TS 5.6.5.d

PECO NUCLEAR
A Unit of PECO Energy

Nuclear Group Headquarters
200 Exelon Way
Kennett Square, PA 19348

October 11, 2000

Docket No. 50-277

License No. DPR-44

U.S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington DC 20555

Subject: Peach Bottom Atomic Power Station, Unit 2
Issuance of the Core Operating Limits Report
for Reload 13, Cycle 14, Revision 0

Dear Sir/Madam:

Enclosed is a copy of the Core Operating Limits Report (COLR) for Peach Bottom Atomic Power Station (PBAPS), Unit 2, Reload 13, Cycle 14, Revision 0. Revision 0 of this report incorporates the revised cycle specific parameters resulting from the new core configuration implemented during the PBAPS, Unit 2 outage.

This COLR is being submitted to the NRC in accordance with PBAPS, Unit 2 Technical Specifications (TS) Section 5.6.5.d.

If you have any questions, please do not hesitate to contact us.

Very truly yours,

James A. Hutton
Director - Licensing

Enclosure

cc: H. J. Miller, Administrator, Region I, USNRC (w/enc)
A. C. McMurtray, USNRC Senior Resident Inspector, PBAPS (w/enc)

A001

CORE OPERATING LIMITS REPORT FOR

PEACH BOTTOM ATOMIC POWER STATION UNIT 2

RELOAD 13, CYCLE 14

REVISION 0

Prepared By: _____ Date: 8-21-2000
A. D. Giancatarino
Engineer

Reviewed By: _____ Date: 8-21-2000
J. L. McHale
Engineer

Approved By: _____ Date: 8/21/00
G. F. Ruppert
Manager,
Nuclear Design BWR

LIST OF EFFECTIVE PAGES

Page(s)	Revision
1 - 23	0

INTRODUCTION AND SUMMARY

This report provides the following cycle-specific parameter limits for Peach Bottom Atomic Power Station Unit 2 Cycle 14 (Reload 13):

- Maximum Average Planar Linear Heat Generation Rate (MAPLHGR)
- ARTS MAPLHGR thermal limit multipliers
- Single Loop Operation (SLO) MAPLHGR multipliers
- Minimum Critical Power Ratio (MCPR)
- ARTS MCPR thermal limit adjustments and multipliers
- Single Loop Operation (SLO) MCPR adjustment
- Rod Block Monitor (RBM) Analytical Limits, Allowable Values and MCPR Limits
- Linear Heat Generation Rate (LHGR)
- Turbine Bypass Valve Parameters

These values have been determined using NRC-approved methodology and are established such that all applicable limits of the plant safety analysis are met.

This report provides the means for calculating the Operating Limit MCPR and MAPLHGR thermal limits for the following conditions:

- All points in the operating region of the power/flow map including Maximum Extended Load Line Limit (MELLL) down to 81% of rated core flow during full power (3458 MWt) operation
- Increased Core Flow (ICF), up to 110% of rated core flow
- End-of-Cycle Power Coastdown to a minimum power level of 40%
- Feedwater Heaters Out of Service (FWHOOS) to 55° F temperature reduction
- Final Feedwater Temperature Reduction (FWTR) between End-of-Rated (EOR) and End-of-Cycle (EOC) to 90° F temperature reduction

Note that the term "EOR" refers to the cycle exposure at which operation at "rated conditions" is no longer possible (i.e., the cycle exposure at which cycle extension begins) based on the EOR point as documented in the current revision of the Cycle Management Report.

Preparation of this report was performed in accordance with PECO Energy Fuel and Services Division Procedure FM-300, "Reload Core Licensing". This report is submitted in accordance with Technical Specification 5.6.5 of Reference (2) and contains all thermal limit parameters related to the implementation of the ARTS Improvement Program and Maximum Extended Load Line Limit Analyses (ARTS/MELLLA) for Peach Bottom Unit 2 Cycle 14.

MAPLHGR LIMITS

The bounding MAPLHGR limits (kW/ft) for each fuel type are provided in Figures 1 through 6. The bounding MAPLHGR limits are the lowest kW/ft limits of the fuel lattices (excluding natural uranium) which comprise a given fuel type as a function of average planar exposure. The MAPLHGR figures are used when hand calculations are required. All MAPLHGR values for each fuel type as a function of axial location and average planar exposure shall be less than or equal to the applicable MAPLHGR limits for the respective fuel and lattice types to be in compliance with Technical Specification 3.2.1. These MAPLHGR limits are specified in References (4), (5), (6) and (7). The ARTS-based MAPLHGR power-dependent multipliers (MAPFAC(P)) are provided in Figures 7 and 8. Figure 7 is valid for seven or more (of nine) Turbine Bypass Valves (TBVs) In-Service and Recirculation Pump Trip (RPT) In-Service with a maximum temperature reduction of 90° F for FWTR operation. Figure 8 is valid for three or more (of nine) TBVs Out-of-Service (OOS) or RPTOOS with a maximum FWTR of 90 ° F. The flow-dependent multipliers (MAPFAC(F)) are provided in Figures 9 and 10 as a function of the number of recirculation loops in operation only. The SLO MAPLHGR multiplier (0.73) is provided in Table 3 and applied through MAPFAC(F) as shown in Figure 10. MAPFAC(F) is clamped at 0.73 starting at 33.6% of rated core flow to ensure peak clad temperatures are maintained within the limits of the cycle-specific LOCA analysis for single recirculation loop operation. The power- and flow-dependent MAPLHGR multipliers were obtained from References (1), (4), (8), and (9).

MCPR LIMITS

The Operating Limit MCPR (OLMCPR) for use in Technical Specification 3.2.2 for each fuel type is provided in Table 1. These values are determined by the cycle-specific fuel reload analyses in Reference (4). For Single Loop Operation with Turbine Bypass Valve and Recirculation Pump Trip in-service from BOC to EOR-2000, the OLMCPR is increased by 0.03 to comply with the results of the Single Loop Operation Recirculation Pump Seizure Analysis (Reference 15). This OLMCPR increase is necessary to prevent violating the SLO SLMCPR of 1.10 considering the appropriate ARTS multiplier for single pump flows. For all other operating domains, the OLMCPR is increased by 0.01 when operating in SLO (due to the 0.01 safety limit increase for SLO). The Safety Limit MCPRs are documented in Section 2.1.1.2 of Reference (2).

Control rod scram time verification is required as per Technical Specification 3.1.4, "Control Rod Scram Times". Tau, a measure of scram time performance to notch position 36 throughout the cycle, is determined based on the cumulative scram time test results. The calculation of Tau shall be performed in accordance with site procedures. Linear interpolation shall be used to calculate the OLMCPR value if Tau is between 0.0 (Tau Option B) and 1.0 (Tau Option A).

OLMCPR values for both single and two-loop operation are provided in Table 1 for the following domains:

- TBVs In-Service (seven or more in-service) and RPT In-Service
- TBVs Out-of-Service (three or more out-of-service) and RPT In-Service
- TBVs In-Service (seven or more in-service) and RPT Out-of-Service

The OLMCPR values are documented in Reference (4) for the GE13 and GE14 fuel designs.

The ARTS-based power-dependent MCPR limits, OLMCPR(P), for use in Technical Specification 3.2.2 are provided in Figures 11 and 12. Figure 11 is valid for seven or more (of nine) Turbine Bypass Valves (TBVs) In-Service and Recirculation Pump Trip (RPT) In-Service with a maximum temperature reduction of 90 ° F for FWTR operation. Figure 12 is valid for three or more (of nine) TBVs Out-of-Service (OOS) or RPTOOS with a maximum FWTR of 90° F.

The flow-dependent MCPR limits, OLMCPR(F), are provided in Figure 13. Figure 13 is valid for all operating conditions. The power- and flow-dependent OLMCPR curves were obtained from References (1), (4), (8) and (9).

OVERALL GOVERNING MCPR AND MAPLHGR LIMITS

ARTS provides for power- and flow-dependent thermal limit adjustments and multipliers which allow for a more reliable administration of the MCPR and MAPLHGR thermal limits. At any given power/flow (P/F) state, all four limits are to be determined: MAPFAC(P), MAPFAC(F), OLMCPR(P), and OLMCPR(F) from Figures 7 through 13, inclusive. The most limiting MCPR and the most limiting MAPLHGR [maximum of OLMCPR(P) and OLMCPR(F) and minimum of MAPLHGR(P) and MAPLHGR(F)] for a given (P,F) condition will be the governing limits. The OLMCPR for each fuel type is determined by the cycle-specific fuel reload analyses in Reference (4). Rated MAPLHGR values are a composite of results obtained from bundle-specific thermal-mechanical and emergency core cooling system analyses. Supporting documentation for the ARTS-based limits is provided in References (1), (4), (8), (9), (10), and (11).

ROD BLOCK MONITOR SETPOINTS

The RBM power-biased Analytical Limits, Allowable Values and MCPR Limits for use in Technical Specification 3.3.2.1 are provided in Table 2 per Reference (8) with supporting documentation in References (4) and (12).

LINEAR HEAT GENERATION RATES

The beginning of life (maximum) LHGR values for each fuel type for use in Technical Specification 3.2.3 are provided in Table 4. The LHGR values as a function of fuel exposure are provided in References (6), and (16). The bases for the LHGR values are documented in Reference (3).

STEAM BYPASS SYSTEM OPERABILITY

The operability requirements for the steam bypass system are governed by Technical Specification 3.7.6. If the requirements cannot be met, the appropriate power-dependent limits for Turbine Bypass Valves Out-of-Service (TBVOOS) must be used (Figure 8, and Table 1 with Figure 12). The minimum number of bypass valves to maintain system operability is seven as per Reference (13) and Table 5. Table 5 also includes other Turbine Bypass Valve parameters.

EOC RECIRCULATION PUMP TRIP (EOC-RPT) OPERABILITY

If the EOC-RPT is inoperable, then the appropriate power-dependent limits for Recirculation Pump Trip Out-of-Service (RPTOOS) must be used (Figure 8, and Table 1 with Figure 12).

The measured EOC-RPT response time as defined in Section 1.1 of the Technical Specifications shall be:

≤ 0.145 seconds for TCV Fast Closure Trip (i.e. Generator Load Rejection)

≤ 0.155 seconds for TSV Fast Closure Trip (i.e. Turbine Trip)

A total RPT response time of 0.175 seconds is assumed in the safety analysis for both trips and is defined as the time from the turbine valves (TCV or TSV) start to close until complete arc suppression of the EOC-RPT circuit breakers. Reference (14) provides the basis for the RPT response time.

CONCURRENT TBVOOS AND RPTOOS

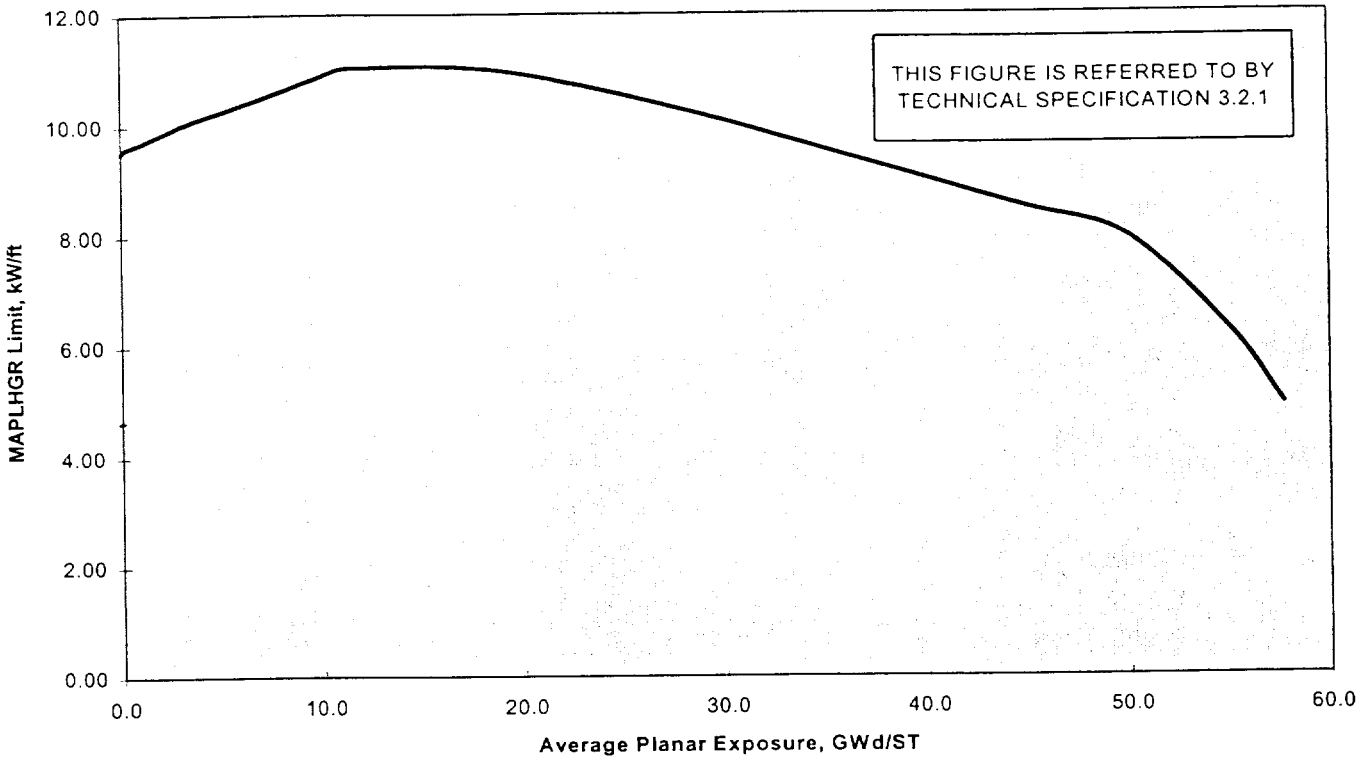
Cycle 14 is not licensed for TBVOOS and RPTOOS to occur concurrently. Therefore, concurrent TBVOOS and RPTOOS is an unanalyzed condition.

REFERENCES

1. "Peach Bottom Atomic Power Station Evaluation for Extended Final Feedwater Temperature Reduction of 90° F", NEDC-32707P, Supplement 1, May 20, 1998
2. "Technical Specifications for Peach Bottom Atomic Power Station Unit 2", Docket No. 50-277, Appendix A to License No. DPR-44
3. "General Electric Standard Application for Reactor Fuel", NEDE-24011-P-A-14, June 2000; and NEDE-24011-P-A-14-US, June 2000
4. "Supplemental Reload Licensing Report for Peach Bottom Atomic Power Station Unit 2, Reload 13, Cycle 14", Global Nuclear Fuel Document No. J11-03716SRLR, Rev. 0, July 200
5. "Lattice Dependent MAPLHGR Report for Peach Bottom Atomic Power Station Unit 2 Reload 13 Cycle 14", Global Nuclear Fuel Document No. J11-03716MAPL, Revision 0, July, 2000
6. "Lattice Dependent MAPLHGR Report for Peach Bottom Atomic Power Station Unit 2 Reload 12 Cycle 13", GE Nuclear Energy Document No. J11-03306MAPL, Revision 0, August 1998
7. "Lattice Dependent MAPLHGR Report for Peach Bottom Atomic Power Station Unit 2 Reload 11 Cycle 12", GE Nuclear Energy Document No. 24A5366AA, Revision 0, September, 1996
8. "Maximum Extended Load Line Limit and ARTS Improvement Program Analyses for Peach Bottom Atomic Power Station Unit 2 and 3", NEDC-32162P, Revision 2, March 1995
9. "ARTS Flow-Dependent Limits with TBVOOS for Peach Bottom Atomic Power Station and Limerick Generating Station", NEDC-32847P, June 1998
10. Letter, G. V. Kumar to A. M. Olson, "PECO Rerate Project, ARTS Thermal Limits", June 27, 1995
11. "Peach Bottom Atomic Power Station Unit 2 Cycle 12 ARTS Thermal Limits Analyses", NEDC-32706P, Revision 0, April 1997
12. PECO Energy Calculation PE-0251, "Power Range Neutron Monitoring System Setpoint Calculations Peach Bottom Atomic Power Station Units 2 & 3"
13. Letter from J. A. Baumgartner to K. W. Hunt, "Resolved OPL-3 Input for Peach Bottom 2 Reload 13 (Cycle 14) Reload Licensing Analysis," May 18, 2000 (Including Attached Resolved OPL-3)
14. PECO Calculation PE-0173 , "Determination of Total Time Required to Initiate the trip Signal to the EOC-RPT Circuit Breaker"
15. "GE14 Fuel Introduction Report for Peach Bottom Atomic Power Station Units 2 & 3, " GENE L12-00880-00-01P, August 2000
16. "Letter from J. A. Baumgartner to G. F. Ruppert, "Peach Bottom 2 Reload 13 Cycle 14 DESLIM Information", August 17, 2000

FIGURE 1

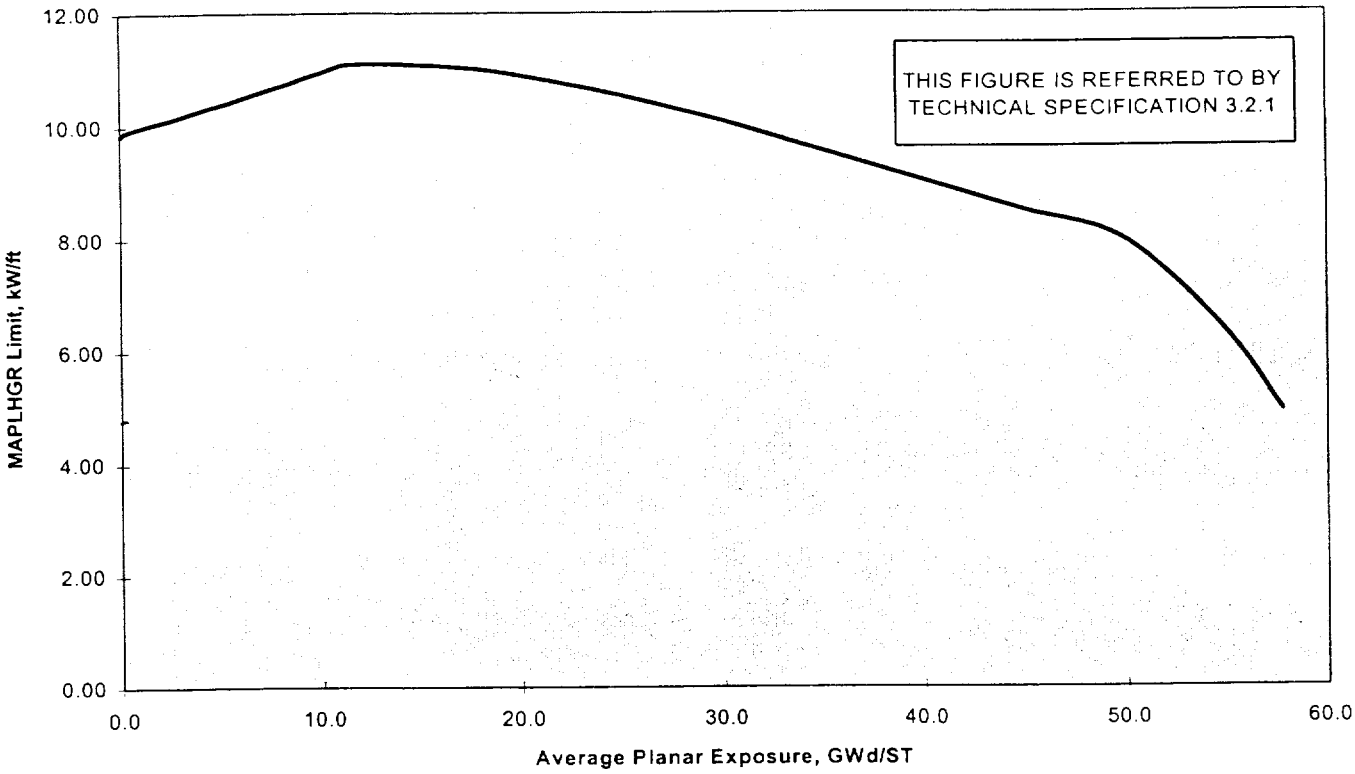
MAXIMUM AVERAGE PLANAR LINEAR HEAT GENERATION RATE (MAPLHGR) VERSUS AVERAGE PLANAR EXPOSURE FUEL TYPE P10DNAB397-15GZ (GE14)



Avg Plan Exposure (GWd/ST)	MAPLHGR (kW/ft)	Avg Plan Exposure (GWd/ST)	MAPLHGR (kW/ft)	Avg Plan Exposure (GWd/ST)	MAPLHGR (kW/ft)
0.0	9.52	8.0	10.63	20.0	10.92
0.2	9.59	9.0	10.76	25.0	10.54
1.0	9.70	10.0	10.89	30.0	10.08
2.0	9.86	11.0	11.02	35.0	9.55
3.0	10.02	12.0	11.04	40.0	9.03
4.0	10.14	13.0	11.05	45.0	8.50
5.0	10.26	14.0	11.06	50.0	7.96
6.0	10.38	15.0	11.06	55.0	6.28
7.0	10.50	17.0	11.04	57.68	4.92

FIGURE 2

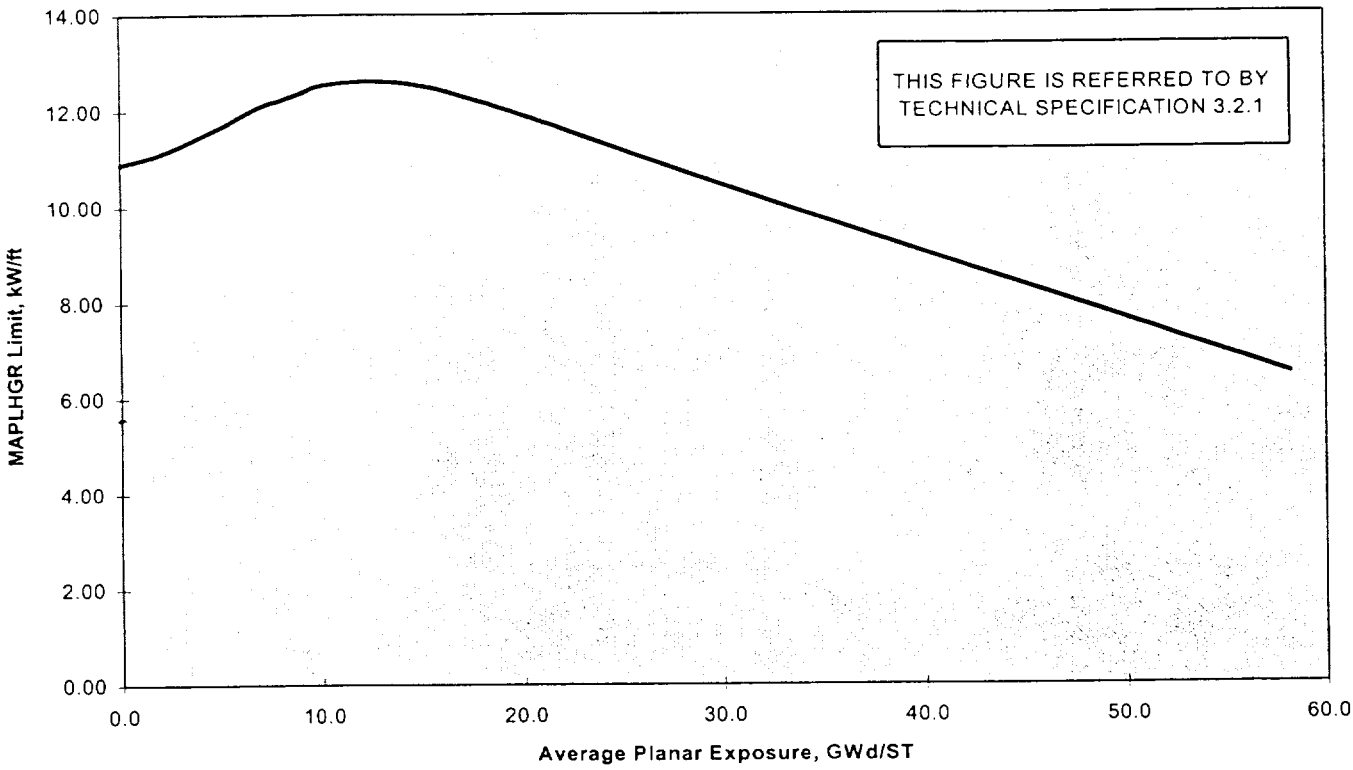
MAXIMUM AVERAGE PLANAR LINEAR HEAT GENERATION RATE (MAPLHGR) VERSUS AVERAGE PLANAR EXPOSURE FUEL TYPE P10DNAB396-14GZ (GE14)



Avg Plan Exposure (GWd/ST)	MAPLHGR (kW/ft)	Avg Plan Exposure (GWd/ST)	MAPLHGR (kW/ft)	Avg Plan Exposure (GWd/ST)	MAPLHGR (kW/ft)
0.0	9.84	8.0	10.72	20.0	10.90
0.2	9.90	9.0	10.84	25.0	10.54
1.0	9.99	10.0	10.95	30.0	10.08
2.0	10.08	11.0	11.07	35.0	9.55
3.0	10.18	12.0	11.10	40.0	9.03
4.0	10.29	13.0	11.10	45.0	8.50
5.0	10.39	14.0	11.10	50.0	7.96
6.0	10.50	15.0	11.08	55.0	6.32
7.0	10.61	17.0	11.04	57.78	4.92

FIGURE 3

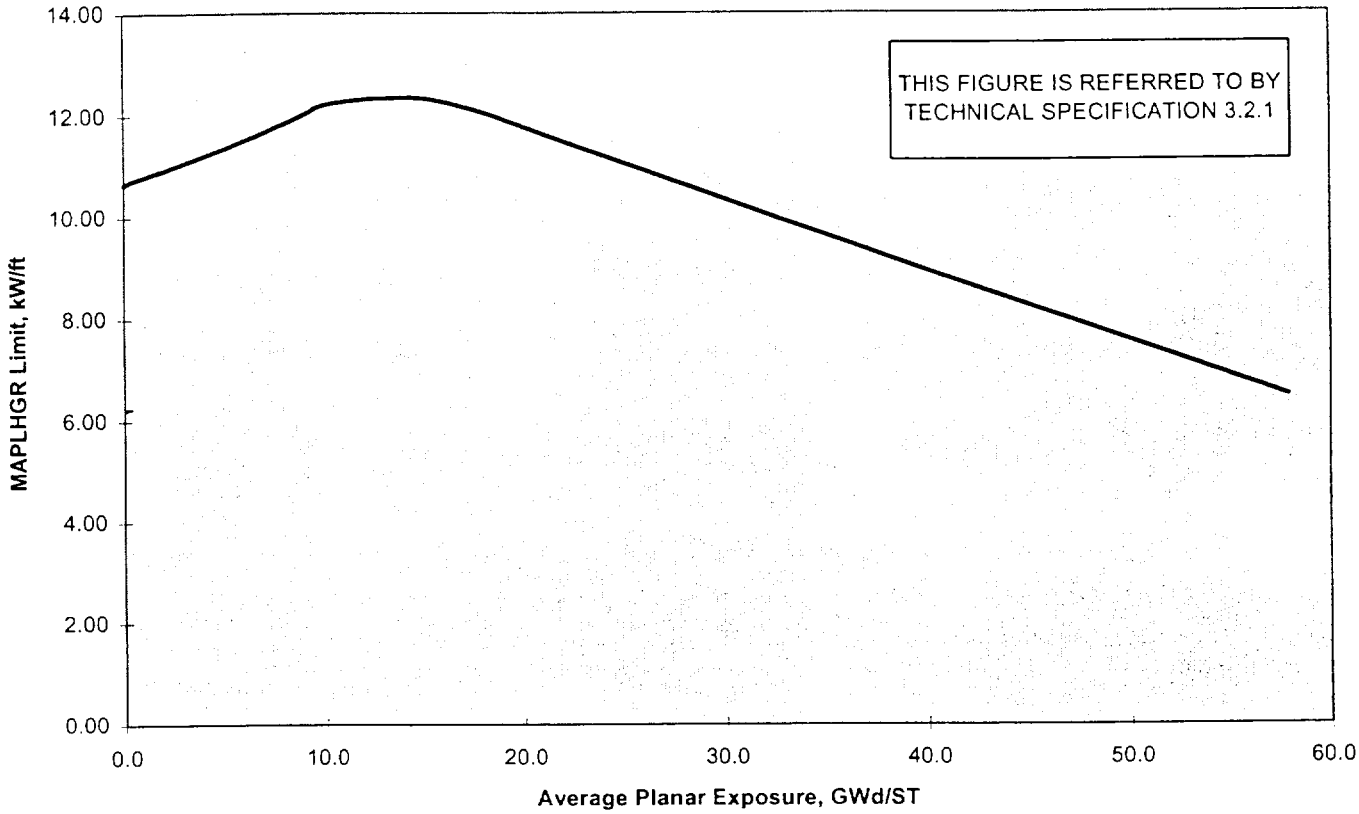
MAXIMUM AVERAGE PLANAR LINEAR HEAT GENERATION RATE (MAPLHGR) VERSUS AVERAGE PLANAR EXPOSURE FUEL TYPE P9DTB397-13GZ (GE13)



Avg Plan Exposure (GWd/ST)	MAPLHGR (kW/ft)	Avg Plan Exposure (GWd/ST)	MAPLHGR (kW/ft)	Avg Plan Exposure (GWd/ST)	MAPLHGR (kW/ft)
0.0	10.89	7.0	12.10	25.0	11.17
0.2	10.91	8.0	12.23	30.0	10.44
1.0	10.99	9.0	12.37	35.0	9.73
2.0	11.12	10.0	12.52	40.0	9.03
3.0	11.29	12.5	12.61	45.0	8.34
4.0	11.47	15.0	12.51	50.0	7.65
5.0	11.67	17.5	12.24	55.0	6.95
6.0	11.89	20.0	11.90	58.22	6.49

FIGURE 4

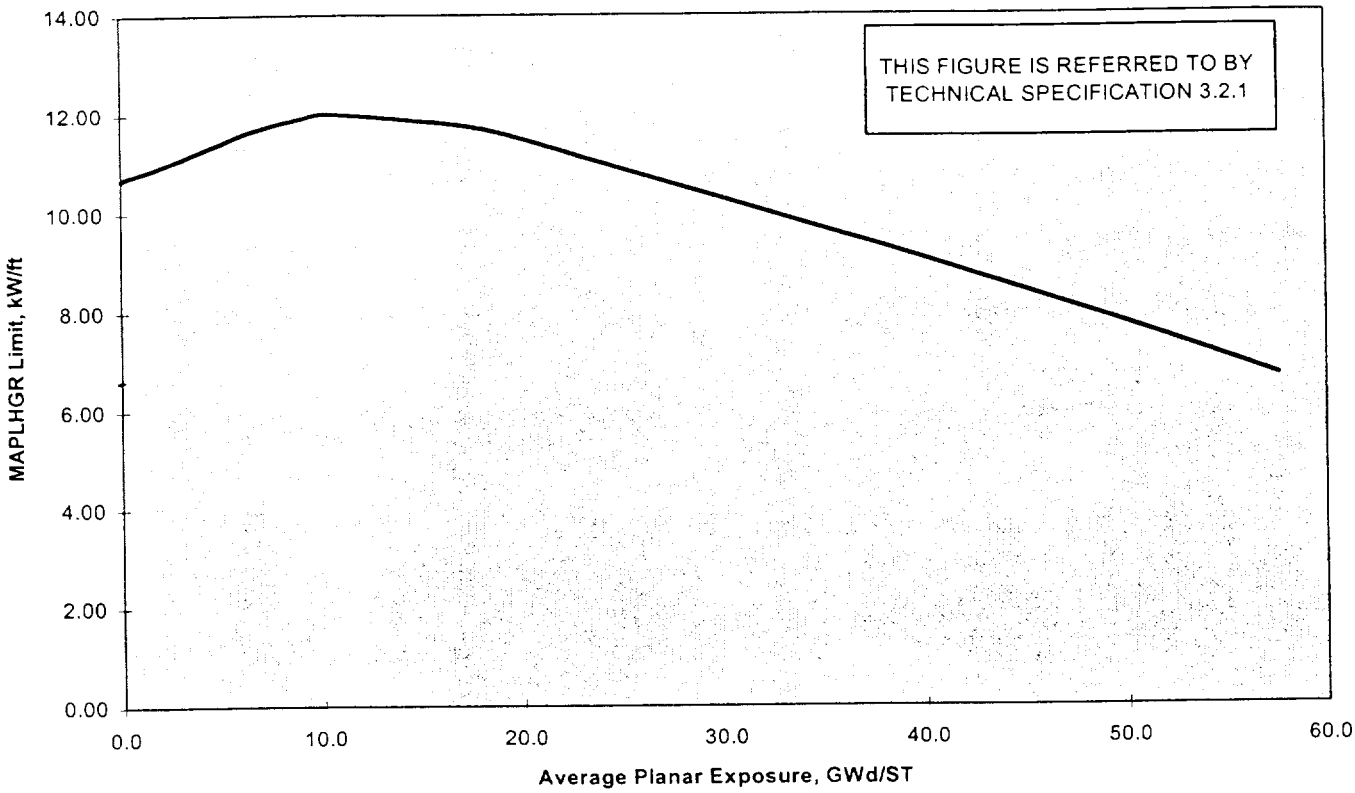
MAXIMUM AVERAGE PLANAR LINEAR HEAT GENERATION RATE (MAPLHGR) VERSUS AVERAGE PLANAR EXPOSURE FUEL TYPE P9DTB392-15GZ (GE13)



Avg Plan Exposure (GWd/ST)	MAPLHGR (kW/ft)	Avg Plan Exposure (GWd/ST)	MAPLHGR (kW/ft)	Avg Plan Exposure (GWd/ST)	MAPLHGR (kW/ft)
0.0	10.64	7.0	11.69	25.0	11.06
0.2	10.69	8.0	11.86	30.0	10.34
1.0	10.80	9.0	12.03	35.0	9.64
2.0	10.93	10.0	12.21	40.0	8.94
3.0	11.07	12.5	12.33	45.0	8.26
4.0	11.22	15.0	12.33	50.0	7.57
5.0	11.37	17.5	12.11	55.0	6.88
6.0	11.53	20.0	11.78	57.88	6.48

FIGURE 5

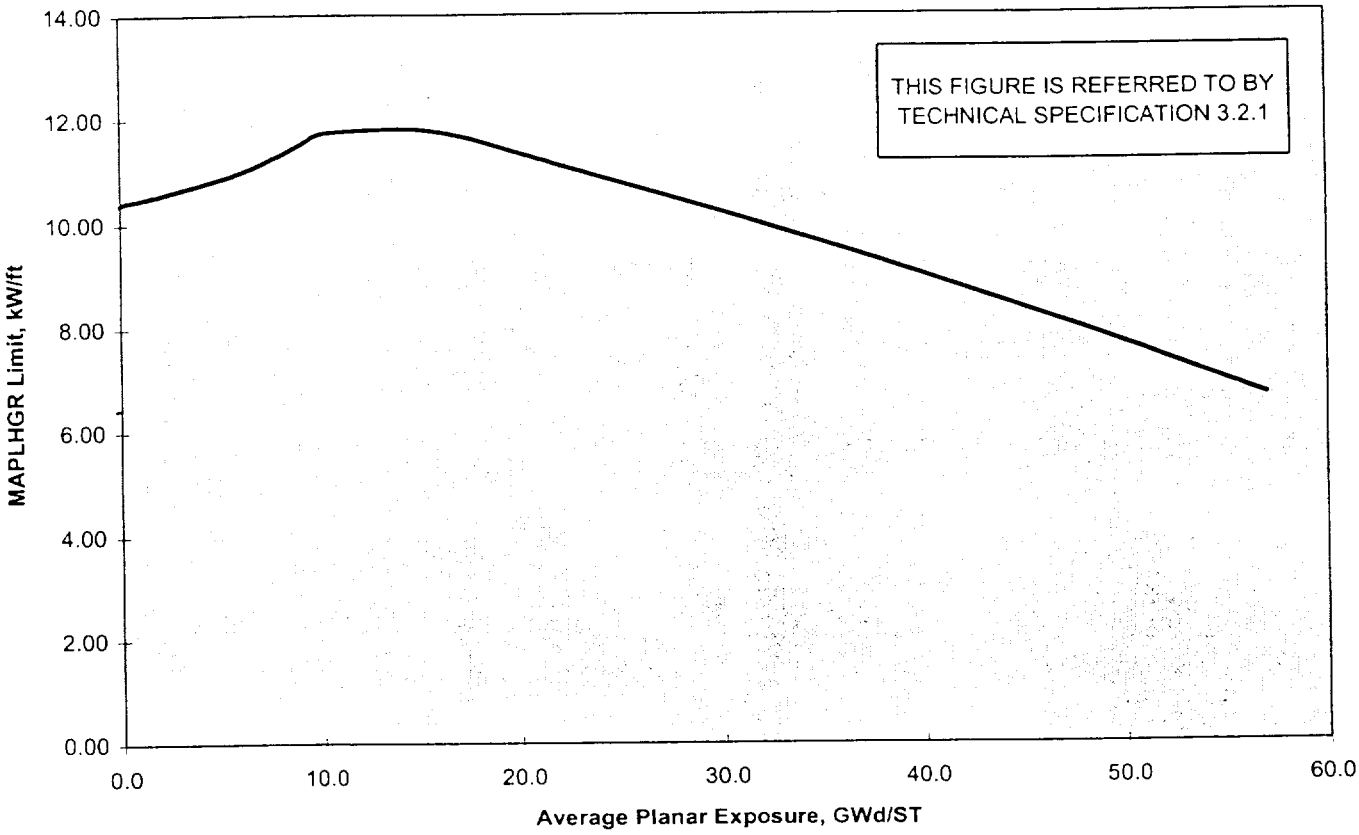
MAXIMUM AVERAGE PLANAR LINEAR HEAT GENERATION RATE (MAPLHGR) VERSUS AVERAGE PLANAR EXPOSURE FUEL TYPE P9DTB406-12GZ (GE13)



Avg Plan Exposure (GWd/ST)	MAPLHGR (kW/ft)	Avg Plan Exposure (GWd/ST)	MAPLHGR (kW/ft)	Avg Plan Exposure (GWd/ST)	MAPLHGR (kW/ft)
0.0	10.67	7.0	11.72	25.0	10.89
0.2	10.72	8.0	11.83	30.0	10.28
1.0	10.82	9.0	11.92	35.0	9.67
2.0	10.96	10.0	12.01	40.0	9.06
3.0	11.11	12.5	11.95	45.0	8.42
4.0	11.27	15.0	11.86	50.0	7.75
5.0	11.43	17.5	11.74	55.0	7.05
6.0	11.60	20.0	11.50	57.58	6.67

FIGURE 6

MAXIMUM AVERAGE PLANAR LINEAR HEAT GENERATION RATE (MAPLHGR) VERSUS AVERAGE PLANAR EXPOSURE FUEL TYPE P9DTB409-13GZ (GE13)



Avg Plan Exposure (GWd/ST)	MAPLHGR (kW/ft)	Avg Plan Exposure (GWd/ST)	MAPLHGR (kW/ft)	Avg Plan Exposure (GWd/ST)	MAPLHGR (kW/ft)
0.0	10.38	7.0	11.16	25.0	10.78
0.2	10.42	8.0	11.34	30.0	10.21
1.0	10.48	9.0	11.54	35.0	9.62
2.0	10.57	10.0	11.73	40.0	9.01
3.0	10.67	12.5	11.80	45.0	8.37
4.0	10.77	15.0	11.80	50.0	7.69
5.0	10.88	17.5	11.63	55.0	6.96
6.0	11.00	20.0	11.35	56.99	6.67

FIGURE 7

POWER-DEPENDENT MAPLHGR MULTIPLIER, MAPFAC(P)
THIS FIGURE IS REFERRED TO BY TECHNICAL SPECIFICATION 3.2.1

VALID FOR 7 OR MORE TBVs IN-SERVICE, RPT IN-SERVICE AND MAX 90 °F FWTR

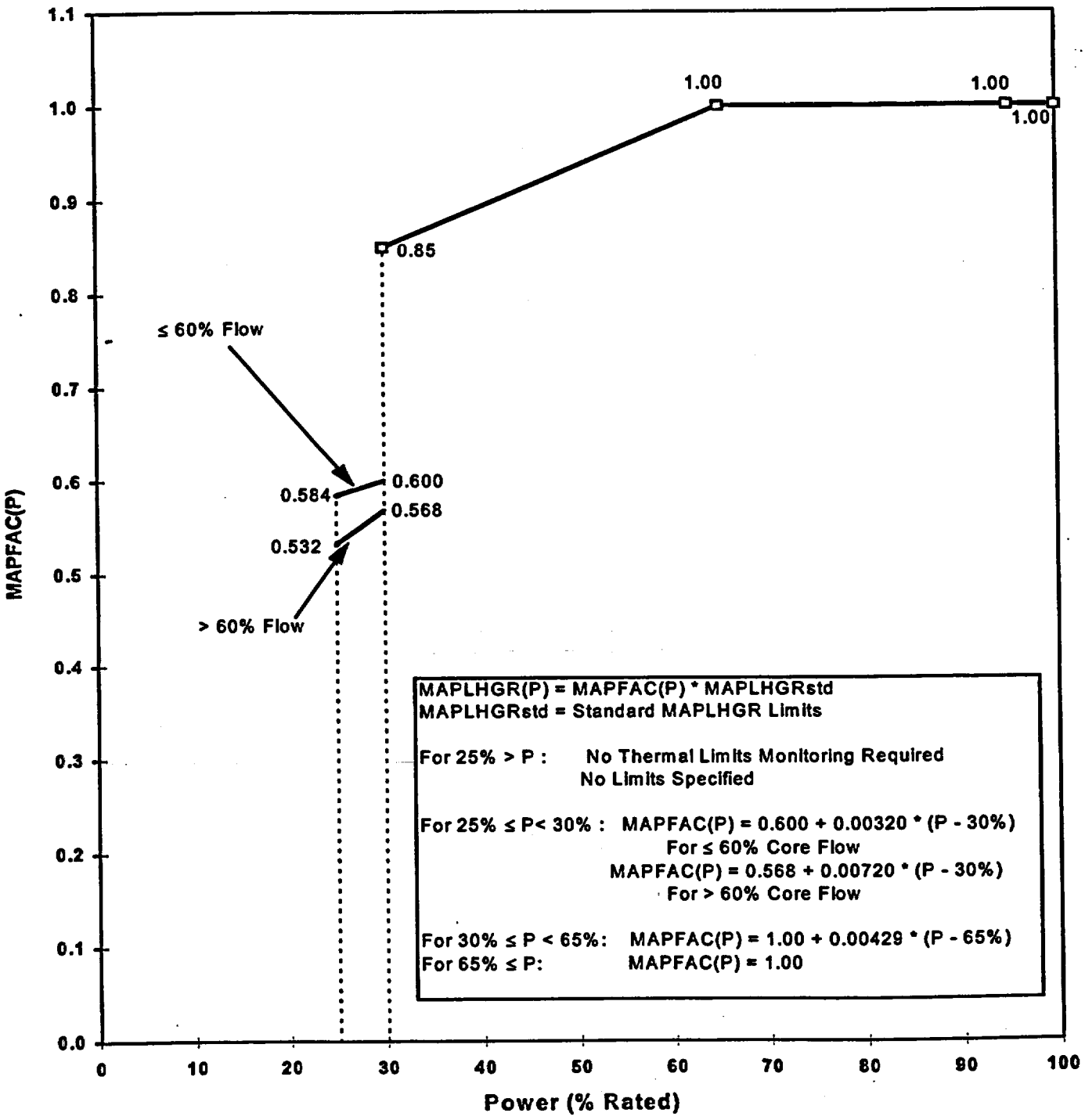


FIGURE 8

POWER-DEPENDENT MAPLHGR MULTIPLIER, MAPFAC(P)
THIS FIGURE IS REFERRED TO BY TECHNICAL SPECIFICATION 3.2.1, 3.3.4.2, and 3.7.6

VALID FOR 3 OR MORE TBVOOS OR RPTOOS AND MAX 90 °F FWTR

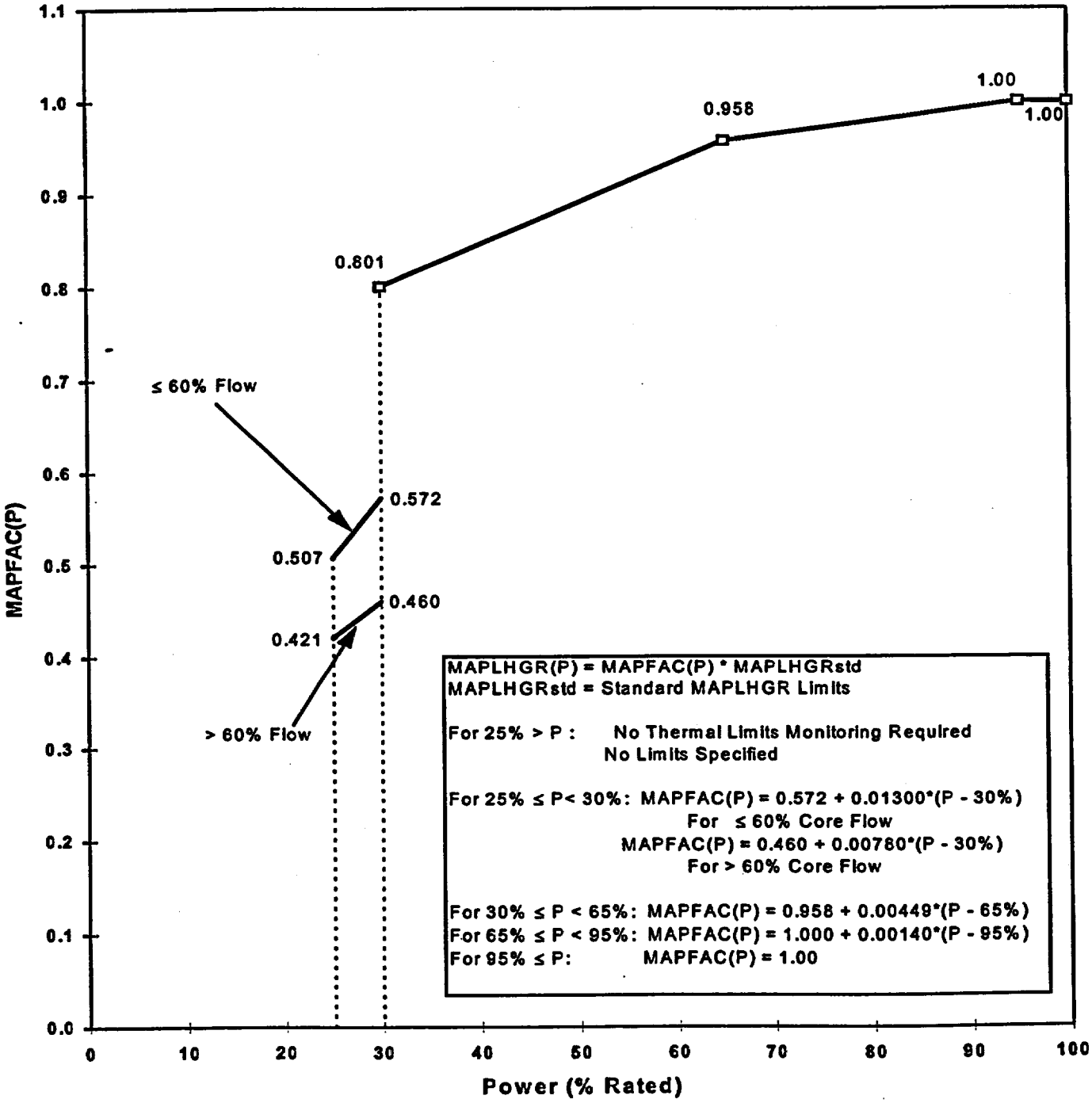


FIGURE 9

FLOW-DEPENDENT MAPLHGR MULTIPLIER, MAPFAC(F)
THIS FIGURE IS REFERRED TO BY TECHNICAL SPECIFICATION 3.2.1

VALID FOR 2 LOOP RECIRC FLOW

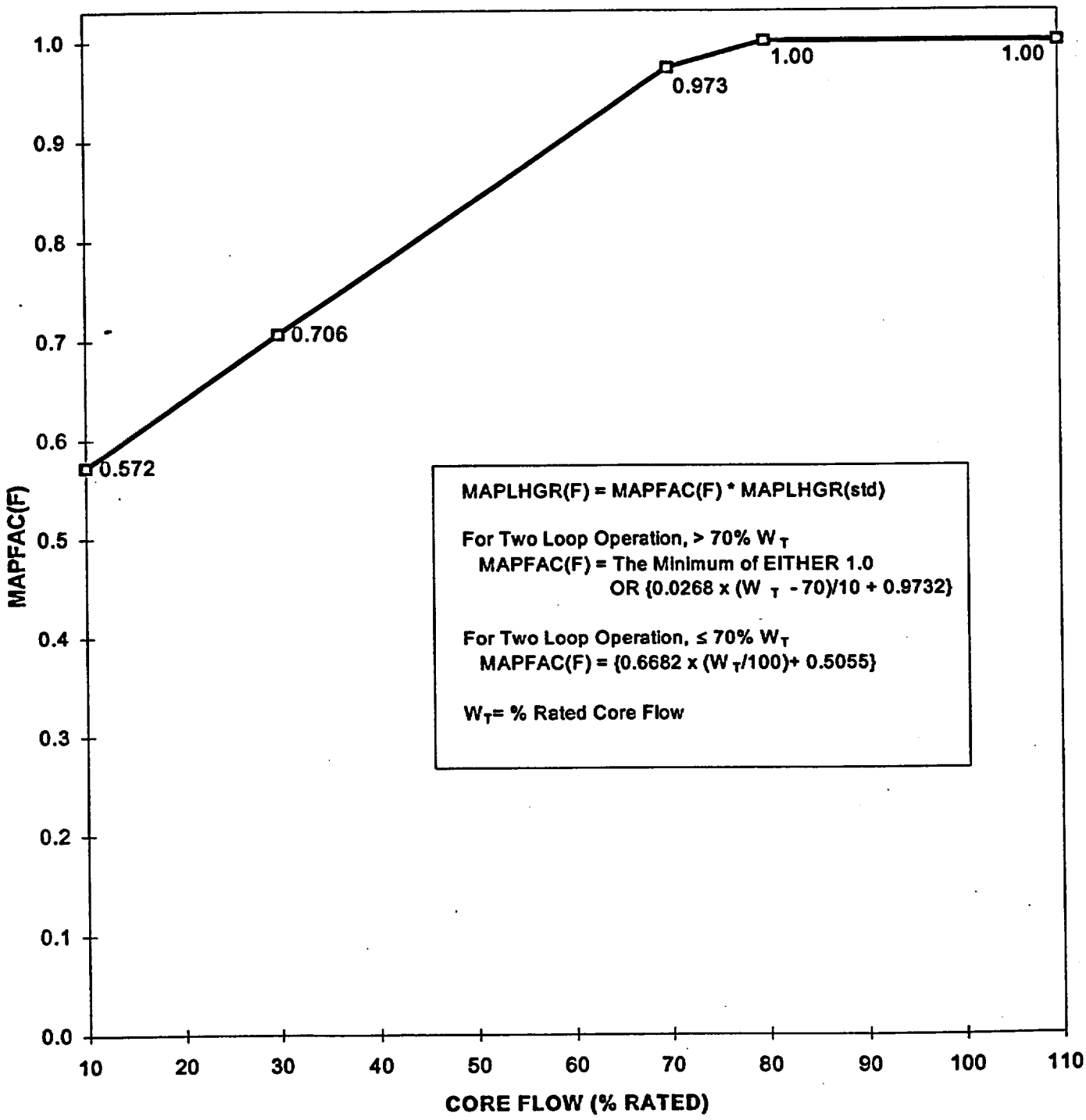


FIGURE 10

FLOW-DEPENDENT MAPLHGR MULTIPLIER, MAPFAC(F)
THIS FIGURE IS REFERRED TO BY TECHNICAL SPECIFICATION 3.2.1 AND 3.4.1

VALID FOR SINGLE LOOP RECIRC FLOW

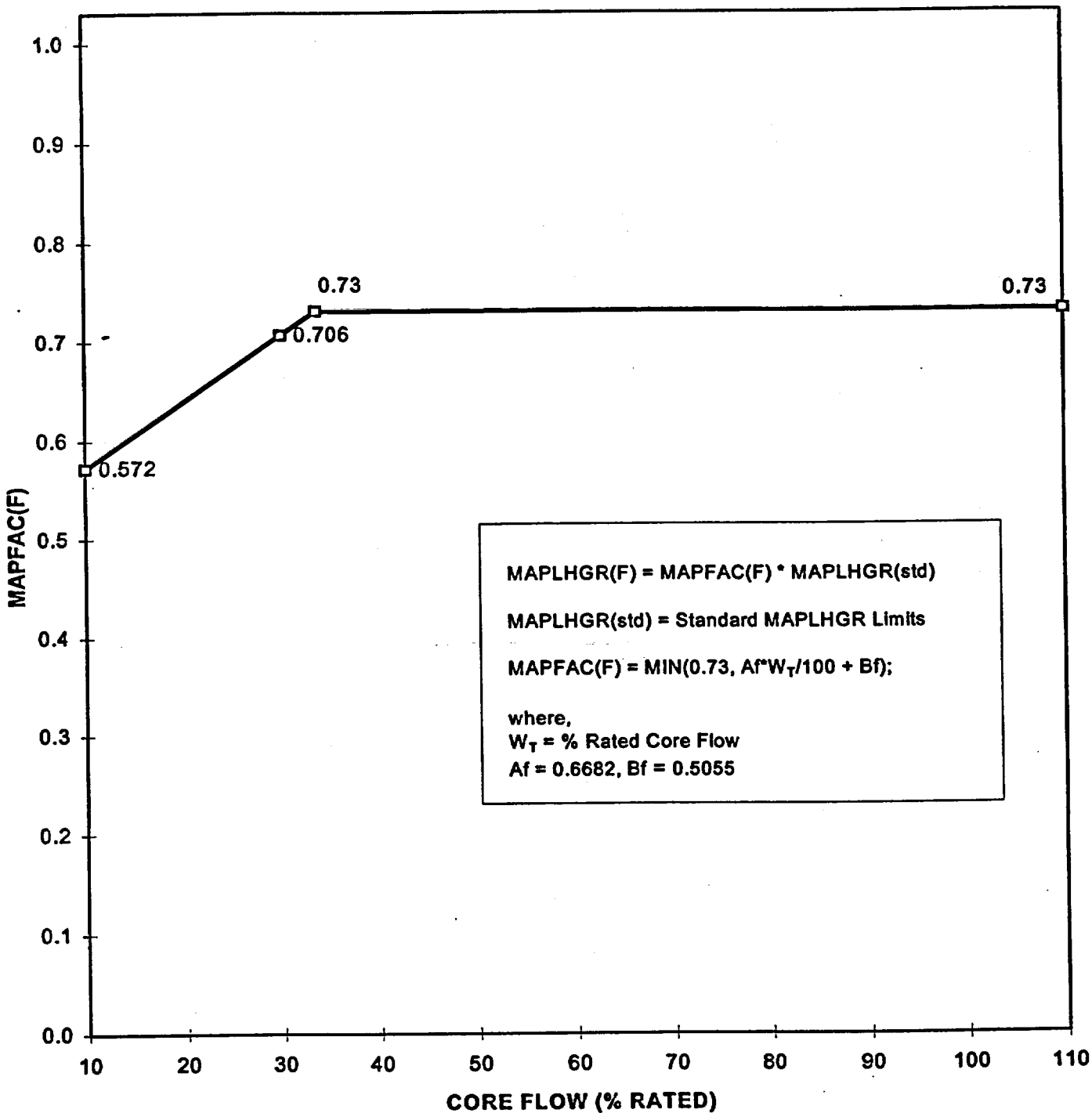


TABLE 1

OPERATING LIMIT MINIMUM CRITICAL POWER RATIO (OLMCPR)

Applicable to all fuel types

Use in conjunction with Figures 11, 12 and 13

For OLMCPR when in Single Loop Operation, See Note (2).

These Tables are referred to by Technical Specification 3.2.2, 3.3.4.2, 3.4.1 and 3.7.6

		TBV In Service and RPT In Service		TBV out of Service (3 or more TBVOOS)		RPT Out of Service	
		OPT. B (τ=0) (1)	OPT. A (τ=1) (1)	OPT. B (τ=0) (1)	OPT. A (τ=1) (1)	OPT. B (τ=0) (1)	OPT. A (τ=1) (1)
Two Loop Operation	BOC to EOR - 2000 MWd/ST	1.35	1.38	1.40	1.43	1.41	1.52
Two Loop Operation	EOR - 2000 MWd/ST to EOC	1.39	1.42	1.45	1.48	1.48	1.65
Single Loop Operation	BOC to EOR - 2000 MWd/ST	1.38 (2)	1.39	1.41	1.44	1.42	1.53
Single Loop Operation	EOR - 2000 MWd/ST to EOC	1.40	1.43	1.46	1.49	1.49	1.66

NOTES:

(1) When Tau does not equal 0 or 1, use linear interpolation.

(2) OLMCPR limit set by the Single Loop Operation (SLO) - Recirculation Pump Seizure Analysis. See Reference (15)

FIGURE 11

POWER-DEPENDENT MCPR LIMIT, OLMCPR(P)
THIS FIGURE IS REFERRED TO BY TECHNICAL SPECIFICATION 3.2.2

VALID FOR 7 OR MORE TBVs IN-SERVICE, RPT IN-SERVICE AND MAX 90 °F FWTR

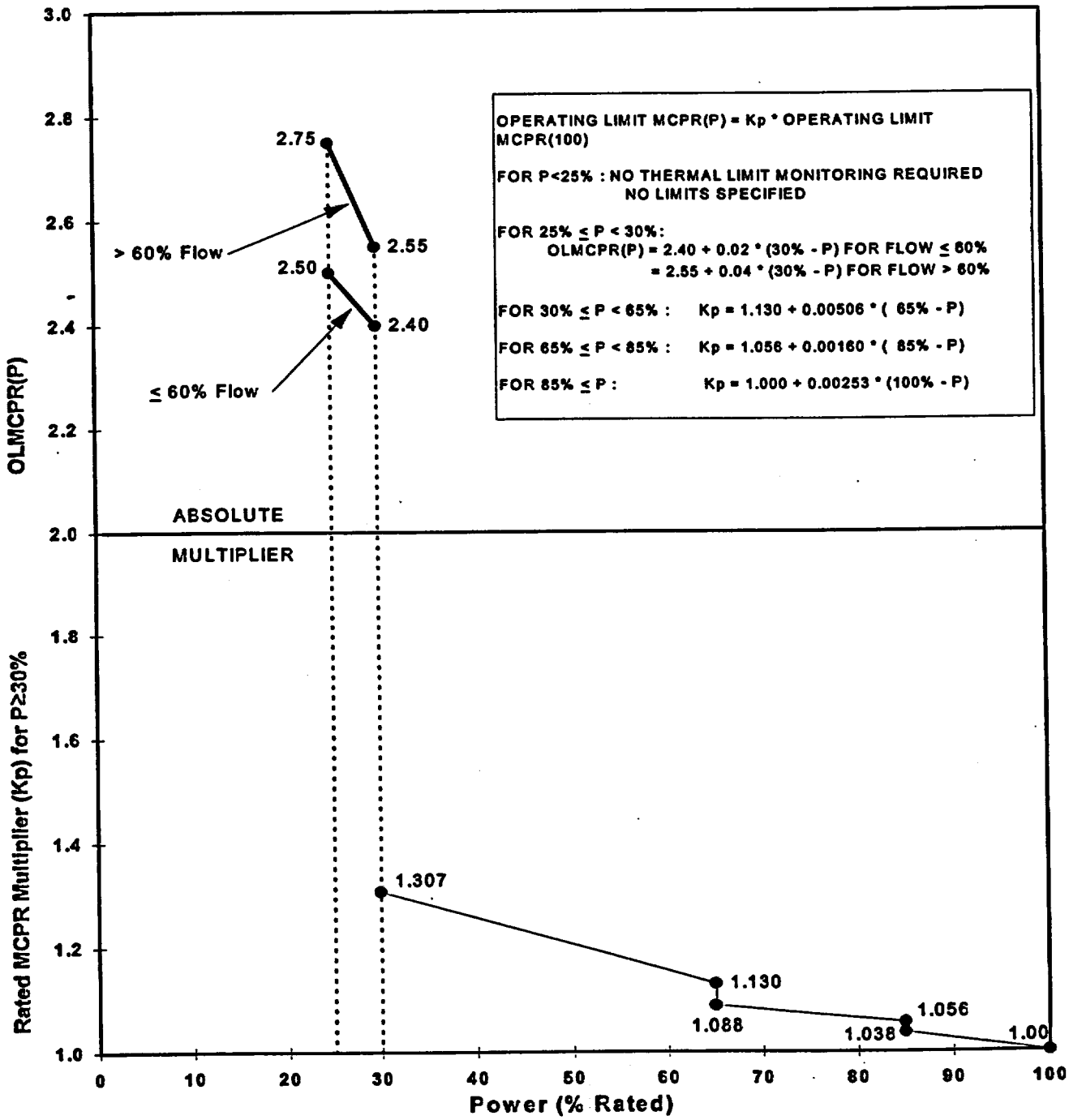


FIGURE 12

POWER-DEPENDENT MCPR LIMIT, OLMCPR(P)
THIS FIGURE IS REFERRED TO BY TECHNICAL SPECIFICATION 3.2.2, 3.3.4.2, and 3.7.6

VALID FOR 3 OR MORE TBVOOS OR RPTOOS AND MAX 90 °F FWTR

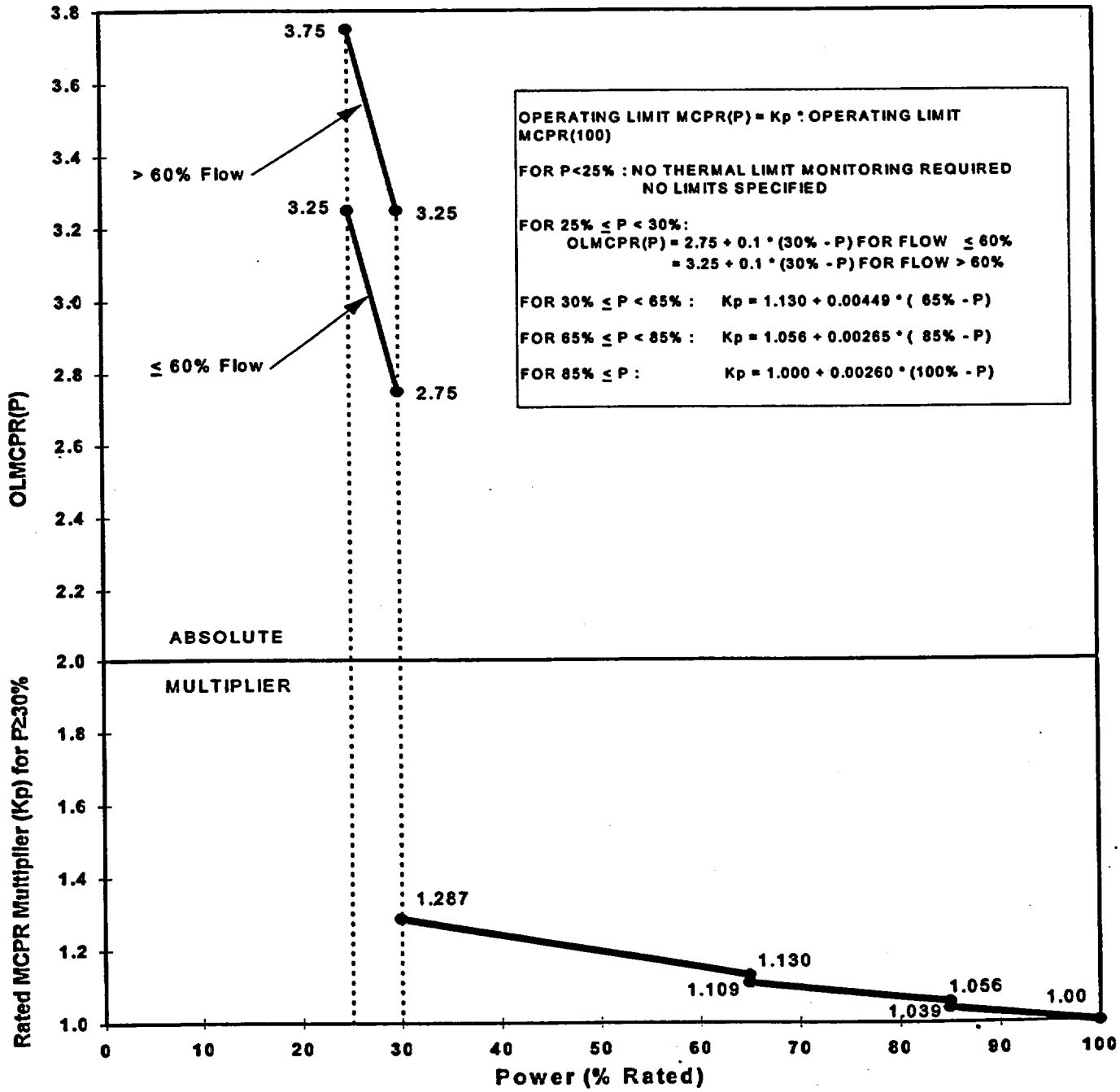


FIGURE 13

FLOW-DEPENDENT MCPR LIMITS, OLMCPR(F)
THIS FIGURE IS REFERRED TO BY TECHNICAL SPECIFICATION 3.2.2 AND 3.4.1

VALID FOR ALL CONDITIONS

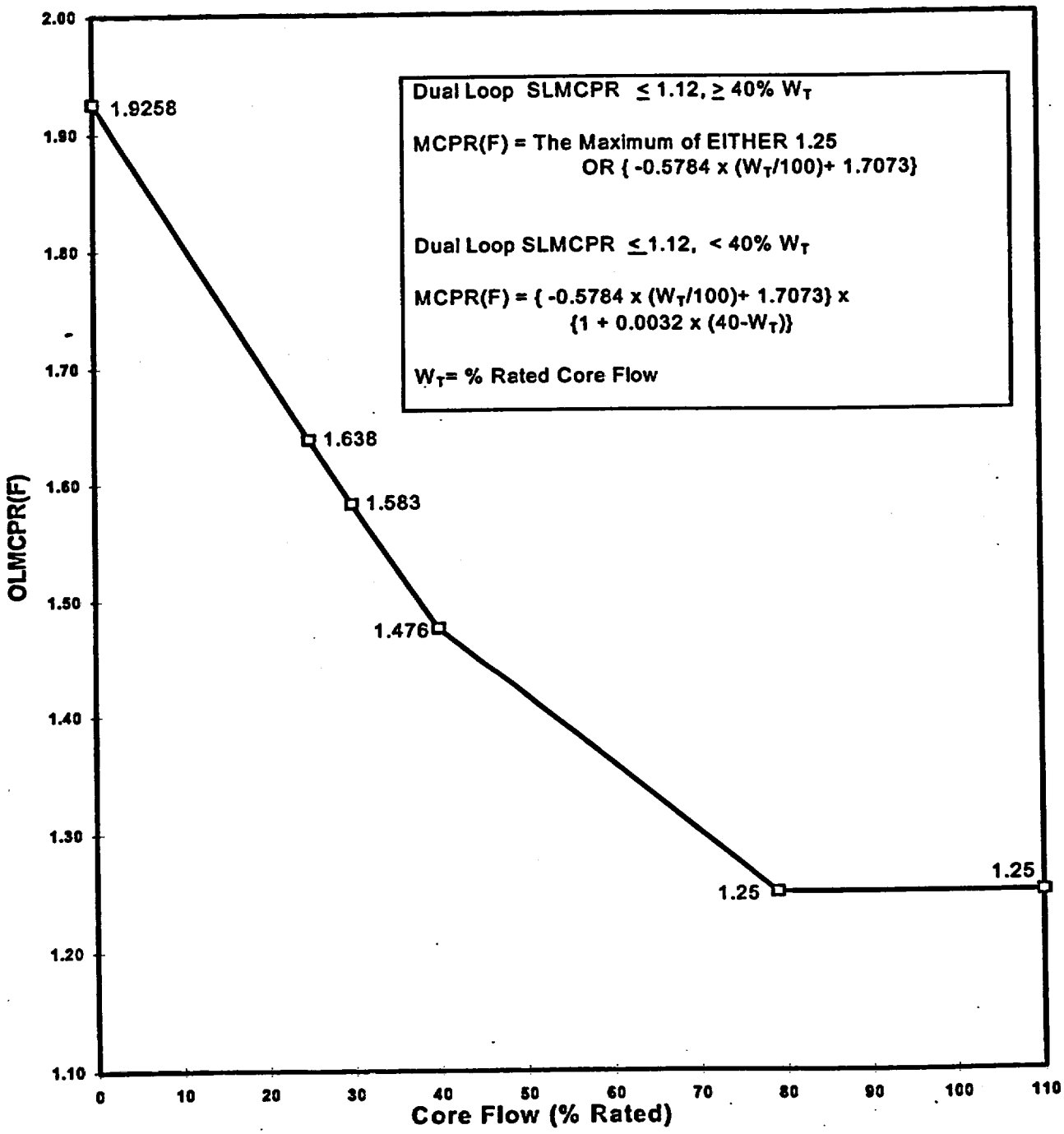


TABLE 2

ROD BLOCK MONITOR ANALYTICAL LIMITS, ALLOWABLE VALUES, AND MCPR LIMITS THIS TABLE IS REFERRED TO BY TECHNICAL SPECIFICATION 3.3.2.1

Applicability: **BOC to EOC**

FUNCTION	ANALYTICAL LIMIT(1)	ALLOWABLE VALUE(1)	MCPR LIMIT
Low Power Range - Upscale	≤ 123.0%	≤ 121.2%	< 1.70 (2)
Intermediate Power Range - Upscale	≤ 118.0%	≤ 116.2%	< 1.70 (2)
High Power Range - Upscale	≤ 113.2%	≤ 111.4%	< 1.70 (2) < 1.40 (3)
Inop	N/A	N/A	< 1.70 (2) < 1.40 (3)

---

(1) These Trip Level Settings (with RBM filter) are based on a cycle-specific rated RWE MCPR limit of 1.32 and are consistent with an RBM filter time constant between 0.1 and 0.55 seconds.

(2) This is the MCPR limit (given THERMAL POWER ≥ 28.4% and < 90% RTP) below which the RBM is required to be OPERABLE (see COLR References (4) and (8) and TS Table 3.3.2.1-1).

(3) This is the MCPR limit (given THERMAL POWER ≥ 90% RTP) below which the RBM is required to be OPERABLE (see COLR References (4) and (8) and TS Table 3.3.2.1-1).

TABLE 3

MAPLHGR SINGLE LOOP OPERATION (SLO) REDUCTION FACTOR
This Table is referred to by Technical Specification 3.2.1

SLO reduction factor = 0.73 for Cycle 14

TABLE 4

DESIGN LINEAR HEAT GENERATION RATE (LHGR) LIMITS[1]
This Table is referred to by Technical Specification 3.2.3

FUEL TYPE	LHGR LIMIT
GE13	14.4 kW/ft
GE14	13.4 kW/ft

[1] The LHGR limits provided above are the beginning of life (maximum) values. The LHGR limits as a function of fuel exposure are provided in References (6) and (16).

TABLE 5

TURBINE BYPASS VALVE PARAMETERS
This Table is referred to by Technical Specification 3.7.6

TURBINE BYPASS SYSTEM RESPONSE TIMES

Maximum delay time before start of bypass valve opening following generation of the turbine bypass valve flow signal	0.10 sec
Maximum time after generation of a turbine bypass valve flow signal for bypass valve position to reach 80% of full flow (includes the above delay time)	0.30 sec.
Minimum required number of bypass valves to maintain system operability	7