Attachment 3
Proposed Changes to Technical
Specifications for Reload 6

Proposed Changes

The proposed changes involve Pilgrim Nuclear Power Station Technical Specifications, Appendix A, Sections 3.11 and 5.0, Reactor Fuel Assembly and Major Design Features, respectively. Specifically, the proposed changes are shown on attached Technical Specification Pages 205B-2, 205E-4, 205E-5, 205E-6, and 206m and are described below.

1. The operating limit minimum critical power ratio (MCPR) values are proposed to be changed as shown on the attached Technical Specification Table 3.11-1 (Page 205B-2). The proposed changes to this table include references to the barrier-type fuel that will be used in Reload 6 at Pilgrim.

2. The maximum average planar linear heat generation rate (MAPLHGR) versus planar average exposure curves in Technical Specification Figures 3.11-4, 5, and 6 are proposed to be changed to reference the barrier-type fuel that will be used in Reload 6 at Pilgrim. These figures are to be revised as shown on attached Technical Specification Pages 205E-4, 205E-5, and 205E-6.

3. The major design features of the reactor are proposed to be changed as shown on attached Technical Specification Page 206m to reference the barrier-type fuel that will be used in Reload 6 at Pilgrim.

Reason for Changes

The proposed changes to reference barrier-type fuel will allow restart of Pilgrim from Reload 6 using some of this type of fuel as fresh fuel. The barrier-type fuel was designed by General Electric to eliminate cladding failures due to pellet clad interaction (PCI). The basic concept of the barrier fuel is to provide a material on the inner surface of the cladding which is less susceptible to stress corrosion and more ductile throughout the operating life of the fuel to reduce the development and propagation of PCI induced cracks. To accomplish this objective, a 0.003-inch thick, high purity Zirconium liner is metallurgically bonded to the inner surface of the Zircaloy-2 portion of the fuel rod cladding. This preserves the overall assembly dimensions of the fuel and reduces the potential for PCI failure.

The proposed changes to the operating limit MCPR values in Table 3.11-1 will allow added operational flexibility during Cycle 7.

Safety Considerations

This amendment request does not present an unreviewed safety question as defined in 10CFR50.59. It has been reviewed and approved by the Operations Review Committee and reviewed by the Nuclear Safety Review and Audit Committee.

Significant Hazards Considerations

It has been determined that the amendment request involves no significant hazards consideration. Under the NRC's regulations in 10CFR50.92, this means that operation of Pilgrim 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 NRC has provided guidance concerning the application of standards for determining whether license amendments involve significant hazards considerations by providing certain examples (48 FR 14870). One example of an amendment that is considered not likely to involve a significant hazards consideration is "... (iii) For a nuclear power reactor, a change resulting from a nuclear reactor core reloading, if no fuel assemblies significantly different from those found previously acceptable to the NRC for a previous core at the facility in question are involved." The NRC has provided their evaluation of General Electric's Barrier Fuel Amendment to NEDE-24011-P-A-4 (GESTAR-II) in a letter from C.O. Thomas (NRC) to J.S. Charnley (GE), dated April 13, 1983. This evaluation concluded that "there will be a reasonable assurance that the substitution or first-core use of barrier fuel will not result in unacceptable hazards to the public." For this reason, it is concluded that barrier fuel assemblies are not significantly different from those previously found acceptable by the NRC for use at Pilgrim and that the proposed Technical Specification changes do not present a significant hazards consideration.

Schedule of Change

This change will be put into effect upon Boston Edison's receipt of approval by the Commission.

Fee Determination

Pursuant to 10CFR170.12, Boston Edison proposes that this is a Class III change and a check for $4,000 will be transmitted under separate cover.

TABLE 3.11-1
OPERATING LIMIT MCPR VALUES

A. MCPR Operating Limit from Beginning of Cycle (BOC) to BOC + 6000 MWD/T.

	8 x 8	P8 x 8R/BP8x8R
For all values of τ	1.36	1.40

B. MCPR Operating Limit from BOC + 6000 MWD/T to End of Cycle.

τ	8 x 8	P8x8R/BP8x8R
$\tau \leq 0$	1.38	1.40
$0.0 < \tau \leq 0.1$	1.39	1.41
$0.1 < \tau \leq 0.2$	1.39	1.41
$0.2 < \tau \leq 0.3$	1.40	1.42
$0.3 < \tau \leq 0.4$	1.40	1.42
$0.4 < \tau \leq 0.5$	1.41	1.43
$0.5 < \tau \leq 0.6$	1.41	1.43
$0.6 < \tau \leq 0.7$	1.42	1.44
$0.7 < \tau \leq 0.8$	1.42	1.44
$0.8 < \tau \leq 0.9$	1.43	1.45
$0.9 < \tau \leq 1.0$	1.43	1.45

FIGURE 3.11-4
MAXIMUM AVERAGE PLANAR LINEAR HEAT GENERATION RATE VERSUS PLANAR AVERAGE EXPOSURE

FUEL TYPES P8DRB265L and BPDRB265L

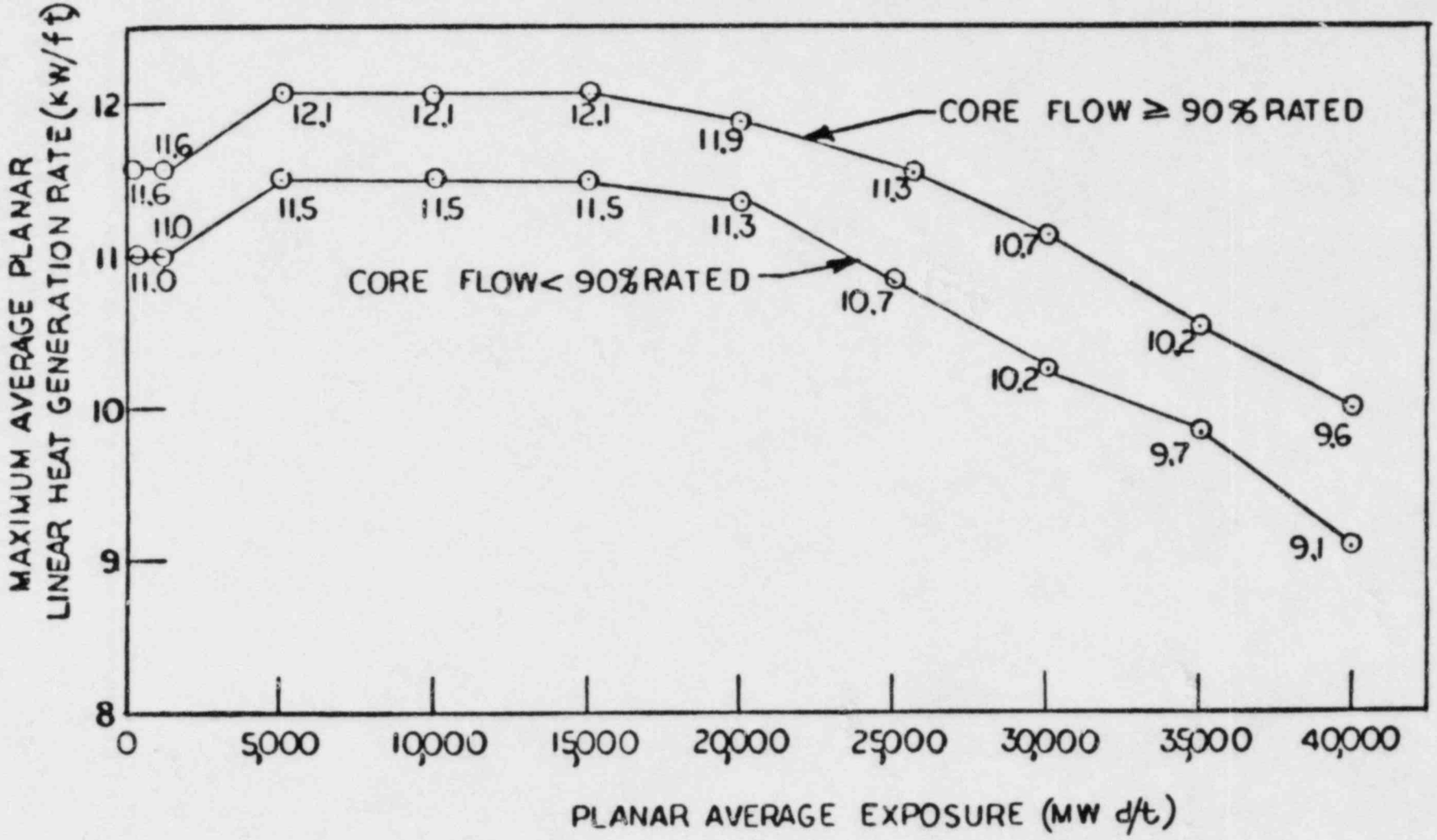

FIGURE 3.11-5
MAXIMUM AVERAGE PLANAR LINEAR HEAT GENERATION RATE VERSUS PLANAR AVERAGE EXPOSURE

FUEL TYPES P8DRB282 and BP8DRB282

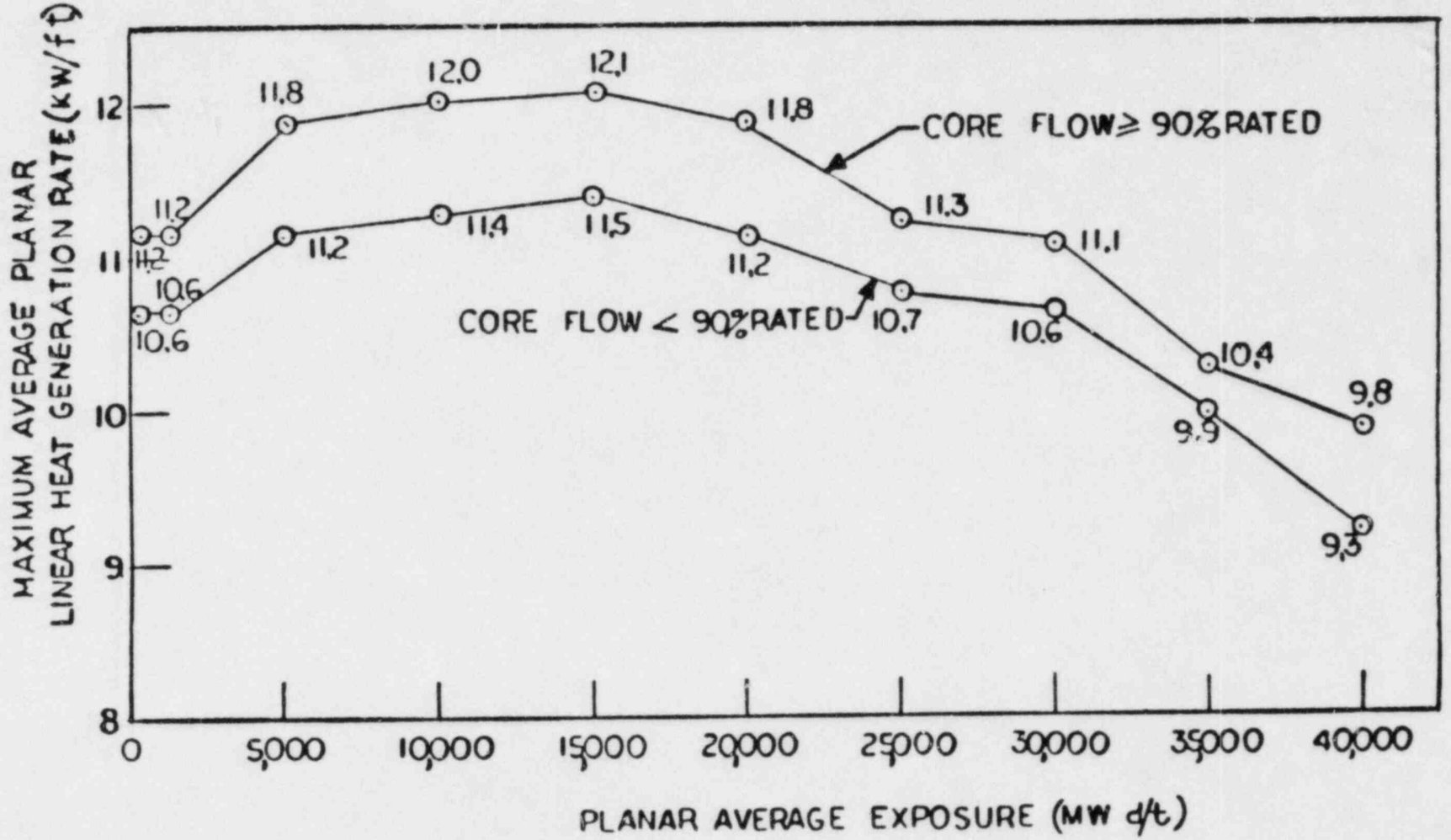

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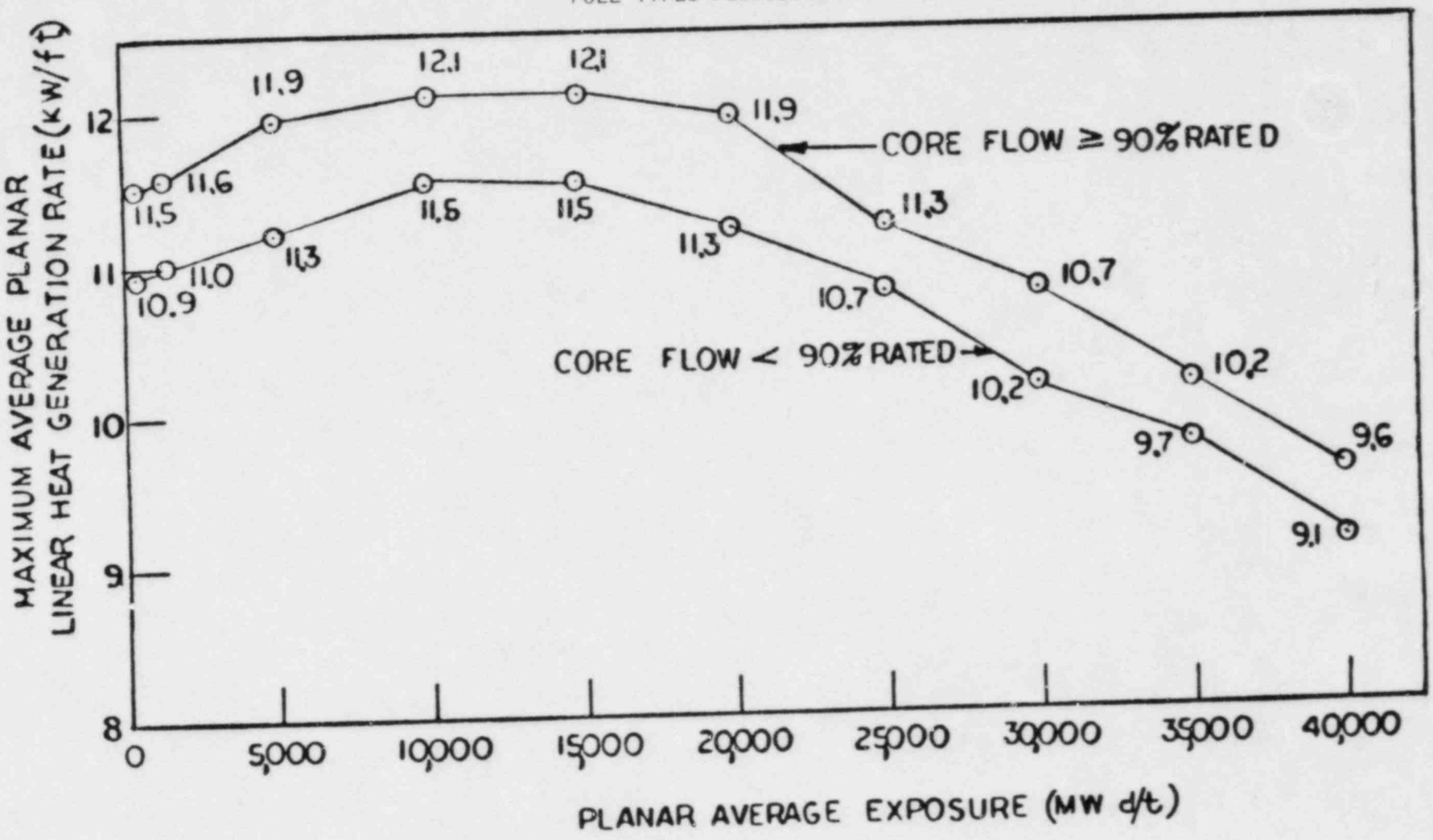
FIGURE 3.11-6
MAXIMUM AVERAGE PLANAR LINEAR HEAT GENERATION RATE VERSUS PLANAR AVERAGE EXPOSURE

FUEL TYPES P8DRB265H and BP8DRB265H



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205E-6

5.0 MAJOR DESIGN FEATURES

5.1 SITE FEATURES

Pilgrim Nuclear Power Station is located on the Western Shore of Cape Cod Bay in the Town of Plymouth, Plymouth County, Massachusetts. The site is located at approximately 41°51' north latitude and 70°35' west longitude on the Manomet Quadrangle, Massachusetts, Plymouth County 7.5 Minute Series (topographic) map issued by U.S. Geological Survey. UTM coordinates are 19-46446N-3692E.

The reactor (center line) is located approximately 1800 feet from the nearest property boundary.

5.2 REACTOR

A. The core shall consist of not more than 580 fuel assemblies of 8x8 (63 fuel rods), P8x8R (62 fuel rods), and BP8x8R (62 fuel rods).

B. The reactor core shall contain 145 cruciform-shaped control rods. The control material shall be boron carbide powder (B_4C) compacted to approximately 70% of theoretical density.

5.3 REACTOR VESSEL

The reactor vessel shall be as described in Table 4.2.2 of the FSAR. The applicable design codes shall be as described in Table 4.2.1 of the FSAR.

5.4 CONTAINMENT

A. The principal design parameters for the primary containment shall be as given in Table 5.2.1 of the FSAR. The applicable design codes shall be as described in Section 12.2.2.8 of the FSAR.

B. The secondary containment shall be as described in Section 5.3.2 of the FSAR.

C. Penetrations to the primary containment and piping passing through such penetrations shall be designed in accordance with standards set forth in Section 5.2.3.4 of the FSAR.