Commonwealth Edison
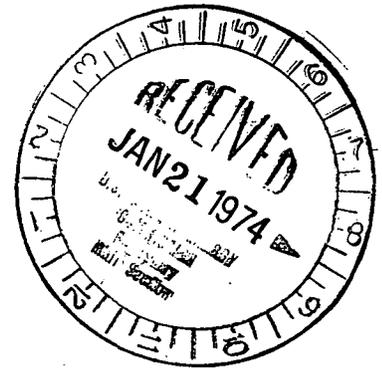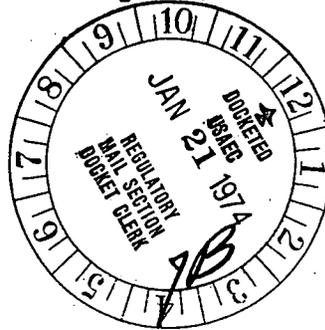One First National Plaza, Chicago, Illinois
Address Reply to: Post Office Box 767
Chicago, Illinois 60690

January 18, 1974

Mr. J. F. O'Leary, Director
Directorate of Licensing
Office of Regulation
U.S. Atomic Energy Commission
Washington, D.C.   20545

Subject: Dresden Station Unit 3 - Proposed Change to
Facility Operating License DPR-25, AEC Dkt 50-249

Dear Mr. O'Leary:

Pursuant to Section 50.59 of 10 CFR 50 and Paragraph
3.B of the facility operating license DPR-25, Commonwealth
Edison Company submits a proposed change to Appendix A of
DPR-25. The purpose of this change is to modify the limiting
conditions of operation related to densification. These
modifications are based on the results of reanalyses using the
model discussed in General Electric Topical Report NEDO-20181.
The proposed change is indicated on the attached revised pages
81B, 81C, 85A and 85B.

This proposed change includes revised maximum
average planar linear heat generation rate (MAPLHGR) limits
for the two (2) types of 7 x 7 lattice fuel which are currently
in use in the reactor. The MAPLHGR limits for 8 x 8 lattice
fuel were proposed as part of Supplement C to the Second Reload
License Submittal, submitted December 6, 1973. A proposed
Technical Specification revising the 8 x 8 lattice fuel MAPLHGR
limits consistent with the gap conductance model described in
General Electric Company Report NEDO-20181 (GEGAP-III) is being
submitted separately as Supplement H to the Dresden Unit 3
Second Reload License Submittal.

Three (3) signed originals and 37 copies of this proposed
change are submitted for your review and approval.

Very truly yours,

J. S. Abel
Nuclear Licensing Administrator
Boiling Water Reactors

SUBSCRIBED and SWORN to
before me this _14th_ day
of _January_____, 1974.

_____
Notary Public

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3.5 LIMITING CONDITIONS FOR OPERATION	4.5 SURVEILLANCE REQUIREMENTS

I. Average Planar LHGR

During steady state power operation, the average linear heat generation rate (LHGR) of all the rods in any fuel assembly, as a function of average planar exposure, at any axial location, shall not exceed the maximum average planar LHGR shown in Figure 3.5.1.

J. Local LHGR

During steady state power operation, the linear heat generation rate (LHGR) of any rod in any fuel assembly at any axial location shall not exceed the maximum allowable LHGR as calculated by the following equation:

$$LHGR_{max} \leq LHGR_d \left[1 - \left(\frac{\Delta P}{P} \right)_{max} \left(\frac{L}{LT} \right) \right]$$

$LHGR_d$ = Design LHGR = 17.5 KW/ft

$\left(\frac{\Delta P}{P} \right)_{max}$ = Maximum power spiking penalty = 0.036
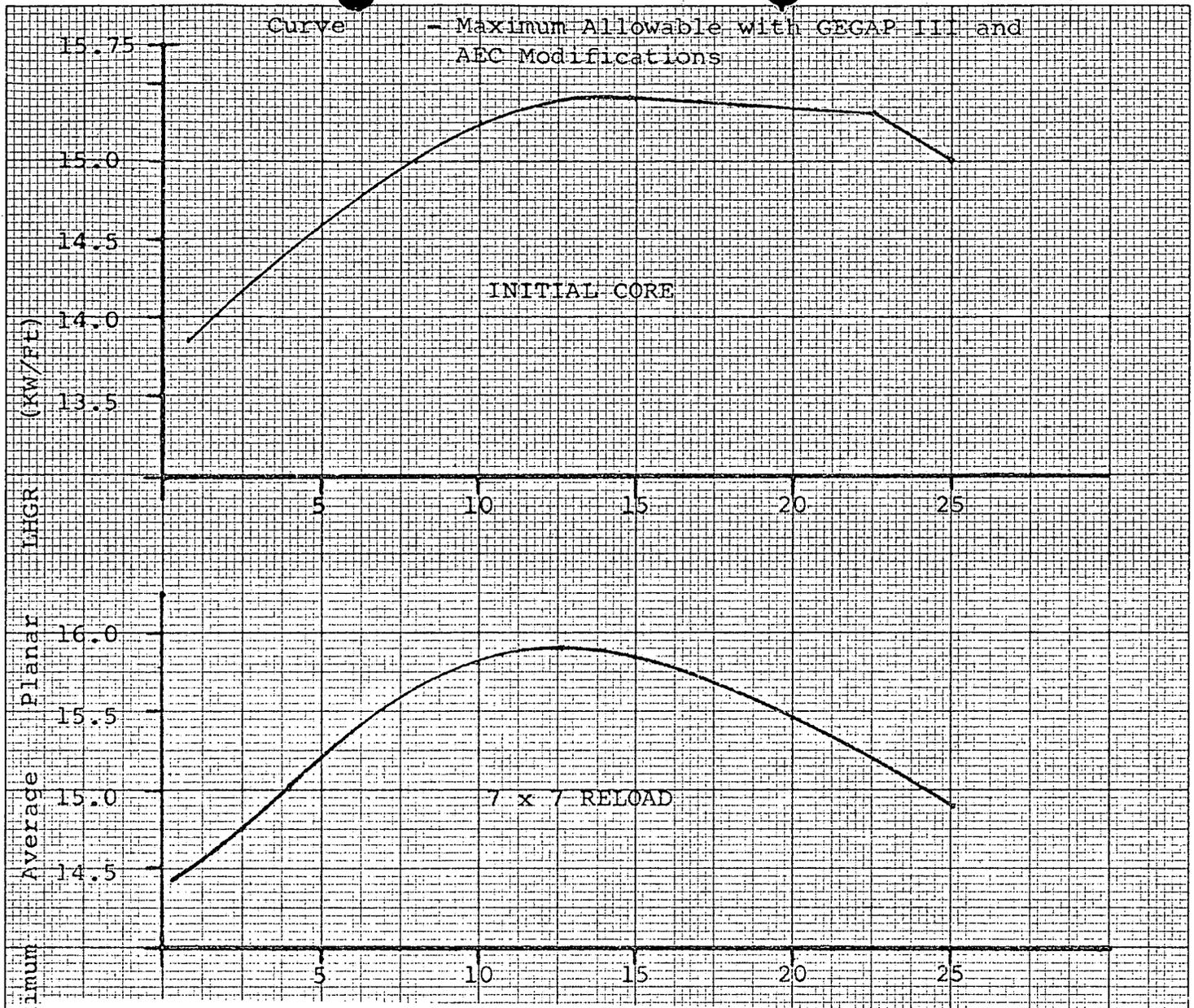
LT = Total core length = 12 ft

L = Axial position above bottom of core

I. Average Planar LHGR

Daily during reactor power operation, the average planar LHGR shall be checked.

J. Local LHGR

Daily during reactor power operation, the local LHGR shall be checked.

FIGURE 3.5.1 - MAXIMUM ALLOWABLE PLANAR LHGR

3.5.I Average Planar LHGR

This specification assures that the peak cladding temperature following the postulated design basis loss-of-coolant accident will not exceed the 2300°F limit specified in the Interim Acceptance Criteria (IAC) issued in June 1971 considering the postulated effects of fuel pellet densification.

The peak cladding temperature following a postulated loss-of-coolant accident is primarily a function of the average heat generation rate of all the rods of a fuel assembly at any axial location and is only dependent secondarily on the rod to rod power distribution within an assembly. Since expected local variations in power distribtuion within a fuel assembly affect the calculated peak clad temperature by less than ± 20°F relative to the peak temperature for a typical fuel design, the limit on the average linear heat generation rate is sufficient to assure that calculated temperatures are below the IAC limit.

The maximum average planar LHGR's shown in Figure 3.5.1 are based on calculations employing the models described in the General Electric Report NEDM-10735 as modified by General Electric Report NEDO-20181.

3.5.J Local LHGR

This specification assures that the linear heat generation rate in any rod is less than the design linear heat generation even if fuel pellet densification is postulated. The power spike penalty specified is based on the analysis presented in Section 3.2.1 of the GE Topical Report NEDM-10735 Supplement 6, and assumes a linearly increasing variation

in axial gaps between core bottom and top, and assures with a 95% confidence, that no more than one fuel rod exceeds the design linear heat generation rate due to power spiking. An irradiated growth factor of 0.25% was used as the basis for determining $\Delta P/P$ in accordance with General Electric Development and Planning Memorandum #45, "Length Growth of BWR Fuel Elements," R. A. Proebsthe, October 1, 1973 and U.S. Atomic Energy Commission report, "Supplement 1 to the Technical Report on Densification of General Electric Reactor Fuels," December 14, 1973.