ENCLOSURE 1

PROPOSED TECHNICAL SPECIFICATION REVISIONS
BROWNS FERRY NUCLEAR PLANT
(TVA BFNP TS 159)
(DOCKET NOS. 50-259, -260, -296)

UNITS 1 AND 2
PROPOSED CHANGES

5.0 MAJOR DESIGN FEATURES (Continued)

B. The k_{eff} of the spent fuel storage pool shall be less than or equal to 0.95.

C. Loads greater than 1000 pounds shall not be carried over spent fuel assemblies stored in the spent fuel pool.

5.6 SEISMIC DESIGN

The station class I structures and systems have been designed to withstand a design basis earthquake with ground acceleration of 0.2g. The operational basis earthquake used in the plant design assumed a ground acceleration of 0.1g (see Section 2.5 of the FSAR).

C. Drills on actions to be taken under emergency conditions involving release of radioactivity are specified in the radiological emergency plan and shall be conducted annually. Annual drills shall also be conducted on the actions to be taken following failures of safety related systems or components.

D. Radiation Control Procedures

Radiation Control Procedures shall be maintained and made available to all station personnel. These procedures shall show permissible radiation exposure and shall be consistent with the requirements of 10 CFR 20. This radiation protection program shall be organized to meet the requirements of 10 CFR 20 except in lieu of the "control device" or "alarm signal" required by paragraph 20.203 (c) of 10 CFR 20:

1. Each high radiation area in which the intensity of radiation is greater than 100 mrem/hr but less than 1000 mrem/hr shall be barricaded and conspicuously posted as a high radiation area and entrance thereto shall be controlled by requiring issuance of a Special Work Permit[a]. Any individual or group of individuals permitted to enter such areas shall be provided with or accompanied by one or more of the following:

   a. A radiation monitoring device which continuously indicates the radiation dose rate in the area.

   b. A radiation monitoring device which continuously integrates the radiation dose rate in the area and alarms when a preset integrated dose is received. Entry into such areas with this monitoring device may be made after the dose rate level in the area has been established and personnel have been made knowledgeable of them.

   c. An individual qualified in radiation protection procedures who is equipped with a radiation dose rate monitoring device. This individual shall be responsible for providing positive control over the activities within the area and shall perform periodic radiation surveillance at the frequency specified by the facility Health Physicist in the Special Work Permit.

2. Each High Radiation Area in which the intensity of radiation is greater than 1,000 mrem/hr shall be subject to the provisions of (1) above; and, in addition, locked doors shall be provided to prevent unauthorized entry into such areas, and the keys shall be maintained under administrative control of the shift engineer on duty.

[a] Health Physics personnel, or personnel escorted by Health Physics personnel, in accordance with approved emergency procedures, shall be exempt from the SWP issuance requirement during the performance of their assigned radiation protection duties, provided they comply with approved radiation protection procedures for entry into high radiation areas.

UNIT 3
PROPOSED CHANGES

is less than 0.90 and flooded is less than 0.95 (Section 10.2 of FSAR).

B. The k_{eff} of the spent fuel storage pool shall be less than or equal to 0.95.

C. Loads greater than 1000 pounds shall not be carried over spent fuel assemblies stored in the spent fuel pool.

5.6 SEISMIC DESIGN

The station class I structures and systems have been designed to withstand a design basis earthquake with ground acceleration of 0.2g. The operational basis earthquake used in the plant design assumed a ground acceleration of 0.1g (see Section 2.5 of the FSAR).

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   c. An individual qualified in radiation protection procedures who is equipped with a radiation dose rate monitoring device. This individual shall be responsible for providing positive control over the activities within the area and shall perform periodic radiation surveillance at the frequency specified by the facility Health Physicist in the Special Work Permit.

2. Each High Radiation Area in which the intensity of radiation is greater than 1,000 mrem/hr shall be subject to the provisions of (1) above; and, in addition, locked doors shall be provided to prevent unauthorized entry into such areas, and the keys shall be maintained under administrative control of the shift engineer on duty.

[a] Health Physics personnel, or personnel escorted by Health Physics personnel, in accordance with approved emergency procedures, shall be exempt from the SWP issuance requirement during the performance of their assigned radiation protection duties, provided they comply with approved radiation protection procedures for entry into high radiation areas.

ENCLOSURE 2

NEED AND JUSTIFICATION
(TVA BFNP TS 159)

A. Specification 5.5.B (page 331 - units 1 and 2, page 361 - unit 3)

NEED

TVA plans to load several Lead Test Assemblies (LTA's) into Browns Ferry unit 3 as part of reload 4. (Licensing of these LTA's will be addressed in a separate action.) Some of the LTA's have a lattice enrichment greater than that allowed by the limit of 15.2 grams of Uranium-235 per axial centimeter of fuel assembly presently in specification 5.5.B. New fuel assemblies received at the plant site are generally loaded into the spent fuel pool. Therefore, to allow receipt and storage of these fuel assemblies requires that this restriction be removed. Fuel assemblies expected to be delivered to all three units of Browns Ferry at some point in the future will be of a higher enrichment also.

TVA expects delivery of these LTA's in early August. We, therefore, need approval by August 1, 1981.

JUSTIFICATION

The axial enrichment limit of 15.2 grams of Uranium-235 per axial centimeter of fuel assembly for fuel loaded into the spent fuel pool was added to technical specification 5.5.B when the high density fuel storage racks were installed, "pending an NRC review." In recent discussions, NRC has concurred that this fuel loading limit is redundant to the limit, i.e., "The Keff of the spent fuel storage pool shall be less than or equal to 0.95."

The fuel pool criticality analyses performed by GE were based on unirradiated BWR fuel with no burnable poison and a fuel loading of 15.2 grams of U-235 per axial centimeter. The maximum calculated fuel storage Keff of 0.87 was derived using a bundle design which has a Keff of 1.35 in the reactor core at 20°C for the uncontrolled state. This design value is conservative and is also an upper bound value for the storage racks since fuel with Keff=1.35 will not satisfy the core design requirements for shutdown margin, control worth, etc. The Keff of high enrichment bundles is kept below 1.35 by the use of burnable poisons. Since all bundle types will have maximum Keff's less than 1.35, the fuel pool Keff limit will be satisfied and a redundant fuel loading limit is not needed.

Removal of the axial enrichment limit from the Browns Ferry technical specifications will make them consistent with the BWR Standard Technical Specifications in this area. The BWR Standard contains a limit only on Keff of stored fuel.

B. Specification 6.3.D (page 339 - units 1 and 2; page 369 - unit 3)

NEED

This specification change is needed to clarify radiation monitoring requirements for employees working in high radiation areas.

JUSTIFICATION

This proposed specification establishes requirements consistent with recognized industry standards and in accordance with the conditions of the Standard Technical Specifications, NUREG-0123, Revision 3.