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ACCESSION NBR: 8605270188 DOC. DATE: 86/05/22 NOTARIZED: NO DOCKET #
FACIL: 50-397 WPPSS Nuclear Project, Unit 2, Washington Public Powe 05000397
AUTH. NAME AUTHOR AFFILIATION
SORENSEN, G. C. Washington Public Power Supply System
RECIP. NAME RECIPIENT AFFILIATION
ADENSAM, E. G. BWR Project Directorate 3

SUBJECT: Provides supplemental info to 860226 application to amend License NpF-21 re Cycle 2 reload. Use of two separate sets for two-loop operating limits for fuel types & separate set for single loop proposed. Mark-up Tech Specs encl.

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Was[redacted]on Public Power Supply Sy[redacted]
3000 George Washington Way P.O. Box 968 Richland, Washington 99352-0968 (509)372-5000

May 22, 1986
G02-86-477

Docket No. 50-397

Director of Nuclear Reactor Regulation
Attn: E. G. Adensam, Project Director
BWR Project Directorate No. 3
Division of BWR Licensing
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Ms. Adensam:

Subject: NUCLEAR PLANT NO. 2
OPERATING LICENSE NPF-21, REQUEST FOR AMENDMENT TO TECHNICAL SPECIFICATIONS - RELOAD LICENSE AMENDMENT (CYCLE 2), SUPPLEMENTAL INFORMATION

Reference: Letter, G02-86-173, G. C. Sorensen (SS) to E. G. Adensam (NRC), "Request for Amendment to Technical Specifications - Reload License Amendment (Cycle 2)", dated February 26, 1986

The reference letter requested certain changes to the WNP-2 Technical Specifications. In submitting changes to Section 3/4.2.1, Average Planar Linear Heat Generation Rate, the Supply System incorrectly applied direction given by Exxon Nuclear Company (ENC) for establishing MAPLHGR limits while in single loop operation. Exxon has evaluated the GE limits as being conservative with respect to the Exxon fuel design based on their DBA LOCA analyses and supports application of the adjusted GE MAPLHGR single loop limit. To avoid confusion in interpreting LCO 3/4.2.1, we are proposing the usage of two separate sets of curves for each fuel type in both operating conditions. The two sets will present the two loop operating limits for all fuel types and a separate set for single loop operation. For GE fuel, the new graphs for single loop operation do not represent a change to previous submittals. For the Exxon fuel a conversion factor of .77 is being applied to mathematically apply slightly more conservative nodal MAPLHGR limits than applied to GE fuel. Direct application of the GE 8CR233 fuel single loop APLHGR limit curve in monitoring MAPLHGR for ENC fuel is not possible with existing POWERPLEX software.

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RELOAD LICENSE AMENDMENT (CYCLE 2), SUPPLEMENTAL INFORMATION

To verify that use of the .77 multiplier applied to the ENC XN-1 fuel would be conservative for Cycle 2 operation when compared to the previously approved .84 multiplier times the GE 8CR233 type fuel MAPLHGR limits applied to the ENC XN-1 fuel, a comparative set of calculations was performed. To account for differences in Bundle Average Exposure versus Average Planar Exposure, a conservative axial peaking factor of 1.5 was divided into Average Planar Exposures to yield the comparative Bundle Average Exposure points. Based on the results of these comparative calculations, the single loop MAPLHGR curve for ENC XN-1 fuel has been truncated at a bundle average exposure of 15,000 MWD/mt.

Although this supplementary information presents more conservative limits than those previously submitted , the Supply System has reviewed this supplementary information per 10 CFR 50.92 and determined that it does not:

1) Involve a significant increase in the probability or consequences of an accident previously evaluated because the analyses previously performed by GE for cycle one supported extended single loop operation and the Exxon evaluation of their DBA-LOCA analyses concluded application of the GE limits for Exxon fuel was conservative.

2) Create the possibility of a new or different kind of accident from any accident previously evaluated because the analyses is specifically designed to evaluate the most limiting accident.

3) Involve a significant reduction in the margin of safety because the nature of the analyses and evaluation is to ensure conservative limiting conditions for operation are applied. This change moves in a more conservative direction.

Additionally, this supplementary information has been reviewed with respect to 10 CFR 50.59 and does not represent an unreviewed safety question.

Attached are proposed technical specification pages reflecting this supplementary information. Should you have any further questions, please contact Mr. P. L. Powell, Manager, WNP-2 Licensing.

Very truly yours,

H. C. Aeschlimann for

G. C. Sorensen, Manager
Regulatory Programs

PLP/MRW/tmh
Attachments

cc: JO Bradfute - NRC
C Eschels - EFSEC
JB Martin - NRC RV
E Revell - BPA
NS Reynolds - BLCP&R
NRC Site Inspector

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NEW PAGE

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3/4.2 POWER DISTRIBUTION LIMITS

3/4.2.1 AVERAGE PLANAR LINEAR HEAT GENERATION RATE

LIMITING CONDITION FOR OPERATION

3.2.1 All AVERAGE PLANAR LINEAR HEAT GENERATION RATES (APLHGRs) for GE fuel and average bundle exposure for ENC fuel for each type of fuel as a function of AVERAGE PLANAR EXPOSURE shall not exceed the limits shown in Figures 3.2.1-1, 3.2.1-2, and 3.2.1-3. The limits ~~of Figures 3.2.1-1, 3.2.1-2, and 3.2.1-3 shall be reduced to a value of 0.84 times the two recirculation loop operation limit when in single recirculation loop operation.~~ for single loop operation are shown in Figures 3.2.1-4, 3.2.1-5, and 3.2.1-6.

APPLICABILITY: OPERATIONAL CONDITION 1, when THERMAL POWER is greater than or equal to 25% of RATED THERMAL POWER.

ACTION:

With an APLHGR exceeding the applicable limits of Figure 3.2.1-1, 3.2.1-2, ~~or~~ 3.2.1-3, 3.2.1-4, 3.2.1-5 or 3.2.1-6 initiate corrective action within 15 minutes and restore APLHGR to within the required limits within 2 hours or reduce THERMAL POWER to less than 25% of RATED THERMAL POWER within the next 4 hours.

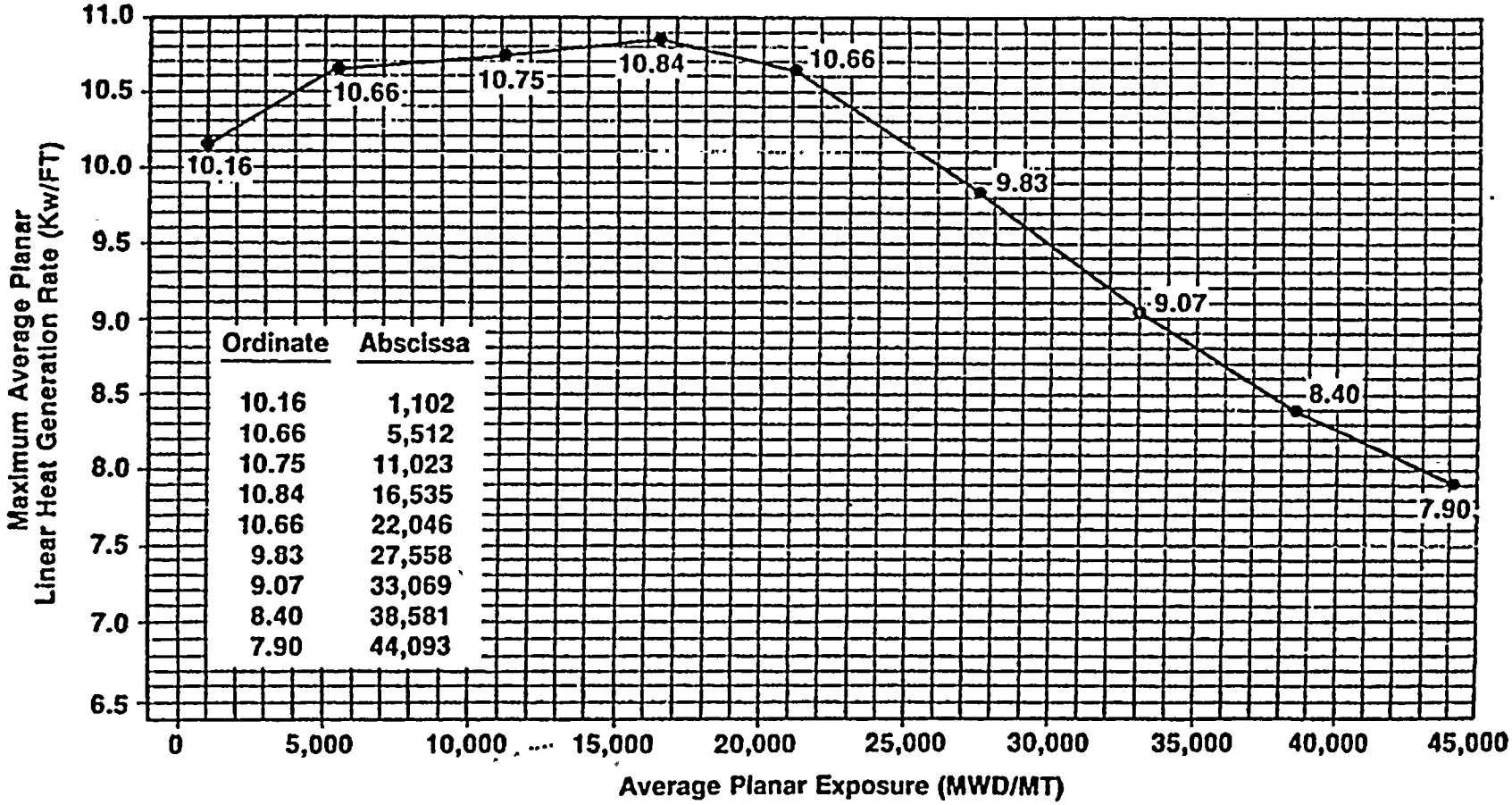
SURVEILLANCE REQUIREMENTS

4.2.1 All APLHGRs shall be verified to be equal to or less than the limits determined from Figures 3.2.1-1, 3.2.1-2, ~~and~~ 3.2.1-3, 3.2.1-4, 3.2.1-5, and 3.2.1-6.

a. At least once per 24 hours,

b. Within 12 hours after completion of a THERMAL POWER increase of at least 15% of RATED THERMAL POWER, and

c. Initially and at least once per 12 hours when the reactor is operating with a LIMITING CONTROL ROD PATTERN for APLHGR.

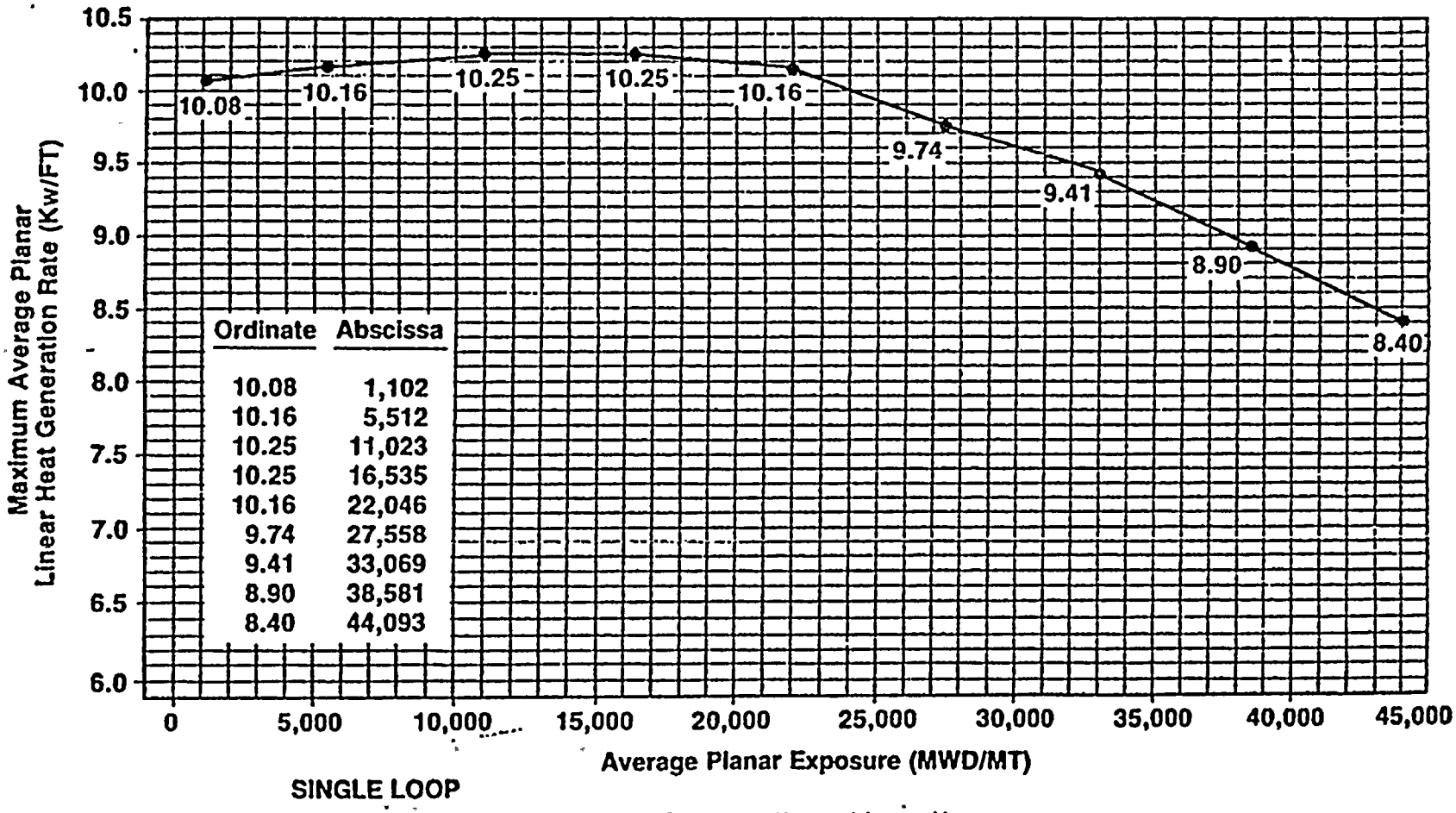


Ordinate	Abscissa
10.16	1,102
10.66	5,512
10.75	11,023
10.84	16,535
10.66	22,046
9.83	27,558
9.07	33,069
8.40	38,581
7.90	44,093

SINGLE LOOP

Maximum Average Planar Linear Heat Generation Rate (MAPLHGR) Versus Average Planar Exposure
Initial Core Fuel Type 8CR183
Figure 3.2.1-4

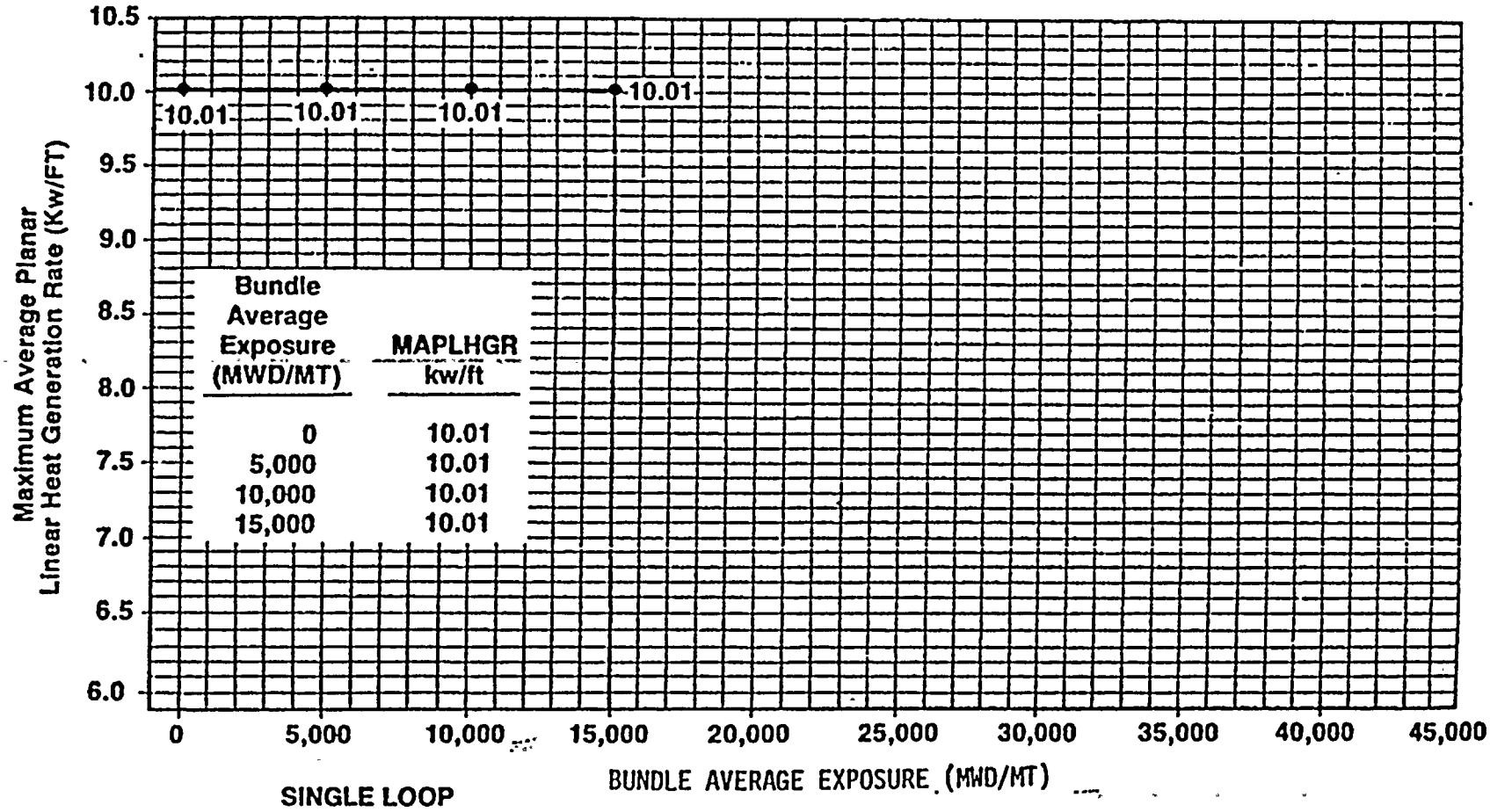
660599.5A



Ordinate	Abscissa
10.08	1,102
10.16	5,512
10.25	11,023
10.25	16,535
10.16	22,046
9.74	27,558
9.41	33,069
8.90	38,581
8.40	44,093

Maximum Average Planar Linear Heat Generation Rate (MAPLHGR) Versus Average Planar Exposure
Initial Core Fuel Type 8CR233
Figure 3.2.1-5

660599.5A



Maximum Average Planar Linear Heat Generation Rate (MAPLHGR) Versus BUNDLE AVERAGE EXPOSURE ENC XN-1 FUEL

Figure 3.2.1-6

660599.5A