilizes a checkerboard loading pattern to accommodate new or low burnup fuel with a maximum enrichment of 5.0 wt% U-235. This configuration stores "burned" and "fresh" fuel assemblies in a 2x2 checkerboard pattern. Fuel assemblies stored in "burned" cell locations must have an initial enrichment less than 2.5 wt% U-235 (nominal) or satisfy a minimum burnup requirement. The use of empty cells is also an acceptable option for the "burned" cell locations. Fuel assemblies stored in the "fresh" cell locations can have enrichments up to 5.0 wt% U-235 with no requirements for burnup or burnable absorbers.

2. The second region does not utilize any special loading pattern. Fuel assemblies with burnup and initial enrichments which fall into the unrestricted range of Figure TS.3.8-1 can be stored anywhere in the region with no special placement restrictions. Fuel assemblies which fall into the restricted range of Figure TS.3.8-1 must be stored in the checkerboard region in accordance with Specification 5.6.A.1.d.

3.8 REFUELING AND FUEL HANDLING

Bases continued

The burned/fresh fuel checkerboard region can be positioned anywhere within the spent fuel racks, but the boundary between the checkerboard region and the unrestricted region must be either:

1. separated by a vacant row of cells, or

2. the interface must be configured such that there is one row carryover of the pattern of burned assemblies from the checkerboard region into the first row of the unrestricted region (Figure TS.5.6-1).

Figure TS.3.8-1, which specifies the minimum burnup requirements for unrestricted storage in the spent fuel pool. is based on enrichments from 3.87 to 5.0 weight percent U-235. Enrichments lower than 3.87 weight percent are conservatively bounded by the minimum burnup requirement for 3.87 weight percent U-235 which is 2000 MWD/MTU. Therefore, Figure TS.3.8-1 has been drawn to require that fuel with an initial enrichment of less than 3.87 weight percent U-235 have 2000 MWD/MTU burnup or greater before unrestricted storage in the spent fuel pool will be allowed.

The water in the spent fuel pool normally contains soluble boron, which results in large subcriticality margins under actual operating conditions. However, the NRC guidelines, based upon the accident condition in which all soluble poison is assumed to have been lost, specify that the limiting k_{eff} of 0.95 be evaluated in the absence of soluble boron. Hence, the design of both regions is based on the use of unborated water, which ensures that each region is maintained in a subcritical condition during normal operation with the regions fully loaded.

Most accident conditions do not result in a significant increase in the activity of either of the two regions. Examples of these accident conditions are the loss of cooling, the dropping of a fuel assembly on the top of the rack, and the dropping of a fuel assembly between rack modules and wall (rack design precludes this condition). However, accidents can be postulated that could increase the reactivity. For these accident conditions, the double contingency principle of ANSI N16.1-1975 can be applied. This states that one is not required to assume two unlikely, independent, concurrent events to ensure protection against a criticality accident.

The double contingency principle allows credit for soluble boron under abnormal or accident conditions, since only a single accident need be considered at one time. For example, the most severe accident scenario is the accidental misloading of a fuel assembly into a rack location for which the restrictions on location, enrichment or burnup are not satisfied. This could potentially increase the reactivity in spent fuel racks. To mitigate these postulated criticality related accidents, Specification 3.8.E.2 ensures the spent fuel pool contains adequate dissolved boron anytime fuel assemblies with a combination of burnup and initial enrichment in the restricted range of Figure TS.3.8-1 are stored in the fuel pool and a spent fuel pool verification has not been performed since the last movement of any fuel assembly in the spent fuel pool. The negative reactivity effect of the soluble boron would compensate for the increased reactivity caused by a mispositioned fuel assembly.

3.8 REFUELING AND FUEL HANDLING

Bases continued

The boron concentration requirements of Specification 3.8.E.2 are no longer imposed when no fuel movements are occurring and a spent fuel pool verification has been completed, because the storage requirements of Specifications 3.8.E.1 and 5.6.A.1.d are then adequate to prevent criticality.

Specification 3.8.E.2.a is not imposed when only fuel assemblies with a combination of burnup and initial enrichment in the unrestricted range of Figure TS.3.8-1 are stored in the spent fuel pool. The requirements of Specification 3.8.E.2.a are not required in that case because with only fuel assemblies that have burnup and initial enrichment in the unrestricted range of Figure TS.3.8-1 it is not possible to cause an inadvertent criticality by mispositioning a fuel assembly in the spent fuel pool.

When the requirements of Specification 3.8.E.2.a are applicable, and the concentration of boron in the spent fuel pool is less than required, immediate action must be taken to preclude the occurrence of an accident or to mitigate the consequences of an accident in progress. This is most efficiently achieved by immediately suspending the movement of fuel assemblies. The concentration of boron is restored simultaneously with suspending movement of fuel assemblies. An acceptable alternative is to complete a spent fuel pool verification. However, prior to resuming movement of fuel assemblies, the concentration of boron must be restored. This does not preclude movement of a fuel assembly to a safe position.

A spent fuel pool verification is required following the last movement of fuel assemblies in the spent fuel pool, if fuel assemblies with a combination of burnup and initial enrichment in the restricted range of Figure TS.3.8-1 are stored in the spent fuel pool. This verification will confirm that any fuel assemblies with a combination of burnup and initial enrichment in the restricted range of Figure TS.3.8-1 are stored in accordance with the requirements of Specification 5.6.A.1.d.

References

1. USAR, Section 10.2.1.2
2. USAR, Section 14.5.1
3. USAR, Section 10.3.7
4. "Criticality Analysis of the Prairie Island Units 1 & 2 Fresh and Spent Fuel Racks", Westinghouse Commercial Nuclear Fuel Division, February 1993.