

ATTACHMENT 4

Proposed Technical Specification Changes

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Baltimore Gas and Electric Company  
Docket Nos. 50-317 & 50-318  
July 2, 1991

## REFUELING OPERATIONS

### CRANE TRAVEL - SPENT FUEL STORAGE POOL BUILDING

#### LIMITING CONDITION FOR OPERATION

3.9.7 Loads in excess of 1600 pounds shall be prohibited from travel over fuel assemblies in the storage pool.

APPLICABILITY: With fuel assemblies in the storage pool.

#### 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.

unless such loads are handled by the single-failure-proof Spent Fuel Cask Handling Crane

#### SURVEILLANCE REQUIREMENTS

4.9.7.1 The weight of each load, other than a fuel assembly and CEA, shall be verified to be  $\leq 1600$  pounds prior to moving it over fuel assemblies.

4.9.7.2 Slings and special lifting devices shall be visually inspected and verified operable within 7 days prior to and at least once per 7 days thereafter during Spent Fuel Cask Handling Crane operation over the spent fuel storage pool.

4.9.7.3 In addition to the requirements of Section 4.9.7.2, pre-operational and periodic tests and preventive maintenance shall be performed per plant procedures.

## REFUELING OPERATIONS

### SPENT FUEL CASK HANDLING CRANE

#### LIMITING CONDITION FOR OPERATION

3.9.13 Crane travel of the spent fuel shipping cask crane shall be restricted to prohibit a spent fuel shipping cask from travel over any area within one shipping cask length of any fuel assembly. \*

APPLICABILITY: With fuel assemblies in the storage pool.

#### 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

4.9.13 Crane interlocks and physical stops which restrict a spent fuel shipping cask from passing over any area within one shipping cask length of any fuel assembly shall be demonstrated OPERABLE within 7 days prior to crane use and at least once per 7 days thereafter during crane operation. \*

\* These conditions are modified to permit shipping cask travel to and from the cask pit in the presence of fuel within one cask length radius of the pathway provided the boric acid concentration in the spent fuel pool is greater than or equal to 1000 ppm AND the following criteria are met by all assemblies within one cask length radius of the pathway: 1) Initial enrichment less than or equal to 4.1 w/o U-235, 2) Burnup greater than or equal to 28,000 MWD/MTU, and 3) Greater than 440 days elapsed from the shutdown of the last operating cycle in which the assembly was present in the core. Crane interlocks and physical stops which restrict a spent fuel shipping cask from passing over any area within one shipping cask length of any fuel assembly not satisfying the above criteria shall be demonstrated OPERABLE within 24 hours prior to using the crane for moving a cask within one length of fuel assemblies meeting the above criteria. These modifications are applicable only to the shipment of fuel rods supporting the EPRI sponsored hot-cell work for the shipment of a reactor vessel weld material surveillance capsule.

## REFUELING OPERATIONS

### BASES

#### 3/4.9.6 REFUELING MACHINE OPERABILITY

The OPERABILITY requirements for the refueling machine ensure that:  
(1) the refueling machine will be used for movement of CEAs and fuel assemblies,  
(2) the refueling machine has sufficient load capacity to lift a CEA or fuel assembly, and (3) the core internally 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 STORAGE BUILDING

The restriction on movement of loads in excess of the nominal weight of a fuel assembly and CEA 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.

The Spent Fuel Cask Handling Crane, which has a critical load capacity of 125/15 ton, meets the "single-failure-proof" criteria of NUREG-0554 and NUREG-0612.

#### 3/4.9.8 COOLANT CIRCULATION

The requirement that at least one shutdown cooling 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 effects of a boron dilution incident and prevent boron stratification.

The requirement to have two shutdown cooling loops OPERABLE when there is less than 23 feet of water above the core 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 core, a large heat sink is available for core cooling, thus in the event of a failure of the operating shutdown cooling loop, adequate time is provided to initiate emergency procedures to cool the core.

#### 3/4.9.9 CONTAINMENT PURGE VALVE ISOLATION SYSTEM

The OPERABILITY of this system ensures that the containment purge valves 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.

## REFUELING OPERATIONS

### BASES

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#### 3/4.9.10 and 3/4.9.11 WATER LEVEL-REACTOR VESSEL AND SPENT FUEL POOL WATER LEVEL

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

#### 3/4.9.12 SPENT FUEL POOL VENTILATION SYSTEM

The limitations on the spent fuel pool ventilation system ensure 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.

#### ~~3/4.9.13 SPENT FUEL CASK HANDLING CRANE~~

~~The restriction on movement of the spent fuel shipping cask within one cask length of any fuel assembly ensures that in the event this load is dropped (1) the stored spent fuel assemblies will not be damaged, and (2) any possible distortion of fuel in the storage racks will not result in a critical array.~~

#### 3/4.9.14 CONTAINMENT VENT ISOLATION VALVES

The OPERABILITY and closure restrictions on the containment vent isolation valves are sufficient to restrict radioactive material release from a fuel element rupture based upon the lack of containment pressurization potential while in the REFUELING MODE.

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## LIST OF REFERENCES

- (a) Generic Letter from Mr. D. G. Eisenhower (NRC) to all Licensees of Operating Plants and Applicants for Operating License and Holders of Construction Permits, dated December 22, 1980, Control of Heavy Loads; Supplemented by Generic Letter 81-07, dated February 3, 1981.
- (b) Letter from Mr. R. A. Clark (NRC) to Mr. A. E. Lundvall, Jr. (BG&E), dated May 27, 1983, Control of Heavy Loads - Phase I
- (c) Letter from Mr. S. A. McNeil (NRC) to Mr. G. C. Creel (BG&E), dated August 7, 1989, Supplement to "Phase I" Safety Evaluation of Control of Heavy Loads
- (d) Generic Letter 85-11 from Mr. H. L. Thompson Jr. (NRC) to All Licensees for Operating Plants, dated June 28, 1985, Completion of Phase II of "Control of Heavy Loads at Nuclear Power Plants" NUREG-0612
- (e) i - Generic Licensing Topical Report EDR-I(P)-A, Ederer's Nuclear Safety Related Extra-Safety And Monitoring (X-SAM) Cranes, Revision 3 (Proprietary)  
ii - Generic Licensing Topical Report EDR-I(NP)-A, Ederer's Nuclear Safety Related Extra-Safety And Monitoring (X-SAM) Cranes, Revision 3 (Non-Proprietary)
- (f) Letter from Mr. R. L. Baer (NRC) to Mr. C. W. Clark, Jr. (Ederer), dated January 2, 1980, Review and Acceptance of Topical Report EDR-I, Revision 1
- (g) Letter from Mr. C. O. Thomas Jr. (NRC) to Mr. C. W. Clark, Jr. (Ederer), dated August 26, 1983, Acceptance for Referencing of Licensing Topical Report EDR-I(P), Revision 3
- (h) Letter from Mr. G. C. Creel (BG&E) to Director, Division of Industrial and Medical Nuclear Safety Office of Nuclear Material Safety and Safeguards (NRC), dated December 21, 1989, Calvert Cliffs ISFSI Application