June 4, 1992

Docket No. 50-336

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Mr. John F. Opeka
Executive Vice President, Nuclear
Connecticut Yankee Atomic Power Company
Northeast Nuclear Energy Company
Post Office Box 270
Hartford, Connecticut 06141-0270

Dear Mr. Opeka:

SUBJECT: ISSUANCE OF AMENDMENT (TAC NO. M83180)

The Commission has issued the enclosed Amendment No. 158 to Facility Operating License No. DPR-65 for Millstone Nuclear Power Station, Unit No. 2, in response to your application dated April 16, 1992, supplemented by letter dated May 7, 1992.

The amendment changes the Millstone Unit No. 2 Technical Specifications by modifying the existing two region spent fuel pool design, modified by Amendment 109, dated January 15, 1986, and Amendment 128, dated March 31, 1988, to a three region configuration.

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

Sincerely,

/s/

Guy S. Vissing, Senior Project Manager
Project Directorate I-4
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Enclosures:
1. Amendment No. 158 to DPR-65
2. Safety Evaluation

cc w/enclosures:
See next page

*See previous concurrence
OFFICIAL RECORD COPY Document Name: MP2SPFP

OFC	:LA:PDI-4	:PM:PDI-4	:BC:SPLB*	:D:PDI-4	:OGC	:	:
NAME	:SNorris	:GVissing:cn	:CMcCracken	:JStolz	:	:	:
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WASHINGTON, D. C. 20555

NORTHEAST NUCLEAR ENERGY COMPANY

THE CONNECTICUT LIGHT AND POWER COMPANY

THE WESTERN MASSACHUSETTS ELECTRIC COMPANY

DOCKET NO. 50-336

MILLSTONE NUCLEAR POWER STATION, UNIT NO. 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 158
License No. DPR-65

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

   A. The application for amendment by Northeast Nuclear Energy Company, et al. (the licensee) dated April 16, 1992, supplemented by letter dated May 7, 1992, 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. DPR-65 is hereby amended to read as follows:

   (2) Technical Specifications

   The Technical Specifications contained in Appendix A, as revised through Amendment No. 158 , are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. This license amendment is effective as of the date of its issuance, to be implemented within 30 days of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

Albert W. DeAgazio for

John F. Stolz, Director
Project Directorate I-4
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of Issuance: June 4, 1992

ATTACHMENT TO LICENSE AMENDMENT NO. 158

FACILITY OPERATING LICENSE NO. DPR-65

DOCKET NO. 50-336

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

Remove	Insert
IX	IX
XIV	XIV
1-8	1-8
3/4 9-21	3/4 9-21
3/4 9-22	3/4 9-22
3/4 9-23	3/4 9-23
3/4 9-24	3/4 9-24
3/4 9-25	3/4 9-25
-----	3/4 9-25a
3/4 9-26	3/4 9-26
-----	3/4 9-26a
B 3/4 9-3	B 3/4 9-3
B 3/4 9-4	B 3/4 9-4
5-5	5-5
	5-5a

LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS

SECTION		PAGE
3/4.9	REFUELING OPERATIONS	
3/4.9.1	BORON CONCENTRATION	3/4 9-1
3/4.9.2	INSTRUMENTATION	3/4 9-2
3/4.9.3	DECAY TIME	3/4 9-3
3/4.9.4	CONTAINMENT PENETRATIONS	3/4 9-4
3/4.9.5	COMMUNICATIONS	3/4 9-5
3/4.9.6	CRANE OPERABILITY - CONTAINMENT BUILDING	3/4 9-6
3/4.9.7	CRANE TRAVEL - SPENT FUEL STORAGE POOL BUILDING	3/4 9-7
3/4.9.8	SHUTDOWN COOLING AND COOLANT CIRCULATION	3/4 9-8
3/4.9.9	CONTAINMENT RADIATION MONITORING	3/4 9-9
3/4.9.10	CONTAINMENT PURGE VALVE ISOLATION SYSTEM	3/4 9-10
3/4.9.11	WATER LEVEL - REACTOR VESSEL	3/4 9-11
3/4.9.12	STORAGE POOL WATER LEVEL	3/4 9-12
3/4.9.13	STORAGE POOL RADIATION MONITORING	3/4 9-13
3/4.9.14	STORAGE POOL AREA VENTILATION SYSTEM - FUEL MOVEMENT	3/4 9-14
3/4.9.15	STORAGE POOL AREA VENTILATION SYSTEM - FUEL STORAGE	3/4 9-16
3/4.9.16	SHIELDED CASK	3/4 9-19
3/4.9.17	MOVEMENT OF FUEL IN SPENT FUEL POOL	3/4 9-21
3/4.9.18	SPENT FUEL POOL - REACTIVITY CONDITION	3/4 9-22
3/4.9.19	SPENT FUEL POOL - STORAGE PATTERN	3/4 9-26
3/4.9.20	SPENT FUEL POOL - CONSOLIDATION	3/4 9-27
3/4.10	SPECIAL TEST EXCEPTIONS	
3/4.10.1	SHUTDOWN MARGIN	3/4 10-1
3/4.10.2	GROUP HEIGHT AND INSERTION LIMITS	3/4 10-2
3/4.10.3	PRESSURE/TEMPERATURE LIMITATION - REACTOR CRITICALITY	3/4 10-3

BASES

SECTION	PAGE
3/4.9.9 and 3/4.9.10 CONTAINMENT AND RADIATION MONITORING AND CONTAINMENT PURGE VALVE ISOLATION SYSTEM	B 3/4 9-2
3/4.9.11 and 3/4.9.12 WATER LEVEL - REACTOR VESSEL AND STORAGE POOL WATER LEVEL	B 3/4 9-2
3/4.9.13 STORAGE POOL RADIATION MONITORING	B 3/4 9-3
3/4.9.14 and 3/4.9.15 STORAGE POOL AREA VENTILATION SYSTEM	B 3/4 9-3
3/4.9.16 SHIELDED CASK	B 3/4 9-3
3/4.9.17 MOVEMENT OF FUEL IN SPENT FUEL POOL	B 3/4 9-3
3/4.9.18 SPENT FUEL POOL - REACTIVITY CONDITION	B 3/4 9-3
3/4.9.19 SPENT FUEL POOL - STORAGE PATTERN	B 3/4 9-4
3/4.9.20 SPENT FUEL POOL - CONSOLIDATION	B 3/4 9-4
3/4.10 SPECIAL TEST EXCEPTIONS	
3/4.10.1 SHUTDOWN MARGIN	B 3/4 10-1
3/4.10.2 GROUP HEIGHT AND INSERTION LIMITS	B 3/4 10-1
3/4.10.3 PRESSURE/TEMPERATURE LIMITATION - REACTOR CRITICALITY	B 3/4 10-1
3/4.10.4 PHYSICS TESTS	B 3/4 10-1
3/4.10.5 CENTER CEA MISALIGNMENT	B 3/4 10-1
3/4.11 RADIOACTIVE EFFLUENTS	
3/4.11.1 LIQUID EFFLUENTS	B 3/4 11-1
3/4.11.2 GASEOUS EFFLUENTS	B 3/4 11-2
3/4.11.3 TOTAL DOSE	B 3/4 11-4

VENTING

1.35 VENTING is the controlled process of discharging air or gas from a confinement to maintain temperature, pressure, humidity, concentration or other operating condition, in such a manner that replacement air or gas is not provided or required during venting. Vent, used in system names, does not imply a VENTING process.

MEMBER(S) OF THE PUBLIC

1.36 MEMBER(S) OF THE PUBLIC shall include all persons who are not occupationally associated with the plant. This category does not include employees of the utility, its contractors or its vendors. Also excluded from this category are persons who enter the site to service equipment or to make deliveries. This category does include persons who use portions of the site for recreational, occupational or other purposes not associated with the plant.

The term "REAL MEMBER OF THE PUBLIC" means an individual who is exposed to existing dose pathways at one particular location.

SITE BOUNDARY

1.37 The SITE BOUNDARY shall be that line beyond which the land is not owned, leased or otherwise controlled by the licensee.

UNRESTRICTED AREA

1.38 An UNRESTRICTED AREA shall be any area at or beyond the site boundary to which access is not controlled by the licensee for purposes of protection of individuals from exposure to radiation and radioactive materials or any area within the site boundary used for residential quarters or industrial, commercial institutional and/or recreational purposes.

STORAGE PATTERN

1.39 The Region B and C spent fuel racks contain a cell blocking device in every 4th rack location for administrative control. This 4th location will be referred to as the blocked location. A STORAGE PATTERN refers to a blocked location and all adjacent and diagonal cell locations surrounding the blocked location within the respective region.

MOVEMENT OF FUEL IN SPENT FUEL POOL

LIMITING CONDITION FOR OPERATION

3.9.17 Prior to movement of a fuel assembly, or a consolidated fuel storage box, in the spent fuel pool, the boron concentration of the pool shall be maintained uniform and sufficient to maintain a boron concentration of greater than or equal to 800 ppm.

APPLICABILITY: Whenever a fuel assembly, or a consolidated fuel storage box, is moved in the spent fuel pool.

ACTION:

With the boron concentration less than 800 ppm, suspend the movement of all fuel in the spent fuel pool.

SURVEILLANCE REQUIREMENT

4.9.17 Verify that the boron concentration is greater than or equal to 800 ppm within 24 hours prior to any movement of a fuel assembly, or a consolidated fuel storage box, in the spent fuel pool and every 72 hours thereafter.

REFUELING OPERATIONS

SPENT FUEL POOL--REACTIVITY CONDITION

LIMITING CONDITION FOR OPERATION

3.9.18 The Reactivity Condition of the spent fuel pool shall be such that K_{eff} is less-than-or-equal-to 0.95 at all times.

APPLICABILITY: Whenever fuel is in the spent fuel pool.

ACTION:

Borate until $K_{eff} \leq .95$ is reached.

SURVEILLANCE REQUIREMENT

4.9.18.1 Ensure that all fuel assemblies to be placed in Region C (as shown in Figure 3.9-2) of the spent fuel pool are within the enrichment and burn-up limits of Figure 3.9.1 by checking the assembly's design and burn-up documentation.

4.9.18.2 Ensure that the contents of each consolidated fuel storage box to be placed in Region C (as shown in Figure 3.9-2) of the spent fuel pool are within the enrichment and burn-up limits of Figure 3.9-3 by checking the design and burn-up documentation for storage box contents.

4.9.18.3 Ensure that all fuel assemblies to be placed in Region A (as shown in Figure 3.9-2) of the spent fuel pool are within the enrichment and burnup limits of Figure 3.9-4 by checking the assembly's design and burnup documentation.

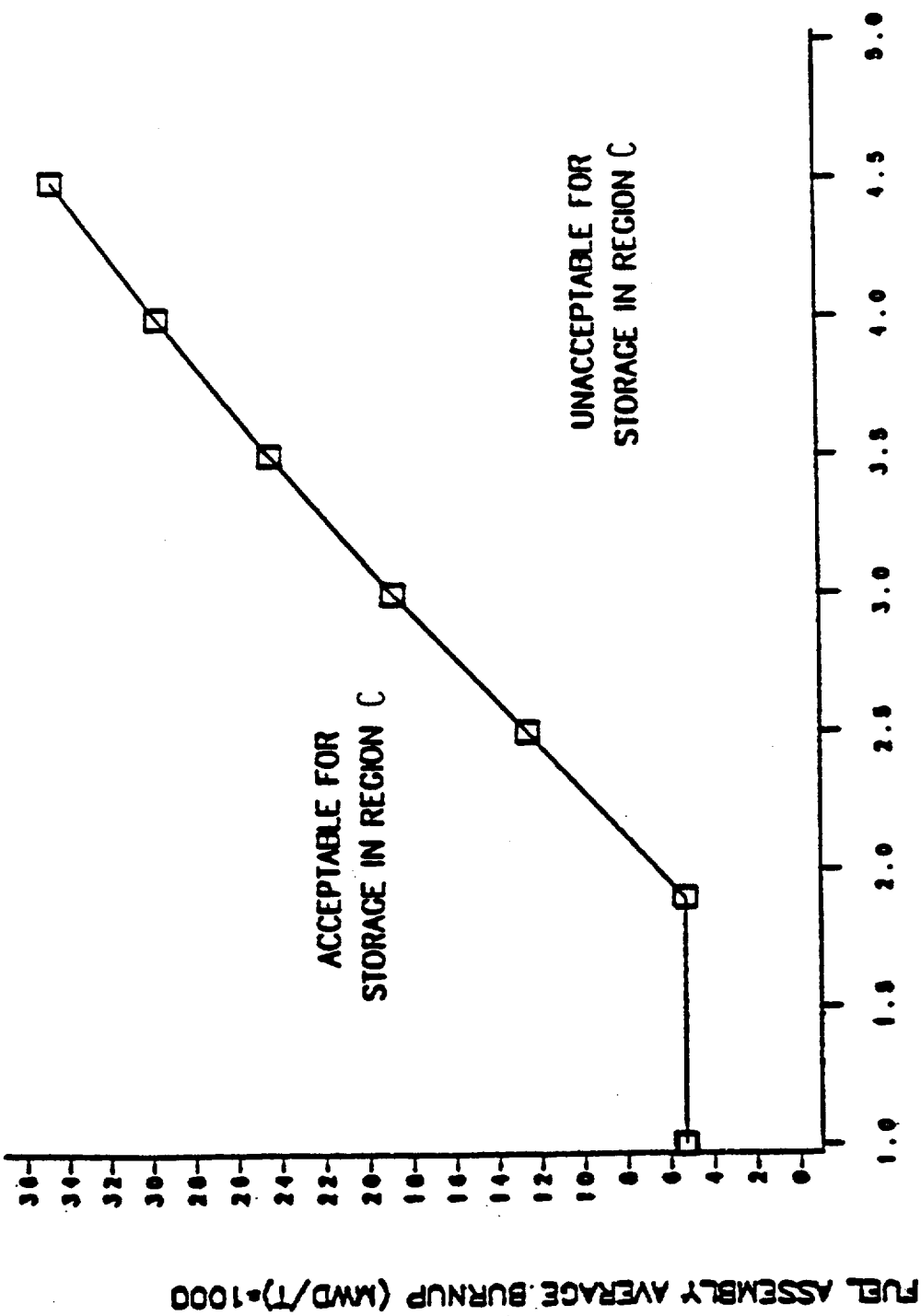
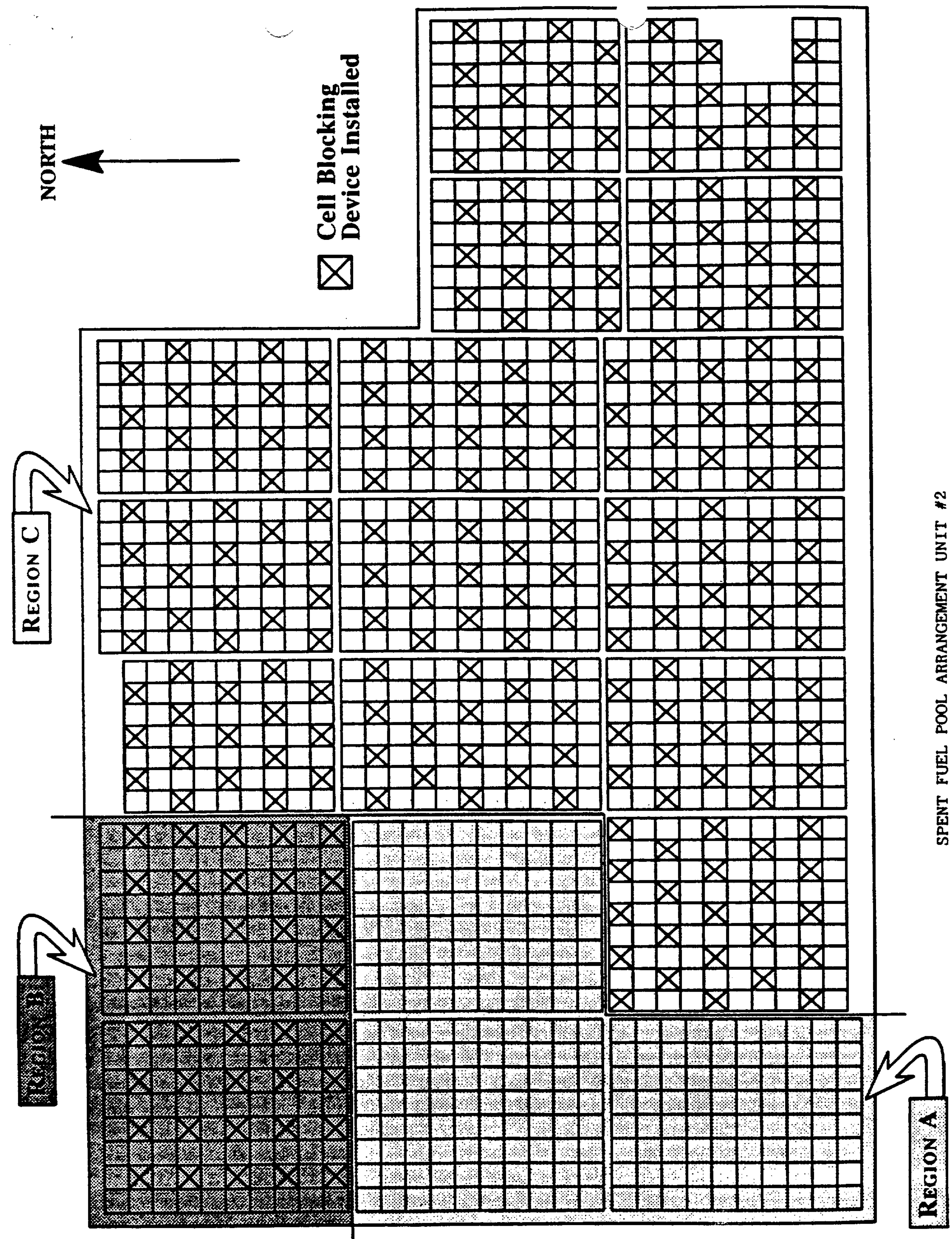


FIGURE 3.9-1 MINIMUM REQUIRED FUEL ASSEMBLY EXPOSURE AS A FUNCTION OF INITIAL ENRICHMENT TO PERMIT STORAGE IN REGION C



SPENT FUEL POOL ARRANGEMENT UNIT #2

FIGURE 3.9-2

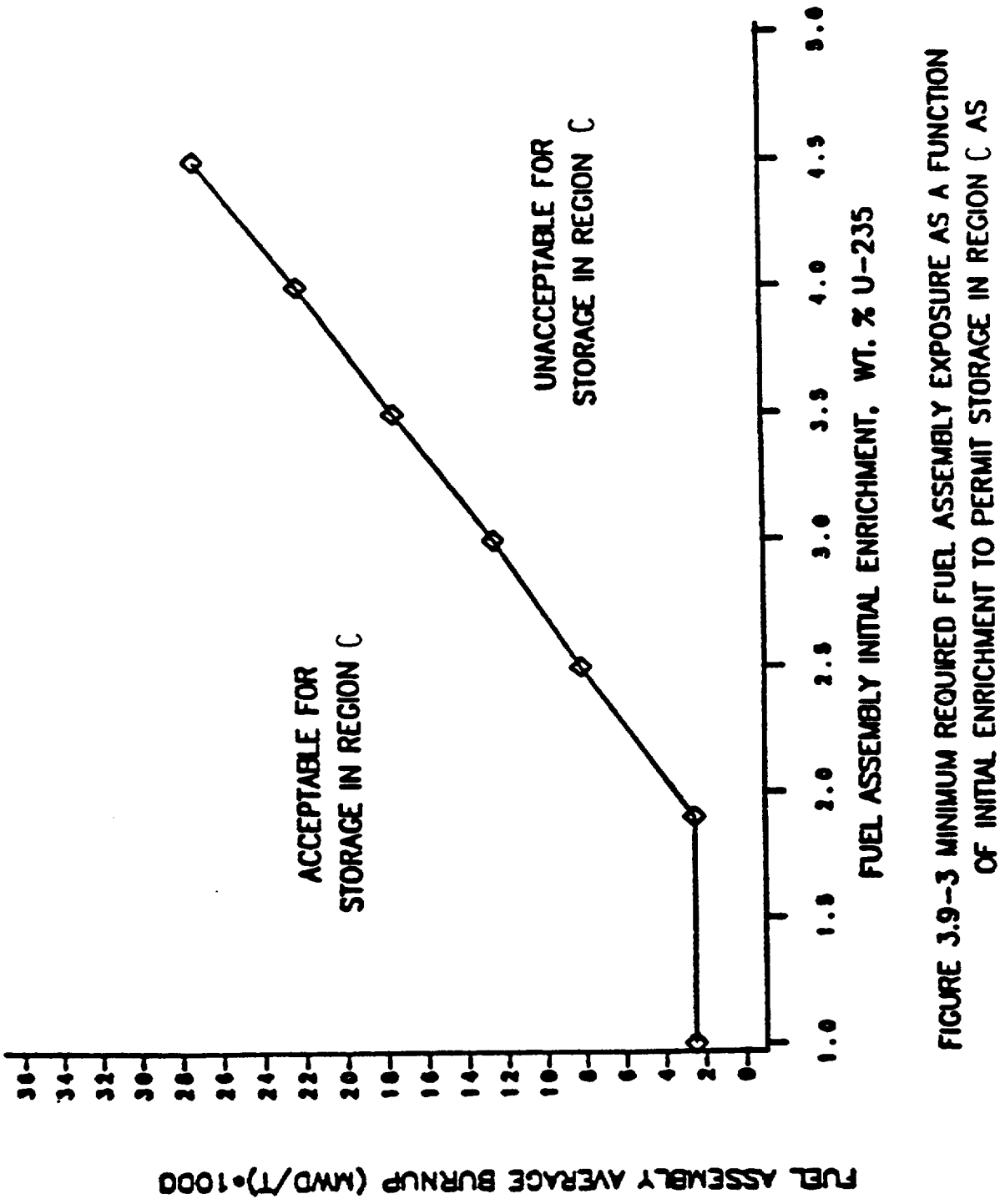


FIGURE 3.9-3 MINIMUM REQUIRED FUEL ASSEMBLY EXPOSURE AS A FUNCTION OF INITIAL ENRICHMENT TO PERMIT STORAGE IN REGION C AS CONSOLIDATED FUEL

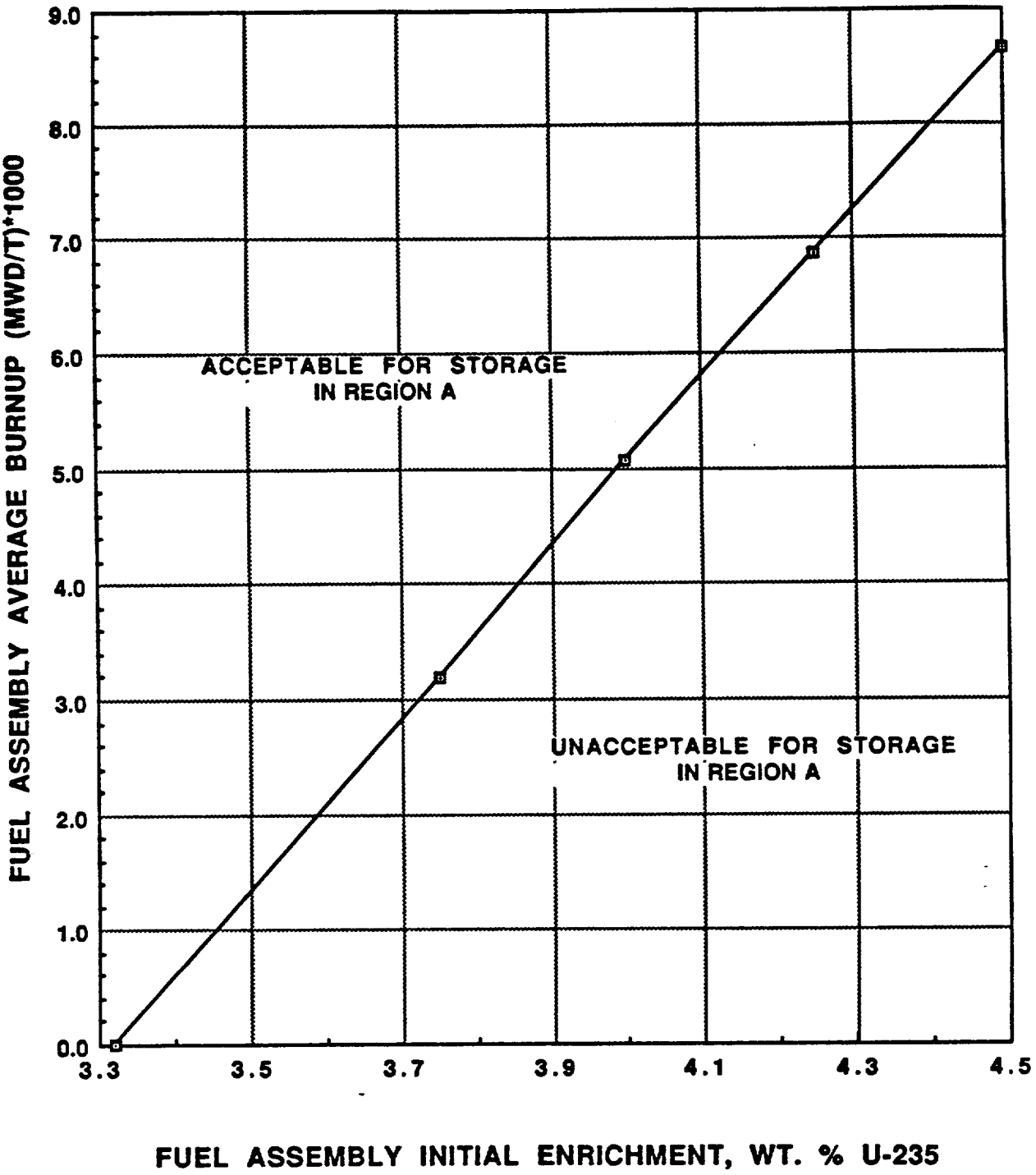


FIG. 3.9-4 MINIMUM REQUIRED FUEL ASSEMBLY EXPOSURE AS A FUNCTION OF INITIAL ENRICHMENT TO PERMIT STORAGE IN REGION A

REFUELING OPERATIONS

SPENT FUEL POOL - STORAGE PATTERN

LIMITING CONDITION FOR OPERATION

3.9.19.1 Each STORAGE PATTERN of the Region C spent fuel pool racks shall require either that:

(1) A cell blocking device is installed in those cell locations shown in Figure 3.9-2; or

(2) If a cell blocking device has been removed, all cells of the STORAGE PATTERN must have consolidated fuel in them, including the formerly blocked location; or

(3) Meet both (a) and (b):

(a) If a cell blocking device has been removed, all cells of the STORAGE PATTERN must have consolidated fuel in them except the formerly blocked location.

(b) The formerly blocked location is vacant and a consolidated fuel box or cell blocking device is immediately being placed into the formerly blocked cell.

APPLICABILITY: Fuel in the Spent Fuel Pool

ACTION:

Take immediate action to comply with either 3.9.19.1(1), (2) or (3).

SURVEILLANCE REQUIREMENTS

4.9.19.1 Verify that 3.9.19.1 is satisfied at the following times.

(1) Prior to removing a cell blocking device

(2) Prior to removing a consolidated fuel storage box from its Region C storage location.

REFUELING OPERATIONS

SPENT FUEL POOL - STORAGE PATTERN

LIMITING CONDITION FOR OPERATION

3.9.19.2 Each STORAGE PATTERN of the Region B spent fuel pool racks shall require that:

(1) A cell blocking device is installed in those cell locations shown in Figure 3.9-2; or

(2) If a cell blocking device has been removed, all cells in the STORAGE PATTERN must be vacant of stored fuel assemblies.

APPLICABILITY: Fuel in the spent fuel pool.

ACTION:

Take immediate action to comply with either 3.9.19.2(1) or (2).

SURVEILLANCE REQUIREMENTS

4.9.19.2 Verify that 3.9.19.2 is satisfied prior to removing a cell blocking device.

3/4.9.13 STORAGE POOL RADIATION MONITORING

The OPERABILITY of the storage pool radiation monitors ensures that sufficient radiation monitoring capability is available to detect excessive radiation levels resulting from 1) the inadvertent lowering of the storage pool water level or 2) the release of activity from an irradiated fuel assembly.

3/4.9.14 & 3/4.9.15 STORAGE POOL AREA VENTILATION SYSTEM

The limitations on the storage pool area ventilation system ensures that all radioactive material released from an irradiated fuel assembly will be filtered through the HEPA filters and charcoal adsorber prior to discharge to the atmosphere. The OPERABILITY of this system and the resulting iodine removal capacity are consistent with the assumptions of the accident analyses.

3/4.9.16 SHIELDED CASK

The limitations of this specification ensure that in an event of a cask tilt accident 1) the doses from ruptured fuel assemblies will be within the assumptions of the safety analyses, 2) K_{eff} will remain $\leq$ .95.

3/4.9.17 MOVEMENT OF FUEL IN SPENT FUEL POOL

The limitations of this specification ensure that, in the event of a fuel assembly or a consolidated fuel storage box drop accident into a Region B or C rack location completing a 4-out-of-4 fuel assembly geometry, K_{eff} will remain $\leq$ 0.95.

3/4.9.18 SPENT FUEL POOL - REACTIVITY CONDITION

The limitations described by Figures 3.9-1 and 3.9-3 ensure that the reactivity of fuel assemblies and consolidated fuel storage boxes, introduced into the Region C spent fuel racks, are conservatively within the assumptions of the safety analysis.

The limitations described by Figure 3.9-4 ensure that the reactivity of the fuel assemblies, introducted into the Region A spent fuel racks, are conservatively within the assumptions of the safety analysis.

3/4.9.19 SPENT FUEL POOL - STORAGE PATTERN

The limitations of this specification ensure that the reactivity conditions of the Region B and C storage racks and spent fuel pool K_{eff} will remain less than or equal to 0.95.

The Cell Blocking Devices in the 4th location of the Region C storage racks are designed to prevent inadvertent placement and/or storage of fuel assemblies in the blocked locations. The blocked location remains empty to provide the flux trap to maintain reactivity control for fuel assembly storage in any adjacent locations. Only loaded consolidated fuel storage boxes may be placed and/or stored in the 4th location, completing the STORAGE PATTERN, after all adjacent, and diagonal, locations are occupied by loaded consolidated fuel storage boxes.

The Cell Blocking Devices is the 4th location of the Region B storage racks are designed to prevent inadvertent placement and/or storage in the blocked locations. The blocked location remains empty to provide the flux trap to maintain reactivity control for fuel assembly storage in any adjacent locations. Region B is designed for the storage of new assemblies in the spent fuel pool, and for fuel assemblies which have not sustained sufficient burnup to be stored in Region A or Region C.

3/4.9.20 SPENT FUEL POOL - CONSOLIDATION

The limitations of these specifications ensure that the decay heat rates and radioactive inventory of the candidate fuel assemblies for consolidation are conservatively within the assumptions of the safety analysis.

VOLUME

5.4.2 The total water and steam volume of the reactor coolant system is 10,060 + 700/-0 cubic feet.

5.5 EMERGENCY CORE COOLING SYSTEMS

5.5.1 The emergency core cooling systems are designed and shall be maintained in accordance with the original design provisions contained in Section 6.3 of the FSAR with allowance for normal degradation pursuant to the applicable Surveillance Requirements.

5.6 FUEL STORAGE

CRITICALITY

5.6.1 a) The new fuel (dry) storage racks are designed and shall be maintained with sufficient center to center distance between assemblies to ensure a $k_{eff} \leq .95$. The maximum nominal fuel enrichment to be stored in these racks is 4.50 weight percent of U-235.

b) Region A of the spent fuel storage pool is designed and shall be maintained with a nominal 9.8 inch center to center distance between storage locations to ensure a $K_{eff} \leq .95$ with the storage pool filled with unborated water. Fuel assemblies stored in this region must comply with Figure 3.9-4 to ensure that the design burnup has been sustained.

c) Region B of the spent fuel storage pool is designed and shall be maintained with a nominal 9.8 inch center-to-center distance between storage locations to ensure $K_{eff} \leq .95$ with a storage pool filled with unborated water. Fuel assemblies stored in this region may have a maximum nominal enrichment of 4.5 weight percent U-235. Fuel assemblies stored in this region are placed in a 3 out of 4 STORAGE PATTERN for reactivity control.

d) Region C of the spent fuel storage pool is designed and shall be maintained with a 9.0 inch center to center distance between storage locations to ensure a $K_{eff} \leq .95$ with the storage pool filled with unborated water. Fuel assemblies stored in this region must comply with Figure 3.9-1 to ensure that the design burn-up has been sustained. Fuel assemblies stored in this region are placed in a 3 out of 4 STORAGE PATTERN for reactivity control. The contents of consolidated fuel storage boxes to be stored in this region must comply with Figure 3.9-3.

e) Region C of the spent fuel storage pool is designed to permit storage of consolidated fuel in the 4th location of the storage rack and ensure a $K_{eff} \leq 0.95$. Placement of consolidated fuel in the 4th location is only permitted if all surrounding cells of the STORAGE PATTERN are occupied by consolidated fuel.

DRAINAGE

5.6.2 The spent fuel storage pool is designed and shall be maintained to prevent inadvertent draining of the pool below elevation 22'6".

CAPACITY

5.6.3 The spent fuel storage pool is designed and shall be maintained with a storage capacity limited to no more than 224 storage locations in Region A, 160 storage locations in Region B and 962 storage locations in Region C for a total of 1346 storage locations.*

*This translates into 1237 storage locations to receive spent fuel and 109 storage locations to remain blocked.

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 158

TO FACILITY OPERATING LICENSE NO. DPR-65

NORTHEAST NUCLEAR ENERGY COMPANY, ET AL.

MILLSTONE NUCLEAR POWER STATION, UNIT NO. 2

DOCKET NO. 50-336

1.0 INTRODUCTION

By letter dated April 16, 1992, as supplemented by letter dated May 7, 1992, Northeast Nuclear Energy Company (the licensee) proposed changes to the Millstone Unit 2 Technical Specifications (TS) which would modify the existing two-region spent fuel pool design to a three-region configuration. The May 7, 1992, letter provided information that did not change the initial proposed no significant hazards consideration determination.

These changes were proposed as a result of errors discovered in the spent fuel rack criticality analysis as reported to the NRC in Licensee Event Report 92-003-00, dated March 13, 1992. These calculational errors were due primarily to the incorrect treatment of thin, highly absorbing Boraflex panels and were discovered while performing criticality reanalyses associated with the Boraflex degradation. This prompted the issuance of NRC Information Notice 92-21 and its Supplement.

Presently, Region I of the Millstone Unit 2 spent fuel pool is designed to store up to 384 fuel assemblies with an initial enrichment of up to 4.5 weight percent (w/o) U-235. Region I is comprised of five (5) rack modules and fuel assemblies can be stored in every location. The Region I racks contain Boraflex and have a nominal center-to-center distance between storage locations of 9.8 inches. Region II is designed to store up to 728 fuel assemblies which have sustained a minimum required burnup as specified in TS Figure 3.9-3. Fuel assemblies are stored in a three-out-of-four array, with blocking devices installed to prevent inadvertent placement of a fuel assembly in the fourth location. The Region II storage racks have a nominal center-to-center distance between storage locations of nine (9) inches and contain no Boraflex.

The proposed changes would result in a three-region configuration, described by alphabetic letters rather than the previous numeric convention. Region A would utilize three of the existing Region I poison rack modules. Region A is designed to store up to 224 fuel assemblies, which will be qualified for storage by verification of adequate assembly average burnup versus fuel assembly initial enrichment. Fuel assemblies can be stored in every location in Region A. These racks would be used for immediate storage of fuel discharged from the reactor. Region B would utilize the remaining two existing Region I rack modules. Region B is designed to store up to 120 fresh

(unirradiated) fuel assemblies with an initial enrichment of up to 4.5 w/o U-235 and other assemblies which do not satisfy the burnup versus initial enrichment requirements of either Region A or Region C. Fuel assemblies will be stored in a three-out-of-four array in Region B, with blocking devices installed to prevent inadvertent placement of a fuel assembly in the fourth location. Region C is the new designation for the existing Region II storage racks, designed for fuel assemblies which have sustained their design burnup. Since this group of racks do not contain Boraflex, a reanalysis due to Boraflex degradation or due to previous calculational errors was not required.

2.0 EVALUATION

On September 8, 1987, the NRC issued Information Notice No. 87-43 alerting all operating licensees that gaps had been found in the Boraflex panels of the spent fuel storage racks at Quad Cities Unit 1. In response to this, the licensee initiated blackness testing on the Boraflex panels in the Millstone Unit 2 spent fuel storage racks. To date, approximately half of the poisoned rack cells in Region I have been tested. These measurements confirmed the presence of gaps in about 16% of the irradiated panels with the largest observed gaps at a 2% shrinkage rate, resulting in a maximum gap size of approximately 2.825 inches. The licensee has, therefore, performed criticality analyses to demonstrate the safety of the storage racks accounting for gap formation.

The criticality analysis assumed 4% shrinkage resulting in 5.65-inch gaps at the observed test locations. The analysis also assumed a 4% gap formation with a random distribution in all of the other Boraflex panels. The staff considers these assumptions to be acceptable since the test data has only identified a maximum shrinkage of 2% and existing industry-wide data supports a 4% maximum shrinkage rate. In addition, the random distribution of gap formation is also supported by the licensee's test data.

The NITAWL-KENO-5a computer code package was used in a three-dimensional mode with the 27-group SCALE neutron cross section set. This model has been benchmarked against experimental data and has been found to adequately reproduce the critical values. The original calculations for the Millstone Unit 2 spent fuel pool used the DOT two-dimensional, discrete ordinates transport code with cross sections generated by the CEPAK code, a synthesis of FORM, THERMOS, and CINDER. As previously mentioned, the original calculations were found to be in error. The reactivity of the Region I spent fuel storage racks was underpredicted due to inaccuracies in predicting Boraflex absorption, thus resulting in a nonconservative analysis. A more recent analysis of the original Region I design using the NITAWL-KENO-5a package resulted in a k-eff of 0.9812, assuming fully loaded racks of 4.5 w/o fuel and not accounting for Boraflex shrinkage. This does not meet the NRC 95/95 upper limit k-eff criterion of no greater than 0.95.

The licensee has, therefore, reanalyzed the Region I rack design with NITAWL-KENO-5a assuming a three-out-of-four storage configuration (new Region B designation) with 4.5 w/o fresh fuel and 5.65-inch gaps at the locations observed in the Millstone 2 blackness tests and a random axial distribution of 5.65-inch gaps in all other Boraflex panels. The resulting maximum k-eff, including all appropriate biases and uncertainties, was 0.9179 for ANF fuel, 0.9252 for Westinghouse fuel, and 0.9201 for CE fuel, all well within the 0.95 limiting criterion. The calculations also assumed a conservative shrinkage of 4% in width even though such shrinkage was not evident from visible inspections of Boraflex panels.

The old Region I rack design was also reanalyzed utilizing all of the cells in a four-out-of-four cell arrangement with credit for fuel burnup (new Region A designation). The same Boraflex gap distribution assumed in the Region B analysis was used. As seen from TS Figure 3.9-4, fuel with an initial enrichment of 4.5 w/o U-235 and minimum burnup of 8670 MWD/MTU is equivalent to unirradiated fuel enriched to 3.3 w/o U-235. The resulting maximum (95/95) k-eff was 0.9317 for ANF fuel, 0.9381 for Westinghouse fuel, and 0.9335 for CE fuel, all within the 0.95 limiting criterion.

It is possible to postulate events, such as the inadvertent misloading of an assembly with a burnup and enrichment combination outside of the acceptable area or the placement of a fresh assembly in the fourth cell of the three-out-of-four configuration, which could lead to an increase in reactivity. However, for such events, the Double Contingency Principle allows credit for the presence of approximately 800 ppm of boron in the pool water required by TS whenever a fuel assembly is being moved in the spent fuel pool. The reduction in k-eff caused by the boron more than offsets the reactivity addition caused by credible accidents.

The following TS changes have been proposed as a result of the reanalysis of the Millstone Unit 2 spent fuel pool. The staff finds these changes acceptable as well as the associated Bases changes.

(1) Definition 1.39, STORAGE PATTERN is currently defined for Region II. This is being changed to define the three-out-of-four array to be used in Regions B and C.

(2) TS 3.9.17 is currently concerned with fuel movement over Region II racks (due to the dropped assembly accident and misplaced fuel assembly event). This is being changed from any fuel movement over the Region II racks to any fuel movement in the spent fuel pool.

(3) TS 3.9.18 is being modified to change the wording in the surveillance requirements from Region II to Region C, and adds a surveillance requirement to ensure that fuel assemblies to be placed in Region A are within the enrichment and burnup limits of a new Figure 3.9-4.

(4) Figure 3.9-1 is being modified to change the references from Region II to Region C.

(5) Figure 3.9-2 is being modified to delete the references from Regions I and II and add Regions A, B, and C.

(6) Figure 3.9-3 is being modified to change the references from Region II to Region C.

(7) A new Figure 3.9-4 is being added to specify the allowable enrichment and burnup limits for fuel assemblies to be stored in Region A.

(8) TS 3.9.19 is being split into two parts:

   (a) TS 3.9.19.1 is the old TS 3.9.19, changing the references from Region II to Region C.

   (b) TS 3.9.19.2 is a new requirement for the STORAGE PATTERN requirements of Region B.

(9) The Design Features section for Fuel Storage Criticality and Capacity are being changed to describe the design features for the newly defined regions (A, B, and C), as well as to change the storage capacity numbers to reflect the blocked locations in Regions B and C.

(10) The Bases sections for TS 3.9.17, 3.9.18, and 3.9.19 are being changed to reflect the changes introduced by the new spent fuel storage rack criticality design basis.

Based on the review described above, the staff finds the criticality aspects of the proposed Millstone Unit 2 spent fuel storage pool changes acceptable. Specifically, with the conservatively postulated maximum 5.65-inch gaps in all Boraflex panels, the spent fuel storage racks can safely accommodate spent fuel from Millstone Unit 2 of the burnup-enrichment combinations indicated in TS Figure 3.9-4 (Region A) or Figure 3.9-1 (Region C) using all cells in a four-out-of-four arrangement. In addition, Region B can safely accommodate fresh 4.5 w/o U-235 Millstone Unit 2 fuel in a three-out-of-four loading pattern with the fourth cell empty.

3.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Connecticut State official was notified of the proposed issuance of the amendment. The State official had no comments.

4.0 PUBLIC COMMENTS

Ms. Patricia R. Nowicki, representing Earthvision, Inc., by letter dated May 27, 1992, requested a public hearing on this matter citing that "...it would be in the best interest of both Northeast Utilities as well the welfare of the citizens of this area that the licensee provide background information to the public as to the need for and the safety of said amendment." The staff has considered Ms. Nowicki's comments and has concluded that there is nothing in

them that would cause the staff to change the proposed no significant hazards consideration determination.

Ms. Mary Ellen Marucci of New Haven, Connecticut, by letter postmarked May 28, 1992, requested a hearing and a wish to intervene and an implied request for a 10 day delay in the issuance of the amendment citing a concern that "...there is significant unacceptable hazards risk if the spent fuel pool were to be utilized under planned conditions to occur on June 14, 1992, and that the design question of criticality calculations in that pool may not have been resolved. Also the removal of criticality monitors as allowed by the NRC in an experimental fuel consolidation program that is on-going may not have been prudent." The NRC staff has considered Ms. Marucci's comments and has concluded that there is nothing in them that would cause the staff to change the proposed no significant hazards consideration determination.

In a telephone conversation Mr. Michael Pray of New London, Connecticut, on May 28, 1992, indicated that he would file a request for a hearing. That request has not yet been received nor have Mr. Pray's comments.

5.0 FINAL NO SIGNIFICANT HAZARDS CONSIDERATION DETERMINATION

The Commission's regulations in 10 CFR 50.92 state that the Commission may make a final determination that the license amendment involves no significant hazards consideration if operation of the facility, in accordance with the amendment, would not:

1. Involve a significant increase in the probability or consequences of an accident previously evaluated.

   Radiological consequences of the fuel handling accident are not impacted by the formation of Regions A and B because the fuel assembly design is unchanged. However, the probability of occurrence of a fuel misplacement error has increased slightly. The increase is not significant because the types of controls being put into place in Regions A and B are of the same type as already in place in Region C. Furthermore, a fuel assembly misplacement error is not considered an accident, as defined in the Final Safety Analysis Report.

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

   No changes are being made to the fuel assemblies or the storage racks, and controls used in the fuel pool will be of the same type as are now in place. As such, there is no possibility of a new or different kind of accident being created. The existing design basis covers all possible accident scenarios in the spent fuel pool.

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

   There is no reduction in the margin of safety since $K_{eff} \leq 0.95$ is met under all analyzed conditions using conservative assumptions which do not credit the soluble boron in the spent fuel pool except under some accident conditions, as allowed by NRC guidelines. The original mechanical analyses are unchanged for thermal and seismic/structural considerations.

Accordingly, the NRC staff concludes that the proposed amendment involves no significant hazards considerations.

6.0 ENVIRONMENTAL CONSIDERATION

The amendment changes a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. The NRC staff has determined that the amendment involves no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has made a final no significant hazards consideration determination with respect to this amendment. Accordingly, the 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 environmental assessment need be prepared in connection with the issuance of the amendment.

7.0 CONCLUSION

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 amendment will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: L. Kopp

Date: June 4, 1992