

**EXIGENT REQUEST FOR AMENDMENT OF SLMCPR  
MODIFICATION OF REQUEST**

**Attachment 2**

**Page 1 of 1**

**ATTACHMENT 2**

**Revised Technical Specification Page and Corresponding Bases Page**

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## 2.0 SAFETY LIMITS (SLs)

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### 2.1 SLs

#### 2.1.1 Reactor Core SLs

2.1.1.1 With the reactor steam dome pressure  $< 785$  psig or core flow  $< 10\%$  rated core flow:

THERMAL POWER shall be  $\leq 25\%$  RTP.

2.1.1.2 With the reactor steam dome pressure  $\geq 785$  psig and core flow  $\geq 10\%$  rated core flow:

MCPR shall be  $\geq 1.07$  for two-recirculation-loop operation or  $\geq 1.08$  for single-recirculation-loop operation.

2.1.1.3 Reactor vessel water level shall be greater than the top of active irradiated fuel.

#### 2.1.2 Reactor Coolant System Pressure SL

Reactor steam dome pressure shall be  $\leq 1325$  psig.

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### 2.2 SL Violations

With any SL violation, the following actions shall be completed within 2 hours:

2.2.1 Restore compliance with all SLs; and

2.2.2 Insert all insertable control rods.

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*Insert*

The MCPR for ATRIUM-9X fuel shall be  $\geq 1.13$  for two recirculation loop operation or  $\geq 1.14$  for single recirculation loop operation. For all other fuel, the MCPR shall be  $\geq 1.07$  for two recirculation loop operation or  $\geq 1.08$  for single recirculation loop operation. The MCPR limits for the ATRIUM-9X fuel are applicable to Cycle 13 only.

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BASES

APPLICABLE  
SAFETY ANALYSES

2.1.1.1 Fuel Cladding Integrity (continued)

bundle flow for all fuel assemblies that have a relatively high power and potentially can approach a critical heat flux condition. The minimum bundle flow is  $> 28 \times 10^3$  lb/hr. The coolant minimum bundle flow and maximum flow area are such that the mass flux is  $> 0.25 \times 10^6$  lb/hr-ft<sup>2</sup>. Full scale critical power tests taken at pressures down to 14.7 psia indicate that the fuel assembly critical power at  $0.25 \times 10^6$  lb/hr-ft<sup>2</sup> is approximately 3.35 Mwt. At 25% RTP, a bundle power of approximately 3.35 Mwt corresponds to a bundle radial peaking factor of  $> 2.9$ , which is significantly higher than the expected peaking factor. Thus, a THERMAL POWER limit of 25% RTP for reactor pressures  $< 785$  psig is conservative.

2.1.1.2 MCPR

The MCPR SL ensures sufficient conservatism in the operating MCPR limit that, in the event of an AOO from the limiting condition of operation, at least 99.9% of the fuel rods in the core would be expected to avoid boiling transition. The margin between calculated boiling transition (i.e., MCPR = 1.00) and the MCPR SL is based on a detailed statistical procedure that considers the uncertainties in monitoring the core operating state. One specific uncertainty included in the SL is the uncertainty inherent in the critical power correlations. Reference 4 describes the methodology used in determining the MCPR SL for Siemens Power Corporation fuel. Reference 5 describes the methodology used in determining the MCPR SL for ABB CENO fuel.

The critical power correlations are based on a significant body of practical test data, providing a high degree of assurance that the critical power, as evaluated by the correlation, is within a small percentage of the actual critical power. As long as the core pressure and flow are within the range of validity of the critical power correlations, the assumed reactor conditions used in defining the SL introduce conservatism into the limit because bounding high radial power factors and bounding flat local peaking distributions are used to estimate the number

(continued)

Reference 7 describes the interim use of increased ANFB additive constant uncertainty for the SPC ATRIUM-9X fuel during Cycle 13.

Insert:

