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February 9, 2018
L-18-032

ATTN: Document Control Desk
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

SUBJECT:
Perry Nuclear Power Plant
Docket No. 50-440, License No. NPF-58
Mid-Cycle Revision to the Core Operating Limits Report for Operating Cycle 17

Enclosed is Revision 27 of the Core Operating Limits Report for the Perry Nuclear Power Plant (PNPP). This mid-cycle revision is submitted to the Nuclear Regulatory Commission (NRC) in accordance with PNPP Technical Specification 5.6.5, "Core Operating Limits Report (COLR)." A summary of the revision begins on page 25 of the COLR.

There are no regulatory commitments contained in this submittal. If there are any questions or additional information is required, please contact Mr. Thomas A. Lentz, Manager – Fleet Licensing, at (330) 315-6810.

Sincerely,

David B. Hamilton

Enclosure:
Core Operating Limits Report for the Perry Nuclear Power Plant Unit 1 Cycle 17
(Reload 16), Revision 27

cc: NRC Region III Administrator
NRC Resident Inspector
NRC Project Manager

PERRY NUCLEAR POWER PLANT		Procedure Number: PDB-F0001	
Title: Core Operating Limits Report for the Perry Nuclear Power Plant Unit 1 Cycle 17 (Reload 16)		Use Category: In-Field Reference	
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CORE OPERATING LIMITS REPORT FOR THE PERRY NUCLEAR POWER PLANT UNIT 1 CYCLE 17 (RELOAD 16)

Functional Location (J11)

Plant Data Book

Effective Date: 1-16-18

Preparer: Pat Curran / 12-1-17
Date

Approver: Paul Bordley / 12-7-17
Date

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1.0 INTRODUCTION

This Core Operating Limits Report (COLR) for the Perry Nuclear Power Plant (PNPP) Unit 1 is prepared in accordance with the requirements of PNPP Technical Specification Administrative Control 5.6.5. The core operating limits presented herein were determined using NRC-approved methods (Obligation 1 and Obligation 2). The core operating limits for the Global Nuclear Fuel (GNF) fuel in PNPP Unit 1 for Cycle 17 are documented in Obligations 3, 4, 5, 14, 16, 17, and 20 and summarized herein for the following PNPP Unit 1 Technical Specifications:

1. Average Planar Linear Heat Generation Rate (APLHGR) Limits for each fuel/lattice type, including the power and flow dependent MAPFAC multipliers with the single loop MAPLHGR reduction factor. (Technical Specification 3.2.1)

2. Minimum Critical Power Ratio Limit including the Operating Limit MCPR along with the power and flow dependent MCPR curves. (Technical Specification 3.2.2)

An additional power dependent MCPR Limit curve is provided for operation with one pressure regulator out of service or power load unbalance out of service.

3. Linear Heat Generation Rate (LHGR) Limits for each fuel/lattice type, including the power and flow dependent LHGRFAC curves with the single loop LHGRFAC reduction factor. (Technical Specification 3.2.3)

An additional power dependent LHGRFAC curve is provided for operation with power load unbalance out of service.

4. The simulated thermal power time constant. (Technical Specification 3.3.1.1, SR 3.3.1.1.14)
5. Oscillation Power Range Monitor (OPRM) Instrumentation. (Technical Specification 3.3.1.3)

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The oscillation power range monitor setpoint methods have been changed to NEDE-33766P-A, GEH Simplified Stability Solution (GS3). The GS3 methods are a generic approach to establishing the OPRM period - based detection algorithm setpoints. This generic approach assumes feedwater temperature reductions are limited to 120°F anytime during the cycle.

Cycle 17 (Reload 16) core design was developed assuming feedwater temperature reductions of 100°F during the cycle and 170°F beyond the end of the normal fuel cycle. Plant operations will be limited to 100°F during the cycle to account for the assumptions of the core design and 120°F beyond the end of the normal fuel cycle to account for the GS3 limitation.

For Cycle 17 (Reload 16) an additional flexibility option, Power Load Unbalance Out Of Service (PLUOOS), was obtained. Thermal Limits associated with PLUOOS were incorporated into Section 3 (MAPLHGR), Section 4 (MCPR), and Section 5 (LHGR).

Calculation FM-075, Support for the Core Operating Limits Report, details the development of the various graphs contained within this COLR.

2.0 REFERENCES

2.1 Discretionary

None

2.2 Obligations

1. General Electric Standard Application for Reactor Fuel, NEDE-24011-P-A-23, September 2016; and the US Supplement, NEDE-24011-P-A-23-US, September 2016
2. Reactor Stability Detect and Suppress Solutions Licensing Basis Methodology for Reload Applications, Licensing Topical Report, NEDO-32465-A, August 1996
3. Supplemental Reload Licensing Report for Perry 1 Reload 16 Cycle 17, GNF Document 002N6979, Revision 0, December 2016

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4. Fuel Bundle Information Report for Perry 1 Reload 16 Cycle 17, GNF Document 002N6980, Revision 0, December 2016
5. Calculation FM-012, OPRM Device Settings and Setpoints, Revision 5
6. Technical Specification 2.1.1.2, Safety Limit MCPR, Amendment No. 165
7. Technical Specification 3.2.1, Average Planar Linear Heat Generation Rate, Amendment No. 112
8. Technical Specification 3.2.2, Minimum Critical Power Ratio, Amendment No. 112
9. Technical Specification 3.2.3, Linear Heat Generation Rate, Amendment No. 112
10. Technical Specification 3.3.1.1, Reactor Protection System Instrumentation (SR 3.3.1.1.14), Amendment No. 115
11. Technical Specification 3.3.1.3, OPRM Instrumentation (SR 3.3.1.3.3), Amendment 138
12. Technical Specification 5.6.5, Core Operating Limits Report, Amendment No. 136
13. Neutron Monitoring System Design Specification, 22A3739, Revision 6
14. Calculation FM-075, Support for the Core Operating Limits Report, Revision 5
15. FTI-B0012, Single Loop Operation
16. Tables D-2 (UO₂) and D-4 (U,GdO₂) of GE14 Compliance with Amendment 22 of NEDE-24011-P-A, (GESTAR II), NEDC-32868P, Revision 6, March 2016, MFN 16-015, March 24, 2016.
17. Tables B-1 (UO₂) and B-2 (U,GdO₂) of GNF2 Advantage Generic Compliance with NEDE-24011-P-A, (GESTAR II), NEDC-33270P, Revision 7, October 2016, MFN 16-073, October 12, 2016.

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18. Condition Report 2015-06018 – Use of GNF Provided Proprietary Information
19. NEDE-33766P-A, Revision 1 March 2015, GEH Simplified Stability Solution (GS3)
20. 004N3562-R0, Perry Cycle 17 Power Load Unbalance (PLU) OOS Analysis
21. Condition Report 2017-08501, Core Operating Limits Report - Single Loop Power Dependent MCPRp Calculation Is Conservative

Commitments addressed in this document:

None

3.0 T.S. 3.2.1 - AVERAGE PLANAR LINEAR HEAT GENERATION RATE (APLHR)

All Average Planar Linear Heat Generation Rates (APLHGRs) shall be less than or equal to the result obtained from multiplying the applicable MAPLHGR limit by the smaller of either the flow dependent APLHGR factor (MAPFAC_f) or the power dependent APLHGR factor (MAPFAC_p).

$$\text{MAXIMUM APLHGR LIMIT} = \text{MAPLHGR LIMIT} * \text{smaller (MAPFAC}_f \text{ or MAPFAC}_p\text{)}$$

MAPLHGR Limits and MAPFAC_f and MAPFAC_p are defined in Obligation 3.

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3.1 MAPLHGR LIMIT

Maximum Average Planar Linear Heat Generation Rates (MAPLHGRs) Limits for the GE14 and GNF2 fuel types are depicted in the following figures:

Figure 3.2.1-1a MAPLHGR Versus Average Planar Exposure
Fuel Type: GE14

Figure 3.2.1-1b MAPLHGR Versus Average Planar Exposure
Fuel Type: GNF2

The MAPLHGR Limits are independent of the selected Flexibility Option (Equipment In Service, Pressure Regulator Out Of Service, and Power Load Unbalance Out Of Service).

3.2 FLOW DEPENDENT AND POWER DEPENDENT MAPFAC

The Flow Dependent MAPLHGR Factor ($MAPFAC_f$) and the Power Dependent APLHGR Factor ($MAPFAC_p$) are set equal to 1.0.

3.3 FLOW DEPENDENT AND POWER DEPENDENT MAPFAC - SINGLE LOOP OPERATION

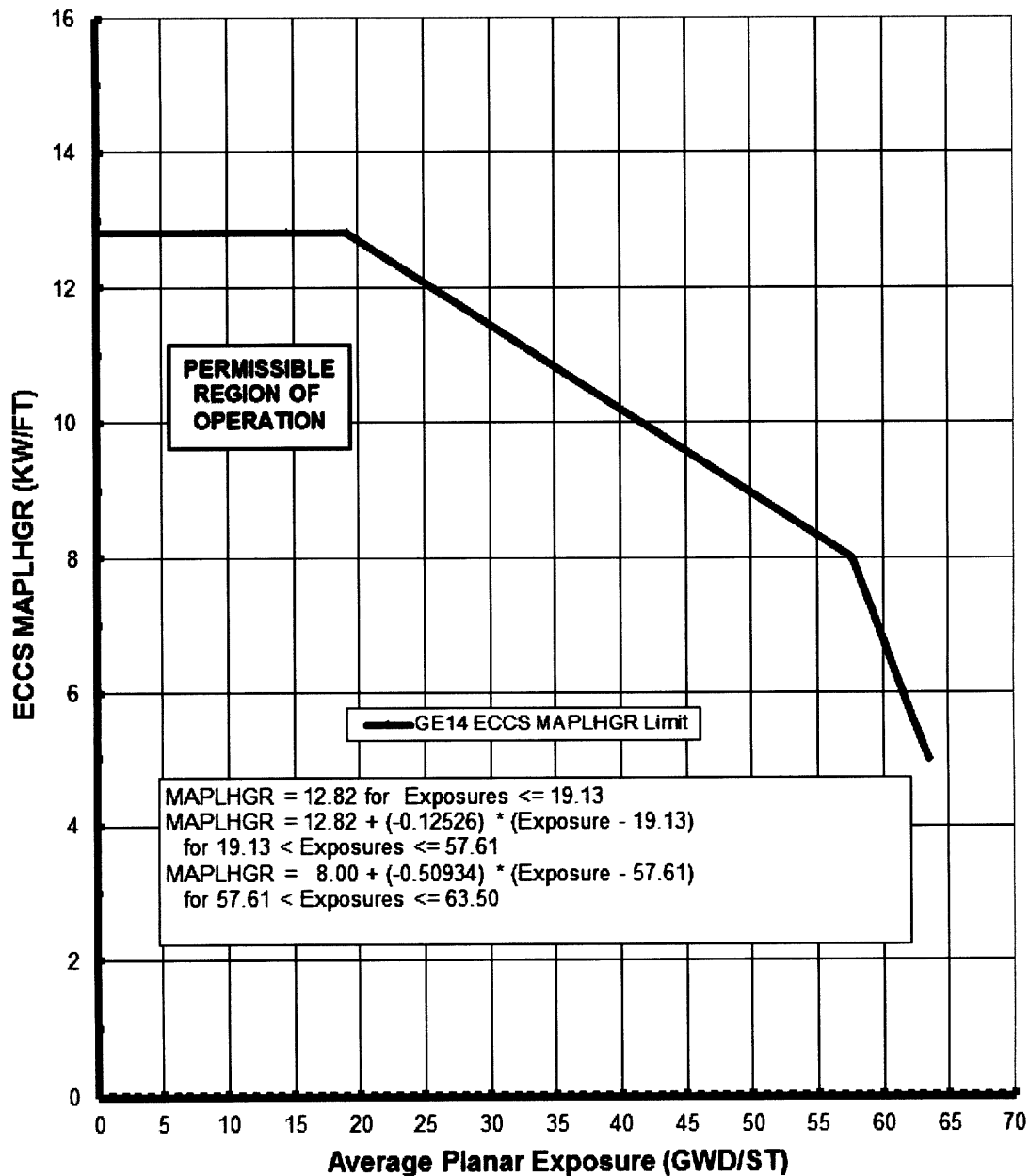
For Single Loop Operation, the Flow Dependent MAPLHGR Factor ($MAPFAC_f$) and Power Dependent APLHGR Factor ($MAPFAC_p$) are set equal to 0.8.

The Single Loop Operation limits take effect when reset for single loop operation per LCO 3.4.1, "Recirculation Loops Operating". This is consistent with note "(b)" to Table 3.3.1.1-1 of the Technical Specifications.

The 3DMONICORE Computer software will automatically shift between 2 LOOP ON and ONE LOOP ON modes of operation on transfer to Single Loop Operation. The change in $MAPFAC_f$ and $MAPFAC_p$ will occur automatically. Guidance in FTI-B0012 can be used to verify proper functioning of the 3DMONICORE System. If the 3DMONICORE System is not functioning properly, FTI-B0012 will implement administrative limits until 3DMONICORE is properly calculating MAPLHGR Limits.

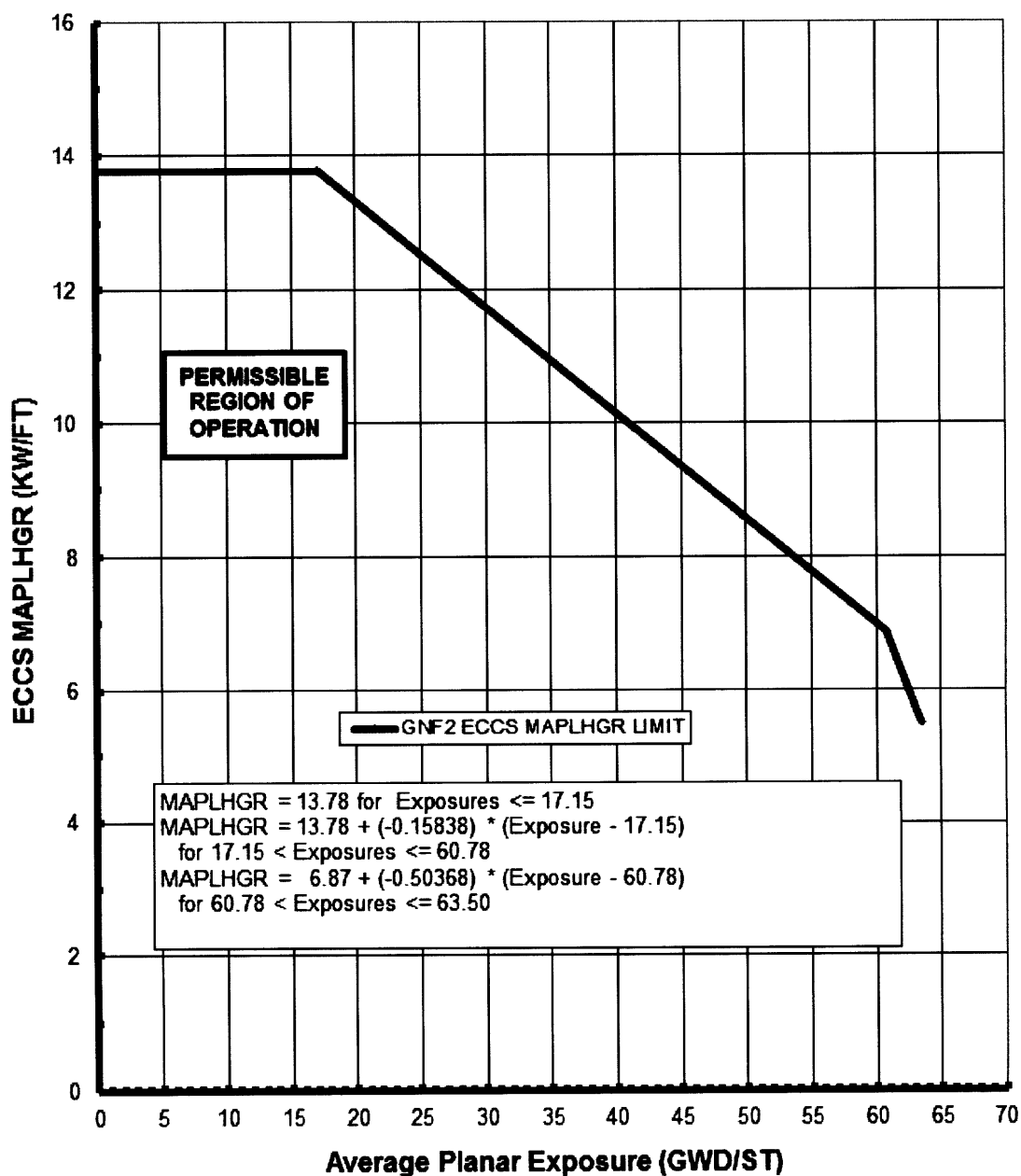
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Figure 3.2.1-1a
MAPLHGR Versus Average Planar Exposure
Fuel Type: GE14



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Figure 3.2.1-1b
MAPLHGR Versus Average Planar Exposure
Fuel Type: GNF2



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4.0 T.S. 3.2.2 - MINIMUM CRITICAL POWER RATIO (MCPR)

All Minimum Critical Power Ratios (MCPRs) shall be greater than or equal to the MCPR Limit. The MCPR Limit is equal to the higher of the Operating Limit MCPR, the Flow Dependent MCPR (MCPR_f), and the Power Dependent MCPR (MCPR_p) plus the MCPR Limit Adder.

$$\text{MCPR Limit} = \text{maximum (Operating Limit MCPR, MCPR}_f\text{, MCPR}_p\text{) + MCPR Limit Adder}$$

Operating Limit MCPR along with MCPR_f, MCPR_p, and MCPR Limit Adder are defined in Obligations 3 and Obligation 20.

4.1 OPERATING LIMIT MCPR and MCPR LIMIT ADDER

For Cycle 17, the Operating Limit MCPR is a function of the fuel type and exposure. Middle of Cycle (MOC) exposure point is defined as End of Rated (EOR) exposure point minus the Cycle Delta Exposure. For Cycle 17, the EOR exposure is defined in the Cycle 17 Cycle Management Report. For Cycle 17, the Cycle Delta Exposure is set to 2832 MWd/ST. Thus, MOC is equal to EOR – 2832 MWd/ST.

The End of Rated (EOR) is defined as the cycle exposure corresponding to all rods out, 100% power / 100% flow, and normal feedwater temperature. As such, the EOR is a projection based on various assumptions such as how the previous cycle operated, current cycle operations, core loading changes during the refueling outage, inoperable control rods, suppressed fuel defects, etc. The projected EOR exposure point may have to be updated during the cycle to ensure the appropriate MCPR limits applied. The changes in the EOR value are documented in supplements or revisions to the Cycle Management Report.

The Operating Limit MCPR is additionally defined by the selected Flexibility Option:

- Equipment In Service (EIS)
- Pressure Regulator Out Of Service (PROOS)
- Power Load Unbalance Out of Service (PLUOOS)

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Cycle 17 Operating Limit MCPR is defined as:

Operating Limit MCPR	GE14 EIS/PROOS	GE14 PLUOOS	GNF2 EIS/PROOS /PLUOOS
BOC to < MOC	1.32	1.40	1.34
>= MOC to EOC	1.35	1.41	1.40

For Cycle 17, the MCPR Limit Adder is equal to 0.00.

For Cycle 17, no change to MCPR limits is required for planned reduction of feedwater temperature to as low as 325.5°F. Final feedwater temperature may be reduced to 305.5°F after all control rods are withdrawn at the end of cycle if the OPRMs are OPERABLE.

The 3DMONICORE Computer software will automatically shift the Operating Limit MCPR based on the MOC exposure point.

4.2 FLOW DEPENDENT MCPR_f

The Flow Dependent MCPR Limit (MCPR_f) is independent of fuel type, exposure, and the selected Flexibility Option (Equipment In Service, Pressure Regulator Out Of Service, and Power Load Unbalance Out Of Service).

The Flow Dependent MCPR Limit is depicted in the following figure:

Figure 3.2.2-1, Flow Dependent MCPR Limit (MCPR_f)
Fuel Type: GE14 / GNF2

4.3 POWER DEPENDENT MCPR_p

The Power Dependent MCPR Limit (MCPR_p) is independent of the fuel type and exposure but is dependent on the Flexibility Option selected. MCPR_p figures are provided for Equipment In Service (EIS) and Pressure Regulator Out Of Service / Power Load Unbalance Out Of Service.

When operating below 38% RTP, MCPR_p is independent of fuel type, exposure, and flexibility option.

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When equal to or above 38% RTP, the power dependent $MCPR_p$ is dependent on the fuel type, exposure, flexibility option, and the variable K_p .

$$MCPR_p = K_p * \text{Operating Limit MCPR (fuel type, exposure, flexibility option)}$$

The Power Dependent MCPR Limit is depicted in the following figures:

Figure 3.2.2-2 Power Dependent MCPR Limit ($MCPR_p$)
Equipment in Service
Fuel Type: GE14 /GNF2

Figure 3.2.2-3 Power Dependent MCPR Limit ($MCPR_p$)
Pressure Regulator Out of Service
Power Load Unbalance Out Of Service
Fuel Type: GE14 / GNF2

The 3DMONICORE Software will not automatically shift to the Pressure Regulator Out of Service Thermal Limits. The 3DMONICORE databank will be manually changed using a software change request. Until the 3DMONICORE databank is updated for the Pressure Regulator Out of Service Thermal Limits, an MFLCPR Administrative Limit will be issued to Operations. Figure 3.2.2-4 can be used as a guide in establishing the MFLCPR Administrative Limit. The graph is the ratio of $MCPR_p$ – Equipment In Service to $MCPR_p$ – Pressure Regulator Out Of Service.

Figure 3.2.2-4 Maximum Fraction Limiting Critical Power Ratio
Limit (MFLCPR)
Pressure Regulator Out Of Service

The 3DMONICORE Software will not automatically shift to the Power Load Unbalance Out of Service Thermal Limits. The 3DMONICORE databank will be manually changed using a software change request. Until the 3DMONICORE databank is updated for the Power Load Unbalance Out of Service Thermal Limits, Reactor Engineering will review 3DM Periodic Logs and ratio the calculated MFLCPR's accounting for the change in Operating Limit MCPR.

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4.4 SINGLE LOOP OPERATION – MCPR LIMITS

The MCPR Safety Limit for Two Loop Operations is 1.10 and the MCPR Safety Limit for Single Loop Operation is 1.13 <TECHNICAL SPECIFICATIONS 2.1.1.2>. The Safety Limit Delta CPR is equal to 0.03.

As identified in the Cycle 17 Supplemental Reload Licensing Report - Section 11 Non-Pressurization Events Table, the minimum OL-MCPR for Rated Equivalent Single Loop Operating Pump Seizure Event is 1.38 for the GNF2 Fuel Type. This results in a delta CPR of 0.04 over the GNF2 Two Loop Operating Limit and is greater than the Safety Limit Delta CPR of 0.03.

To simplify the Cycle 17 3DMONICORE Databank Installation, MCPR Limit Adder (Single Loop Operation) is set equal to 0.04 for all fuel types and all exposures to bound both the Safety Limit Delta CPR and the results the single loop pump seizure analysis.

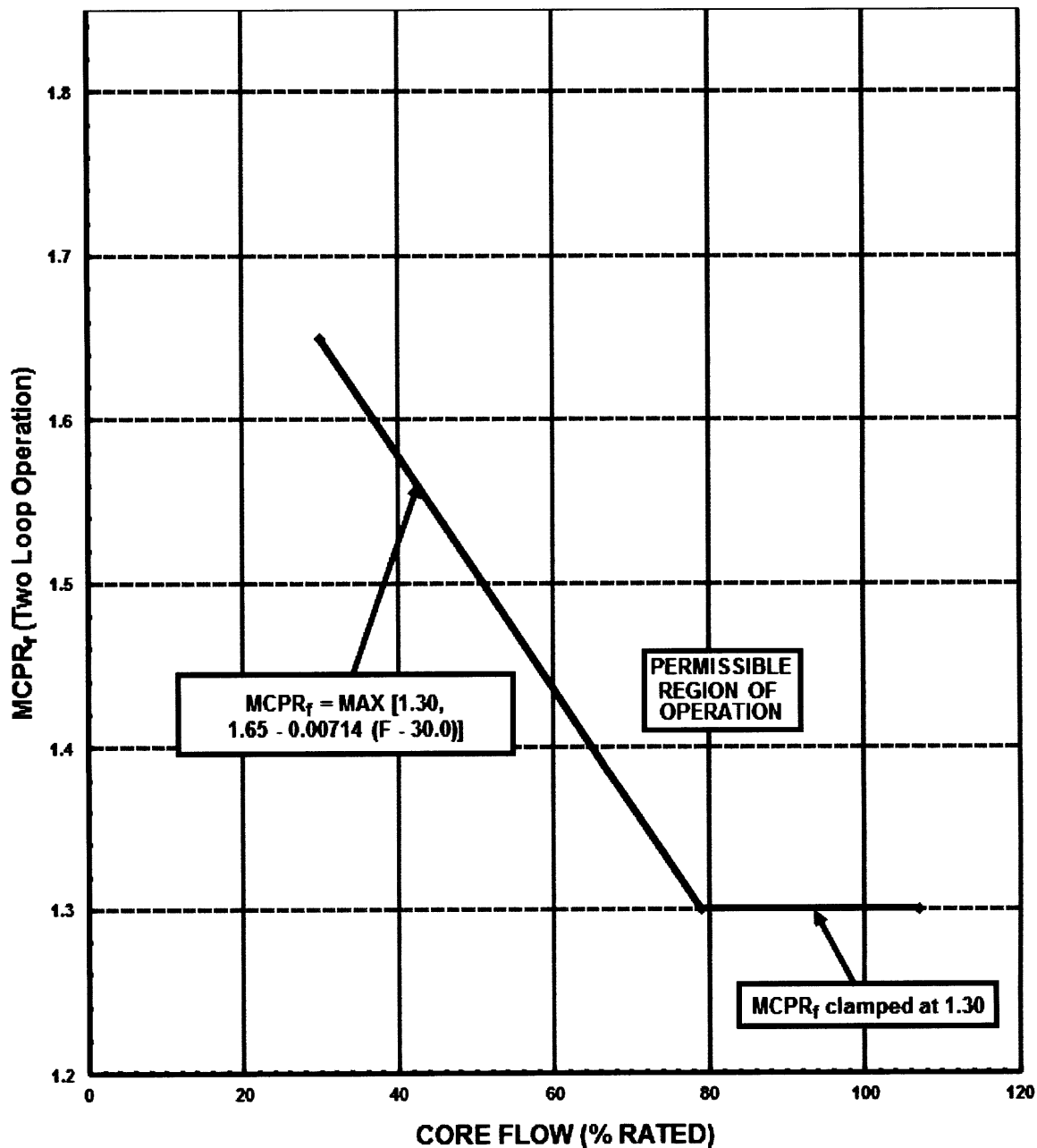
Planned reduction of rated feedwater temperature from nominal rated feedwater temperature is not permitted during plant operation with the reactor recirculation system in Single Loop Operation.

The Single Loop Operation limits take effect when reset for single loop operation per LCO 3.4.1, "Recirculation Loops Operating". This is consistent with note "(b)" to Table 3.3.1.1-1 of the Technical Specifications.

The 3DMONICORE Computer software will automatically shift between 2 LOOP ON and ONE LOOP ON modes of operation on transfer to Single Loop Operation. The change in the MCPR Limit Adder will occur automatically. The guidance in FTI-B0012 can be used to verify proper functioning of the 3DMONICORE System. If the 3DMONICORE System is not functioning properly, FTI-B0012 will implement administrative limits until 3DMONICORE is properly calculating MCPR values.

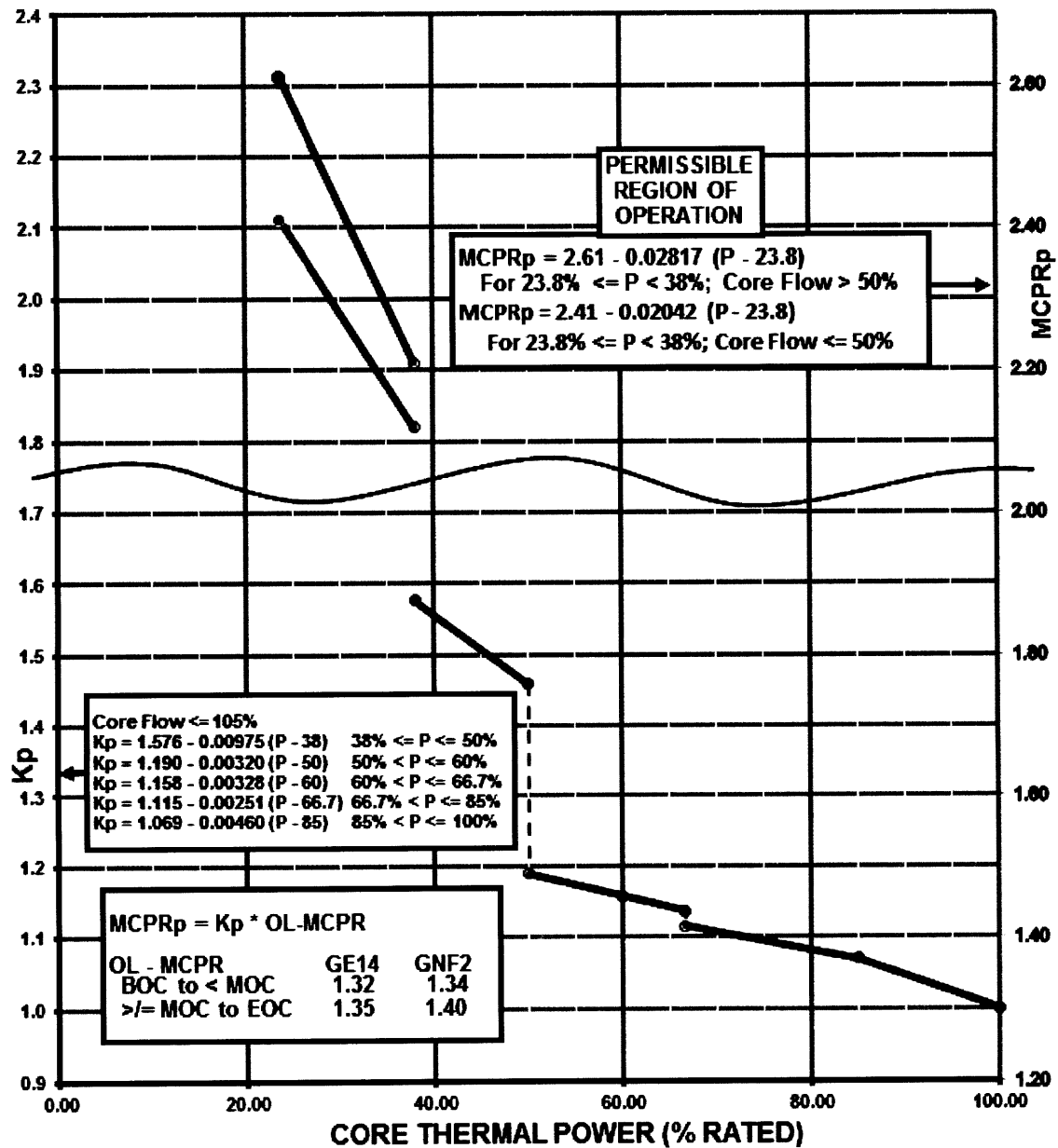
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Figure 3.2.2-1
Flow Dependent MCPR Limit (MCPR_f)
Fuel Type: GE14 / GNF2



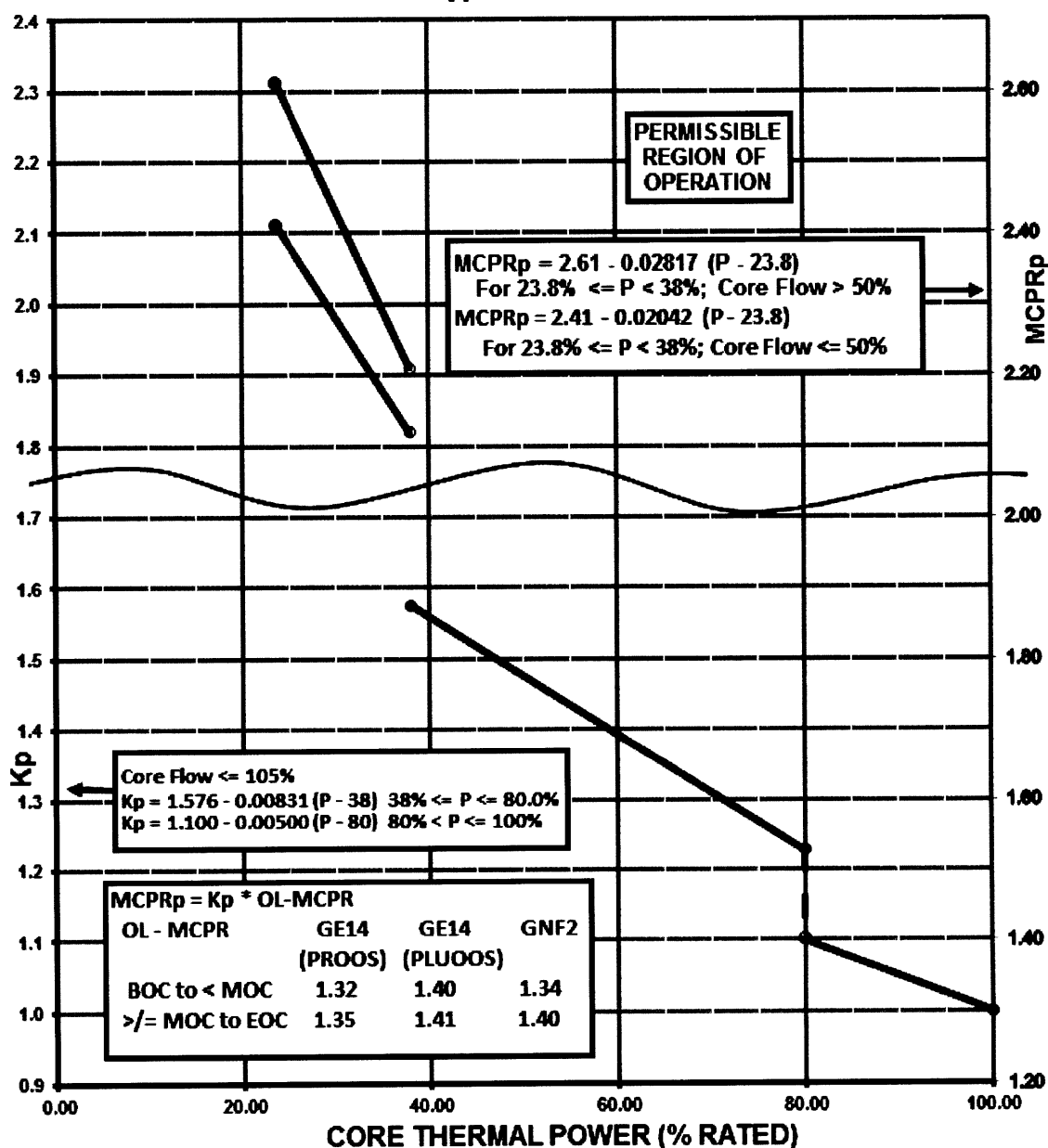
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Figure 3.2.2-2
Power Dependent MCPR Limit (MCPR_p)
Equipment In Service
Fuel Type: GE14 /GNF2



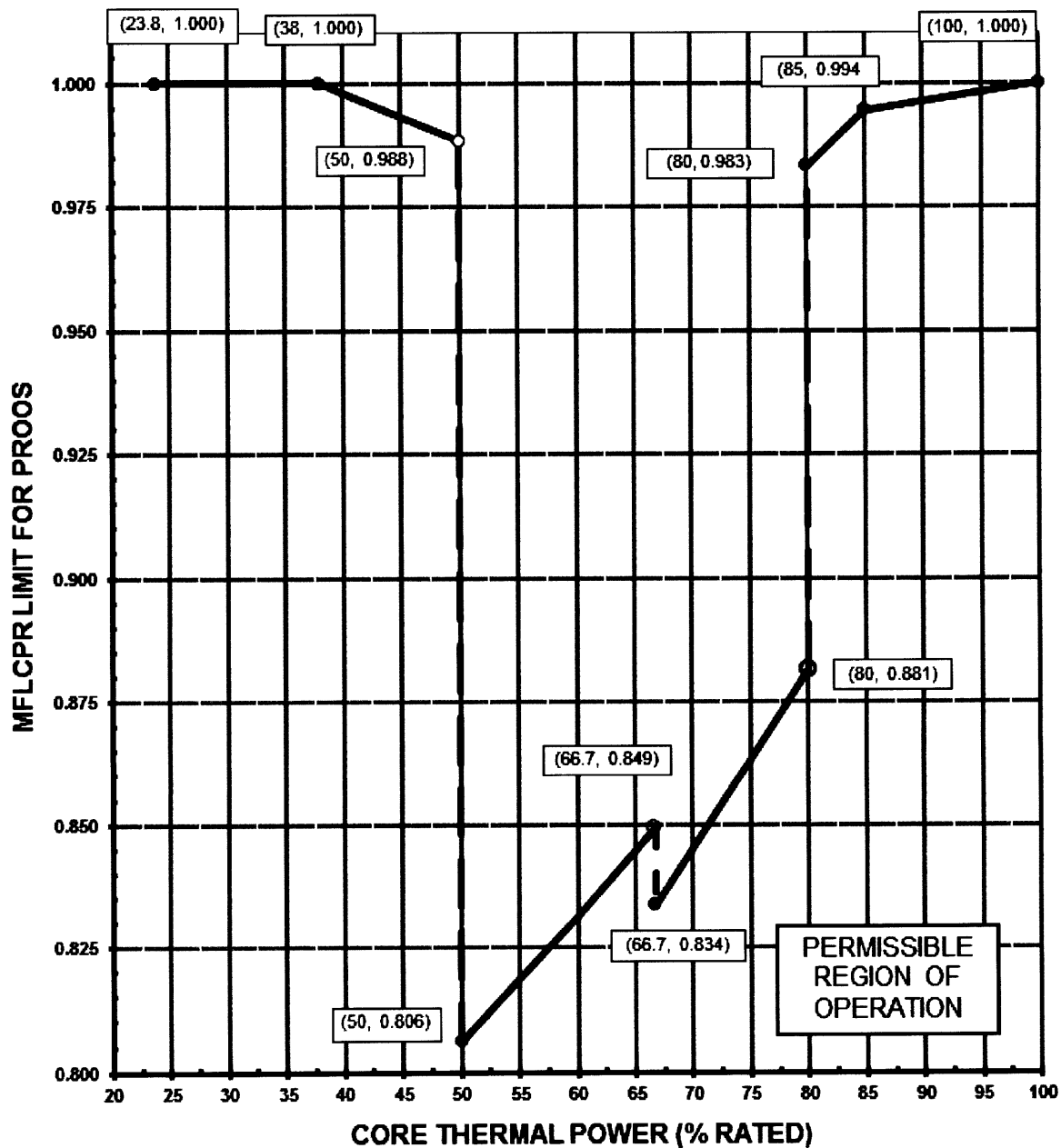
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Figure 3.2.2-3
Power Dependent MCPR Limit (MCPR_p)
Pressure Regulator Out Of Service
Power Load Unbalance Out Of Service
Fuel Type: GE14 / GNF2



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Figure 3.2.2-4
Maximum Fraction Limiting Critical Power Ratio Limit (MFLCPR)
Pressure Regulator Out Of Service
Fuel Type GE14 / GNF2



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5.0 T.S. 3.2.3 - LINEAR HEAT GENERATION RATE (LHGR)

All Linear Heat Generation Rates (LHGRs) shall be less than or equal to the result obtained from multiplying the applicable LHGR limit by the smaller of either the flow dependent LHGR factor (LHGRFAC_f) or the power dependent LHGR factor (LHGRFAC_p).

$$\text{MAXIMUM LHGR LIMIT} = \text{LHGR LIMIT} * \text{smaller (LHGRFAC}_f \text{ or LHGRFAC}_p\text{)}$$

LHGR Limits and LHGRFAC_f and LHGRFAC_p are defined in Obligations 3, 4, 16, 17, and 20.

5.1 LHGR LIMIT

Linear Heat Generation Rates (LHGRs) Limits for the GE14 Uranium only fuel pins and Gadolinia bearing fuel pins are listed in:

Tables D-2 (UO₂) and D-4 (U,GdO₂) of "GE14 Compliance with Amendment 22 of NEDE-24011-P-A, (GESTAR II), NEDC-32868P", Revision 6, March 2016.

Linear Heat Generation Rates (LHGRs) Limits for the GNF2 Uranium only fuel pins and Gadolinia bearing fuel pins are listed in:

Tables B-1 (UO₂) and B-2 (U,GdO₂) of "GNF2 Advantage Generic Compliance with NEDE-24011-P-A, (GESTAR II), NEDC-33270P", Revision 7, October 2016.

For both GE14 and GNF2 Gadolinia bearing fuel pins, the maximum Gadolinia content of a fuel pin is 7 wt-% Gd₂O₃.

The LHGR Limits are independent of the selected Flexibility Option (Equipment In Service, Pressure Regulator Out Of Service, and Power Load Unbalance Out Of Service).

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5.2 FLOW DEPENDENT LHGRFAC_f

The Flow Dependent LHGR Factor (LHGRFAC_f) is independent of fuel type, exposure, and the selected Flexibility Option (Equipment In Service, Pressure Regulator Out Of Service, and Power Load Unbalance Out Of Service).

The Flow Dependent LHGRFAC_f is depicted in the following figure:

Figure 3.2.3-1 Flow Dependent LHGR Factor (LHGRFAC_f)
Fuel Type: GE14 / GNF2

5.3 POWER DEPENDENT LHGRFAC_p

The Power Dependent LHGR Factor (LHGRFAC_p) is independent of fuel type and exposure but dependent on the selected Flexibility Option (Equipment In Service, Pressure Regulator Out Of Service, and Power Load Unbalance Out Of Service).

An LHGRFAC_p curve is provided for Equipment In Service / Pressure Regulator Out of Service and an LHGRFAC_p curve is provided for Power Load Unbalance Out Of Service.

The Power Dependent LHGRFAC_p are depicted in the following figures:

Figure 3.2.3-2 Power Dependent LHGR Factor (LHGRFAC_p)
Equipment In Service
Pressure Regulator Out Of Service
Fuel Type: GE14 / GNF2

Figure 3.2.3-3 Power Dependent LHGR Factor (LHGRFAC_p)
Power Load Unbalance Out Of Service
Fuel Type: GE14 / GNF2

The 3DMONICORE Software will not automatically shift to the Power Load Unbalance Out of Service Thermal Limits. The 3DMONICORE databank will be manually changed using a software change request. Until the 3DMONICORE databank is updated for the Power Load Unbalance Out of Service Thermal Limits, Reactor Engineering will review 3DM Periodic Logs and ratio the calculated MFLPD's accounting for the change in LHGRFAC_p.

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5.4 SINGLE LOOP OPERATION – LHGR LIMITS

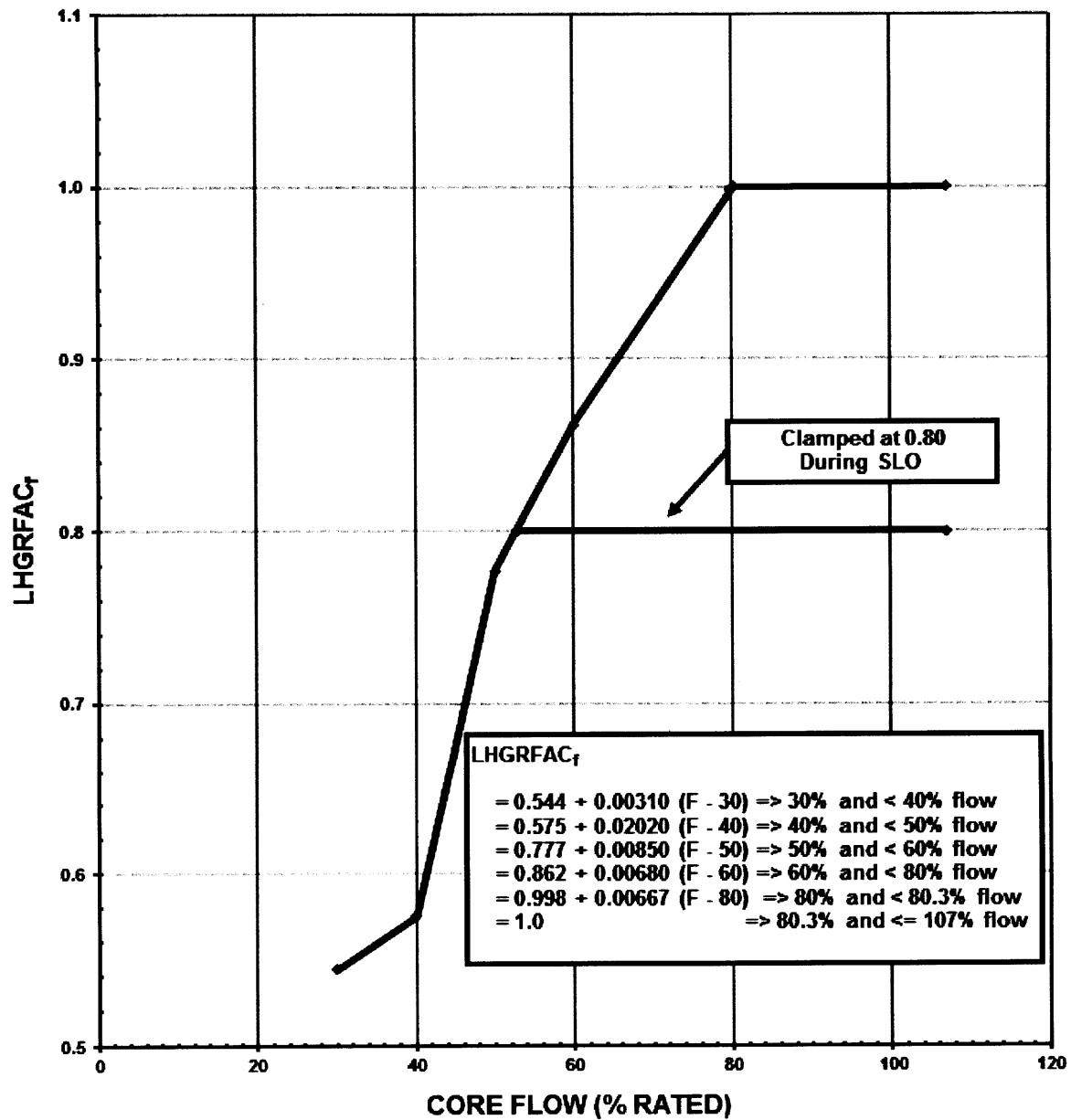
For Single Loop Operation, LHGRFAC_f and LHGRFAC_p shall not exceed 0.8.

The Single Loop Operation limits take effect when reset for single loop operation per LCO 3.4.1, "Recirculation Loops Operating". This is consistent with note "(b)" to Table 3.3.1.1-1 of the Technical Specifications.

The 3DMONICORE Computer software will automatically shift between 2 LOOP ON and ONE LOOP ON modes of operation on transfer to Single Loop Operation. The change in LHGRFAC_f and LHGRFAC_p will occur automatically. Guidance in FTI-B0012 can be used to verify proper functioning of the 3DMONICORE System. If the 3DMONICORE System is not functioning properly, FTI-B0012 will implement administrative limits until 3DMONICORE is properly calculating LHGR Limits.

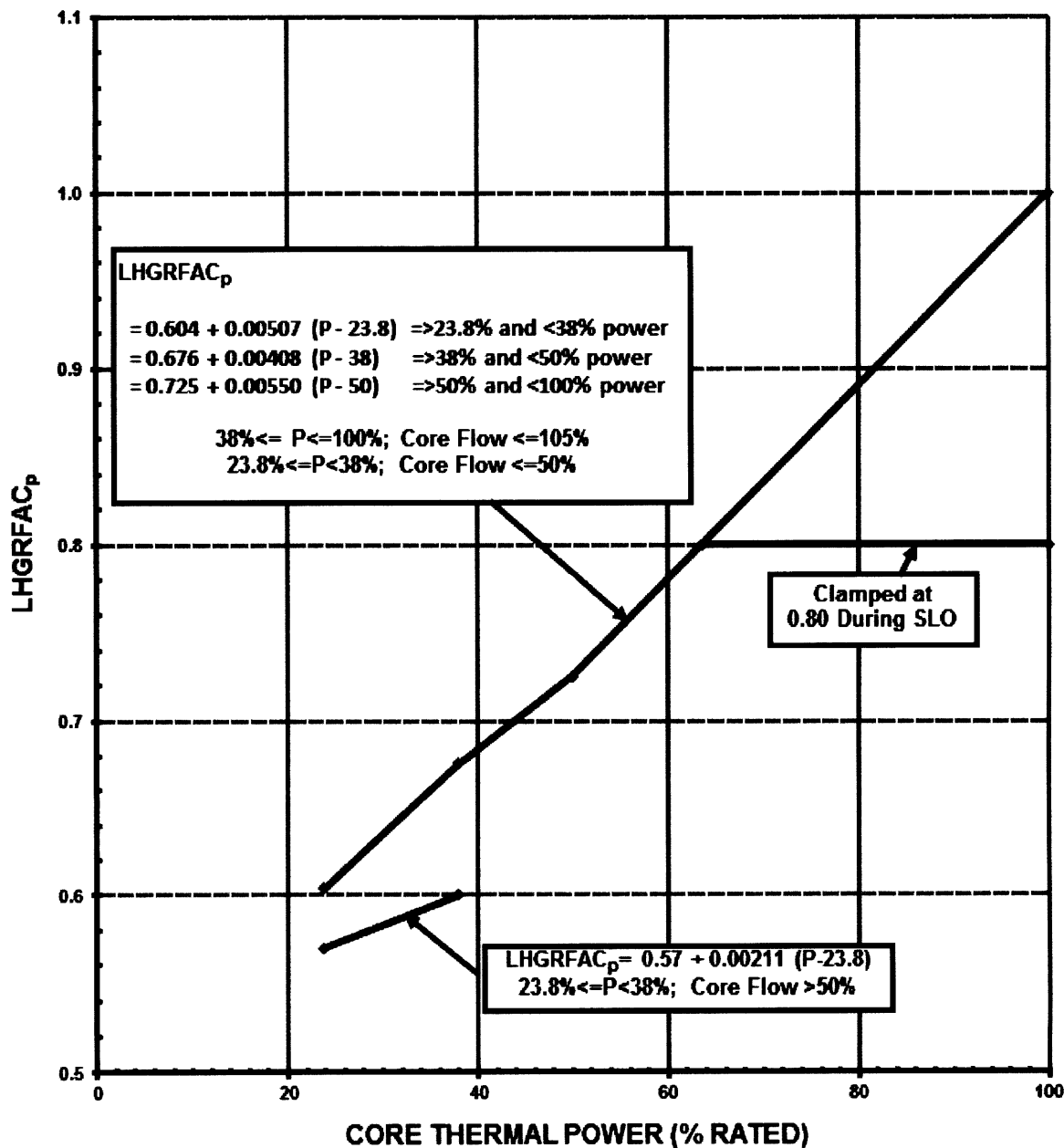
PERRY NUCLEAR POWER PLANT		Procedure Number: PDB-F0001	
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Figure 3.2.3-1
Flow Dependent LHGR Factor (LHGRFAC_f)
Fuel Type: GE14 / GNF2



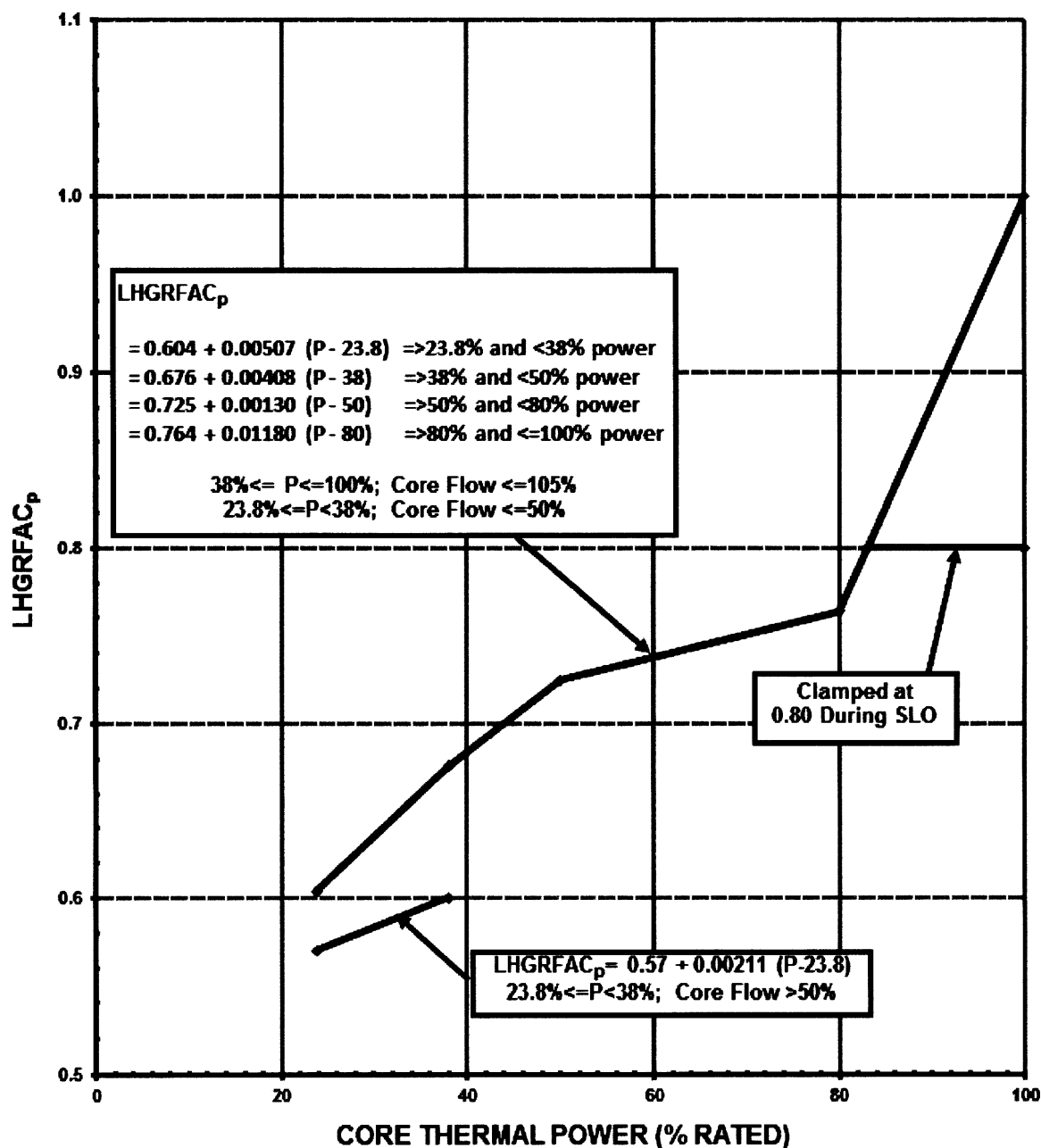
PERRY NUCLEAR POWER PLANT		Procedure Number: PDB-F0001	
Title: Core Operating Limits Report for the Perry Nuclear Power Plant Unit 1 Cycle 17 (Reload 16)		Use Category: In-Field Reference	
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Figure 3.2.3-2
Power Dependent LHGR Factor (LHGRFAC_p)
Equipment In Service
Pressure Regulator Out Of Service
Fuel Type: GE14 / GNF2



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Figure 3.2.3-3
Power Dependent LHGR Factor (LHGRFAC_p)
Power Load Unbalance Out Of Service
Fuel Type: GE14 / GNF2



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6.0 T.S. 3.3.1.1 - REACTOR PROTECTION SYSTEM INSTRUMENTATION

The simulated thermal power time constant shall be 6 +/-0.6 seconds (Obligation 13).

7.0 T.S. 3.3.1.3 - OSCILLATION POWER RANGE MONITOR (OPRM) INSTRUMENTATION

OPRM setpoints for operable OPRMs:

1. Confirmation Count Setpoint ($N_p = N_2$): 16
2. Amplitude Setpoint (Sp): 1.15

(Obligation 3)

8.0 SCOPE OF REVISION

Rev. 27 Middle of Cycle 17 Update – clarify Single Loop Limits and to provide Thermal Limits for when the Power Load Unbalance is Out Of Service:

- 1 Obligations List, updated revision level of Calculation FM-75 from 4 to 5 and added Obligation 20 (GEH PLUOOS Analysis) and Obligation 21 (Condition Report 2017-08501 - Core Operating Limits Report - Single Loop Power Dependent MCPR_p Calculation Is Conservative).
- 2 CR 2017-08501:
 - a. Sections 3, 4, and 5, reorganized and added subsections to better identify the associated limit and its multipliers. Added an equation to each section to show the relationship between the limit and its multipliers.
 - b. Sections 4, clarified on how MCPR Limits for Single Loop Operation are calculated.
 - c. Section 4, added the term “MCPR Limit Adder”. This matches GNF Methods and 3DMONICORE software. The MCPR Limit Adder is set equal to 0.00. For Single Loop Operation, MCPR Limit Adder is set to 0.04. The values do not change – the variable now has a label. Additional discussion was provided in Section 4.4 to clarify how the 0.04 value was selected.
 - d. Deleted Single Loop Figures 3.2.2-2, 3.2.2-4, and 3.2.2-6 as the figures provided no new information.

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- e. Renumbered and updated figure titles as appropriate – Rev bars not included.
 - f. Figures 3.2.2-1 and 3.2.2-2, removed from “Two Loop Operation” from the title – Rev bars not included.
- 3 Sections 3, 4, and 5, updated sections to incorporate Thermal Limits associated with the Power Load Unbalance Out Of Service (PLUOOS) Analysis.
- a. Section 3, identified that MPHLGR Limits are independent of PLUOOS.
 - b. Section 4, updated the Operating Limit MCPR for GE14 with PLUOOS.
 - c. Section 4, identified that PROOS Limits are to be used with PLUOOS.
 - d. Figure 3.2.2-3, added “PLUOOS” to the title and updated the OL-MCPR for GE14 (PLUOOS).
 - e. Section 5, added discussion that LHGRFAC_p is dependent on the flexibility option selected – LHGRFAC_p (EIS/PROOS) and LHGRFAC_p (PLUOOS).
 - f. Figure 3.2.3-2, added “EIS and PROOS” to the title.
 - g. Added Figure 3.2.3-3 LHGRFAC_p (GE14 / GNF2 PLUOOS).