

CORE OPERATING LIMITS REPORT
FOR
PEACH BOTTOM ATOMIC POWER STATION UNIT 3
RELOAD 8, CYCLE 9

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INTRODUCTION AND SUMMARY

This report provides the cycle-specific parameter limits for: Average Planar Linear Heat Generation Rate (APLHGR); Minimum Critical Power Ratio (MCPR); Flow Adjustment Factor (K_f); Linear Heat Generation Rate (LHGR); and Rod Block Monitor flow biased upscale setpoints for Peach Bottom Atomic Power Station Unit 3, Cycle 9, Reload 8. 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 is submitted in accordance with Technical Specification 6.9.1.e of Reference (1). Preparation of this report was performed in accordance with PECO Nuclear Group Procedure NP-11F122.

APLHGR LIMITS

The limiting APLHGR value for the most limiting lattice (excluding natural uranium) of each fuel type as a function of AVERAGE PLANAR EXPOSURE is given in Figures 1 through 6. Figures 1 through 6 are used when hand calculations are required as specified in Technical Specification 3.5.I. The reduction factors for use during single recirculation loop operation are shown in Table 1. These values are documented in Reference (3).

MCPR LIMITS

The MCPR values for use in Technical Specification 3.5.K for each fuel type are given in Figures 7 through 10 and in Tables 2 and 3. Table 2 is used when the requirement of 4.5.K.2.a is met. When this requirement cannot be met, the Operating Limit MCPR values as a function of TAU are given in Figures 7 through 10. At times when the surveillance requirement of specification 4.5.K.2 is not performed Table 3 is used. These values are documented in Reference (2). The K_f core flow adjustment factor for use in Technical Specification 3.5.K is given in Figure 11.

The MCPR limits to be used during cycle extension (Increased Core Flow (ICF), Final Feedwater Temperature Reduction, and Power Coastdown) following EOC are the EOC-2000 Mwd/st to EOC, Increased Core Flow Limits.

ROD BLOCK MONITOR SETPOINTS

The N value for the RBM flow biased upscale setpoints for use in Technical Specification 3.2.C is given in Table 4. This value is documented in Reference (2).

LINEAR HEAT GENERATION RATES

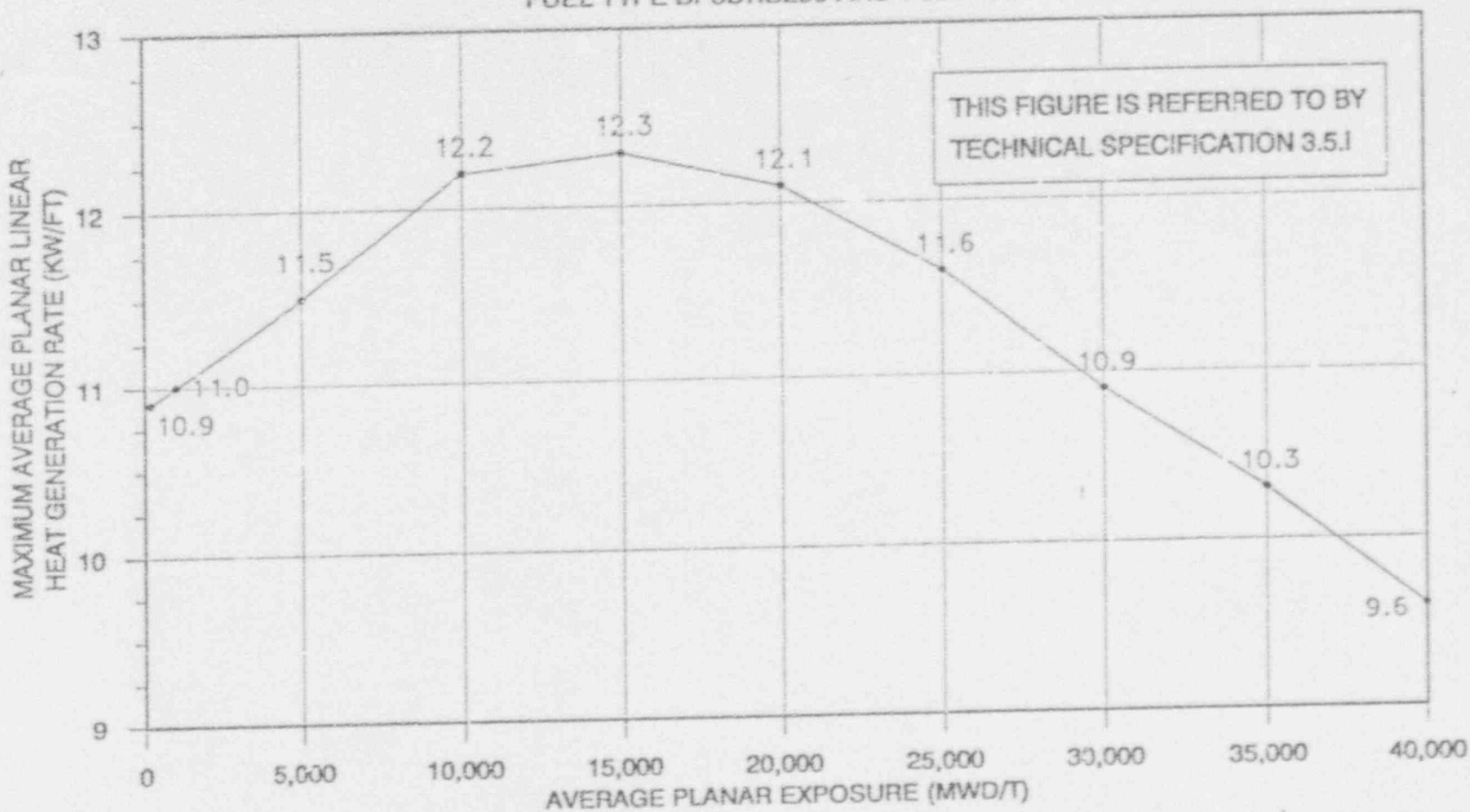
The LHGR value for use in Technical Specification 3.5.J for each fuel type is given in Table 5. These values are documented in Reference (4).

REFERENCES

- 1) "Technical Specifications and Bases for Peach Bottom Atomic Power Station Unit 3", Docket No. 50-278, Appendix A to License No. DPR-56.
- 2) "Supplemental Reload Licensing Report for Peach Bottom Atomic Power Station Unit 3, Reload 8, Cycle 9", Revision 0, October 1991.
- 3) "Loss-of-Coolant Accident Analyses for Peach Bottom Atomic Power Station Unit 3", Supplement 1, NEDE-24082-P-2, Revision 1, January 1988 as amended.
- 4) "General Electric Standard Application for Reactor Fuel", NEDE-24011-P-A-10, February 1991; and NEDE-24011-P-A-10-US, March 1991.

PEACH BOTTOM UNIT 3

FUEL TYPE BP8DRB299 AND P8DRB299

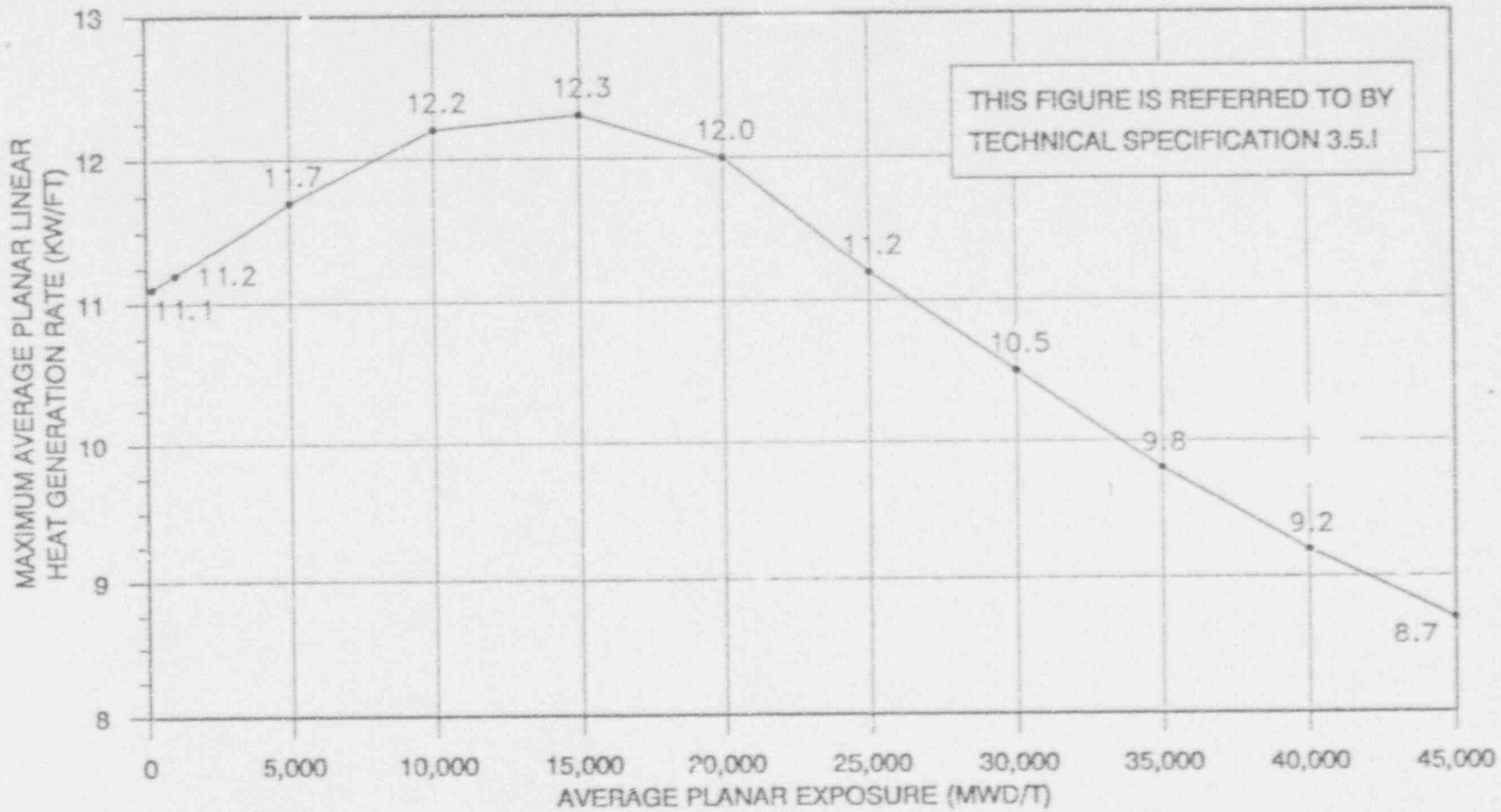


MAXIMUM AVERAGE PLANAR LINEAR HEAT GENERATION RATE VERSUS AVERAGE PLANAR EXPOSURE

FIGURE 1

PEACH BOTTOM UNIT 3

FUEL TYPE BP8DRB299H

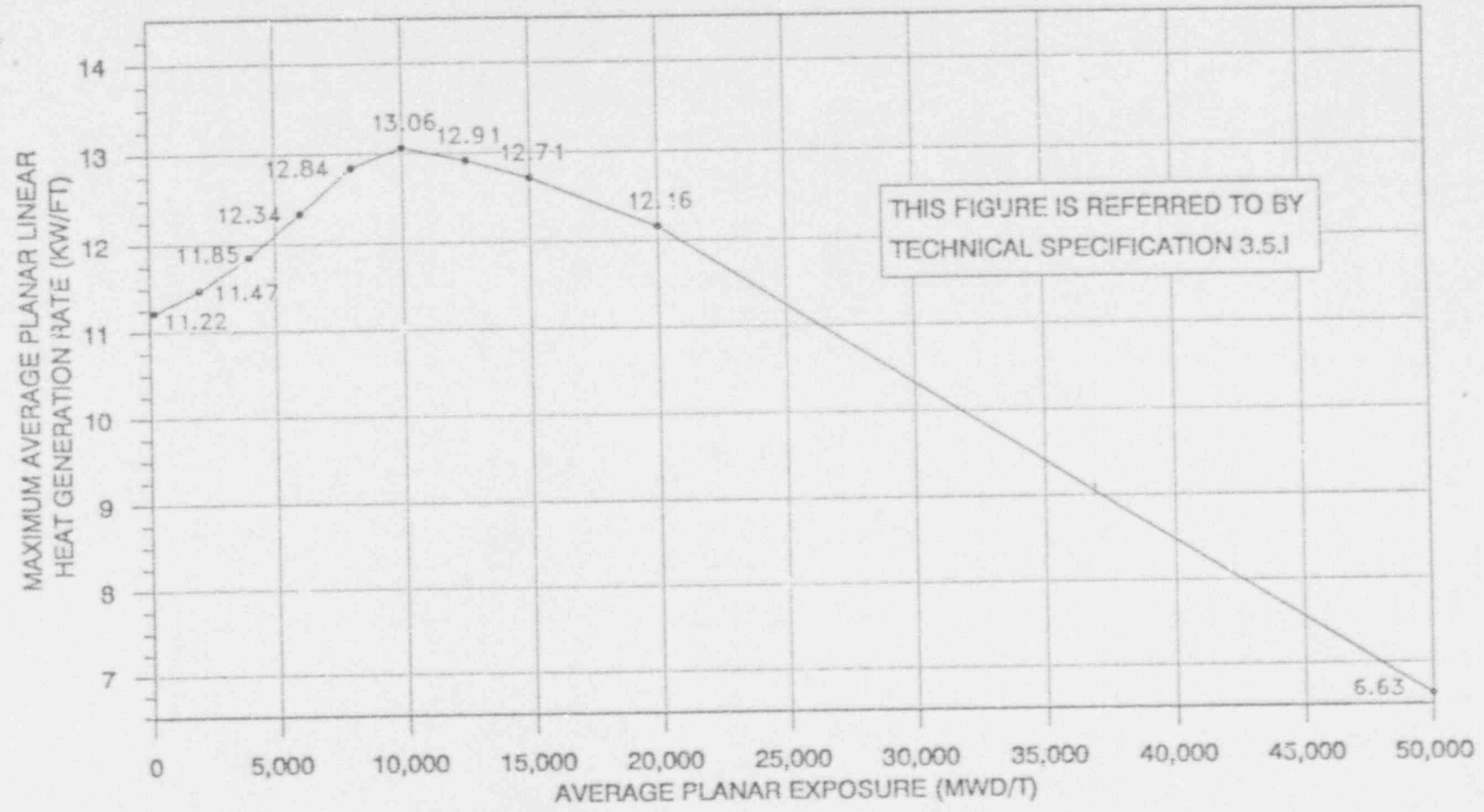


MAXIMUM AVERAGE PLANAR LINEAR HEAT GENERATION RATE VERSUS AVERAGE PLANAR EXPOSURE

FIGURE 2

PEACH BOTTOM UNIT 3

FUEL TYPE GE8B-P8DQB319-9GZ-80M-4WR-150-T

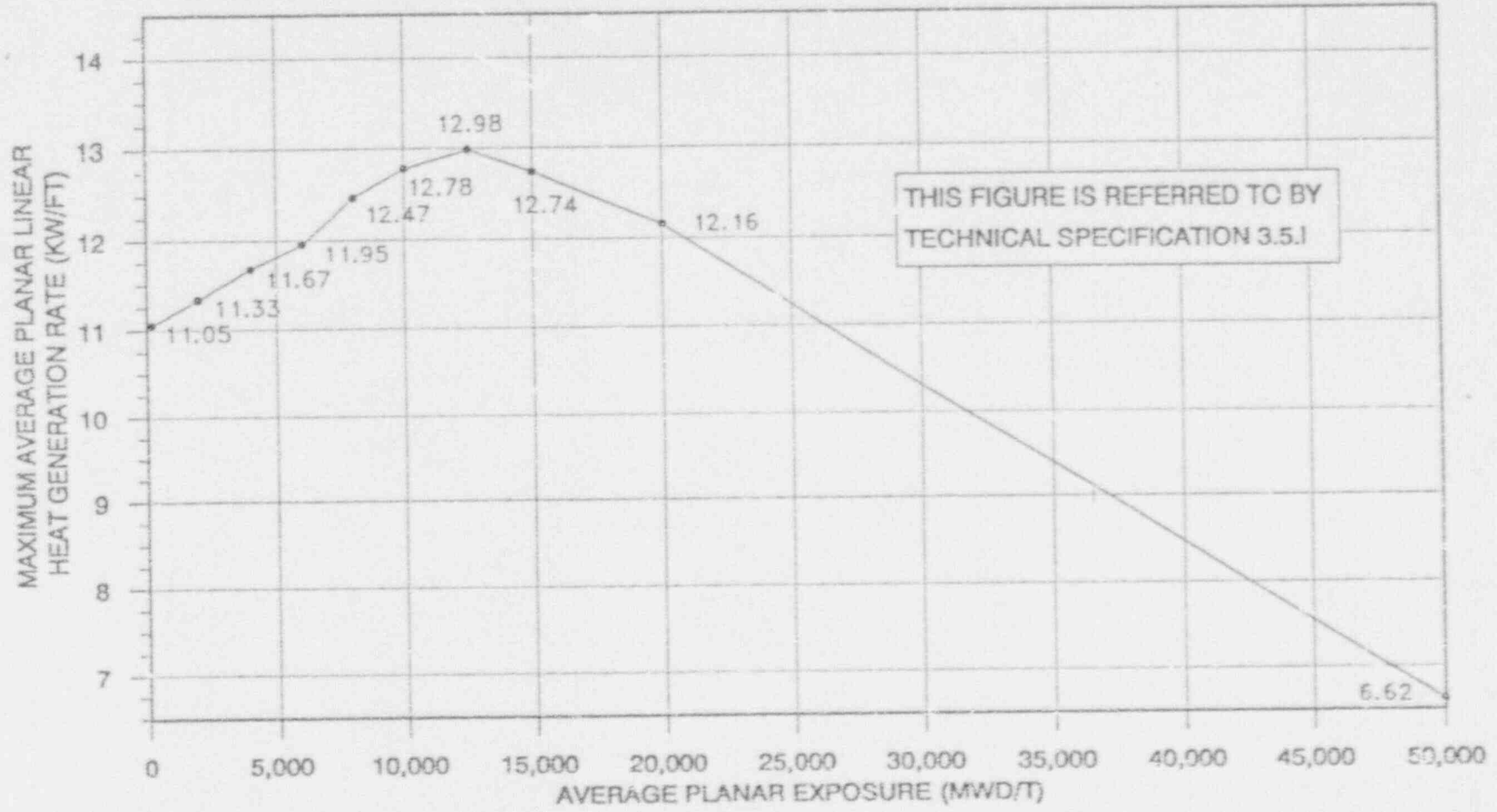


MAXIMUM AVERAGE PLANAR LINEAR HEAT GENERATION RATE VERSUS AVERAGE PLANAR EXPOSURE

FIGURE 3

PEACH BOTTOM UNIT 3

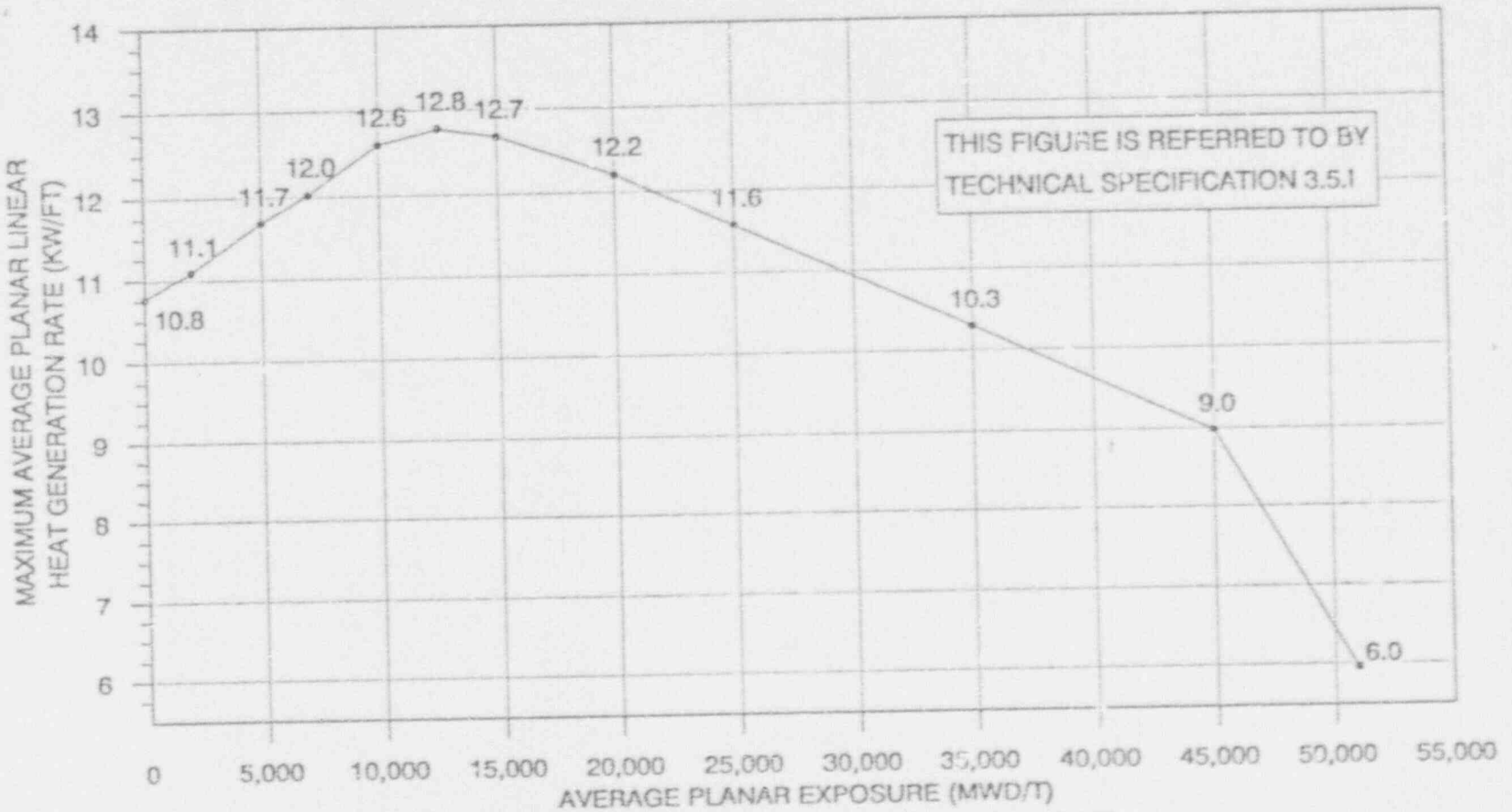
FUEL TYPE GE8B-P8DQB321-11GZ-80M-4WR-150-T



MAXIMUM AVERAGE PLANAR LINEAR HEAT GENERATION RATE VERSUS AVERAGE PLANAR EXPOSURE

FIGURE 4

PEACH BOTTOM UNIT 3
FUEL TYPE GE9B-P8DWB324-10GZ1-80M-150-T

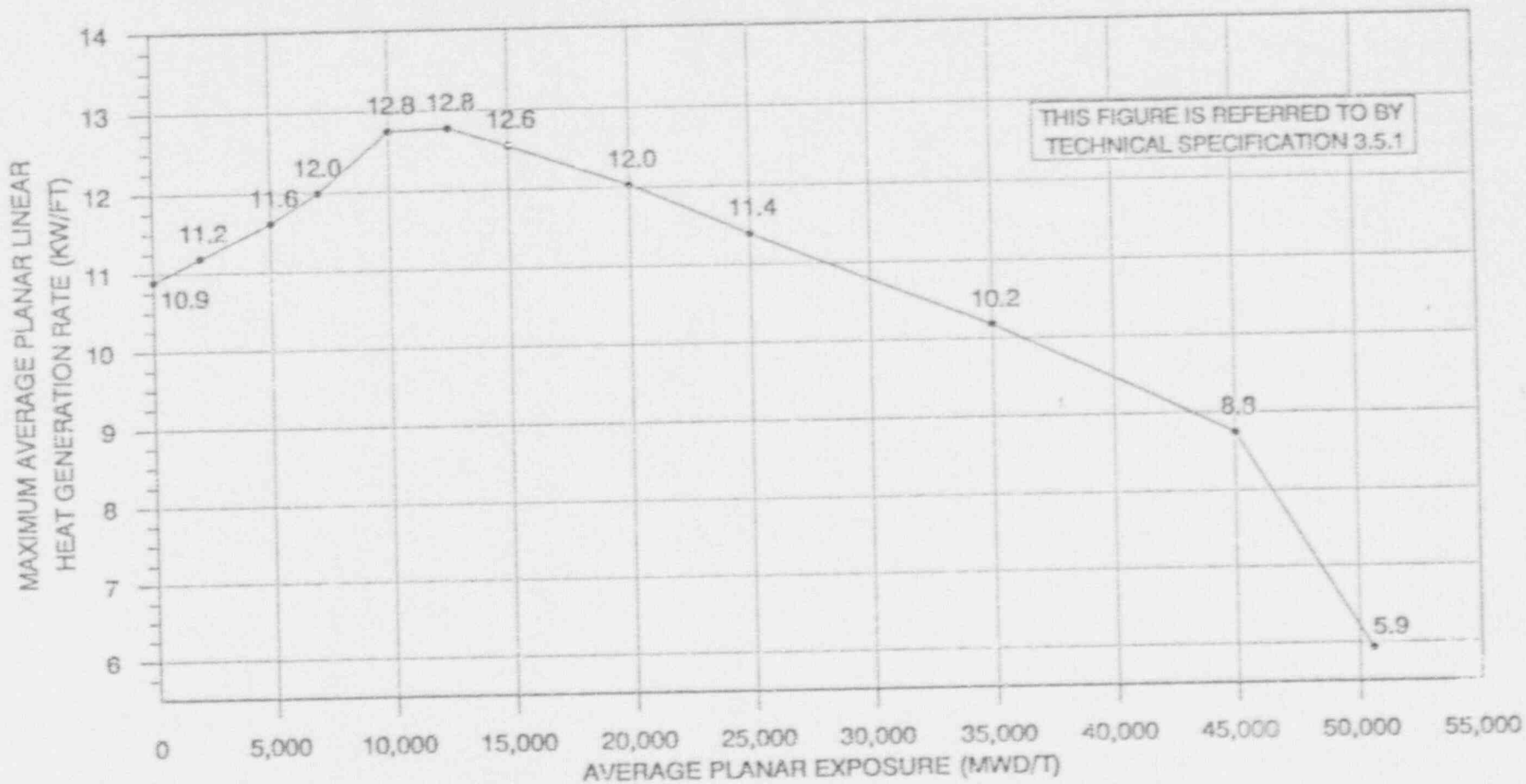


MAXIMUM AVERAGE PLANAR LINEAR HEAT GENERATION RATE VERSUS AVERAGE PLANAR EXPOSURE

FIGURE 5

PEACH BOTTOM UNIT 3

FUEL TYPE GE9B-P8DWB328-11GZ-80M-150-T



MAXIMUM AVERAGE PLANAR LINEAR HEAT GENERATION RATE VERSUS AVERAGE PLANAR EXPOSURE

FIGURE 6

M CPR OPERATING LIMIT VERSUS τ FUEL TYPES BP/P8X8R & GE8X8EB

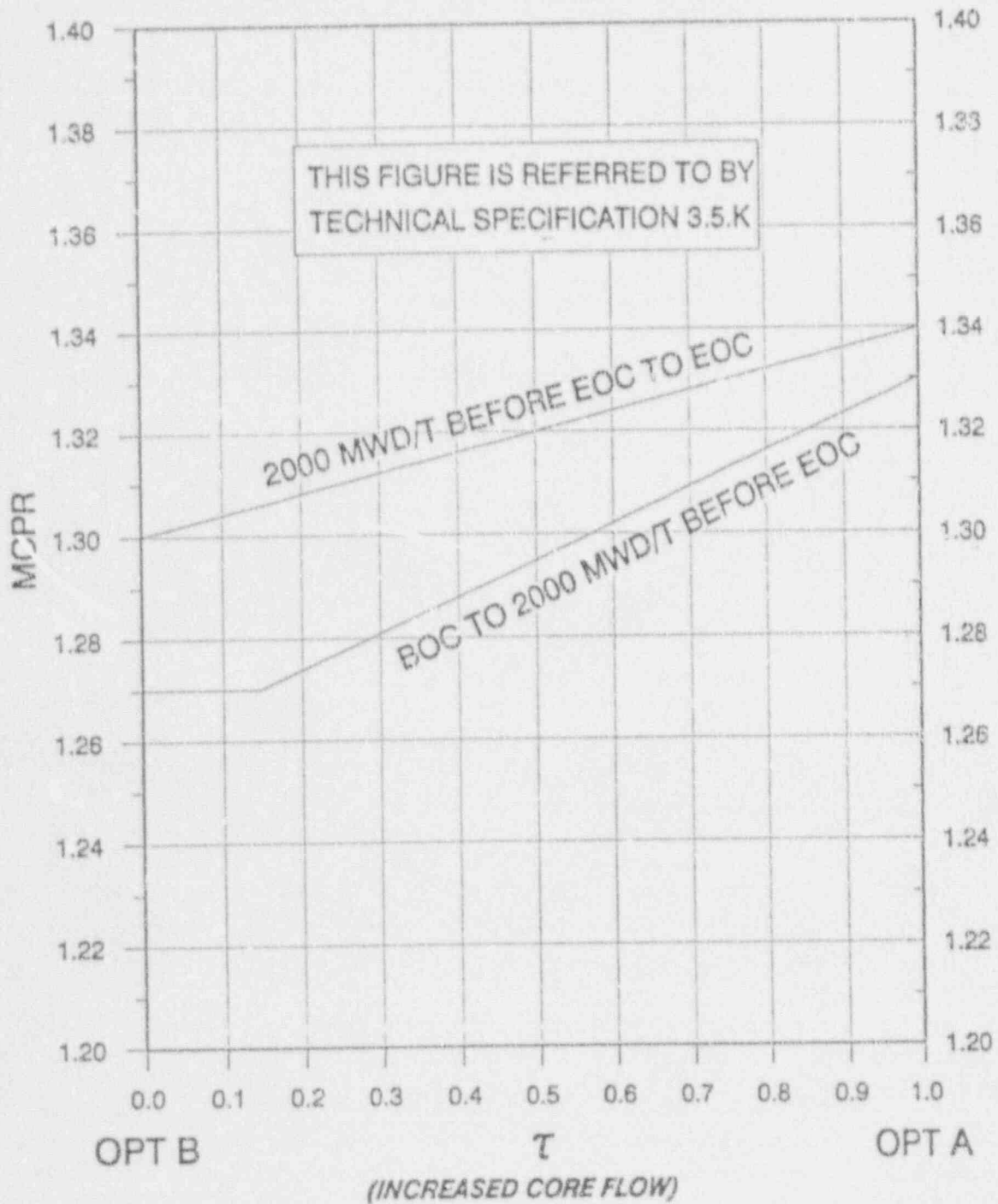


FIGURE 8

M CPR OPERATING LIMIT VERSUS τ FUEL TYPE GE8X8NB

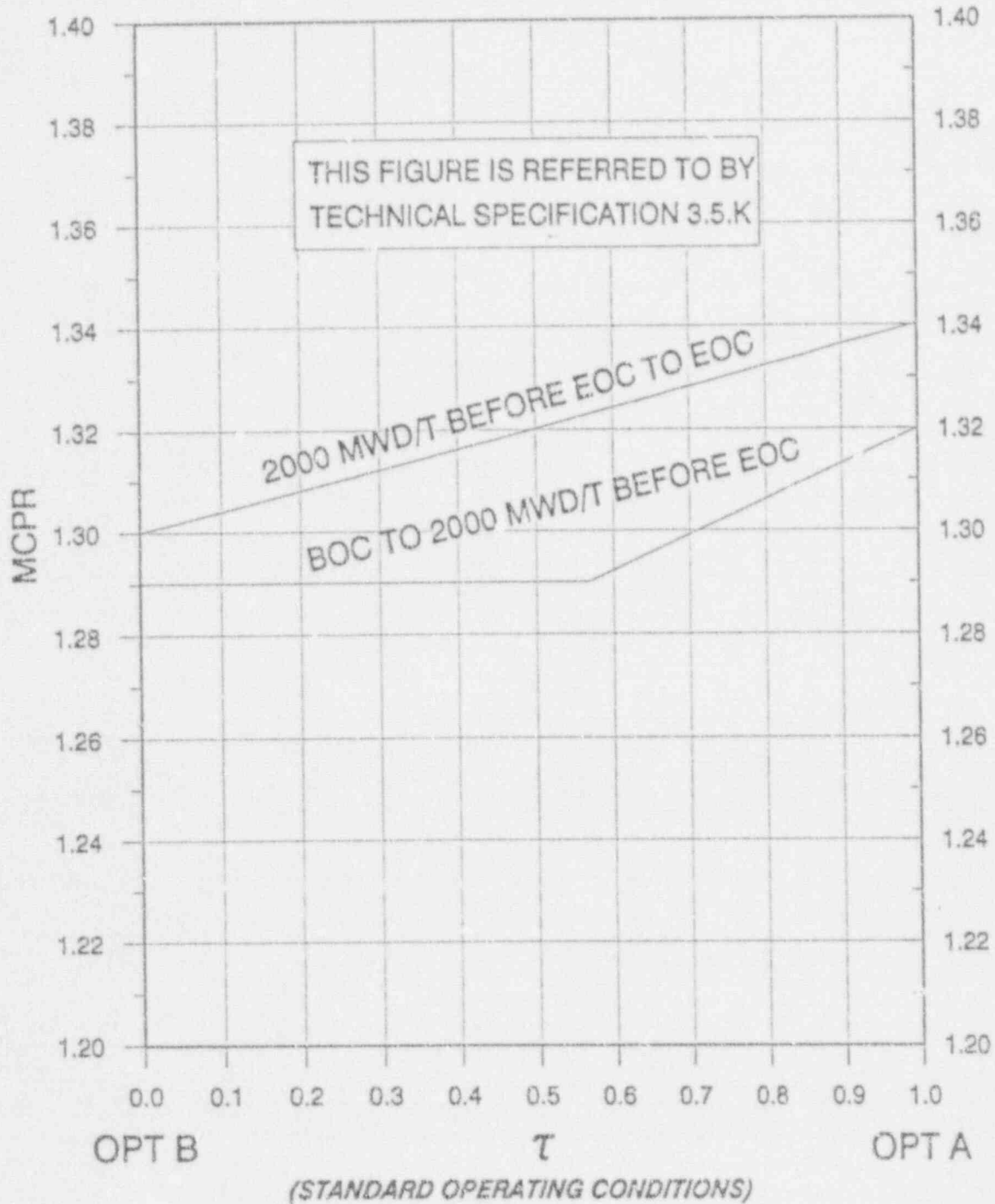


FIGURE 9

MCPR OPERATING LIMIT VERSUS τ FUEL TYPE GE8X8NB

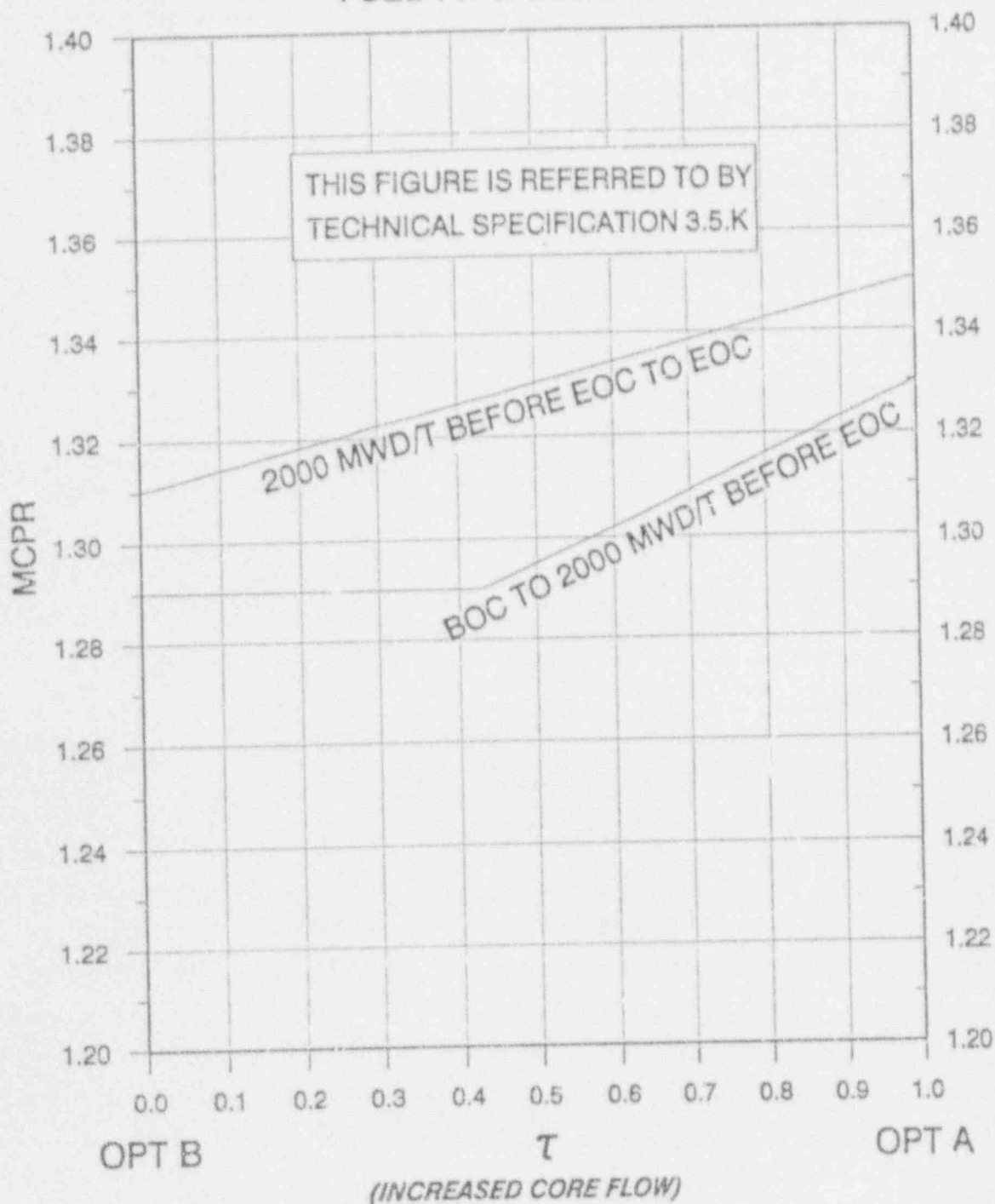


FIGURE 10

Kf Factor vs Core Flow

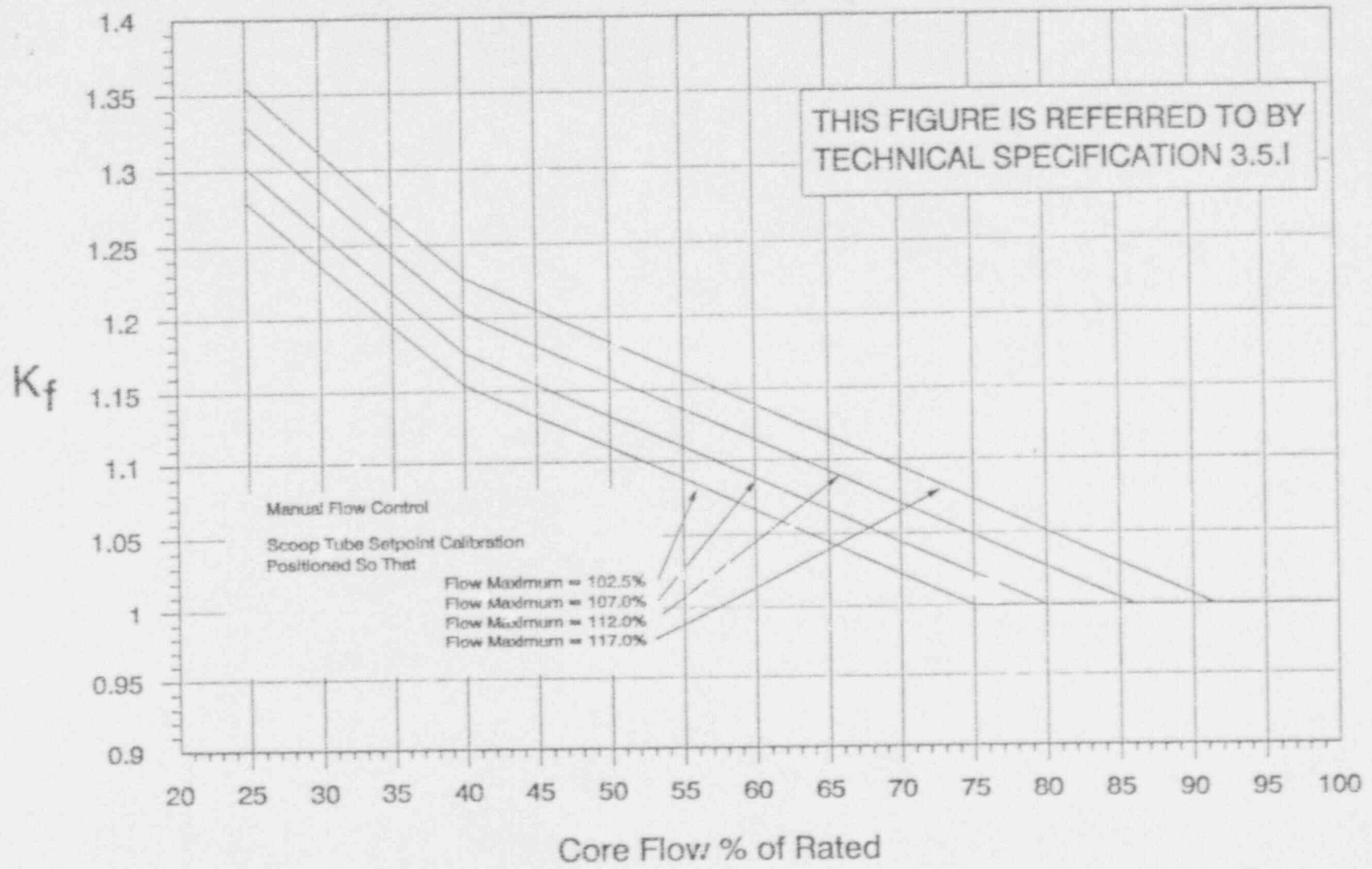


FIGURE 11

TABLE 1

SINGLE LOOP REDUCTION FACTORS

<u>FUEL TYPE</u>	<u>REDUCTION FACTOR</u>
BP/P8X8R	0.81
GESX8EB	0.73
GESX8NB	0.73

THIS TABLE IS REFERRED TO BY
TECHNICAL SPECIFICATION 3.5.I

TABLE 2

OPERATING LIMIT MCPR VALUES
FOR VARIOUS CORE EXPOSURES*

FUEL TYPE	MCPR OPERATING LIMIT** FOR INCREMENTAL CYCLE CORE AVERAGE EXPOSURE	
	BOC TO 2000 MWD/T BEFORE EOC	2000 MWD/T BEFORE EOC O EOC
<u>Standard Operating Conditions</u>		
BP/P8X8R	1.27	1.29
GE8X8EB	1.27	1.29
GE8X8NB	1.29	1.30
<u>Increased Core Flow</u>		
BP/P8X8R	1.27	1.30
GE8X8EB	1.27	1.30
GE8X8NB	1.29	1.31

* If Technical Specification Requirement 4.5.K.2.a is met.

** These values shall be increased by 0.01 for single loop operation.

THIS TABLE IS REFERRED TO BY
TECHNICAL SPECIFICATION 3.5.K

TABLE 3

OPERATING LIMIT MCPR VALUES
FOR VARIOUS CORE EXPOSURES*

FUEL TYPE	MCPR OPERATING LIMIT** FOR INCREMENTAL CYCLE CORE AVERAGE EXPOSURE	
	BOC TO 2000 MWD/T BEFORE ECC	2000 MWD/T BEFORE ECC TO ECC
<u>Standard Operating Conditions</u>		
BP/P8X8R	1.32	1.33
GE8X8EB	1.32	1.33
GE8X8NB	1.32	1.34
<u>Increased Core Flow</u>		
BP/P8X8R	1.33	1.34
GE8X8EB	1.33	1.34
GE8X8NB	1.33	1.35

* If Technical Specification Surveillance Requirement 4.5.K.2 is not performed.

** These values shall be increased by 0.01 for single loop operation.

THIS TABLE IS REFERRED TO BY
TECHNICAL SPECIFICATION 3.5.K

TABLE 4

ROD BLOCK MONITOR SETPOINT

N=110

THIS TABLE IS REFERRED TO BY
TECHNICAL SPECIFICATION 3.2.C

TABLE 5

DESIGN LINEAR HEAT GENERATION RATE LIMITS

<u>FUEL TYPE</u>	<u>LHGR LIMIT</u>
BP/P8X8R	13.4 KW/ft
GE8X8EB	14.4 KW/ft
GE8X8NB	14.4 KW/ft

THIS TABLE IS REFERRED TO BY
TECHNICAL SPECIFICATION 3.5.J