August 3, 1998

Mr. J. P. O'Hanlon
Senior Vice President - Nuclear
Virginia Electric and Power Company
5000 Dominion Blvd.
Glen Allen, Virginia 23060

SUBJECT: NORTH ANNA POWER STATION, UNITS 1 AND 2 - ISSUANCE OF AMENDMENTS REGARDING A PROPOSED TECHNICAL SPECIFICATION CHANGE ON ALLOWING SPENT FUEL PIT GATE MOVEMENT OVER IRRADIATED FUEL (TAC NOS. M99950 AND M99951)

Dear Mr. O'Hanlon:

The Commission has issued the enclosed Amendment Nos. 213 and 194 to Facility Operating License Nos. NPF-4 and NPF-7 for the North Anna Power Station, Units No. 1 and No. 2. The amendments consist of changes to the Technical Specifications (TS) in response to your letter dated November 5, 1997.

The amendments in the form of changes to the TS revise Sections 3.9.7, 4.9.7.1, 4.9.7.2, and 3/4.9.7 for Unit 1, and Sections 3.9.7, 4.9.7.1, 4.9.7.2, and 3/4.9.7 for Unit 2, allowing the movement of the spent fuel pit gate over the irradiated fuel.

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

Sincerely,
Original signed by:
N. Kalyanam, Project Manager
Project Directorate II-1
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Docket Nos. 50-338 and 50-339

Enclosures:
1. Amendment No. 213 to NPF-4
2. Amendment No. 194 to NPF-7
3. Safety Evaluation

cc w/encls: See next page

DISTRIBUTION
See attached sheet

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OFFICE	PM:PDII-1	LA:PDII-1	D:PDII-1	OGC	DSSA/SPLB
NAME	NKalyanam	Dunnington	PTKuo	AP11	for LBMarsh / BEThomas
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DATED: August 3, 1998

AMENDMENT NO. 213 - FACILITY OPERATING LICENSE NO. NPF-4-NORTH ANNA UNIT 1
AMENDMENT NO. 194 - FACILITY OPERATING LICENSE NO. NPF-7-NORTH ANNA UNIT 2

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

VIRGINIA ELECTRIC AND POWER COMPANY

OLD DOMINION ELECTRIC COOPERATIVE

DOCKET NO. 50-338

NORTH ANNA POWER STATION, UNIT NO. 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 213
License No. NPF-4

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

   A. The application for amendment by Virginia Electric and Power Company et al., (the licensee) dated November 5, 1997, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;

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

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

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

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

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.D.(2) of Facility Operating License No. NPF-4 is hereby amended to read as follows:

   (2) Technical Specifications

   The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 213 , are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of its date of issuance and shall be implemented within 30 days.

FOR THE NUCLEAR REGULATORY COMMISSION

P. T. Kuo, Acting Director
Project Directorate II-1
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of Issuance: August 3, 1998

ATTACHMENT TO LICENSE AMENDMENT NO. 213

TO FACILITY OPERATING LICENSE NO. NPF-4

DOCKET NO. 50-338

Replace the following pages of the Appendix "A" Technical Specifications with the enclosed pages as indicated. The revised pages are identified by amendment number and contain vertical lines indicating the areas of change.

Remove Pages	Insert Pages
3/4 9-7	3/4 9-7
B 3/4 9-2	B 3/4 9-2
B 3/4 9-3	B 3/4 9-3

REFUELING OPERATIONS

CRANE TRAVEL – SPENT FUEL PIT

LIMITING CONDITION FOR OPERATION

3.9.7 Loads in excess of 2500 pounds shall be prohibited from travel over irradiated fuel assemblies in the spent fuel pit. This does not apply to movement of any spent fuel pit gate provided each of the following is satisfied:

a. the top of the gate (excluding lifting lugs) is no higher than 15 inches above the top of the moveable platform crane deck support beam while over irradiated fuel,

b. the gate is rigged to slack-free safety cables while over irradiated fuel,

c. irradiated fuel containing Rod Control Cluster Assemblies are excluded along the load path where the gate is moved, and

d. irradiated fuel is prohibited in the cask area when the gate is lifted over the spent fuel cask handling area. There is no restriction on lift height.

APPLICABILITY: With irradiated fuel assemblies in the spent fuel pit.

ACTION:

With the requirements of the above specification not satisfied, place the crane load in a safe condition. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.9.7.1 Loads other than the spent fuel pit gates shall be verified to be less than 2500 pounds prior to movement over irradiated fuel assemblies in the spent fuel pit.

4.9.7.2 For movement of any of the spent fuel pit gates:

a. gate lift height and slack-free redundant rigging shall be verified prior to moving over irradiated fuel,

b. load paths shall be verified not to have irradiated fuel with Rod Control Cluster Assemblies present in the gate load path, and

c. the spent fuel cask handling area shall be verified to have no irradiated fuel present prior to moving a gate over the area.

Amendment No. 8, 213

3/4.9.6 MANIPULATOR CRANE OPERABILITY

The OPERABILITY requirements for the manipulator cranes ensure that: 1) manipulator cranes will be used for movement of control rods and fuel assemblies; 2) each crane has sufficient load capacity to lift a control rod or fuel assembly, and 3) the core internals and pressure vessel are protected from excessive lifting force in the event they are inadvertently engaged during lifting operations.

3/4.9.7 CRANE TRAVEL – SPENT FUEL PIT

The restriction on movements of the spent fuel pit gates over irradiated fuel ensure that redundant rigging will be used in order to prevent a gate drop caused by hoist failure. As shown by calculation, in the event the load is dropped (1) the spent fuel storage racks limit gate penetration and prevent the impact load from being applied to stored fuel, (2) fuel spacing will not be changed and (3) impact loading to the spent fuel pit structure is acceptable.

The restriction on movement of other loads in excess of the nominal weight of a fuel and control rod assembly 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 a single fuel assembly, and 2) any possible distortion of fuel in the storage racks will not result in a critical array. This assumption is consistent with the activity release assumed in the accident analyses.

3/4.9.8 RESIDUAL HEAT REMOVAL AND COOLANT CIRCULATION

The requirement that at least one residual heat removal (RHR) loop 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 effect of a boron dilution incident and prevent boron stratification.

After the reactor has shutdown and entered into MODE 3 for at least 100 hours, a minimum RHR system flow rate of 2000 gpm in MODE 6 is permitted, provided there is sufficient decay heat removal to maintain the RCS temperature less than or equal to 140°F. Since the decay heat power production rate decreases with time after shutdown, the requirements for RHR system decay heat removal also decrease. Adequate decay heat removal is provided as long as the reactor has been shutdown for at least 100 hours after entry into MODE 3 and RHR flow is sufficient to maintain the RCS temperature less than or equal to 140°F. The reduced flow rate provides additional margin to vortexing at the RHR pump suction while in Mid Loop Operation. During a reduction in reactor coolant system boron concentration the Specification 3.1.1.3.1 requirement to maintain a 3000 gpm flow rate provides sufficient coolant circulation to minimize the effect of a boron dilution incident and to prevent boron stratification.

The requirement to have two RHR loops OPERABLE when there is less than 23 feet of water above the reactor pressure vessel flange ensures that a single failure of the operating RHR loop will not result in a complete loss of residual 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 RHR loop, adequate time is provided to initiate emergency procedures to cool the core

3/4.9.9 CONTAINMENT PURGE AND EXHAUST ISOLATION SYSTEM

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

3/4.9.10 and 3/4.9.11 WATER LEVEL – REACTOR VESSEL AND SPENT FUEL PIT

The restrictions on minimum water level ensure that sufficient water depth is available to remove 99% of the assumed 10% iodine gap activity released from the rupture of an irradiated fuel assembly. The minimum water depth is consistent with the assumptions of the accident analysis.

The minimum water level for movement of fuel assemblies (23 feet above the vessel flange) assures that sufficient water depth is maintained above fuel elements being moved to or from the vessel. With the upper internals in place, fuel assemblies and control rods cannot be removed from the vessel. Operations involving the lifting of control rods with the vessel upper internals in place may proceed with less than 23 feet of water above the vessel flange provided that 23 feet of water is maintained above all irradiated fuel assemblies within the reactor vessel.

3/4.9.12 FUEL BUILDING VENTILATION SYSTEM

The limitations on the fuel building ventilation system ensure that all radioactive material released from an irradiated fuel assembly will be filtered through the auxiliary building HEPA and charcoal filter assemblies prior to discharge to the atmosphere. The Fuel Handling Accident analysis does not require filtration of the fuel building exhaust in order to meet the analysis criteria. However, the OPERABILITY of this system and the resulting iodine removal capacity provide additional conservatism compared with the assumptions of the accident analyses.

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

VIRGINIA ELECTRIC AND POWER COMPANY

OLD DOMINION ELECTRIC COOPERATIVE

DOCKET NO. 50-339

NORTH ANNA POWER STATION, UNIT NO. 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 194
License No. NPF-7

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

   A. The application for amendment by Virginia Electric and Power Company et al., (the licensee) dated November 5, 1997, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;

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

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

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

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

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Facility Operating License No. NPF-7 is hereby amended to read as follows:

   (2) Technical Specifications

   The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 194, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of its date of issuance and shall be implemented within 30 days.

FOR THE NUCLEAR REGULATORY COMMISSION

P. T. Kuo, Acting Director
Project Directorate II-1
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of Issuance:

ATTACHMENT TO LICENSE AMENDMENT NO. 194

TO FACILITY OPERATING LICENSE NO. NPF-7

DOCKET NO. 50-339

Replace the following pages of the Appendix "A" Technical Specifications with the enclosed pages as indicated. The revised pages are identified by amendment number and contain vertical lines indicating the areas of change. Overleaf page 3/4 9-7 is included for document completeness.

Remove Pages	Insert Pages
3/4 9-8	3/4 9-8
B 3/4 9-2	B 3/4 9-2
B 3/4 9-3	B 3/4 9-3

REFUELING OPERATIONS

MANIPULATOR CRANE OPERABILITY

LIMITING CONDITION FOR OPERATION

3.9.6 The manipulator crane and auxiliary hoist shall be used for movement of control rods or fuel assemblies and shall be OPERABLE with:

a. The manipulator crane used for movement of fuel assemblies having:

   1. A minimum capacity of 3250 pounds, and
   2. An overload cut off limit less than or equal to 2850 pounds.

b. The auxiliary hoist used for movement of control rods having:

   1. A minimum capacity of 700 pounds, and
   2. A load indicator which shall be used to prevent lifting loads in excess of 600 pounds.

APPLICABILITY: During movement of control rods or fuel assemblies within the reactor pressure vessel.

ACTION:

With the requirements for crane and/or hoist OPERABILITY not satisfied, suspend use of any inoperable manipulator crane and/or auxiliary hoist from operations involving the movement of control rods and fuel assemblies within the reactor pressure vessel. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.9.6.1 Each manipulator crane used for movement of fuel assemblies within the reactor pressure vessel shall be demonstrated OPERABLE within 100 hours prior to the start of such operations by performing a load test of at least 3250 pounds and demonstrating an automatic load cut off when the crane load exceeds 2850 pounds.

4.9.6.2 Each auxiliary hoist and associated load indicator used for movement of control rods within the reactor pressure vessel shall be demonstrated OPERABLE within 100 hours prior to the start of such operations by performing a load test of at least 700 pounds.

REFUELING OPERATIONS

CRANE TRAVEL – SPENT FUEL PIT

LIMITING CONDITION FOR OPERATION

3.9.7 Loads in excess of 2500 pounds shall be prohibited from travel over irradiated fuel assemblies in the spent fuel pit. This does not apply to movement of any spent fuel pit gate provided each of the following is satisfied:

a. the top of the gate (excluding lifting lugs) is no higher than 15 inches above the top of the moveable platform crane deck support beam while over irradiated fuel,

b. the gate is rigged to slack-free safety cables while over irradiated fuel,

c. irradiated fuel containing Rod Control Cluster Assemblies are excluded along the load path where the gate is moved, and

d. irradiated fuel is prohibited in the cask area when the gate is lifted over the spent fuel cask handling area. There is no restriction on lift height.

APPLICABILITY: With irradiated fuel assemblies in the spent fuel pit.

ACTION:

With the requirements of the above specification not satisfied, place the crane load in a safe condition. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.9.7.1 Loads other than the spent fuel pit gates shall be verified to be less than 2500 pounds prior to movement over irradiated fuel assemblies in the spent fuel pit.

4.9.7.2 For movement of any of the spent fuel pit gates:

a. gate lift height and slack-free redundant rigging shall be verified prior to moving over irradiated fuel,

b. load paths shall be verified not to have irradiated fuel with Rod Control Cluster Assemblies present in the gate load path, and

c. the spent fuel cask handling area shall be verified to have no irradiated fuel present prior to moving a gate over the area.

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The OPERABILITY requirements for the manipulator cranes ensure that: 1) manipulator cranes will be used for movement of control rods and fuel assemblies; 2) each crane has sufficient load capacity to lift a control rod or fuel assembly, and 3) the core internals and pressure vessel are protected from excessive lifting force in the event they are inadvertently engaged during lifting operations.

3/4.9.7 CRANE TRAVEL – SPENT FUEL PIT

The restriction on movements of the spent fuel pit gates over irradiated fuel ensure that redundant rigging will be used in order to prevent a gate drop caused by hoist failure. As shown by calculation, in the event the load is dropped (1) the spent fuel storage racks limit gate penetration and prevent the impact load from being applied to stored fuel, (2) fuel spacing will not be changed and (3) impact loading to the spent fuel pit structure is acceptable.

The restriction on movement of other loads in excess of the nominal weight of a fuel and control rod assembly 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 a single fuel assembly, and 2) any possible distortion of fuel in the storage racks will not result in a critical array. This assumption is consistent with the activity release assumed in the accident analyses.

3/4.9.8 RESIDUAL HEAT REMOVAL AND COOLANT CIRCULATION

The requirement that at least one residual heat removal (RHR) loop 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 effect of a boron dilution incident and prevent boron stratification.

After the reactor has shutdown and entered into MODE 3 for at least 100 hours, a minimum RHR system flow rate of 2000 gpm in MODE 6 is permitted, provided there is sufficient decay heat removal to maintain the RCS temperature less than or equal to 140°F. Since the decay heat power production rate decreases with time after shutdown, the requirements for RHR system decay heat removal also decrease. Adequate decay heat removal is provided as long as the reactor has been shutdown for at least 100 hours after entry into MODE 3 and RHR flow is sufficient to maintain the RCS temperature less than or equal to 140°F. The reduced flow rate provides additional margin to vortexing at the RHR pump suction while in Mid Loop Operation. During a reduction in reactor coolant system boron concentration the Specification 3.1.1.3.1 requirement to maintain a 3000 gpm flow rate provides sufficient coolant circulation to minimize the effect of a boron dilution incident and to prevent boron stratification.

The requirement to have two RHR loops OPERABLE when there is less than 23 feet of water above the reactor pressure vessel flange ensures that a single failure of the operating RHR loop will not result in a complete loss of residual 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 RHR loop, adequate time is provided to initiate emergency procedures to cool the core.

3/4.9.9 CONTAINMENT PURGE AND EXHAUST ISOLATION SYSTEM

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

3/4.9.10 and 3/4.9.11 WATER LEVEL – REACTOR VESSEL AND SPENT FUEL PIT

The restrictions on minimum water level ensure that sufficient water depth is available to remove 99% of the assumed 10% iodine gap activity released from the rupture of an irradiated fuel assembly. The minimum water depth is consistent with the assumptions of the accident analysis.

The minimum water level for movement of fuel assemblies (23 feet above the vessel flange) assures that sufficient water depth is maintained above fuel elements being moved to or from the vessel. With the upper internals in place, fuel assemblies and control rods cannot be removed from the vessel. Operations involving the lifting of control rods with the vessel upper internals in place may proceed with less than 23 feet of water above the vessel flange provided that 23 feet of water is maintained above all irradiated fuel assemblies within the reactor vessel.

3/4.9.12 FUEL BUILDING VENTILATION SYSTEM

The limitations on the fuel building ventilation system ensure that all radioactive material released from an irradiated fuel assembly will be filtered through the auxiliary building HEPA and charcoal filter assemblies prior to discharge to the atmosphere. The Fuel Handling Accident analysis does not require filtration of the fuel building exhaust in order to meet the analysis criteria. However, the OPERABILITY of this system and the resulting iodine removal capacity provide additional conservatism compared with the assumptions of the accident analyses.

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NOS. 213 AND 194 TO

VIRGINIA ELECTRIC AND POWER COMPANY

NORTH ANNA POWER STATION, UNITS NO. 1 AND NO. 2

DOCKET NOS. 50-338 AND 50-339

1. INTRODUCTION

By letter dated November 5, 1997, the Virginia Electric and Power Company (VEPCO, the licensee), submitted a license amendment request to revise the Technical Specifications (TS) for the North Anna Power Station, Units 1 and 2. The amendments would change TS 3/4.9.7, "Refueling Operations, Crane Travel - Spent Fuel Pit," to enable the licensee to move the spent fuel pit (SFP) gates over irradiated fuel in the SFP. The amendment would also add to the TS proper handling and control measures to be instituted when moving the SFP gates over irradiated fuel in the SFP. These handling and control measures would assure that the SFP gates are not dropped. The SFP gates are removed for maintenance and reinstalled in the SFP prior to each refueling outage.

2. BACKGROUND

Three SFP gates weighing 4200 pounds each exist: one at each unit's fuel transfer canal and the other at the spent fuel cask separating wall. Prior to each outage, the gates are removed from the SFP for maintenance. They are moved across the irradiated fuel storage area to the cask handling area where they are lifted out of the SFP. Currently, the gates are transported out of the SFP via safe load paths across empty fuel storage cells. During the Fall 1998 refueling outage and subsequent refueling outages, the licensee cannot maintain safe load paths over empty storage cells during removal of the gates because irradiated fuel will be seated in the cells. Existing TS restricts movement of loads greater than 2500 pounds over irradiated fuel stored in the SFP.

NUREG-0612, "Control of Heavy Loads at Nuclear Power Plants," provides guidelines for licensees to assure safe handling of heavy loads by prohibiting load travel, to the extent practicable, over spent fuel assemblies, over the core, and over safety-related equipment. The NUREG also recommends in Section 5.1.1 that procedures be developed to cover load handling operations for heavy loads that could be handled over or in proximity to irradiated fuel.

To enable proper movement of the spent fuel pit gates over irradiated fuel in the SFP, the licensee is proposing to change the existing TS to exempt the gates from the load restriction of 2500 pounds, and to institute specific administrative controls to assure that the gates

would not be dropped. The proposed TS would satisfy the guidelines in NUREG-0612 by enabling the licensee to transport the spent fuel pit gates over irradiated fuel stored in cells along the safe load path. The licensee proposed the following administrative controls to avoid accidents: (1) limiting the lift height of the gates; (2) attaching redundant slack-free safety cables to support the gate should crane failure occur over irradiated fuel; (3) establishing safe load paths that would result in minimum impact on the fuel if a load is dropped; and (4) enhancing the surveillance requirements to assure that the administrative controls are adequately implemented before moving the gates.

3. EVALUATION

3.1 TS 3.9.7- "Crane Travel - Spent Fuel Pit"

Existing TS 3.9.7 requirement limiting loads exceeding 2500 pounds from travel over irradiated fuel assemblies in the SFP is changed to show that the SFP gates are exempted from this load limit. This TS limit is consistent with the design basis fuel handling accident and was established to limit any release due to a dropped load damaging all the fuel rods in a single fuel assembly. Other proposed changes to the TS add administrative controls to help assure that the SFP gates would not be dropped. The controls are as follows: (1) limits of 15 inches on the lift height of the gates above the moveable platform crane deck support beam while it is over irradiated fuel; (2) requirements that the gate be rigged to slack-free safety cables while over irradiated fuel; (3) removal of irradiated fuel with rod control cluster assemblies from the load path; and (4) removal of irradiated fuel from the cask area when the gates are lifted over the cask handling area.

Both the exemption of the SFP gates from the load limit and the addition of the administrative controls to the TS would enable the licensee to move the SFP gates over irradiated fuel in accordance with guidelines in NUREG-0612. Therefore, these changes are acceptable to the staff.

3.2 Surveillance Requirements (SRs) 4.9.7.1 and 4.9.7.2, and Bases 3/4.9.7 "Crane Travel Spent Fuel Pit"

The existing SR 4.9.7.1 is changed to require that prior to moving loads over irradiated fuel, the licensee verify that the loads are less than 2500 pounds. The licensee is not required to verify the weight of the SFP gates prior to moving it over irradiated fuel. SR 4.9.7.2 is added to require that the licensee verify that the administrative controls as noted above are instituted. The proposed changes to the SR help the licensee to assure that the control measures to prevent the gates from dropping during a failure are properly implemented.

The proposed changes to Bases 3/4.9.7, "Crane Travel - Spent Fuel Pit," justify the proposed changes to the TS. As noted in the Bases, the administrative controls on the movement of the SFP gates ensure that redundant rigging will be used to prevent a gate drop. It also ensures that the lift height of the gates would be controlled to minimize the impact if a failure resulted in a dropped gate onto stored fuel and the spent fuel pit structure. These changes to the Bases will help to assure that the licensee will move the spent fuel pit gates in accordance with guidelines in NUREG-0612 and, therefore, are acceptable to the staff.

3.3 Load Handling Accident Analysis

Although heavy load handling analyses are deemed not needed in Generic Letter 85-11, the licensee considered two load handling accidents to support the bases for the TS change: (1) direct SFP gate impact on spent fuel storage cells; and (2) direct SFP gate impact on the spent fuel pit floor. According to the licensee, since these analyses are similar to the fuel handling accident analysis, the margin of safety remains the same as the design basis accident.

Based on the analysis, the licensee found that a single failure mode between the crane and the rigging is most unlikely. The licensee also found that a gate drop would result in acceptable consequences that are bounded by the fuel handling accident analysis provided the administrative controls are properly implemented. Some fuel damage would occur; however, it would not result in a critical configuration. Also, the structural integrity of the SFP floor would not be breached. Since the gates would not be moved over the SFP transfer canals, analysis of postulated gate drops was not performed for this area.

4. STATE CONSULTATION

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

5. ENVIRONMENTAL CONSIDERATION

These amendments change a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 and change surveillance requirements. The NRC staff has determined that the amendments involve no significant increase in the amounts, and no significant change in the types, of any effluent that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that these amendments involve no significant hazards consideration and

there has been no public comment on such finding (62 FR 66146). Accordingly, these amendments meet the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b) no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendments.

6. CONCLUSION

Based on the preceding discussions, the staff finds that the proposed changes to the TS to move the SFP gates over irradiated fuel in the SFP and use administrative controls to improve the handling of the gates are in accordance with NUREG-0612. These changes will enable the licensee to move the gates while preventing any damage to spent fuel and the SFP if a failure was to occur and therefore are acceptable to the staff.

The Commission has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendments will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: Brian E. Thomas

Date: August 3, 1998