

## DESIGN FEATURES

### 5.3 REACTOR CORE

#### FUEL ASSEMBLIES

5.3.1 The core shall contain 193 fuel assemblies with each fuel assembly containing 264 fuel rods ~~clad with Zircaloy-4~~. Each fuel rod shall have a nominal active fuel length of 144 inches. The initial core loading shall have a maximum enrichment of less than 3.20 weight percent U-235. Reload fuel shall be similar in physical design to the initial core loading and shall have a maximum enrichment of 4.0 weight percent U-235.

#### CONTROL ROD ASSEMBLIES

5.3.2 The core shall contain 53 full-length and no part-length control rod assemblies. The full-length control rod assemblies shall contain a nominal 142 inches of absorber material. All control rods shall be hafnium, clad with stainless steel tubing.

### 5.4 REACTOR COOLANT SYSTEM

#### DESIGN PRESSURE AND TEMPERATURE

5.4.1 The Reactor Coolant System is designed and shall be maintained:

- a. In accordance with the Code requirements specified in Section 5.2 of the FSAR, with allowance for normal degradation pursuant to the applicable Surveillance Requirements,
- b. For a pressure of 2485 psig, and
- c. For a temperature of 650°F, except for the pressurizer which is 680°F.

#### VOLUME

5.4.2 The total water and steam volume of the Reactor Coolant System is 12,257 cubic feet at a nominal  $T_{avg}$  of 588.4°F.

### 5.5 METEOROLOGICAL TOWER LOCATION

5.5.1 The meteorological tower shall be located as shown on Figure 5.1-1.

locations. Fuel rod locations may, at any time during plant life, have any combination of the following as determined in accordance with cycle specific reload analyses:

- 1) fuel rods clad with Zircaloy-4,
- 2) filler rods fabricated from Zircaloy-4, or stainless steel,
- on, 3) vacancies

BYRON - UNITS 1 & 2

5-4

AMENDMENT NO. 4

## ATTACHMENT B

### SUMMARY OF PROPOSED CHANGES

The proposed amendment requests a change to the Design Features Section 5.3 to allow for the reconstitution of a fuel assembly. The reconstitution process involves the insertion of a filler rod fabricated from stainless steel or zircaloy-4 or leaving a vacancy when a rod is leaking or failed in a fuel assembly.

## ATTACHMENT C

### EVALUATION OF SIGNIFICANT HAZARDS CONSIDERATIONS

Commonwealth Edison has evaluated this proposed amendment and determined that it involves no significant hazards consideration. According to 10 CFR 50.92(c), a proposed amendment to an operating license involves no significant hazards considerations if operation of the facility in accordance with the proposed amendment would not:

- (1) Involve a significant increase in the probability or consequences of an accident previously evaluated; or
- (2) Create the possibility of a new or different kind of accident from any accident previously evaluated; or
- (3) Involve a significant reduction in a margin of safety.

The proposed amendment revises the Design Features Section 5.3.1 regarding the fuel assemblies description to allow for fuel assembly reconstitution. The revision allows for each fuel assembly to contain 264 fuel rod locations. A fuel rod location may consist of a fuel rod, a filler rod, or a vacancy as determined in accordance with the cycle specific reload analysis.

The reconstituted fuel assemblies meet essentially the same design requirements, satisfy the same design criteria as the original fuel assembly, and the use of reconstituted assemblies will not result in a change to existing safety criteria and design limits. Therefore, they do not involve a significant increase in the probability or consequences of an accident previously evaluated.

The actual reconstitution of a fuel assembly and the procedures by which it is accomplished will be in accordance with the approved cycle specific reload analysis. Separate 10 CFR 50.59 safety evaluations will be performed to verify the reconstitution process does not involve an unreviewed safety question before it is implemented. The reload safety analysis will evaluate the affect of the actual reconstitution on core performance parameters to ensure that there is no adverse impact on operation of equipment important to plant safety. Revising the Technical Specification ensures that if reconstitution is required and approved, it would not be inconsistent with the fuel assembly design description wording currently in the Technical Specifications. Since no more than one assembly is reconstituted at one time, the consequences of an accident are bounded by the fuel handling accident which is the most severe accident related to fuel manipulation. This proposed amendment will not create the possibility of a new or different kind of accident.

The margin of safety as defined in the technical specification basis has not been reduced since the existing safety criteria design limits will not be changed. Allowing the use of reconstituted assemblies in Design Features Section 5.3.1 does not directly affect any safety system or the safety limits, and thus, does not affect the plant margin of safety.

Therefore, based on the above considerations, Commonwealth Edison has determined that these changes do not involve significant hazards considerations.

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