

ATTACHMENT A
Existing Specifications
Unit 2

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REFUELING OPERATIONS

3/4.9.7 FUEL HANDLING MACHINE - SPENT FUEL STORAGE POOL BUILDING

LIMITING CONDITION FOR OPERATION

3.9.7 Loads in excess of 2000 pounds shall be prohibited from travel over fuel assemblies in the storage pool except for the following four cases:

- a. Spent fuel pool gates shall not be carried at a height greater than 30 inches (elevation 36' 4") over the fuel racks.
- b. Test equipment skid (4500 pounds) shall not be carried at a height greater than 72 inches (elevation 39' 10") over rack cells which contain Unit 2 fuel assemblies or greater than 30 feet 8 inches (elevation 64' 6") over rack cells which contain Unit 1 fuel assemblies.
- c. Installation or removal of the cask pool cover over the cask pool with fuel in the cask pool. The cover, fuel, and racks will be removed from the cask pool on completion of the reracking process.
- d. The lift of construction loads, including the temporary gantry crane and the old and the new fuel storage racks (including lifting equipment and rigging), above the cask pool with the cask pool cover in place and fuel in the cask pool. This includes temporary storage of these construction loads on the cask pool cover during construction. These lifts are prohibited prior to a minimum fuel decay time of 88 days for all stored spent fuel assemblies.

APPLICABILITY: With fuel assemblies in the storage pool.

ACTION:

With the requirements of the above specification not satisfied, place the fuel handling machine in a safe condition.

SURVEILLANCE REQUIREMENTS

4.9.7 Fuel handling machine interlocks and physical stops which prevent fuel handling machine travel with loads in excess of 2000 pounds over fuel assemblies shall be demonstrated OPERABLE within 7 days prior to fuel handling machine use and at least once per 7 days thereafter during fuel handling machine operation.

REFUELING OPERATIONS

RASES

REFUELING MACHINE

SAFETY requirements for the refueling machine ensure that: (1) the refueling machine will be used for movement of all fuel assemblies including those with a CEA inserted, (2) each machine has sufficient load capacity to lift any fuel assembly including those with a CEA, and (3) the core internals and reactor vessel are protected from excessive lifting force in the event they are inadvertently engaged during lifting operations.

Five finger CEAs are removed from the reactor vessel either along with the associated fuel bundle utilizing the refueling machine or can be removed without the associated fuel bundle utilizing the refueling machine auxiliary hoist. The four finger CEAs are inserted through the upper guide structure with two fingers in each of the two adjacent fuel bundles in the periphery of the core. The four finger CEAs are either removed with the upper guide structure and lift rig or can be removed with separate tooling prior to upper guide structure removal utilizing the auxiliary hoist of the polar crane or the refueling machine auxiliary hoist.

Coupling and uncoupling of the CEAs and the CEDM drive shaft extensions is accomplished using one of the gripper operating tools. The coupling and uncoupling is verified by weighing the drive shaft extensions.

3/4.9.7 FUEL HANDLING MACHINE - SPENT FUEL STORAGE BUILDING

A. Refueling Operations

The restriction on movement of loads in excess of the nominal weight of a fuel assembly, CEA and associated handling tool over other fuel assemblies in the storage pool ensures that in the event this load is dropped (1) the activity release will be limited to that contained in six fuel assemblies, and (2) any possible distortion of fuel in the storage racks will not result in a critical array. This assumption is based on the calculated results which demonstrate that, with credit taken for the fuel handling building filters, the offsite doses would be well within (less than 25%) the 10 CFR 100 limits.

B. Spent Fuel Pool Reracking Construction Activities

The restriction on movement of heavy loads over spent fuel ensures that in the event a heavy load is dropped:

REFUELING OPERATIONS

BASES

3/4.9.7 FUEL HANDLING MACHINE - SPENT FUEL STORAGE BUILDING (Continued)

1. The radiological consequences due to complete rupture of all spent fuel assemblies in the spent fuel pool and the cask pool (480 maximum), will remain below (less than 25% of) the exposure limits of 10 CFR 100 for offsite doses as long as spent fuel has received a minimum of 88 days decay time. This analysis takes no credit for fuel handling building filters (i.e., the fuel handling building hatches are open).
2. Any possible distortion of all fuel assemblies and racks will not result in a critical array and K_{eff} will remain less than 0.95, as long as fuel is stored per Technical Specifications 5.6, "Fuel Storage," and 3.9.13, "Spent Fuel Pool Boron Concentration."

3/4.9.8 SHUTDOWN COOLING AND COOLANT CIRCULATION

The requirement that at least one shutdown cooling train be in operation ensures that (1) sufficient cooling capacity is available to remove decay heat and maintain the water in the reactor pressure vessel below 140°F as required during the REFUELING MODE, and (2) sufficient coolant circulation is maintained through the reactor core to minimize the effects of a boron dilution incident and prevent boron stratification.

The requirement to have two shutdown cooling trains OPERABLE when there is less than 23 feet of water above the reactor pressure vessel flange, ensures that a single failure of the operating shutdown cooling loop will not result in a complete loss of decay heat removal capacity. With the reactor vessel head removed and 23 feet of water above the reactor pressure vessel flange, a large heat sink is available for core cooling, thus in the event of a failure of the operating shutdown cooling train, adequate time is provided to initiate emergency procedures to cool the core.

ATTACHMENT B
Existing Specifications
Unit 3

REFUELING OPERATIONS

3/4.9.7 FUEL HANDLING MACHINE - SPENT FUEL STORAGE POOL BUILDING

LIMITING CONDITION FOR OPERATION

3.9.7 Loads in excess of 2000 pounds shall be prohibited from travel over fuel assemblies in the storage pool except for the following four cases:

- a. Spent fuel pool gates shall not be carried at a height greater than 30 inches (elevation 36' 4") over the fuel racks.
- b. Test equipment skid (4500 pounds) shall not be carried at a height greater than 72 inches (elevation 39' 10") over rack cells which contain Unit 3 fuel assemblies or greater than 30 feet 8 inches (elevation 64' 6") over rack cells which contain Unit 1 fuel assemblies.
- c. Installation or removal of the cask pool cover over the cask pool with fuel in the cask pool. The cover, fuel, and racks will be removed from the cask pool on completion of the reracking process.
- d. The lift of construction loads, including the temporary gantry crane and the old and the new fuel storage racks (including lifting equipment and rigging), above the cask pool with the cask pool cover in place and fuel in the cask pool. This includes temporary storage of these construction loads on the cask pool cover during construction. These lifts are prohibited prior to a minimum decay time of 88 days for all stored fuel assemblies.

APPLICABILITY: With fuel assemblies in the storage pool.

ACTION:

With the requirements of the above specification not satisfied, place the fuel handling machine in a safe condition.

SURVEILLANCE REQUIREMENTS

4.9.7 Fuel handling machine interlocks and physical stops which prevent fuel handling machine travel with loads in excess of 2000 pounds over fuel assemblies shall be demonstrated OPERABLE within 7 days prior to fuel handling machine use and at least once per 7 days thereafter during fuel handling machine operation.

REFUELING OPERATIONS

BASES

3/4.9.6 REFUELING MACHINE

The OPERABILITY requirements for the refueling machine ensure that: (1) the refueling machine will be used for movement of all fuel assemblies including those with a CEA inserted, (2) each machine has sufficient load capacity to lift a fuel assembly including those with a CEA, and (3) the core internals and pressure vessel are protected from excessive lifting force in the event they are inadvertently engaged during lifting operations.

Five finger CEAs are removed from the reactor vessel either along with the associated fuel bundle utilizing the refueling machine or can be removed without the associated fuel bundle utilizing the refueling machine auxiliary hoist. The four finger CEAs are inserted through the upper guide structure with two fingers in each of the two adjacent fuel bundles in the periphery of the core. The four finger CEAs are either removed with the upper guide structure and lift rig or can be removed with separate tooling prior to upper guide structure removal utilizing the auxiliary hoist of the polar crane or the refueling machine auxiliary hoist.

Coupling and uncoupling of the CEAs and the CEDM drive shaft extensions is accomplished using one of the gripper operating tools. The coupling and uncoupling is verified by weighing the drive shaft extensions.

3/4.9.7 FUEL HANDLING MACHINE - SPENT FUEL STORAGE BUILDING

A. Refueling Operation

The restriction on movement of loads in excess of the nominal weight of a fuel assembly, CEA and associated handling tool over other fuel assemblies in the storage pool ensures that in the event this load is dropped (1) the activity release will be limited to that contained in six fuel assemblies, and (2) any possible distortion of fuel in the storage racks will not result in a critical array. This assumption is based on the calculated results which demonstrate that, with credit taken for the fuel handling building filters, the offsite doses would be well within (less than 25%) the 10 CFR 100 limits.

B. Spent Fuel Pool Rerecking Construction Activities

The restriction on movement of heavy loads over spent fuel ensures that in the event a heavy load is dropped:

REFUELING OPERATIONS

BASES

3/4.9.7 FUEL HANDLING MACHINE - SPENT FUEL STORAGE BUILDING (Continued)

1. The radiological consequences due to complete rupture of all spent fuel assemblies in the spent fuel pool and the cask pool (480 maximum), will remain below (less than 25% of) the exposure limits of 10 CFR 100 for offsite doses. This analysis takes no credit for fuel handling building filters (i.e., the fuel handling building hatches are open).
2. Any possible distortion of all fuel assemblies and racks will not result in a critical array and K_{eff} will remain less than 0.95, as long as fuel is stored per Technical Specification 5.6, "Fuel Storage," and 3.9.13, "Spent Fuel Pool Boron Concentration."

3/4.9.8 SHUTDOWN COOLING AND COOLANT CIRCULATION

The requirement that at least one shutdown cooling train be in operation ensures that (1) sufficient cooling capacity is available to remove decay heat and maintain the water in the reactor pressure vessel below 140°F as required during the REFUELING MODE, and (2) sufficient coolant circulation is maintained through the reactor core to minimize the effects of a boron dilution incident and prevent boron stratification.

The requirement to have two shutdown cooling trains OPERABLE when there is less than 23 feet of water above the reactor pressure vessel flange, ensures that a single failure of the operating shutdown cooling loop will not result in a complete loss of decay heat removal capacity. With the reactor vessel head removed and 23 feet of water above the reactor pressure vessel flange, a large heat sink is available for core cooling, thus in the event of a failure of the operating shutdown cooling train, adequate time is provided to initiate emergency procedures to cool the core.

ATTACHMENT C
Proposed Specifications
Unit 2

REFUELING OPERATIONS

3/4.9.7 FUEL HANDLING MACHINE - SPENT FUEL STORAGE POOL BUILDING

LIMITING CONDITION FOR OPERATION

3.9.7 Loads in excess of 2000 pounds shall be prohibited from travel over fuel assemblies in the storage pool except for the following ~~four~~ two cases:

- a. Spent fuel pool gates shall not be carried at a height greater than 30 inches (elevation 36' 4") over the fuel racks.
- b. Test equipment skid (4500 pounds) shall not be carried at a height greater than 72 inches (elevation 39' 10") over rack cells which contain Unit 2 fuel assemblies or greater than 30 feet 8 inches (elevation 64' 6") over rack cells which contain Unit 1 fuel assemblies.
- c. ~~Installation or removal of the cask pool cover over the cask pool with fuel in the cask pool. The cover, fuel, and racks will be removed from the cask pool on completion of the reracking process.~~
- d. ~~The lift of construction loads, including the temporary gantry crane and the old and the new fuel storage racks (including lifting equipment and rigging), above the cask pool with the cask pool cover in place and fuel in the cask pool. This includes temporary storage of these construction loads on the cask pool cover during construction. These lifts are prohibited prior to a minimum fuel decay time of 88 days for all stored spent fuel assemblies.~~

APPLICABILITY: With fuel assemblies in the storage pool.

ACTION:

With the requirements of the above specification not satisfied, place the fuel handling machine in a safe condition.

SURVEILLANCE REQUIREMENTS

4.9.7 Fuel handling machine interlocks and physical stops which prevent fuel handling machine travel with loads in excess of 2000 pounds over fuel assemblies shall be demonstrated OPERABLE within 7 days prior to fuel handling machine use and at least once per 7 days thereafter during fuel handling machine operation.

REFUELING OPERATIONS

BASES

3/4.9.6 REFUELING MACHINE

The OPERABILITY requirements for the refueling machine ensure that: (1) the refueling machine will be used for movement of all fuel assemblies including those with a CEA inserted, (2) each machine has sufficient load capacity to lift a fuel assembly including those with a CEA, and (3) the core internals and pressure vessel are protected from excessive lifting force in the event they are inadvertently engaged during lifting operations.

Five finger CEAs are removed from the reactor vessel either along with the associated fuel bundle utilizing the refueling machine or can be removed without the associated fuel bundle utilizing the refueling machine auxiliary hoist. The four finger CEAs are inserted through the upper guide structure with two fingers in each of the two adjacent fuel bundles in the periphery of the core. The four finger CEAs are either removed with the upper guide structure and lift rig or can be removed with separate tooling prior to upper guide structure removal utilizing the auxiliary hoist of the polar crane or the refueling machine auxiliary hoist.

Coupling and uncoupling of the CEAs and the CEDM drive shaft extensions is accomplished using one of the gripper operating tools. The coupling and uncoupling is verified by weighing the drive shaft extensions.

3/4.9.7 FUEL HANDLING MACHINE - SPENT FUEL STORAGE BUILDING

A. The restriction on movement of loads in excess of the nominal weight of a fuel assembly, CEA and associated handling tool over other fuel assemblies in the storage pool ensures that in the event this load is dropped (1) the activity release will be limited to that contained in six fuel assemblies, and (2) any possible distortion of fuel in the storage racks will not result in a critical array. This assumption is based on the calculated results which demonstrate that, with credit taken for the fuel handling building filters, the offsite doses would be well within (less than 25%) the 10 CFR 100 limits.

~~B. Spent Fuel Pool Reracking Construction Activities~~

~~The restriction on movement of heavy loads over spent fuel ensures that in the event a heavy load is dropped:~~

REFUELING OPERATIONS

BASES

3/4.9.7 FUEL HANDLING MACHINE — SPENT FUEL STORAGE BUILDING (Continued)

1. ~~The radiological consequences due to complete rupture of all spent fuel assemblies in the spent fuel pool and the cask pool (480 maximum), will remain below (less than 25% of) the exposure limits of 10 CFR 100 for offsite doses as long as spent fuel has received a minimum of 88 days decay time. This analysis takes no credit for fuel handling building filters (i.e., the fuel handling building hatches are open).~~
2. ~~Any possible distortion of all fuel assemblies and racks will not result in a critical array and K_{eff} will remain less than 0.95, as long as fuel is stored per Technical Specifications 5.6, "Fuel Storage," and 3.9.13, "Spent Fuel Pool Boron Concentration."~~

3/4.9.8 SHUTDOWN COOLING AND COOLANT CIRCULATION

The requirement that at least one shutdown cooling train be in operation ensures that (1) sufficient cooling capacity is available to remove decay heat and maintain the water in the reactor pressure vessel below 140°F as required during the REFUELING MODE, and (2) sufficient coolant circulation is maintained through the reactor core to minimize the effects of a boron dilution incident and prevent boron stratification.

The requirement to have two shutdown cooling trains OPERABLE when there is less than 23 feet of water above the reactor pressure vessel flange, ensures that a single failure of the operating shutdown cooling loop will not result in a complete loss of decay heat removal capacity. With the reactor vessel head removed and 23 feet of water above the reactor pressure vessel flange, a large heat sink is available for core cooling, thus in the event of a failure of the operating shutdown cooling train, adequate time is provided to initiate emergency procedures to cool the core.

ATTACHMENT D
Proposed Specifications
Unit 3

REFUELING OPERATIONS

3/4.9.7 FUEL HANDLING MACHINE - SPENT FUEL STORAGE POOL BUILDING

LIMITING CONDITION FOR OPERATION

3.9.7 Loads in excess of 2000 pounds shall be prohibited from travel over fuel assemblies in the storage pool except for the following ~~four~~ two cases:

- a. Spent fuel pool gates shall not be carried at a height greater than 30 inches (elevation 36' 4") over the fuel racks.
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- ~~c. Installation or removal of the cask pool cover over the cask pool with fuel in the cask pool. The cover, fuel, and racks will be removed from the cask pool on completion of the reracking process.~~
- ~~d. The lift of construction loads, including the temporary gantry crane and the old and the new fuel storage racks (including lifting equipment and rigging), above the cask pool with the cask pool cover in place and fuel in the cask pool. This includes temporary storage of these construction loads on the cask pool cover during construction. These lifts are prohibited prior to a minimum decay time of 88 days for all stored fuel assemblies.~~

APPLICABILITY: With fuel assemblies in the storage pool.

ACTION:

With the requirements of the above specification not satisfied, place the fuel handling machine in a safe condition.

SURVEILLANCE REQUIREMENTS

4.9.7 Fuel handling machine interlocks and physical stops which prevent fuel handling machine travel with loads in excess of 2000 pounds over fuel assemblies shall be demonstrated OPERABLE within 7 days prior to fuel handling machine use and at least once per 7 days thereafter during fuel handling machine operation.

REFUELING OPERATIONS

BASES

3/4.9.6 REFUELING MACHINE

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3/4.9.7 FUEL HANDLING MACHINE - SPENT FUEL STORAGE BUILDING

A. Refueling Operation

The restriction on movement of loads in excess of the nominal weight of a fuel assembly, CEA and associated handling tool over other fuel assemblies in the storage pool ensures that in the event this load is dropped (1) the activity release will be limited to that contained in six fuel assemblies, and (2) any possible distortion of fuel in the storage racks will not result in a critical array. This assumption is based on the calculated results which demonstrate that, with credit taken for the fuel handling building filters, the offsite doses would be well within (less than 5%) the 10 CFR 100 limits.

~~B. Spent Fuel Pool Reracking Construction Activities~~

~~The restriction on movement of heavy loads over spent fuel ensures that in the event a heavy load is dropped:~~

REFUELING OPERATIONS

BASES

3/4.9.7 FUEL HANDLING MACHINE SPENT FUEL STORAGE BUILDING (Continued)

1. ~~The radiological consequences due to complete rupture of all spent fuel assemblies in the spent pool and the cask pool (480 maximum), will remain below (less than 25% of) the exposure limits of 10 CFR 100 for offsite doses. This analysis takes no credit for fuel handling building filters (i. e., the fuel handling building hatches are open).~~
2. ~~Any possible distortion of all fuel assemblies and racks will not result in a critical array and K_{eff} will remain less than 0.95, as long as fuel is stored per Technical Specification 5.6, "Fuel Storage," and 3.9.13, "Spent Fuel Pool Boron Concentration."~~

3/4.9.8 SHUTDOWN COOLING AND COOLANT CIRCULATION

The requirement that at least one shutdown cooling train be in operation ensures that (1) sufficient cooling capacity is available to remove decay heat and maintain the water in the reactor pressure vessel below 140°F as required during the REFUELING MODE, and (2) sufficient coolant circulation is maintained through the reactor core to minimize the effects of a boron dilution incident and prevent boron stratification.

The requirement to have two shutdown cooling trains OPERABLE when there is less than 23 feet of water above the reactor pressure vessel flange ensures that a single failure of the operating shutdown cooling loop will not result in a complete loss of decay heat removal capability. With the reactor vessel head removed and 23 feet of water above the reactor pressure vessel flange, a large heat sink is available for core cooling, thus in the event of a failure of the operating shutdown cooling train, adequate time is provided to initiate emergency procedures to cool the core.