

AEC DISTRIBUTION FOR PART 50 DOCKET MATERIAL
(TEMPORARY FORM)

CONTROL NO: 8880

FILE: *App 1 - Prop Chg*

| | | | | | | | | |
|---|---------|-----------|-------------------------|------------------------|----------|--|-----|-------|
| FROM: Niagara Mohawk Power Corporation Syracuse, N. Y. 13202 Philip D. Raymond | | | DATE OF DOC 12-13-73 | DATE REC'D 12-13-73 | LTR X | MEMO | RPT | OTHER |
| TO: Mr. Skovholt | | | ORIG 3 signed | CC | OTHER | SENT AEC PDR <u>X</u> SENT LOCAL PDR <u>X</u> | | |
| CLASS | UNCLASS | PROP INFO | INPUT | NO CYS REC'D | | DOCKET NO: | | |
| | XXX | | XXX | 40 | | 50-220 | | |

DESCRIPTION:
Ltr notarized, 12-13-73.....re our 12-5-73 ltr which requested further analyses of the consequences of Fuel Densification at Nine Mile Point Unit 1, trans the following:

ENCLOSURES:
Proposed Changes to Tech Specs for the Nine Mile Point Unit # 1 (Change # 1 & #2) W/Attached Figs 3.1.7a, 3.1.7b, 3.1.7c & 3.1.7d.

** NOTE: R. Diggs W/6 Adv. cys

PLANT NAME: Nine Mile Point Unit # 1

(40 cys rec'd)

ACKNOWLEDGED
Do Not Remove

FOR ACTION/INFORMATION

12-14-73

AB

| | | | |
|-----------|--------------|-----------------|-----------|
| BUTLER(L) | SCHWENCER(L) | ✓ ** ZIEMANN(L) | REGAN(E) |
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| CLARK(L) | STOLZ(L) | DICKER(E) | |
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| GOLLER(L) | VASSALLO(L) | KNIGHTON(E) | |
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| KNIEL(L) | SCHEMEL(L) | YOUNGBLOOD(E) | |
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INTERNAL DISTRIBUTION

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|--------------------|--------------------|----------------|-----------------|-----------------|
| <u>REG FILE</u> | <u>TECH REVIEW</u> | <u>DENTON</u> | <u>LIC ASST</u> | <u>A/T IND</u> |
| ✓ AEC PDR | HENDRIE | GRIMES | ✓ DIGGS (L) | BRAITMAN |
| ✓ OGC, ROOM P-506A | SCHROEDER | GAMMILL | GEARIN (L) | SALTZMAN |
| ✓ MUNTZING/STAFF | MACCARY | KASTNER | GOULBOURNE (L) | B. HURT |
| CASE | KNIGHT | BALLARD | LEE (L) | <u>PLANS</u> |
| GIAMBUSSO | PAWLICKI | SPANGLER | MAIGRET (L) | MCDONALD |
| BOYD | SHAO | | SERVICE (L) | ✓ DUBE |
| MOORE (L) (BWR) | ✓ STELLO | <u>ENVIRO</u> | SHEPPARD (E) | <u>INFO</u> |
| DEYOUNG (L) (PWR) | HOUSTON | MULLER | SMITH (L) | C. MILES |
| ✓ SKOVHOLT (L) | ✓ NOVAK (6) | DICKER | TEETS (L) | ✓ ALLEN CABELL |
| P. COLLINS | ✓ ROSS | KNIGHTON | WADE (E) | ✓ L. RUBENSTEIN |
| <u>REG OPR</u> | IPPOLITO | YOUNGBLOOD | WILLIAMS (E) | ✓ VARGA |
| ✓ FILE & REGION(3) | TEDESCO | REGAN | WILSON (L) | |
| MORRIS | LONG | PROJECT LDR | | |
| STEELE | LAINAS | | | |
| | BENAROYA | <u>HARLESS</u> | | |
| | VOLLMER | | | |

EXTERNAL DISTRIBUTION

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|---|--------------------------------|--------------------------|
| ✓ 1 - LOCAL PDR Oswego, N. Y. | (1) (2) (10) - NATIONAL LAB'S | 1 - PDR - SAN/LA/NY |
| ✓ 1 - DTIE (ABERNATHY) | 1 - ASLBP (E/W Bldg, Rm 529) | 1 - GERALD LELLOUCHE |
| ✓ 1 - NSIC (BUCHANAN) | 1 - W. PENNINGTON, Rm E-201 GT | BROOKHAVEN NAT. LAB |
| 1 - ASLB (YORE/SAYRE/ | 1 - CONSULTANT'S | 1 - AGMED (Ruth Gussman) |
| WOODARD/"H" ST. | NEWMARK/BLUME/AGBABIAN | RM-B-127, GT. |
| ✓ 16 - CYS ACRS HOLDING SENT TO LIC ASST. | 1 - GERALD ULRICKSON... ORNL | 1 - RD..MULLER..F-309 GT |
| R. DIGGS ON 12-14-73 | | |



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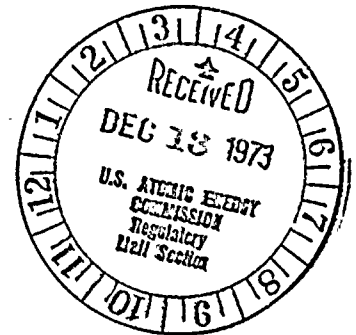
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NIAGARA MOHAWK POWER CORPORATION

NIAGARA  MOHAWK

300 ERIE BOULEVARD WEST
SYRACUSE, N. Y. 13202

December 13, 1973



Mr. Donald J. Skovholt
Assistant Director for
Operating Reactors
Directorate of Licensing
United States Atomic Energy Commission
Washington, D. C. 20545

Dear Mr. Skovholt:

Re: Nine Mile Point Unit 1
AEC Docket No. 50-220

As requested in your December 5, 1973, letter, further analyses have been performed on the consequences of fuel densification at Nine Mile Point Unit 1 using the guidance provided in the enclosure to your letter, "Modified GE Model for Fuel Densification."

Results of generic analyses are reported in General Electric's NEDO-20181. The methodology reported in this document is applicable to Nine Mile Point Unit 1. Accordingly, proposed changes to the Technical Specifications for this Unit, which pertain to the average planar lineal heat generation rates, are attached herewith. It is anticipated that with these changes Unit 1 will be able to achieve its full design rating of 1850 thermal megawatts for power distributions expected during normal operation.

The Site Operations Review Committee and the Safety Review and Audit Board concur with these proposed Technical Specification changes.

Very truly yours,



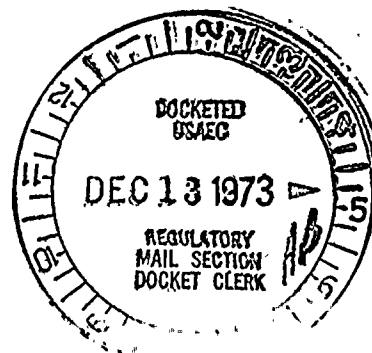
Philip D. Raymond
Vice President-Engineering

GKR/vk
Attachment

Subscribed and sworn to
before me this 13th day
of December 1973.



VALERIE N. KELLY
Notary Public in the State of New York
Qualified in Onon. Co. No. 34-4504/29
My Commission Expires March 30, 1975



8880

Nine Mile Point Unit 1

Proposed Changes to Technical Specifications

Change pages 37a, 37b, 37c, etc. as follows:

Change #1

Delete Figure 3.1.7 and replace with the attached Figures 3.1.7a, b, c and d. Under the Limiting Condition for Operation 3.1.7, delete the phrase in the last sentence in paragraph a. of the Specification "Figure 3.1.7" and replace with the phrase Figures 3.1.7a, b, c and d.

Change #2

Replace the third through sixth paragraphs of the Bases 3.1.7a with the following: "The maximum average planar LHGR curves for the various fuel types in the core shown in Figures 3.1.7a, b, c and d are based on calculations using the models described in the GE reports NEDO-10735, as modified by the GE reports NEDO-20181 and the GE letter of December 12, 1973, to V. Moore from J. Hinds, 'Plant Evaluation with GEGAP-III.'"

Reason for Changes 1 & 2

Changes to the maximum average planar LHGR are warranted based on results of further analysis and model development as related to the effects of fuel densification. This additional information is described in GE reports NEDO-20181.

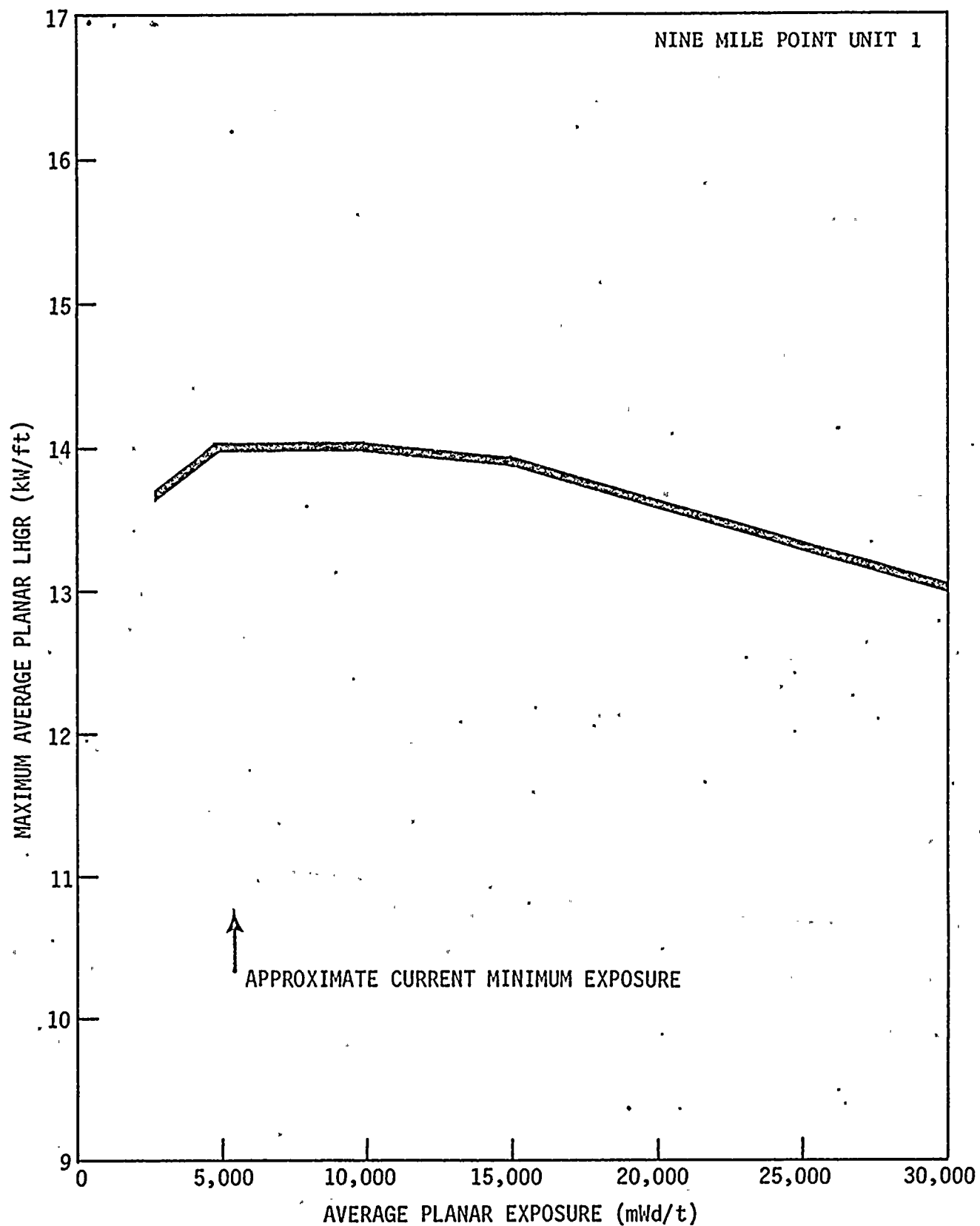


FIGURE 3.1.7.a MAXIMUM ALLOWABLE AVERAGE PLANAR LHGR
APPLICABLE TO FUEL TYPE INITIAL CORE

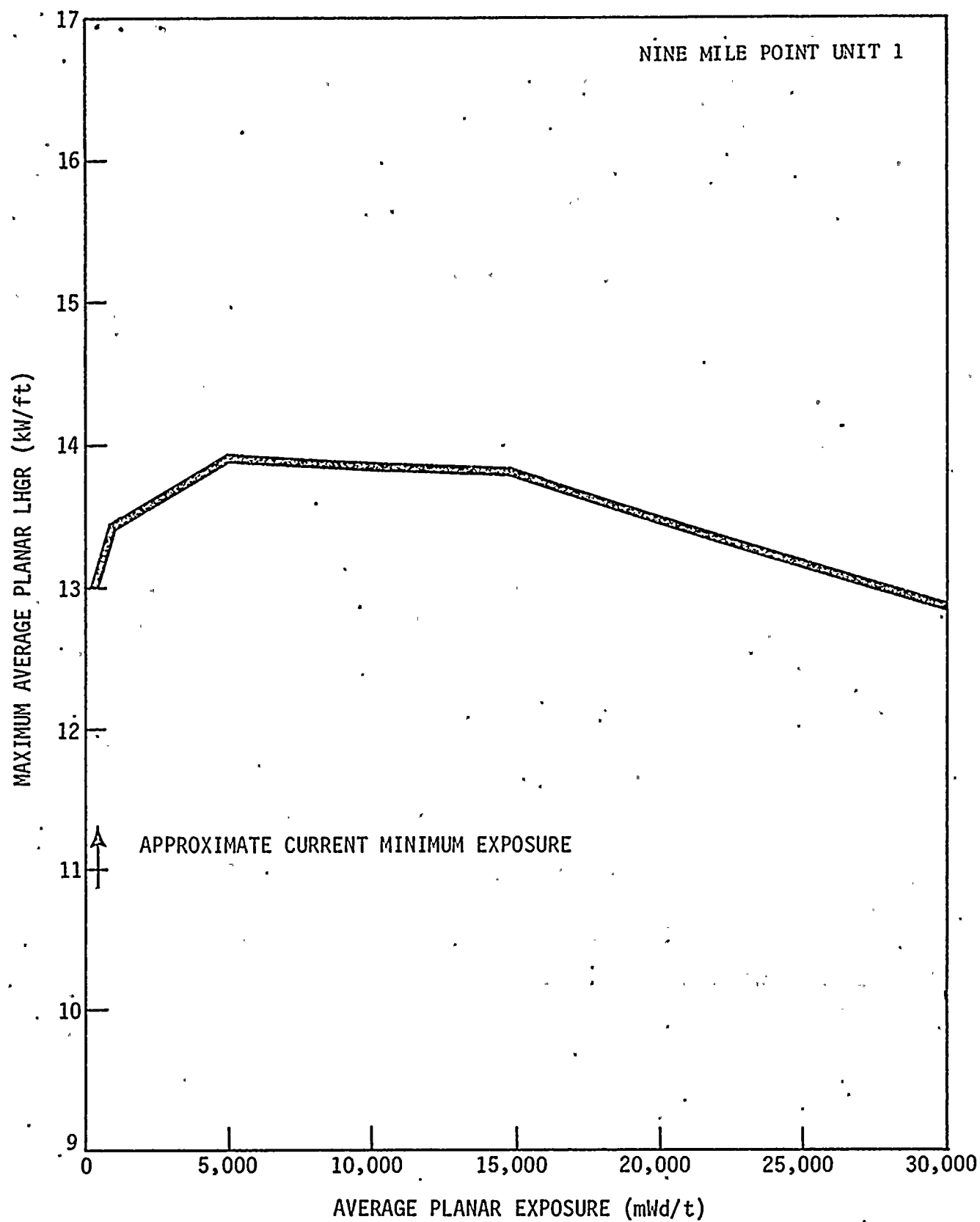


FIGURE 3.1.7.b MAXIMUM ALLOWABLE AVERAGE PLANAR LHGR
APPLICABLE TO FUEL TYPE RELOAD 1

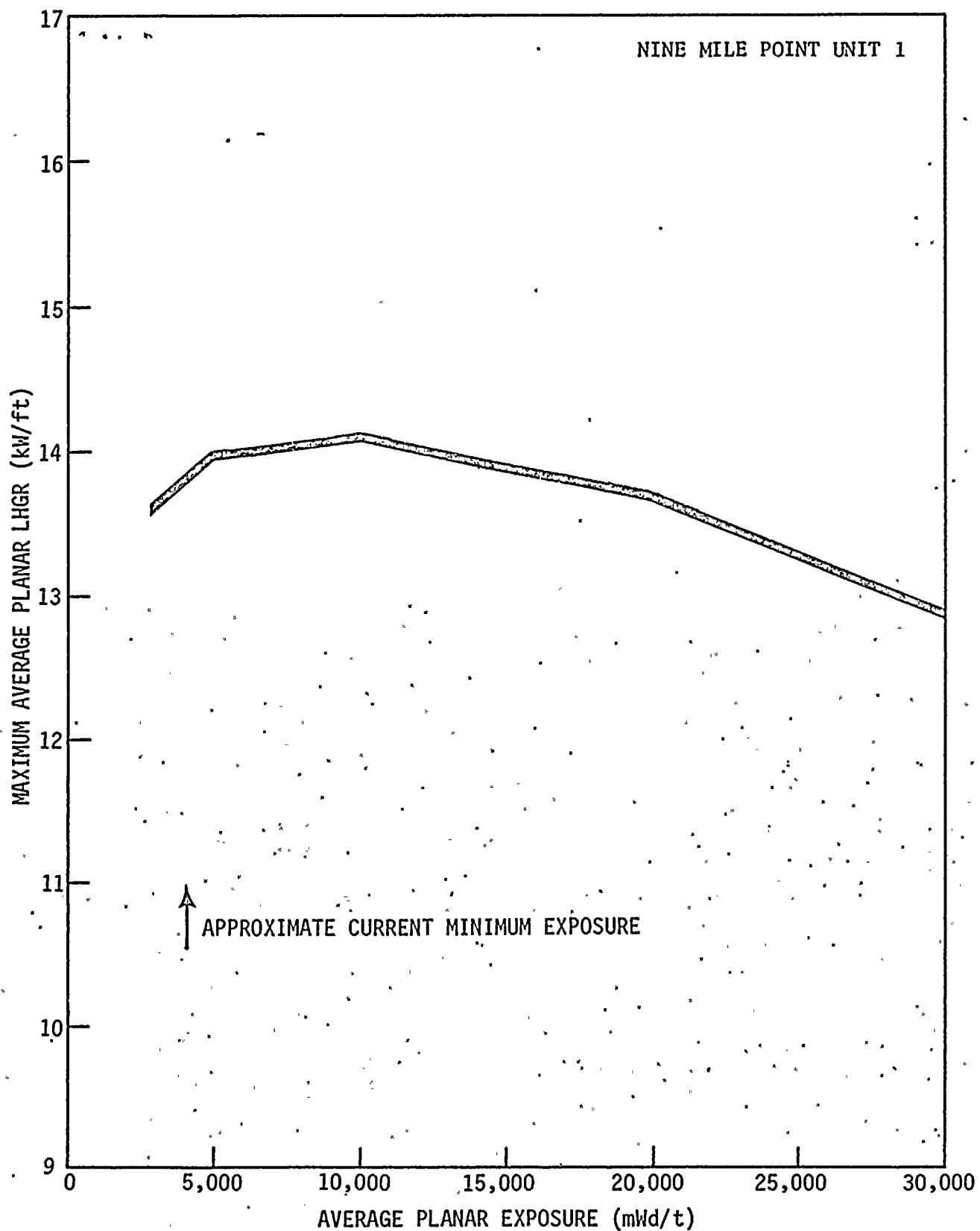


FIGURE 3.1.7.c MAXIMUM ALLOWABLE AVERAGE PLANAR LHGR
APPLICABLE TO FUEL TYPE RELOAD 2 (GENERIC A)

4. . . .

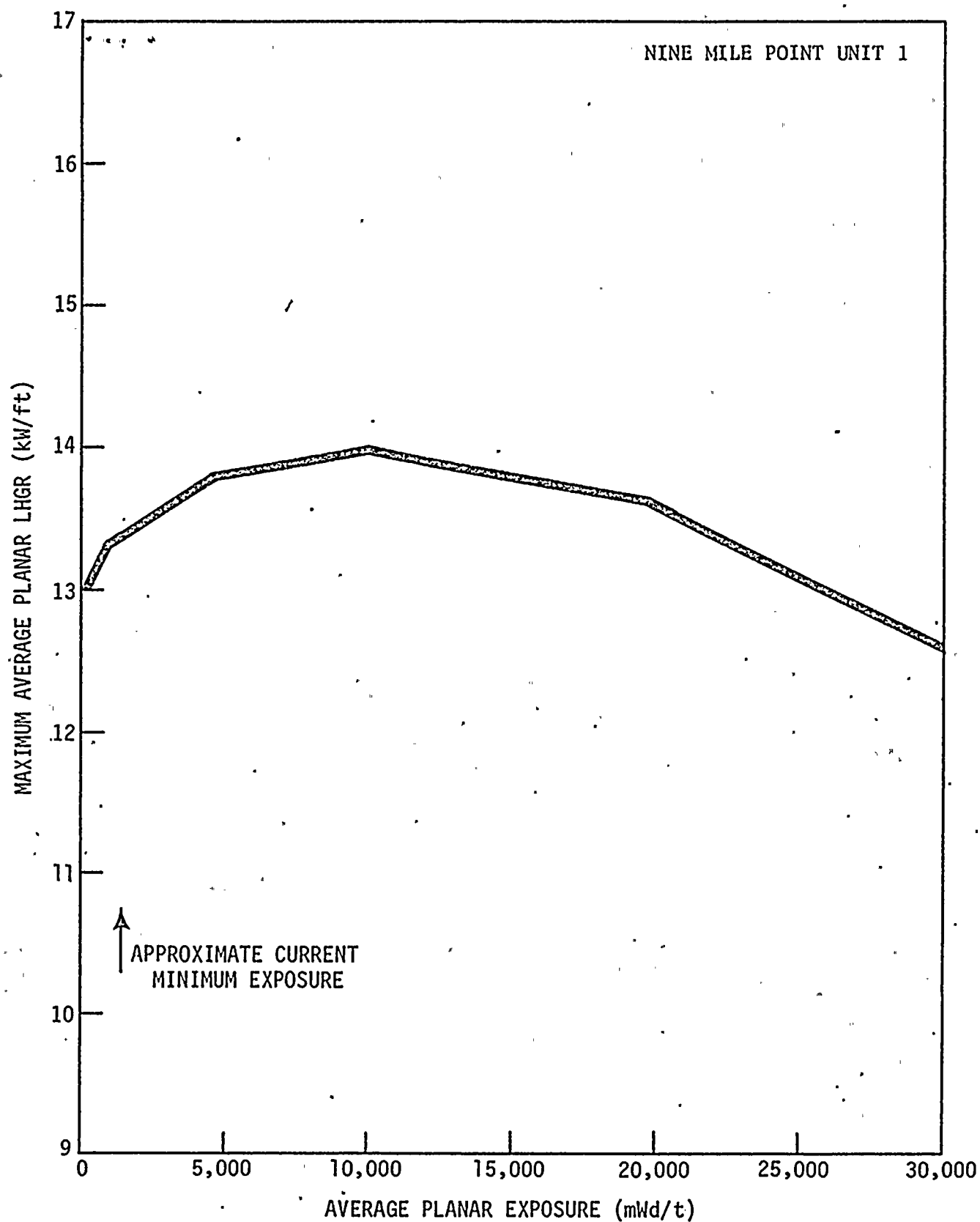


FIGURE 3.1.7.d MAXIMUM ALLOWABLE AVERAGE PLANAR LHGR
APPLICABLE TO FUEL TYPE RELOAD 3 (GENERIC C)

**AEC DISTRIBUTION FOR PART 50 DOCKET MATERIAL
(TEMPORARY FORM)**

CONTROL NO: 7631

FILE:

| | | | | | | | | |
|---|---------------|-----------|-------------------------|------------------------|----------|------------------------------------|-----|-------|
| FROM: Niagara Mohawk Power Corp. Syracuse, N. Y. 13202 P. D. Raymond | | | DATE OF DOC 10-15-73 | DATE REC'D 10-16-73 | LTR X | MEMO | RPT | OTHER |
| TO: A. Giambusso | | | ORIG 3 signed | CC 37 | OTHER | SENT AEC PDR X SENT LOCAL PDR X | | |
| CLASS | UNCLASS XX | PROP INFO | INPUT XX | NO CYS REC'D 40 | | DOCKET NO: 50-220 | | |

DESCRIPTION:
Ltr re their 9-14-73 ltr, requesting Change in Tech. Spec.....trans the following:

ENCLOSURES:
ATTACHMENT: results of analyses on the response of the refueled core to anticipated transients and postulated accidents.

PLANT NAME: Nine Mile Point Unit 1

(3 Orig & 37 cys rec'd)

FOR ACTION/INFORMATION 10-16-73 GC

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|------------------------|---------------------------|----------------------------|-----------------------|
| BUTLER(L) W/ Copies | SCHWENCER(L) W/ Copies | ✓ZIEMANN(L) W/ 9 Copies | REGAN(E) W/ Copies |
| CLARK(L) W/ Copies | STOLZ(L) W/ Copies | DICKER(E) W/ Copies | W/ Copies |
| GOLLER(L) W/ Copies | VASSALLO(L) W/ Copies | KNIGHTON(E) W/ Copies | W/ Copies |
| KNIEL(L) W/ Copies | SCHEMEL(L) W/ Copies | YOUNGBLOOD(E) W/ Copies | W/ Copies |

INTERNAL DISTRIBUTION

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| ✓ <u>REG FILE</u> | <u>TECH REVIEW</u> | DENTON | <u>LIC ASST</u> | <u>A/T IND</u> |
| ✓AEC PDR | HENDRIE | GRIMES | | BRAITMAN |
| ✓OGC, ROOM P-506A | SCHROEDER | GAMMILL | ✓DIGGS (L) | SALTZMAN |
| ✓MUNTZING/STAFF | MACCARY | KASTNER | GEARIN (L) | |
| CASE | KNIGHT | BALLARD | GOULBOURNE (L) | <u>PLANS</u> |
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| BOYD | SHAO | | MAIGRET (L) | ✓DUBE |
| MOORE (L) (FWR) | STELLO | <u>ENVIRO</u> | SERVICE (L) | |
| DEYOUNG (L) (FWR) | HOUSTON | MULLER | SHEPPARD (E) | <u>INFO</u> |
| ✓SKOVHOLT (L) | NOVAK | DICKER | SMITH (L) | ✓C. MILES |
| P. COLLINS | ROSS | KNIGHTON | TEETS (L) | ✓A. Cabell |
| | IPPOLITO | YOUNGBLOOD | WADE (E) | |
| ✓ <u>REG OPR</u> | TEDESCO | REGAN | WILLIAMS (E) | |
| FILE & REGION(3) | LONG | PROJECT LDR | WILSON (L) | |
| MORRIS | LAINAS | | | |
| STEELE | BENAROYA | <u>HARLESS</u> | | |
| | VOLLMER | | | |

EXTERNAL DISTRIBUTION

| | | |
|------------------------------|---------------------------------|-------------------------|
| ✓1 - LOCAL PDR Oswego, N. Y. | (1) (2X10) NATIONAL LAB'S | 1-PDR-SAN/LA/NY |
| ✓1 - DTIE (ABERNATHY) | 1-R. Schoonmaker, OC, GT, D-323 | 1-GERALD LELLOUCHE |
| ✓1 - NSIC (BUCHANAN) | 1-W. PENNINGTON, Rm E-201 GT | BROOKHAVEN NAT. LAB |
| 1 - ASLB (YORE/SAYRE/ | 1-CONSULTANT'S | 1-AGMED (WALTER KOESTER |
| WOODARD/"H" ST. | NEWMARK/BLUME/AGBABIAN | RM-C-427-GT |
| ✓16 - CYS ACRS HOLDING | 1-GERALD ULRICKSON...ORNL | 1-RD..MULLER..F-309 GT |

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Journal of Management Inquiry

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6. χ^2 统计量, $\chi^2 = \sum_{i=1}^n \frac{(O_i - E_i)^2}{E_i}$, O_i 为观察频数, E_i 为期望频数, χ^2 服从自由度为 $n-1$ 的卡方分布。

(1 2 3 4 5 6 7 8 9 10)

Journal of Management Education 30(6)

Figure 1 shows a 2D hexagonal lattice. The top row of hexagons is labeled 'A' and the bottom row is labeled 'B'. A central hexagon in the 'A' row is labeled 'i'. Its six nearest neighbors are labeled 'i-1', 'i-2', 'i-3', 'i-4', 'i-5', and 'i-6' in a clockwise direction starting from the left. The hexagons in the 'B' row are labeled 'j-1', 'j', 'j+1', 'j+2', 'j+3', and 'j+4' from left to right. The central hexagon 'i' is connected to 'i-1', 'i-2', 'i-3', 'i-4', 'i-5', and 'i-6'. The hexagons 'i-1', 'i-2', 'i-3', 'i-4', 'i-5', and 'i-6' are connected to 'j-1', 'j', 'j+1', 'j+2', 'j+3', and 'j+4' respectively.