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July 16, 1979

REGULATORY DOCKET FILE COPY

Director of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Subject: Dresden Station Unit 2
Reload 4 Cycle 7 Supplemental
Reload Licensing Submittal
NRC Docket No. 50-237

Dear Sir:

Enclosed for your information are copies of erratta and addenda sheets for the previously approved Supplemental Reload Licensing Submittal for Dresden 2 Reload 4.

These changes merely add stability data for the extrapolated rod block line. The original submittal only presented decay ratios associated with the 100% power/flow line.

The revision is being submitted in anticipation of a proposed license amendment for an expanded power/flow operating region with reduced slope APRM setpoints.

Please address any questions you may have concerning this matter to this office.

One (1) signed original and thirty-nine (39) copies of this transmittal are provided for your use.

Very truly yours,

Robert F. Janecek
Nuclear Licensing Administrator
Boiling Water Reactors

enclosure

7907230295

Approved
AS/11



APPLICABLE TO:
PUBLICATION NO. NEDO-24160
T. I. E. NO. 78NED294
TITLE Supplemental Reload
Licensing Submittal for
Dresden NPS Unit 2 Reload 4
ISSUE DATE November 1978

ERRATA And ADDENDA
SHEET

NO. 4
DATE June 1979
*NOTE: Correct all copies of the applicable
publication as specified below.*

ITEM	REFERENCES (SECTION, PAGE PARAGRAPH, LINE)	INSTRUCTIONS (CORRECTIONS AND ADDITIONS)
1.	Pages 1 and 2	Remove pages 1 and 2. Replace with attached pages 1 and 2.
2.	Pages 15 and 16	Remove pages 15 and 16. Replace with attached pages 15 and 16.

1. PLANT UNIQUE ITEMS (1.0)*

- a. Plant Parameter Changes See Appendix A
- b. Loading Error See Appendix A
- c. Loss-of-Coolant Accident Analysis See Reference 1 (Pg. 5)
- d. R (Item 4) Value shown includes effect of B_4C settling (0.0002 Δk)
- e. Natural Circulation/Extrapolated Rod Block Decay Ratio See Appendix A

2. RELOAD FUEL BUNDLES (1.0, 3.3.1 and 4.0)

	<u>Fuel Type</u>	<u>Number</u>	<u>Number Drilled</u>
Irradiated	Initial (7DB212)	56	
	Reload-1 (7DB230)	32	
	(8DB250)	124	
	Reload-2 (8DB250)	80	
	(8DB262)	80	
	Reload-3 (8DB250)	192	
New	Reload-4 (8DRB265L)	<u>160</u>	<u>160</u>
Total		<u>724</u>	<u>160</u>

3. REFERENCE CORE LOADING PATTERN (3.3.1)

Nominal previous cycle exposure: 15,812 MWd/t
 Assumed reload cycle exposure: 16,450 MWd/t
 Core loading pattern: Figure 1

4. CALCULATED CORE EFFECTIVE MULTIPLICATION AND CONTROL SYSTEM WORTH - NO VOIDS, 20°C (3.3.2.1.1 AND 3.3.2.1.2)

BOC k_{eff}	
Uncontrolled	1.107
Fully Controlled	0.949
Strongest Control Rod Out	0.987
R, Maximum Increase in Cold Core Reactivity with Exposure Into Cycle, Δk	0.0002

*(') refers to areas of discussion in "Generic Reload Fuel Application," NEDE-24011-P-A, August 1978.

5. STANDBY LIQUID CONTROL SYSTEM SHUTDOWN CAPABILITY (3.3.2.1.3)

<u>ppm</u>	<u>Shutdown Margin (Δk) (20°C, Xenon Free)</u>
600	0.043

6. RELOAD UNIQUE TRANSIENT ANALYSIS INPUTS (3.3.2.1.5 AND 5.2)

	<u>EOC</u>	<u>EOC - 2 GWd/t</u>
Void Coefficient N/A* (¢/% Rg)	-5.77/-7.22	-7.06/-8.82
Void Fraction (%)	30.71	34.10
Doppler Coefficient N/A (¢/°F)	-0.231/-0.219	-0.220/-0.209
Average Fuel Temperature (°F)	1203	1203
Scram Worth N/A (\$)	-39.52/-31.61	-36.5/-29.2
Scram Reactivity vs Time	Figure 2a	Figure 2b

7. RELOAD UNIQUE GETAB TRANSIENT ANALYSIS INITIAL CONDITION PARAMETERS (5.2)

<u>Exposure</u>	<u>7x7 EOC</u>	<u>8x8/8x8R EOC</u>
Peaking factors (local, radial and axial)	1.30/1.53/1.40	1.18/1.82/1.40
R-Factor	1.100	1.051
Bundle Power (MWt)	5.240	6.201
Bundle Flow (10 ³ lb/hr)	113.84	108.74
Initial MCPR	1.24	1.30

8. SELECTED MARGIN IMPROVEMENT OPTIONS (5.2.2)

None

*N = Nuclear Input Data
A = Used in Transient Analysis

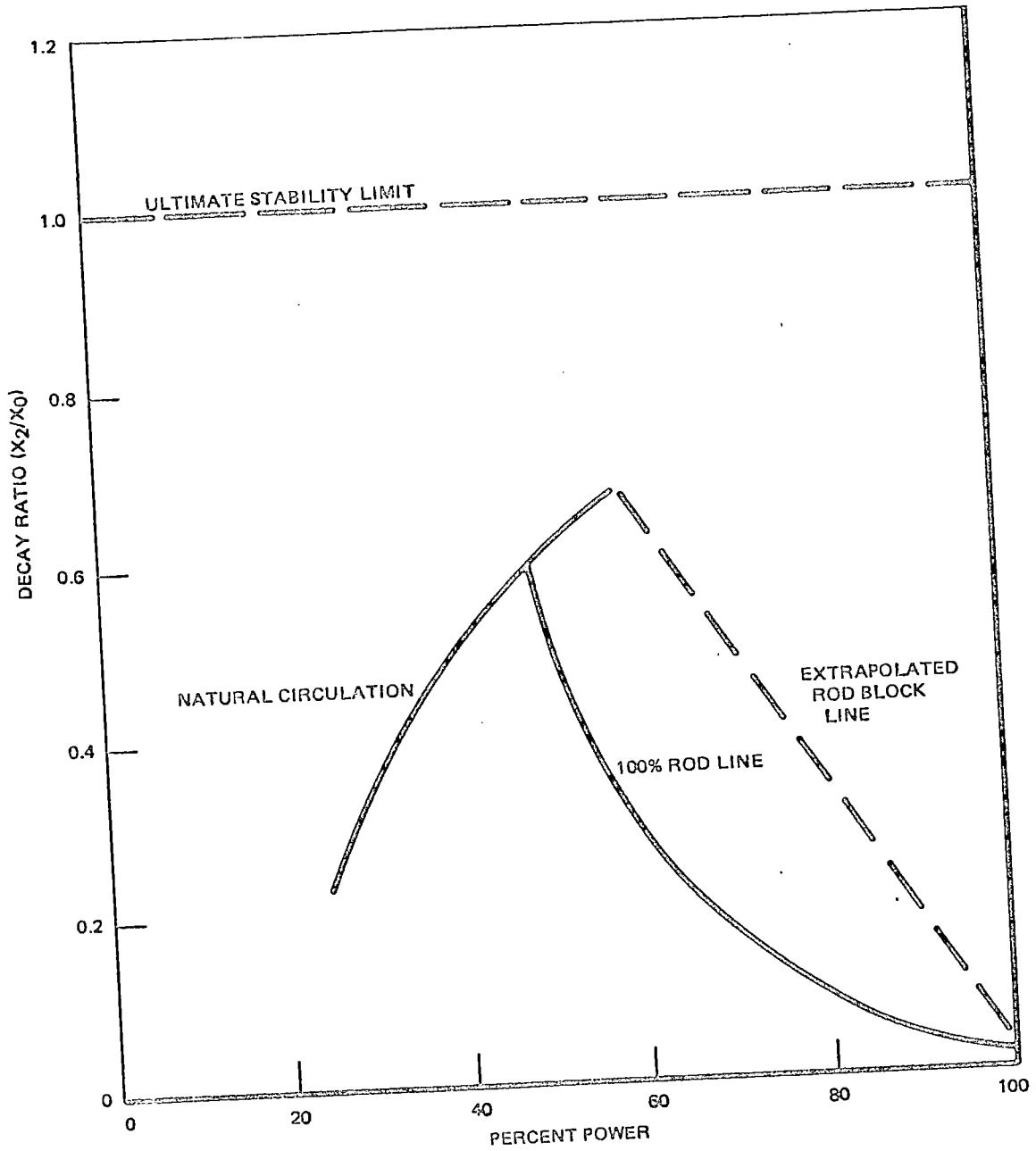


Figure 9. Decay Ratio

APPENDIX A

PLANT PARAMETER CHANGES

Pressure Relief Systems (Table 5-4, pg 5-62, NEDO-24011)

Safety/Relief Valve setpoint (psig)	1115 + 1%
Safety/Relief Valve capacity (% NBR steam flow)	5/29.2
Safety Valve capacity (% NBR steam flow)	8/52.5

Transient Operating Parameters (Table 5-6, pg 5-64, NEDO-24011)

Thermal Power (% of Rated)	
BOC to EOC-2 Gwd/t	100
EOC-2 Gwd/t to EOC	98
Turbine Pressure (psig)	950

GETAB Initial Conditions

Reactor Core Pressure (psia)	1030
Inlet Enthalpy (Btu/lb)	522.5

Loading Error

Linear Heat Generation Rate (kW/ft)	19.4
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Stability Analysis

Natural Circulation/Extrapolated Rod	
Block Decay Ratio (see Figure A-1)	0.68