ATTACHMENT B

LASALLE COUNTY STATION

MARKED UP ANNOTATED COPY OF AFFECTED PAGES
FOR PROPOSED CHANGES TO

FACILITY OPERATING LICENSES
NPF-11 AND NPF-18

APPENDIX A TECHNICAL SPECIFICATIONS

ATTACHMENT B

TECHNICAL SPECIFICATION CHANGES FOR LASALLE UNITS 1 & 2

SUMMARY OF AFFECTED PAGES FOR LASALLE UNITS 1 & 2

NPF-11	NPF-18
3/4 3-2*	3/4 3-2*
3/4 3-3*	3/4 3-3*
3/4 3-4	3/4 3-4
3/4 3-5	3/4 3-5
3/4 3-7*	3/4 3-7*
3/4 3-8	3/4 3-8
INSERT A	INSERT A
3/4 3-39	3/4 3-39
3/4 3-40	3/4 3-40*
3/4 3-41	3/4 3-41
3/4 3-44	3/4 3-44
INSERT B	INSERT B
B 3/4 3-3	B 3/4 3-3

* These pages are provided for continuity only and have no proposed changes.

SUMMARY OF PROPOSED CHANGES FOR LASALLE UNITS 1 & 2
(NPF-11 & NPF-18)

Table 3.3.1-1	Action #6 is revised to reflect the new bypass setpoint for TCV and TSV closure scram signals. The value of thermal power is changed and reference to turbine first stage pressure is deleted.
Table 3.3.1-1	Table Notation (i) is revised to reflect the new bypass setpoint for TCV and TSV closure scram signals. The value for thermal power is changed and reference to turbine first stage pressure is deleted. In addition, the table notation is reworded to state that the scram signals shall not be automatically bypassed when THERMAL POWER is greater than or equal to 25% of rated thermal power.
Table 4.3.1.1-1	Note (i) has been added to the TCV and TSV closure scram trip functions to require verification once per 18-months that Turbine Stop Valve – Closure and Turbine Control Valve Fast Closure Valve Trip System Oil Pressure – Low Trip Functions are not bypassed when THERMAL POWER is $\geq$ 25% of RATED THERMAL POWER. Specification 4.0.2 applies to this 18-month interval.
Section 3.3.4.2	The Applicability and Action statements are revised to reflect the new bypass setpoint for EOC-RPT signals. Values for thermal power are changed.
Table 3.3.4.2-1	Footnote (b) is revised to reflect the new bypass setpoint for TCV and TSV closure scram signals. The values for thermal power are changed and reference to first stage turbine pressure are deleted. In addition, the footnote is reworded to state that the scram signals shall not be automatically bypassed when THERMAL POWER is greater than or equal to 25% of rated thermal power.

Table 4.3.4.2.1-1	Note (a) has been added to the TCV and TSV closure scram trip functions to require verification once per 18-months that Turbine Stop Valve – Closure and Turbine Control Valve Fast Closure Valve Trip System Oil Pressure – Low Trip Functions are not bypassed when THERMAL POWER is $\geq$ 25% of RATED THERMAL POWER. Specification 4.0.2 applies to this 18-month interval.
Bases Section 3/4.3.4	This section is revised to reflect the new bypass setpoint for EOC-RPT signals. The value for thermal power is changed.

TABLE 3.3.1-1

REACTOR PROTECTION SYSTEM INSTRUMENTATION

FUNCTIONAL UNIT	APPLICABLE OPERATIONAL CONDITIONS	MINIMUM OPERABLE CHANNELS PER TRIP SYSTEM (a)	ACTION
1. Intermediate Range Monitors:			
a. Neutron Flux - High	2	3	1
	3, 4	2	2
	5[b]	3	3
b. Inoperative	2	3	1
	3, 4	2	2
	5	3	3
2. Average Power Range Monitor:[c]			
a. Neutron Flux - High, Setdown	2	2	1
	3	2	2
	5[b]	2	3
b. Flow Biased Simulated Thermal Power-Upscale	1	2	4
c. Fixed Neutron Flux-High	1	2	4
d. Inoperative	1, 2	2	1
	3	2	2
	5	2	3
3. Reactor Vessel Steam Dome Pressure - High	1, 2[d]	2	1
4. Reactor Vessel Water Level - Low, Level 3	1, 2	2	1
5. Main Steam Line Isolation Valve - Closure	1[e]	4	4
6. DELETED			

No changes, provided for continuity only.

TABLE 3.3.1-1 (Continued)

REACTOR PROTECTION SYSTEM INSTRUMENTATION

FUNCTIONAL UNIT	APPLICABLE OPERATIONAL CONDITIONS	MINIMUM OPERABLE CHANNELS PER TRIP SYSTEM (a)	ACTION
7. Primary Containment Pressure - High	1, 2(f)	2(g)	1
8. Scram Discharge Volume Water Level - High	1, 2	2	1
	5(h)	2	3
9. Turbine Stop Valve - Closure	1(i)	4(j)	6
10. Turbine Control Valve Fast Closure, Valve Trip System Oil Pressure - Low	1(i)	2(j)	6
11. Reactor Mode Switch Shutdown Position	1, 2	1	1
	3, 4	1	7
	5	1	3
12. Manual Scram	1, 2	1	1
	3, 4	1	8
	5	1	9
13. Control Rod Drive			
a. Charging Water Header Pressure - Low	2, 5(h)	2	1
		2	3
b. Delay Timer	2, 5(h)	2	1
		2	3

No changes, provided for continuity only.

TABLE 3.3.1-1 (Continued)

REACTOR PROTECTION SYSTEM INSTRUMENTATION

ACTION

ACTION 1 - Be in at least HOT SHUTDOWN within 12 hours.

ACTION 2 - Verify all insertable control rods to be inserted in the core and lock the reactor mode switch in the Shutdown position within one hour.

ACTION 3 - Suspend all operations involving CORE ALTERATIONS* and insert all insertable control rods within one hour.

ACTION 4 - Be in at least STARTUP within 6 hours.

ACTION 5 - Deleted

ACTION 6 - Initiate a reduction in THERMAL POWER within 15 minutes and reduce turbine first stage pressure to ≤ 140 psig, equivalent to THERMAL POWER less than ~~30%~~ 25% of RATED THERMAL POWER, within 2 hours.

ACTION 7 - Verify all insertable control rods to be inserted within 1 hour.

ACTION 8 - Lock the reactor mode switch in the Shutdown position within 1 hour.

ACTION 9 - Suspend all operations involving CORE ALTERATIONS,* and insert all insertable control rods and lock the reactor mode switch in the SHUTDOWN position within 1 hour.

*Except movement of IRM, SRM or special movable detectors, or replacement of LPRM strings provided SRM instrumentation is OPERABLE per Specification 3.9.2.

TABLE 3.3.1-1 (Continued)

REACTOR PROTECTION SYSTEM INSTRUMENTATION

TABLE NOTATIONS

(a) A channel may be placed in an inoperable status for up to 6 hours for required surveillance without placing the channel in the tripped condition provided at least one OPERABLE channel in the same trip system is monitoring that parameter.

(b) The "shorting links" shall be removed from the RPS circuitry prior to and during the time any control rod is withdrawn* and during shutdown margin demonstrations performed per Specification 3.10.3.

(c) An APRM channel is inoperable if there are less than 2 LPRM inputs per level or less than 14 LPRM inputs to an APRM channel.

(d) This function is not required to be OPERABLE when the reactor pressure vessel head is unbolted or removed per Specification 3.10.1.

(e) This function shall be automatically bypassed when the reactor mode switch is not in the Run position.

(f) This function is not required to be OPERABLE when PRIMARY CONTAINMENT INTEGRITY is not required.

(g) Also actuates the standby gas treatment system.

(h) With any control rod withdrawn. Not applicable to control rods removed per Specification 3.9.10.1 or 3.9.10.2.

(i) This function shall be automatically bypassed when turbine first stage pressure is ≤ 140 psig, equivalent to THERMAL POWER less than 30% of RATED THERMAL POWER.

(j) Also actuates the EOC-RPT system.

not

is greater than or equal to 25%

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* Not required for control rods removed per Specifications 3.9.10.1 or 3.9.10.2.

TABLE 4.3.1.1-1

REACTOR PROTECTION SYSTEM INSTRUMENTATION SURVEILLANCE REQUIREMENTS

FUNCTIONAL UNIT	CHANNEL CHECK	CHANNEL FUNCTIONAL TEST	CHANNEL CALIBRATION[a]	OPERATIONAL CONDITIONS FOR WHICH SURVEILLANCE REQUIRED
1. Intermediate Range Monitors				
a. Neutron Flux - High	S/U[b],S	S/U[c], W	R	2*
	S	W	R	3*, 4, 5
b. Inoperative	NA	W	NA	2*, 3*, 4, 5
2. Average Power Range Monitor:[f]				
a. Neutron Flux - High, Setdown	S/U[b],S	S/U[c], W	SA	2*
	S	W	SA	3*, 5
b. Flow Biased Simulated Thermal Power-Upscale	S, D[g]	S/U[c], Q	W[d][e], SA, R[h]	1
c. Fixed Neutron Flux - High	S	S/U[c], Q	W[d], SA	1
d. Inoperative	NA	Q	NA	1, 2, 3, 5
3. Reactor Vessel Steam Dome Pressure - High	NA	Q	Q	1, 2
4. Reactor Vessel Water Level - Low, Level 3	NA	Q	R	1, 2
5. Main Steam Line Isolation Valve - Closure	NA	Q	R	1
6. Deleted				
7. Primary Containment Pressure - High	NA	Q	Q	1, 2

No changes, provided for continuity only. —

TABLE 4.3.1.1-1 (Continued)

REACTOR PROTECTION SYSTEM INSTRUMENTATION SURVEILLANCE REQUIREMENTS

FUNCTIONAL UNIT	CHANNEL CHECK	CHANNEL FUNCTIONAL TEST	CHANNEL CALIBRATION	OPERATIONAL CONDITIONS FOR WHICH SURVEILLANCE REQUIRED
8. Scram Discharge Volume Water Level - High	NA	Q	R	1, 2, 5
9. Turbine Stop Valve - Closure	NA	Q	R	1
10. Turbine Control Valve Fast Closure Valve Trip System Oil Pressure - Low	NA	Q	R	1
11. Reactor Mode Switch Shutdown Position	NA	R	NA	1, 2, 3, 4, 5
12. Manual Scram	NA	W	NA	1, 2, 3, 4, 5
13. Control Rod Drive				
a. Charging Water Header Pressure - Low	NA	M	R	2, 5
b. Delay Timer	NA	M	R	2, 5

(a) Neutron detectors may be excluded from CHANNEL CALIBRATION.

(b) The IRM and SRM channels shall be determined to overlap for at least 1/2 decades during each startup and the IRM and APRM channels shall be determined to overlap for at least 1/2 decades during each controlled shutdown, if not performed within the previous 7 days.

(c) Within 24 hours prior to startup, if not performed within the previous 7 days.

(d) This calibration shall consist of the adjustment of the APRM channel to conform to the power levels calculated by a heat balance during OPERATIONAL CONDITION 1 when THERMAL POWER ≥ 25% of RATED THERMAL POWER. The APRM Gain Adjustment Factor (GAF) for any channel shall be equal to the power value determined by the heat balance divided by the APRM reading for that channel.

Within 2 hours, adjust any APRM channel with a GAF > 1.02. In addition, adjust any APRM channel within 12 hours, if power is greater than or equal to 90% of RATED THERMAL POWER and the APRM channel GAF is < 0.98. Until any required APRM adjustment has been accomplished, notification shall be posted on the reactor control panel.

(e) This calibration shall consist of the adjustment of the APRM flow biased channel to conform to a calibrated flow signal.

(f) The LPRMs shall be calibrated at least once per 1000 effective full power hours (EFPH).

(g) Measure and compare core flow to rated core flow.

(h) This calibration shall consist of verifying the 6 ± 1 second simulated thermal power time constant.

* The provisions of Specification 4.0.4 are not applicable for a period of 24 hours after entering OPERATIONAL CONDITION 2 or 3 when shutting down from OPERATIONAL CONDITION 1.

INSERT A

INSERT A

(i) At least once per 18 months, verify Turbine Stop Valve – Closure and Turbine Control Valve Fast Closure Valve Trip System Oil Pressure – Low Trip Functions are not bypassed when THERMAL POWER is $\geq$ 25% of RATED THERMAL POWER. Specification 4.0.2 applies to this 18-month interval.

END-OF-CYCLE RECIRCULATION PUMP TRIP SYSTEM INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.3.4.2 The end-of-cycle recirculation pump trip (EOC-RPT) system instrumentation channels shown in Table 3.3.4.2-1 shall be OPERABLE with their trip setpoints set consistent with the values shown in the Trip Setpoint column of Table 3.3.4.2-2 and with the END-OF-CYCLE RECIRCULATION PUMP TRIP SYSTEM RESPONSE TIME as shown in Table 3.3.4.2-3.

APPLICABILITY: OPERATIONAL CONDITION 1, when THERMAL POWER is greater than or equal to ~~30%~~ 25% of RATED THERMAL POWER.

ACTION:

a. With an end-of-cycle recirculation pump trip system instrumentation channel trip setpoint less conservative than the value shown in the Allowable Values column of Table 3.3.4.2-2, declare the channel inoperable until the channel is restored to OPERABLE status with the channel setpoint adjusted consistent with the Trip Setpoint value.

b. With the number of OPERABLE channels one less than required by the Minimum OPERABLE Channels per Trip System requirement for one or both trip systems, place the inoperable channel(s) in the tripped condition within 12 hours.

c. With the number of OPERABLE channels two or more less than required by the Minimum OPERABLE Channels per Trip System requirement(s) for one trip system and:

   1. If the inoperable channels consist of one turbine control valve channel and one turbine stop valve channel, place both inoperable channels in the tripped condition within 12 hours.

   2. If the inoperable channels include two turbine control valve channels or two turbine stop valve channels, declare the trip system inoperable.

d. With one trip system inoperable, restore the inoperable trip system to OPERABLE status within 72 hours. Otherwise, either:

   1. Increase the MINIMUM CRITICAL POWER RATIO (MCPR) Limiting Condition for Operation (LCO) to the EOC-RPT inoperable value per Specification 3.2.3 within the next 1 hour or,

   2. Reduce THERMAL POWER to less than ~~30%~~ 25% of RATED THERMAL POWER within the next 6 hours.

e. With both trip systems inoperable, restore at least one trip system to OPERABLE status within 1 hour. Otherwise, either:

INSTRUMENTATION

END-OF-CYCLE RECIRCULATION PUMP TRIP SYSTEM INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

1. Increase the MINIMUM CRITICAL POWER RATIO (MCPR) Limiting Condition for Operation (LCO) to the EOC-RPT inoperable value per Specification 3.2.3 within the next 1 hour or,

2. reduce THERMAL POWER to less than ~~30%~~ 25% of RATED THERMAL POWER within the next 6 hours.

SURVEILLANCE REQUIREMENTS

4.3.4.2.1 Each end-of-cycle recirculation pump trip system instrumentation channel shall be demonstrated OPERABLE by the performance of the CHANNEL FUNCTIONAL TEST and CHANNEL CALIBRATION operations at the frequencies shown in Table 4.3.4.2.1-1.

4.3.4.2.2 LOGIC SYSTEM FUNCTIONAL TESTS and simulated automatic operation of all channels shall be performed at least once per 18 months.

4.3.4.2.3 The END-OF-CYCLE RECIRCULATION PUMP TRIP SYSTEM RESPONSE TIME of each trip function shown in Table 3.3.4.2-3 shall be demonstrated to be within its limit at least once per 18 months. Each test shall include at least the logic of one type of channel input, turbine control valve fast closure or turbine stop valve closure, such that both types of channel inputs are tested at least once per 36 months. The time allotted for breaker arc suppression shall be verified by test at least once per 60 months.

TABLE 3.3.4.2-1

END-OF-CYCLE RECIRCULATION PUMP TRIP SYSTEM INSTRUMENTATION

TRIP FUNCTION	MINIMUM OPERABLE CHANNELS PER TRIP SYSTEM[a]
1. Turbine Stop Valve - Closure	2[b]
2. Turbine Control Valve - Fast Closure	2[b]

(a) A trip system may not be placed in an inoperable status for up to 6 hours for required surveillance provided that the other trip system is OPERABLE.

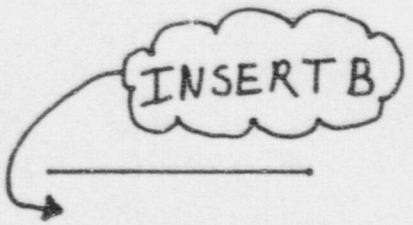
(b) This function shall be automatically bypassed when turbine first stage pressure is less than or equal to 140 psig, equivalent to THERMAL POWER less than 30% of RATED THERMAL POWER.

is greater than or equal to 25%

TABLE 4.3.4.2.1-1

END-OF-CYCLE RECIRCULATION PUMP TRIP SYSTEM SURVEILLANCE REQUIREMENTS

TRIP FUNCTION	CHANNEL FUNCTIONAL TEST	CHANNEL CALIBRATION
1. Turbine Stop Valve-Closure (a)	Q	R
2. Turbine Control Valve-Fast Closure (a)	Q	R



INSERT B

(a) At least once per 18 months, verify Turbine Stop Valve - Closure and Turbine Control Valve - Fast Closure Trip Functions are not bypassed when THERMAL POWER is $\geq$ 25% of RATED THERMAL POWER. Specification 4.0.2 applies to this 18-month interval.

3/4.3.4 RECIRCULATION PUMP TRIP ACTUATION INSTRUMENTATION

The anticipated transient without scram (ATWS) recirculation pump trip system provides a means of limiting the consequences of the unlikely occurrence of a failure to scram during an anticipated transient. The response of the plant to this postulated event falls within the envelope of study events in General Electric Company Topical Report NEDO-10349, dated March 1971 and NEDO-24222, dated December, 1979, and Appendix G of the FSAR.

The end-of-cycle recirculation pump trip (EOC-RPT) system is a part of the Reactor Protection System and is an essential safety supplement to the reactor trip. The purpose of the EOC-RPT is to recover the loss of thermal margin which occurs at the end-of-cycle. The physical phenomenon involved is that the void reactivity feedback due to a pressurization transient can add positive reactivity to the reactor system at a faster rate than the control rods add negative scram reactivity. Each EOC-RPT system trips both recirculation pumps, reducing coolant flow in order to reduce the void collapse in the core during two of the most limiting pressurization events. The two events for which the EOC-RPT protective feature will function are closure of the turbine stop valves and fast closure of the turbine control valves.

A generic analysis, which provides for continued operation with one or both trip systems of the EOC-RPT system inoperable, has been performed. The analysis determined bounding cycle independent MINIMUM CRITICAL POWER RATIO (MCPR) Limiting Condition for Operation (LCO) values which must be used if the EOC-RPT system is inoperable. These values ensure that adequate reactivity margin to the MCPR safety limit exists in the event of the analyzed transient with the RPT function inoperable. The analysis results are further discussed in the bases for Specification 3.2.3.

A fast closure sensor from each of two turbine control valves provides input to the EOC-RPT system; a fast closure sensor from each of the other two turbine control valves provides input to the second EOC-RPT system. Similarly, a position switch for each of two turbine stop valves provides input to one EOC-RPT system; a position switch from each of the other two stop valves provides input to the other EOC-RPT system. For each EOC-RPT system, the sensor relay contacts are arranged to form a 2-out-of-2 logic for the fast closure of turbine control valves and a 2-out-of-2 logic for the turbine stop valves. The operation of either logic will actuate the EOC-RPT system and trip both recirculation pumps.

Each EOC-RPT system may be manually bypassed by use of a keyswitch which is administratively controlled. The manual bypasses and the automatic Operating Bypass at less than ~~30%~~ 25% of RATED THERMAL POWER are annunciated in the control room.

Specified surveillance intervals and surveillance and maintenance outage times have been determined in accordance with the following:

1. NEDC-30851P-A, "Technical Specification Improvement Analyses for BWR Reactor Protection System", March 1988.

TABLE 3.3.1-1

REACTOR PROTECTION SYSTEM INSTRUMENTATION

FUNCTIONAL UNIT	APPLICABLE OPERATIONAL CONDITIONS	MINIMUM OPERABLE CHANNELS PER TRIP SYSTEM (a)	ACTION
1. Intermediate Range Monitors:			
a. Neutron Flux - High	2	3	1
	3, 4	2	2
	5[b]	3	3
b. Inoperative	2	3	1
	3, 4	2	2
	5	3	3
2. Average Power Range Monitor:[c]			
a. Neutron Flux - High, Setdown	2	2	1
	3	2	2
	5[b]	2	3
b. Flow Biased Simulated Thermal Power-Upscale	1	2	4
c. Fixed Neutron Flux-High	1	2	4
d. Inoperative	1, 2	2	1
	3	2	2
	5	2	3
3. Reactor Vessel Steam Dome Pressure - High	1, 2[d]	2	1
4. Reactor Vessel Water Level - Low, Level 3	1, 2	2	1
5. Main Steam Line Isolation Valve - Closure	1[e]	4	4
6. DELETED			

No changes, provided for continuity only.

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TABLE 3.3.1-1 (Continued)

REACTOR PROTECTION SYSTEM INSTRUMENTATION

FUNCTIONAL UNIT	APPLICABLE OPERATIONAL CONDITIONS	MINIMUM OPERABLE CHANNELS PER TRIP SYSTEM (a)	ACTION
7. Primary Containment Pressure - High	1, 2(f)	2(g)	1
8. Scram Discharge Volume Water Level - High	1, 2 5(h)	2 2	1 3
9. Turbine Stop Valve - Closure	1(i)	4(j)	6
10. Turbine Control Valve Fast Closure, Valve Trip System Oil Pressure - Low	1(i)	2(j)	6
11. Reactor Mode Switch Shutdown Position	1, 2 3, 4 5	1 1 1	1 7 3
12. Manual Scram	1, 2 3, 4 5	1 1 1	1 8 9
13. Control Rod Drive			
a. Charging Water Header Pressure - Low	2, 5(h)	2 2	1 3
b. Delay Timer	2, 5(h)	2 2	1 3

No changes, provided for continuity only

TABLE 3.3.1-1 (Continued)

REACTOR PROTECTION SYSTEM INSTRUMENTATION

ACTION STATEMENTS

ACTION 1 - Be in at least HOT SHUTDOWN within 12 hours.

ACTION 2 - Verify all insertable control rods to be inserted in the core and lock the reactor mode switch in the Shutdown position within 1 hour.

ACTION 3 - Suspend all operations involving CORE ALTERATIONS* and insert all insertable control rods within one hour.

ACTION 4 - Be in at least STARTUP within 6 hours.

ACTION 5 - DELETED

ACTION 6 - Initiate a reduction in THERMAL POWER within 15 minutes and reduce turbine first stage pressure to ≤140 psig, equivalent to THERMAL POWER less than 30% of RATED THERMAL POWER, within 2 hours.

ACTION 7 - Verify all insertable control rods to be inserted within 1 hour.

ACTION 8 - Lock the reactor mode switch in the Shutdown position within 1 hour.

ACTION 9 - Suspend all operations involving CORE ALTERATIONS,* and insert all insertable control rods and lock the reactor mode switch in the SHUTDOWN position within 1 hour.

*Except movement of IRM, SRM, or special movable detectors, or replacement of LPRM strings provided SRM instrumentation is OPERABLE per Specification 3.9.2.

TABLE 3.3.1-1 (Continued)

REACTOR PROTECTION SYSTEM INSTRUMENTATION

TABLE NOTATIONS

(a) A channel may be placed in an inoperable status for up to 6 hours for required surveillance without placing the channel in the tripped condition provided at least one OPERABLE channel in the same trip system is monitoring that parameter.

(b) The "shorting links" shall be removed from the RPS circuitry prior to and during the time any control rod is withdrawn* and during shutdown margin demonstrations performed per Specification 3.10.3.

(c) An APRM channel is inoperable if there are less than 2 LPRM inputs per level or less than 14 LPRM inputs to an APRM channel.

(d) This function is not required to be OPERABLE when the reactor pressure vessel head is unbolted or removed per Specification 3.10.1.

(e) This function shall be automatically bypassed when the reactor mode switch is not in the Run position.

(f) This function is not required to be OPERABLE when PRIMARY CONTAINMENT INTEGRITY is not required.

(g) Also actuates the standby gas treatment system.

(h) With any control rod withdrawn. Not applicable to control rods removed per Specification 3.9.10.1 or 3.9.10.2.

not

(i) This function shall be automatically bypassed when turbine first stage pressure is ≤ 140 psig, equivalent to THERMAL POWER less than 30% of RATED THERMAL POWER.

is greater than or equal to 25%

(j) Also actuates the EOC-RPT system.

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* Not required for control rods removed per Specification 3.9.10.1 or 3.9.10.2.

TABLE 4.3.1.1-1

REACTOR PROTECTION SYSTEM INSTRUMENTATION SURVEILLANCE REQUIREMENTS

FUNCTIONAL UNIT	CHANNEL CHECK	CHANNEL FUNCTIONAL TEST	CHANNEL CALIBRATION(a)	OPERATIONAL CONDITIONS FOR WHICH SURVEILLANCE REQUIRED
1. Intermediate Range Monitors				
a. Neutron Flux - High	S/U[b],S	S/U[c], W	R	2*
	S	W	R	3*, 4, 5
b. Inoperative	NA	W	NA	2*, 3*, 4, 5
2. Average Power Range Monitor:[f]				
a. Neutron Flux - High, Setdown	S/U[b],S	S/U[c], W	SA	2*
	S	W	SA	3*, 5
b. Flow Biased Simulated Thermal Power-Upscale	S, D[g]	S/U[c], Q	W[d][e], SA, R[h]	1
c. Fixed Neutron Flux - High	S	S/U[c], Q	W[d], SA	1
d. Inoperative	NA	Q	NA	1, 2, 3, 5
3. Reactor Vessel Steam Dome Pressure - High	NA	Q	Q	1, 2
4. Reactor Vessel Water Level - Low, Level 3	S	Q	R	1, 2
5. Main Steam Line Isolation Valve - Closure	NA	Q	R	1
6. DELETED				
7. Primary Containment Pressure - High	NA	Q	Q	1, 2

No changes, provided for continuity only.

TABLE 4.3.1.1-1 (Continued)

REACTOR PROTECTION SYSTEM INSTRUMENTATION SURVEILLANCE REQUIREMENTS

FUNCTIONAL UNIT	CHANNEL CHECK	CHANNEL FUNCTIONAL TEST	CHANNEL CALIBRATION	OPERATIONAL CONDITIONS FOR WHICH SURVEILLANCE REQUIRED
8. Scram Discharge Volume Water Level - High	NA	Q	R	1, 2, 5
9. Turbine Stop Valve - Closure	NA	Q	R	1
10. Turbine Control Valve Fast Closure Valve Trip System Oil Pressure - Low	NA	Q	R	1
11. Reactor Mode Switch Shutdown Position	NA	R	NA	1, 2, 3, 4, 5
12. Manual Scram	NA	W	NA	1, 2, 3, 4, 5
13. Control Rod Drive				
a. Charging Water Header Pressure - Low	NA	M	R	2, 5
b. Delay Timer	NA	M	R	2, 5

(a) Neutron detectors may be excluded from CHANNEL CALIBRATION.
(b) The IRM and SRM channels shall be determined to overlap for at least 1/2 decades during each startup and the IRM and APRM channels shall be determined to overlap for at least 1/2 decades during each controlled shutdown, if not performed within the previous 7 days.
(c) Within 24 hours prior to startup, if not performed within the previous 7 days.
(d) This calibration shall consist of the adjustment of the APRM channel to conform to the power levels calculated by a heat balance during OPERATIONAL CONDITION 1 when THERMAL POWER ≥ 25% of RATED THERMAL POWER. The APRM Gain Adjustment Factor (GAF) for any channel shall be equal to the power value determined by the heat balance divided by the APRM reading for that channel.

Within 2 hours, adjust any APRM channel with a GAF > 1.02. In addition, adjust any APRM channel within 12 hours, if power is greater than or equal to 90% of RATED THERMAL POWER and the APRM channel GAF is < 0.98. Until any required APRM adjustment has been accomplished, notification shall be posted on the reactor control panel.
(e) This calibration shall consist of the adjustment of the APRM flow biased channel to conform to a calibrated flow signal.
(f) The LPRMs shall be calibrated at least once per 1000 effective full power hours (EFPH).
(g) Measure and compare core flow to rated core flow.
(h) This calibration shall consist of verifying the 6 ± 1 second simulated thermal power time constant.

* The provisions of Specification 4.0.4 are not applicable for a period of 24 hours after entering OPERATIONAL CONDITION 2 or 3 when shutting down from OPERATIONAL CONDITION 1.

INSERT A

INSERT A

(i) At least once per 18 months, verify Turbine Stop Valve – Closure and Turbine Control Valve Fast Closure Valve Trip System Oil Pressure – Low Trip Functions are not bypassed when THERMAL POWER is $\geq$ 25% of RATED THERMAL POWER. Specification 4.0.2 applies to this 18-month interval.

INSTRUMENTATION

END-OF-CYCLE RECIRCULATION PUMP TRIP SYSTEM INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.3.4.2 The end-of-cycle recirculation pump trip (EOC-RPT) system instrumentation channels shown in Table 3.3.4.2-1 shall be OPERABLE with their trip setpoints set consistent with the values shown in the Trip Setpoint column of Table 3.3.4.2-2 and with the END-OF-CYCLE RECIRCULATION PUMP TRIP SYSTEM RESPONSE TIME as shown in Table 3.3.4.2-3.

APPLICABILITY: OPERATIONAL CONDITION 1, when THERMAL POWER is greater than or equal to ~~30%~~ 25% of RATED THERMAL POWER.

ACTION:

a. With an end-of-cycle recirculation pump trip system instrumentation channel trip setpoint less conservative than the value shown in the Allowable Values column of Table 3.3.4.2-2, declare the channel inoperable until the channel is restored to OPERABLE status with the channel setpoint adjusted consistent with the Trip Setpoint value.

b. With the number of OPERABLE channels one less than required by the Minimum OPERABLE Channels per Trip System requirement for one or both trip systems, place the inoperable channel(s) in the tripped condition within 12 hours.

c. With the number of OPERABLE channels two or more less than required by the Minimum OPERABLE Channels per Trip System requirement(s) for one trip system and:

   1. If the inoperable channels consist of one turbine control valve channel and one turbine stop valve channel, place both inoperable channels in the tripped condition within 12 hours.

   2. If the inoperable channels include two turbine control valve channels or two turbine stop valve channels, declare the trip system inoperable.

d. With one trip system inoperable, restore the inoperable trip system to OPERABLE status within 72 hours, otherwise, either:

   1. Increase the MINIMUM CRITICAL POWER (MCPR) Limiting Condition for Operation (LCO) to the EOC-RPT inoperable value per Specification 3.2.3 within the next 1 hour, or

   2. Reduce THERMAL POWER to less than ~~30%~~ 25% of RATED THERMAL POWER within the next 6 hours.

e. With both trip systems inoperable, restore at least one trip system to OPERABLE status within 1 hour, otherwise, either:

   1. Increase the MINIMUM CRITICAL POWER (MCPR) Limiting Condition for Operation (LCO) to the EOC-RPT inoperable value per Specification 3.2.3 within the next 1 hour, or

   2. Reduce THERMAL POWER to less than ~~30%~~ 25% RATED THERMAL POWER within the next 6 hours.

No changes, provided for continuity only.

INSTRUMENTATION

SURVEILLANCE REQUIREMENTS

4.3.4.2.1 Each end-of-cycle recirculation pump trip system instrumentation channel shall be demonstrated OPERABLE by the performance of the CHANNEL FUNCTIONAL TEST and CHANNEL CALIBRATION operations at the frequencies shown in Table 4.3.4.2.1-1.

4.3.4.2.2 LOGIC SYSTEM FUNCTIONAL TESTS and simulated automatic operation of all channels shall be performed at least once per 18 months.

4.3.4.2.3 The END-OF-CYCLE RECIRCULATION PUMP TRIP SYSTEM RESPONSE TIME of each trip function shown in Table 3.3.4.2-3 shall be demonstrated to be within its limit at least once per 18 months. Each test shall include at least the logic of one type of channel input, turbine control valve fast closure or turbine stop valve closure, such that both types of channel inputs are tested at least once per 36 months. The time allotted for breaker arc suppression shall be verified by test at least once per 60 months.

TABLE 3.3.4.2-1

END-OF-CYCLE RECIRCULATION PUMP TRIP SYSTEM INSTRUMENTATION

TRIP FUNCTION	MINIMUM OPERABLE CHANNELS PER TRIP SYSTEM[a]
1. Turbine Stop Valve - Closure	2[b]
2. Turbine Control Valve - Fast Closure	2[b]

(a) A trip system may be placed in an inoperable status for up to 6 hours for required surveillance provided that the other trip system is OPERABLE.

(b) This function shall be automatically bypassed when turbine first stage pressure is less than or equal to 140 psig, equivalent to THERMAL POWER less than 30% of RATED THERMAL POWER.

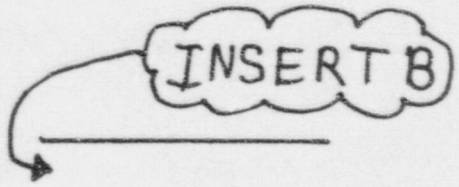
not

is greater than or equal to 25%

TABLE 4.3.4.2.1-1

END-OF-CYCLE RECIRCULATION PUMP TRIP SYSTEM SURVEILLANCE REQUIREMENTS

TRIP FUNCTION	CHANNEL FUNCTIONAL TEST	CHANNEL CALIBRATION
1. Turbine Stop Valve Closure (a)	Q	R
2. Turbine Control Valve-Fast Closure (a)	Q	R



INSERT B

(a) At least once per 18 months, verify Turbine Stop Valve - Closure and Turbine Control Valve - Fast Closure Trip Functions are not bypassed when THERMAL POWER is $\geq$ 25% of RATED THERMAL POWER. Specification 4.0.2 applies to this 18-month interval.

3/4.3.3 EMERGENCY CORE COOLING SYSTEM ACTUATION INSTRUMENTATION (continued)

Specified surveillance intervals and surveillance and maintenance outage times have been determined in accordance with NEDC-30936P-A, "Technical Specification Improvement Methodology (With Demonstration for BWR ECCS Actuation Instrumentation)", Parts 1 and 2, December 1988, and RE-025 Revision 1, "Technical Specification Improvement Analysis for the Emergency Core Cooling System Actuation Instrumentation for LaSalle County Station, Units 1 and 2", April 1991. When a channel is placed in an inoperable status solely for performance of required surveillances, entry into LCO and required ACTIONS may be delayed, provided the associated function maintains ECCS initiation capability.

3/4.3.4 RECIRCULATION PUMP TRIP ACTUATION INSTRUMENTATION

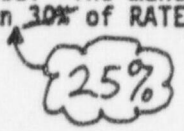
The anticipated transient without scram (ATWS) recirculation pump trip system provides a means of limiting the consequences of the unlikely occurrence of a failure to scram during an anticipated transient. The response of the plant to this postulated event falls within the envelope of study events in General Electric Company Topical Report NEDO-10349, dated March 1971 and NEDO-24222, dated December, 1979, and Appendix G of the FSAR.

The end-of-cycle recirculation pump trip (EOC-RPT) system is a part of the Reactor Protection System and is an essential safety supplement to the reactor trip. The purpose of the EOC-RPT is to recover the loss of thermal margin which occurs at the end-of-cycle. The physical phenomenon involved is that the void reactivity feedback due to a pressurization transient can add positive reactivity to the reactor system at a faster rate than the control rods add negative scram reactivity. Each EOC-RPT system trips both recirculation pumps, reducing coolant flow in order to reduce the void collapse in the core during two of the most limiting pressurization events. The two events for which the EOC-RPT protective feature will function are closure of the turbine stop valves and fast closure of the turbine control valves.

Analyses were performed to support continued operation with one or both trip systems of the EOC-RPT inoperable. The analyses provide MINIMUM CRITICAL POWER RATIO (MCPR) values which must be used if the EOC-RPT system is inoperable. These MCPR limits are included in the COLR and ensure that adequate margin to the MCPR safety limit exists with the EOC-RPT function inoperable. Application of these limits are discussed further in the bases for Specification 3.2.3.

A fast closure sensor from each of two turbine control valves provides input to the EOC-RPT system; a fast closure sensor from each of the other two turbine control valves provides input to the second EOC-RPT system. Similarly, a position switch for each of two turbine stop valves provides input to one EOC-RPT system; a position switch from each of the other two stop valves provides input to the other EOC-RPT system. For each EOC-RPT system, the sensor relay contacts are arranged to form a 2-out-of-2 logic for the fast closure of turbine control valves and a 2-out-of-2 logic for the turbine stop valves. The operation of either logic will actuate the EOC-RPT system and trip both recirculation pumps.

Each EOC-RPT system may be manually bypassed by use of a keyswitch which is administratively controlled. The manual bypasses and the automatic Operating Bypass at less than 30% of RATED THERMAL POWER are annunciated in the control room.



ATTACHMENT C

LASALLE COUNTY STATION

EVALUATION OF SIGNIFICANT HAZARD CONSIDERATIONS
FOR PROPOSED CHANGES TO

FACILITY OPERATING LICENSES
NPF-11 AND NPF-18

APPENDIX A TECHNICAL SPECIFICATIONS

ATTACHMENT C

SIGNIFICANT HAZARDS CONSIDERATION

Commonwealth Edison proposes to lower the current setpoint for the bypass of Turbine Control Valve (TCV) and Turbine Stop Valve (TSV) closure scram signals and End-of-Cycle Recirculation Pump Trip (EOC-RPT) signals. Reduction of the bypass setpoint (P_{bypass}) results in simplified reload transient analyses and lower required core thermal operating limits. The analyses currently require more restrictive thermal limits between 25% and 30% of Rated Thermal Power, because the anticipatory TCV and TSV closure scrams do not occur and cannot be credited in the analyses. Therefore, by lowering P_{bypass} to 25% of Rated Thermal Power, the complexity of reload analysis is reduced and operating margin is gained. This results in increased operating flexibility.

The P_{bypass} setpoint is based on first stage turbine pressure and is currently set at 140 psig per Technical Specifications 3.3.1 and 3.3.4.2 (equating to 30% core thermal power). It is proposed to be changed to delete reference to the turbine first stage pressure and to decrease P_{bypass} to 25% of Rated Thermal Power. To assure the bypass is maintained, a requirement is added to periodically verify that the TCV and TSV Closure trip functions are not bypassed at greater than or equal to 25% of Rated Thermal Power.

In addition, Technical Specification notes associated with P_{bypass} applicability are proposed to be corrected to accurately enforce the assumptions of the associated cycle specific pressurization analyses.

Commonwealth Edison has evaluated the proposed Technical Specification Amendment and determined that it does not represent a significant hazards consideration. Based on the criteria for defining a significant hazards consideration established in 10CFR50.92, operation of LaSalle County Station Units 1 and 2 in accordance with the proposed amendment will not:

1) Involve a significant increase in the probability of occurrence or consequences of an accident previously evaluated:

   The probability of an accident previously evaluated will not increase as a result of this change because the setpoint change does not alter any of the initiators of an accident or cause them to occur more frequently.

The consequences of an accident previously evaluated are not impacted. LaSalle Units 1 and 2 each have approximately 30% bypass capability. Therefore, a scram on TCV or TSV closure signals is not needed until 30% core thermal power is reached, as adequate steam bypass capacity is available. A lower P_{bypass} remains conservative with respect to this criterion.

LaSalle utilizes power and flow dependent thermal limits. The power dependent portion of these thermal limits is dependent on the P_{bypass} setpoint. These limits provide assurance that adequate fuel thermal-mechanical margin is maintained through adherence to the thermal limits Technical Specification requirements.

Revised thermal limits have been determined based on the results of GE transient analyses. Adhering to these thermal limits ensures that the consequences of an accident or transient would not be increased from the consequences under the approved 30% setpoint. Adjustments to the thermal limits were determined through use of the NRC-approved ODYN reactor dynamic model for the limiting Load Rejection Without Bypass and the Feedwater Controller Failure events.

The deletion of the reference to turbine first stage pressure and rewording the Technical Specification Notes does not affect either accident initiators or plant equipment, as they are administrative changes.

Adding the periodic verification that the bypass channels are set correctly ensures that scrams or EOC-RPT will not be inadvertently bypassed when Thermal Power is greater than or equal to 25% of Rated Thermal Power. The statement that specification 4.0.2 applies to the 18 month interval is needed, since the notes are not standard surveillance requirements and the interval is consistent with other similar instrumentation to which 4.0.2 currently applies.

Therefore, the proposed changes do not involve a significant increase in the probability of occurrence or consequences of an accident previously evaluated.

2) Create the possibility of a new or different kind of accident from any accident previously evaluated:

The setpoint change and proposed bypass verification notes ensure that the scrams for TSV closure and TCV fast closure, and EOC-RPT, will be enabled above 25% of rated thermal power, rather than above 30% of rated thermal power. This change results in simplified reload transient analyses and does not impact any other equipment.

No other physical modifications are being proposed by this submittal. The only plant operational impact is that between 25% and 30% power, the plant will now scram upon a turbine trip, which is an analyzed transient.

The remaining changes to Technical Specification wording are administrative in nature and consistent with other Technical Specifications.

Therefore, the proposed changes do not create the possibility of a new or different kind of accident from any accident previously evaluated.

3) Involve a significant reduction in the margin of safety:

LaSalle Units 1 and 2 each have approximately 30% bypass capability. Therefore, a scram on TCV or TSV closure signals is not needed until 30% core thermal power is reached, as adequate steam bypass capacity is available. However, reduction of this setpoint to 25% power actually aids the plant transient response between 25% and 30% power.

The new thermal limits reflect the revised setpoint and have been determined based on revised limiting transient analyses that have included the new P_{bypass} value. If a transient were to occur, the revised operating limits ensure that adequate margin would be available to preclude violation of the Minimum Critical Power Ratio (MCPR) safety limit and the fuel thermal-mechanical limits.

All other UFSAR events are either bounded by the analyses performed or are not impacted by the P_{bypass} change.

The wording changes to the Technical Specifications do not change the requirement for the bypass function and for maintaining the bypass function and thus do not affect the analyses discussed above.

The addition of the Notes periodically verifying the TCV and TSV Closure Trip Functions are not bypassed at greater than or equal to 25% of Rated Thermal Power ensures the trip functions will not be inadvertently bypassed when required to be Operable.

Therefore, the proposed changes do not involve a significant reduction in the margin of safety.

This proposed amendment does not involve a significant relaxation of the criteria used to establish safety limits, a significant relaxation of the bases for the limiting safety system settings, or a significant relaxation of the bases for the limiting conditions for operations. Therefore, based on the guidance provided in the Federal Register and the criteria established in 10CFR50.92(c), the proposed change does not constitute a significant hazards consideration.

ATTACHMENT D

LASALLE COUNTY STATION

ENVIRONMENTAL ASSESSMENT STATEMENT
FOR PROPOSED CHANGES TO

FACILITY OPERATING LICENSES
NPF-11 AND NPF-18

APPENDIX A TECHNICAL SPECIFICATIONS

ATTACHMENT D

ENVIRONMENTAL ASSESSMENT STATEMENT APPLICABILITY REVIEW

ComEd has evaluated this proposed operating license amendment request against the criteria for identification of licensing and regulatory actions requiring environmental assessment in accordance with 10 CFR 51.21. ComEd has determined that the proposed license amendment request meets the criteria for a categorical exclusion set forth in 10 CFR 51.22(c)(9) and as such, has determined that no irreversible consequences exist in accordance with 10 CFR 50.92(b). This determination is based on the fact that this change is being proposed as an amendment to a license issued pursuant to 10 CFR 50 that changes a requirement with respect to installation or use of a facility component located within the restricted area, as defined in 10 CFR 20, or that change an inspection or a surveillance requirement, and the amendment meets the following specific criteria:

(i) The amendment involves no significant hazards consideration.

As demonstrated in Attachment C, this proposed amendment does not involve any significant hazards consideration.

(ii) There is no significant change in the types or significant increase in the amounts of any effluent that may be released offsite.

As documented in Attachment A, there will be no change in the types or significant increase in the amounts of any effluents released offsite.

(iii) There is no significant increase in individual or cumulative occupational radiation exposure.

The proposed changes will not result in changes in the operation or configuration of the facility. There will be no change in the level of controls or methodology used for processing of radioactive effluents or handling of solid radioactive waste, nor will the proposal result in any change in the normal radiation levels within the plant. Therefore, there will be no increase in individual or cumulative occupational radiation exposure resulting from this change.

ATTACHMENT E

GE ARTS IMPROVEMENT PROGRAM ANALYSIS

FOR

LASALLE COUNTY NUCLEAR STATION, UNITS 1 AND 2

REMOVAL OF DIRECT SCRAM BYPASSED LIMITS

ATTACHMENT G

NON-PROPRIETARY INFORMATION

EXTRACTED FROM

GENERAL ELECTRIC REPORT

Attachment G

Non-Proprietary Information

General Electric performed an evaluation to allow for changes to the ARTS basis for LaSalle Units 1 and 2. A change in the direct scram bypass power level (P_{bypass}) from 30% to 25% was analyzed. The change in power level to 25 % would effectively eliminate the below P_{bypass} thermal limits because thermal limits are not currently required to be known below 25% thermal power. In addition, the evaluation analyzed the effect of both a revision to the ARTS basis assumed vessel dome pressure vs power to a new power dependent range specified by ComEd and a revision to the LaSalle APRM flux scram setpoint from 122.4 to 124.2.

Results of the evaluation are presented in NEDC-31531P, Supplement 1, "ARTS Improvement Program Analysis for LaSalle County Nuclear Station, Units 1 and 2: Removal of Direct Scram Bypassed Limits", dated September 1998. The tables and figures on the following pages contain the non-proprietary information that was able to be extracted from the GE report. They show assumed analysis conditions, plant response to the transients that were analyzed, and resultant thermal limits requirements. The remaining portion of NEDC-31531P, Supplement 1 is proprietary.

Table 1 Initial Conditions

Parameter	Analysis Value
Thermal power, MWt	830.75
Core flow, Mlb/hr	113.93
Inlet enthalpy, Btu/lb	527.9
Steam flow, Mlb/hr	2.89
Feedwater Temperature, °F	236.1 (FWTR assumed)
Dome pressure, psig	933

Table 2 Summary of Core Wide Transient Results

AOO	Initial Power/ Flow	Peak Neutron Flux (% NBR)	Peak Heat Flux (% initial)	Equipt Out of Service	GE9B ΔCPR
ICF / Normal Feedwater Temp					
LRNBP	100/105	491	119	None	0.20
LRNBP	100/105	595	124	RPT	0.24
FWCF	100/105	529	125	TBV	0.24
ICF / Reduced Feedwater Temp					
FWCF	100/105	345	121	None	0.18
FWCF	100/105	467	126	TBV	0.23
FWCF	25/105	59	154	None	0.59
FWCF	25/105	69	160	RPT	0.63
FWCF	25/105	80	164	TBV	0.70

Table 3 OLMCPR and Kp Requirements

Limiting AOO	Power	OLMCPR (Opt A)	OLMCPR (Opt B)	Calculated Kp	Generic Kp
No EOOS					
LRNBP	100	1.33	1.29	1.0	1.0
FWCF	25	1.76	1.74	1.35	1.55
RPTOOS					
LRNBP	100	1.37	1.33	1.0	1.0
FWCF	25	1.80	1.78	1.34	1.55
TBVOOS					
FWCF	100	1.35	1.33	1.0	1.0
FWCF	25	1.88	1.86	1.40	1.55

Table 4 TOP/MOP and MAPFAC(p) Requirements

Limiting AOO	Power	TOP	MOP	Calculated MAPFAC(p)	Generic MAPFAC(p)
No EOOS					
LRNBP	100	24.9	25.2	1.0	1.0
FWCF	25	50.1	52.0	0.83	0.61
RPTOOS					
LRNBP	100	30.3	30.6	1.0	1.0
FWCF	25	57.1	59.0	0.83	0.61
TBVOOS					
FWCF	100	28.7	30.0	1.0	1.0
FWCF	25	62.7	64.5	0.79	0.61

Figure 1 Plant Response to FWCF 25% Power / 105 % Flow

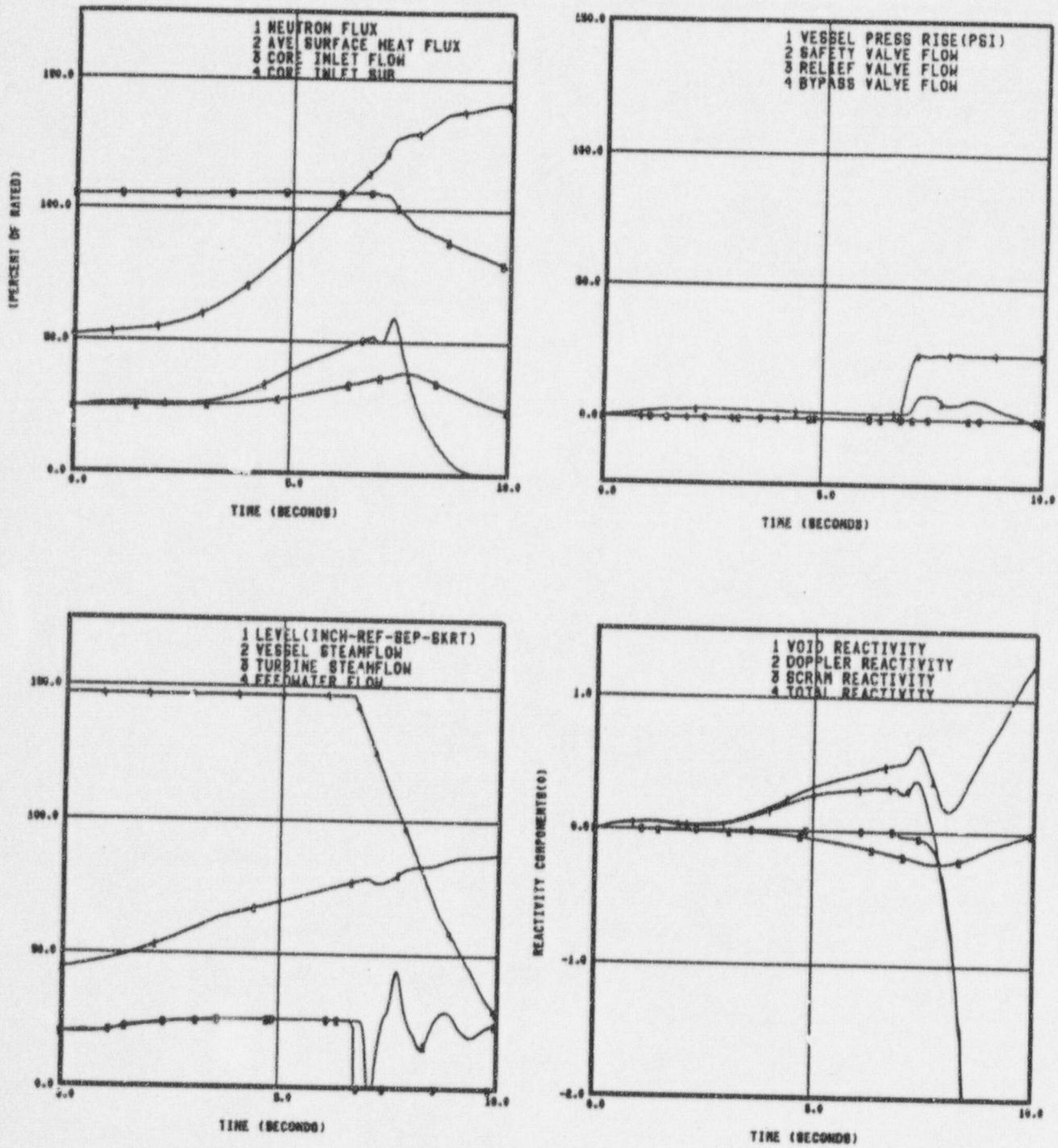


Figure 2 Plant Response to FWCF 25% Power / 105 % Flow without RPT

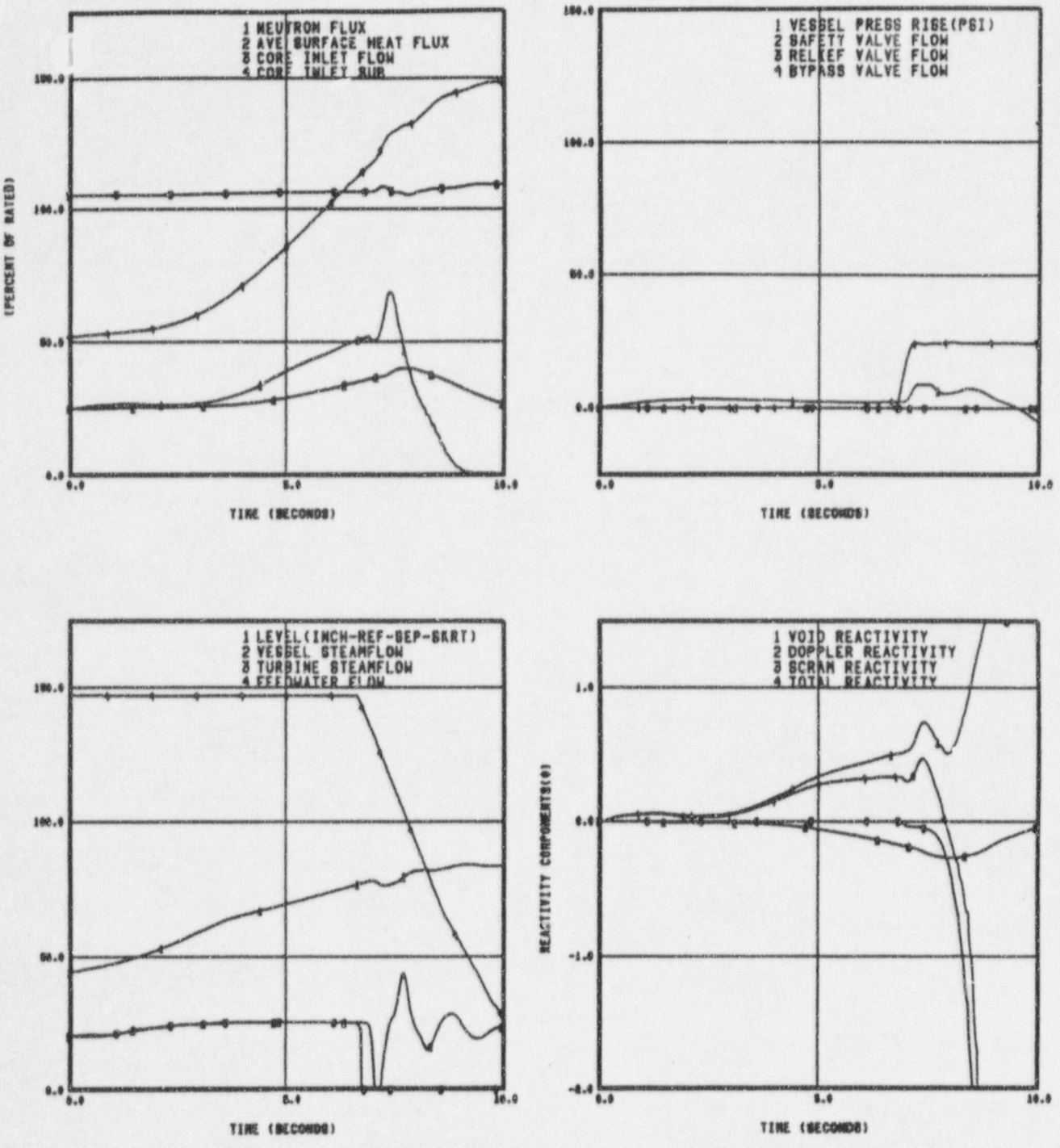


Figure 3 Plant Response to FWCF 25% Power / 105 % Flow without TBV

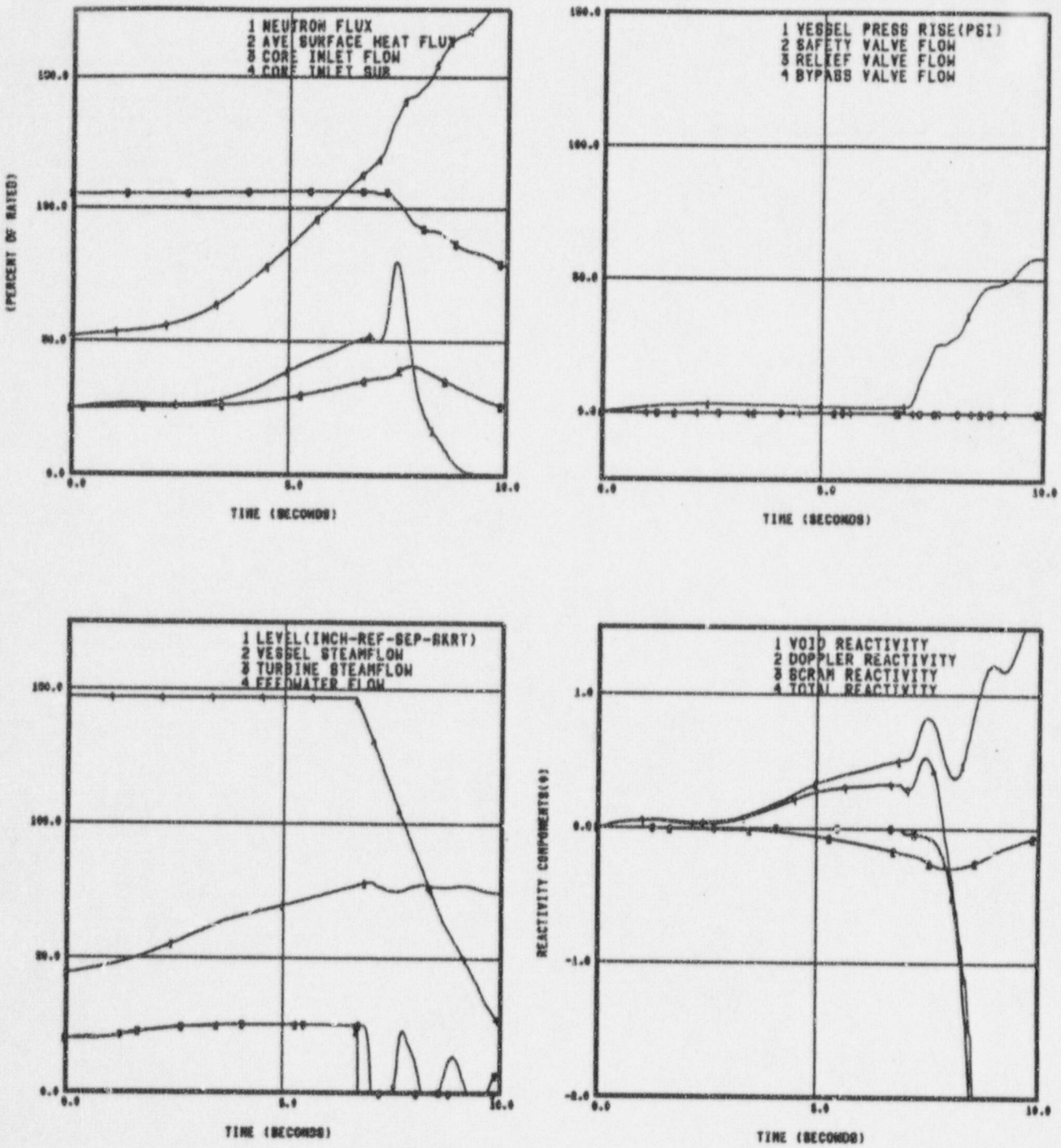


Figure 4 Power-Dependent MCPR Limit for Pbypass at 30%

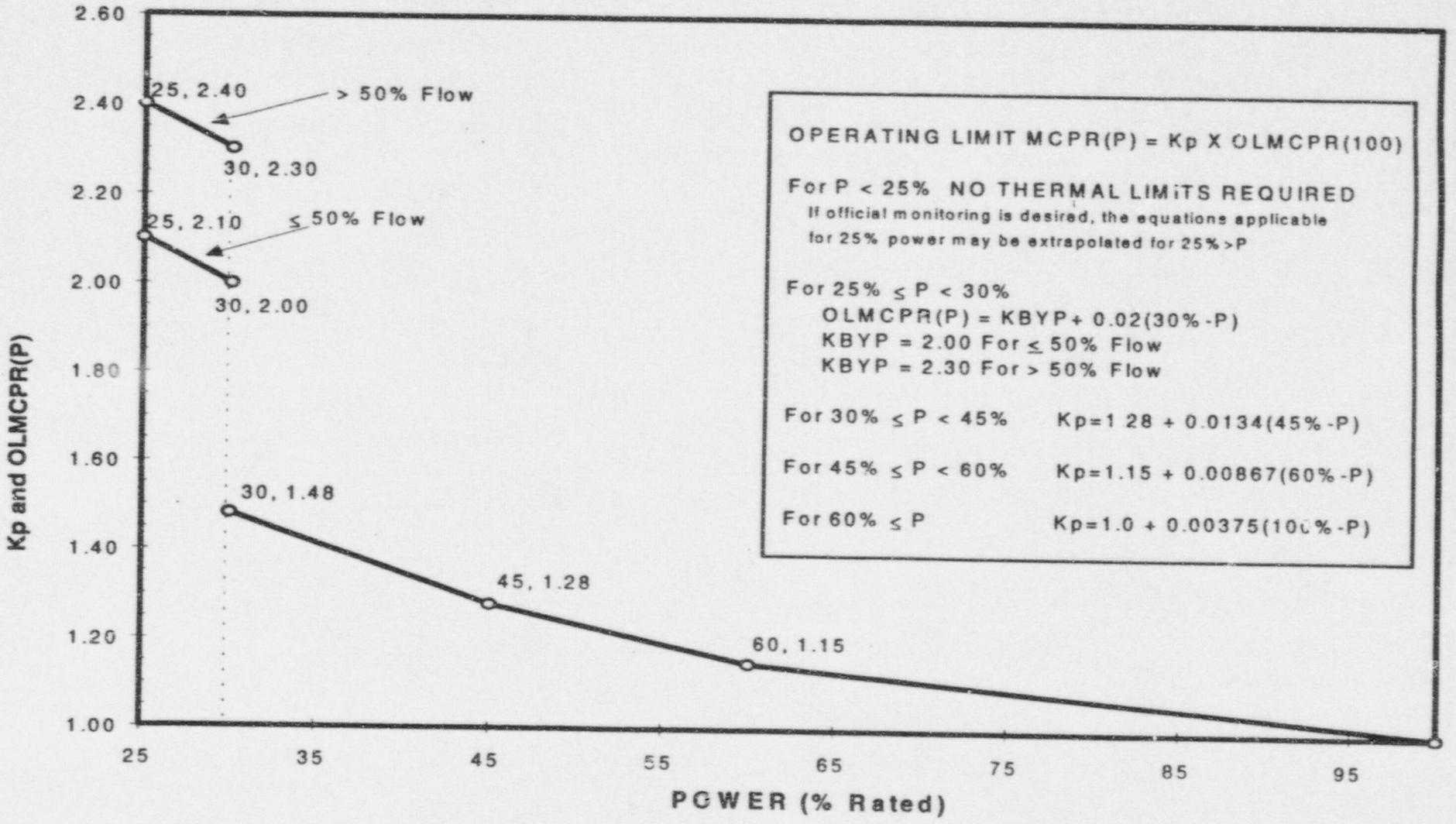


Figure 5 Power-Dependent MCPR Limit for Pbypass at 30% for EOOS Conditions

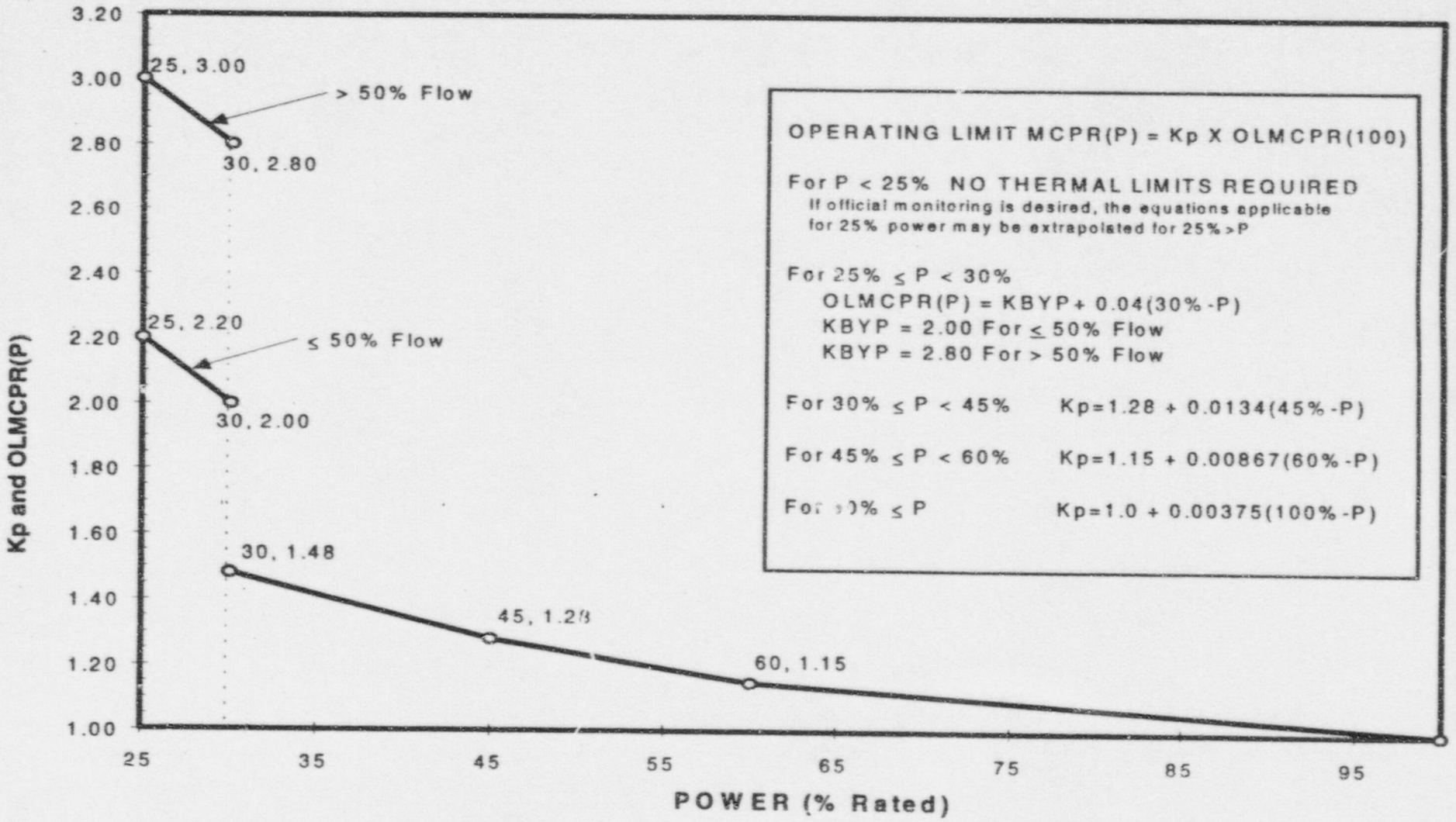


Figure 6 Power-Dependent MAPLHGR Factor for Pbypass at 30%

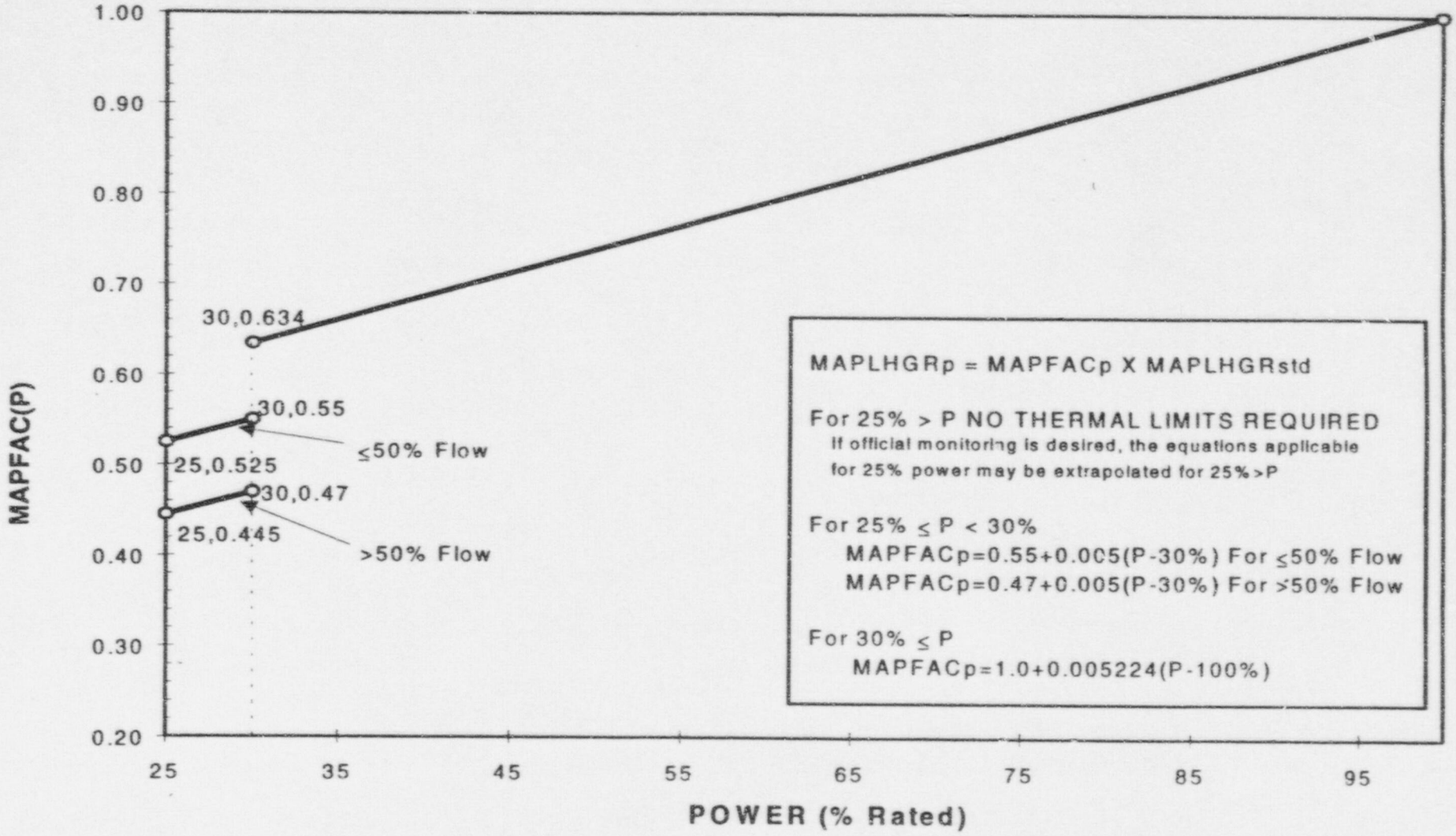


Figure 7 Power-Dependent MCPR Limit for Pbypass at 25%

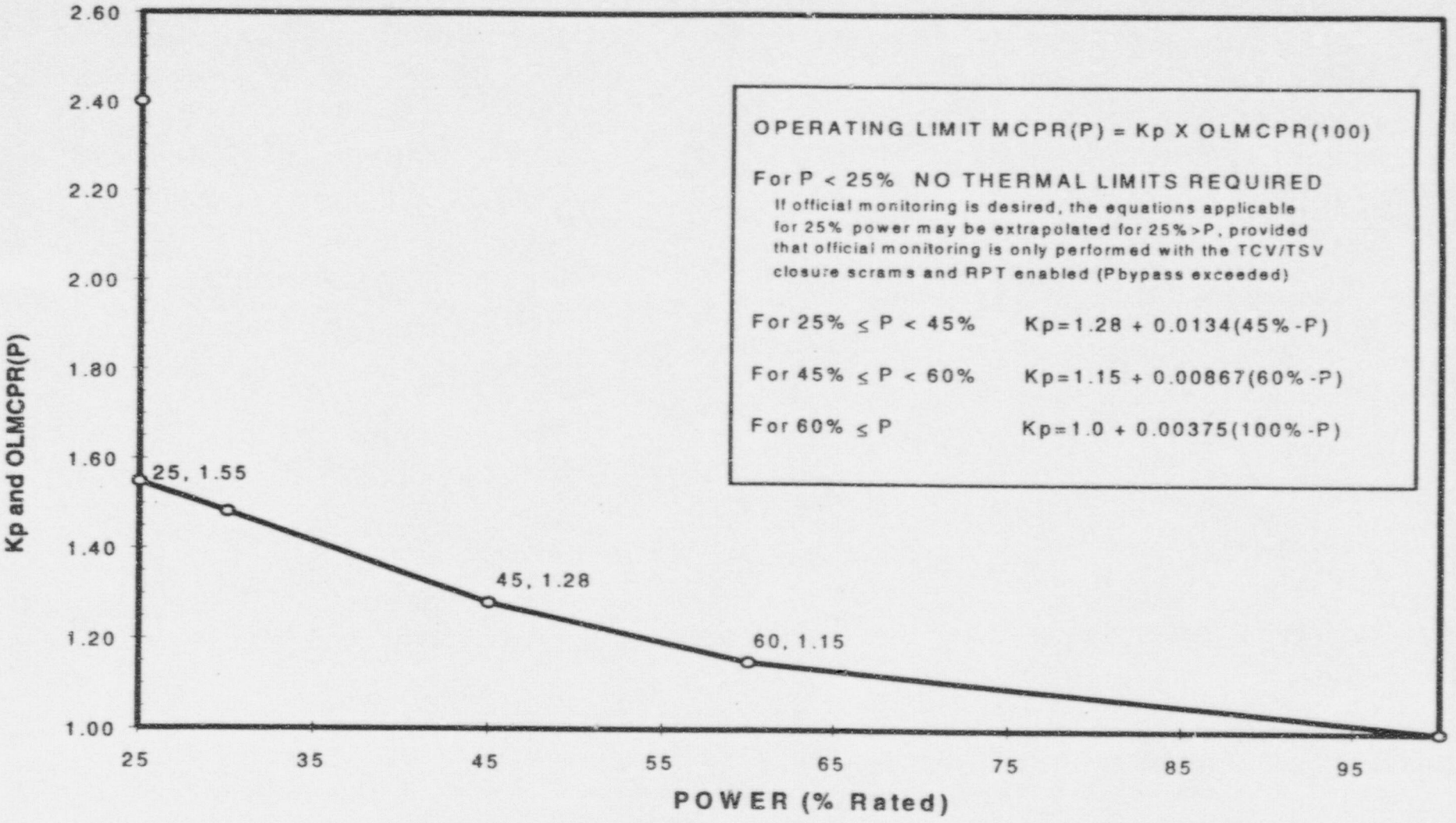


Figure 8 Power-Dependent MAPLHGR Factor for Pbypass at 25%

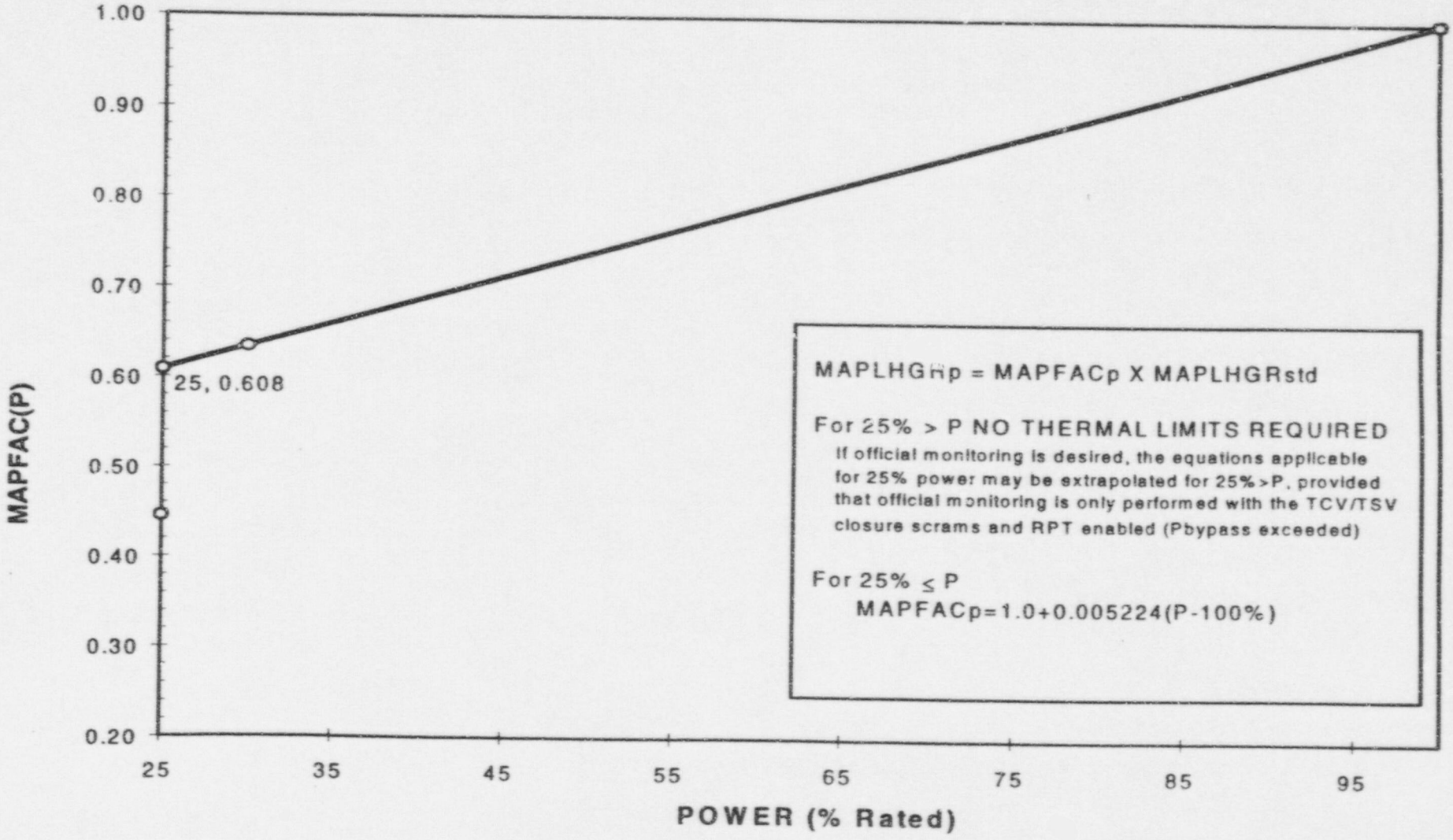


Figure 9 Flow-Dependent MCPR Limit

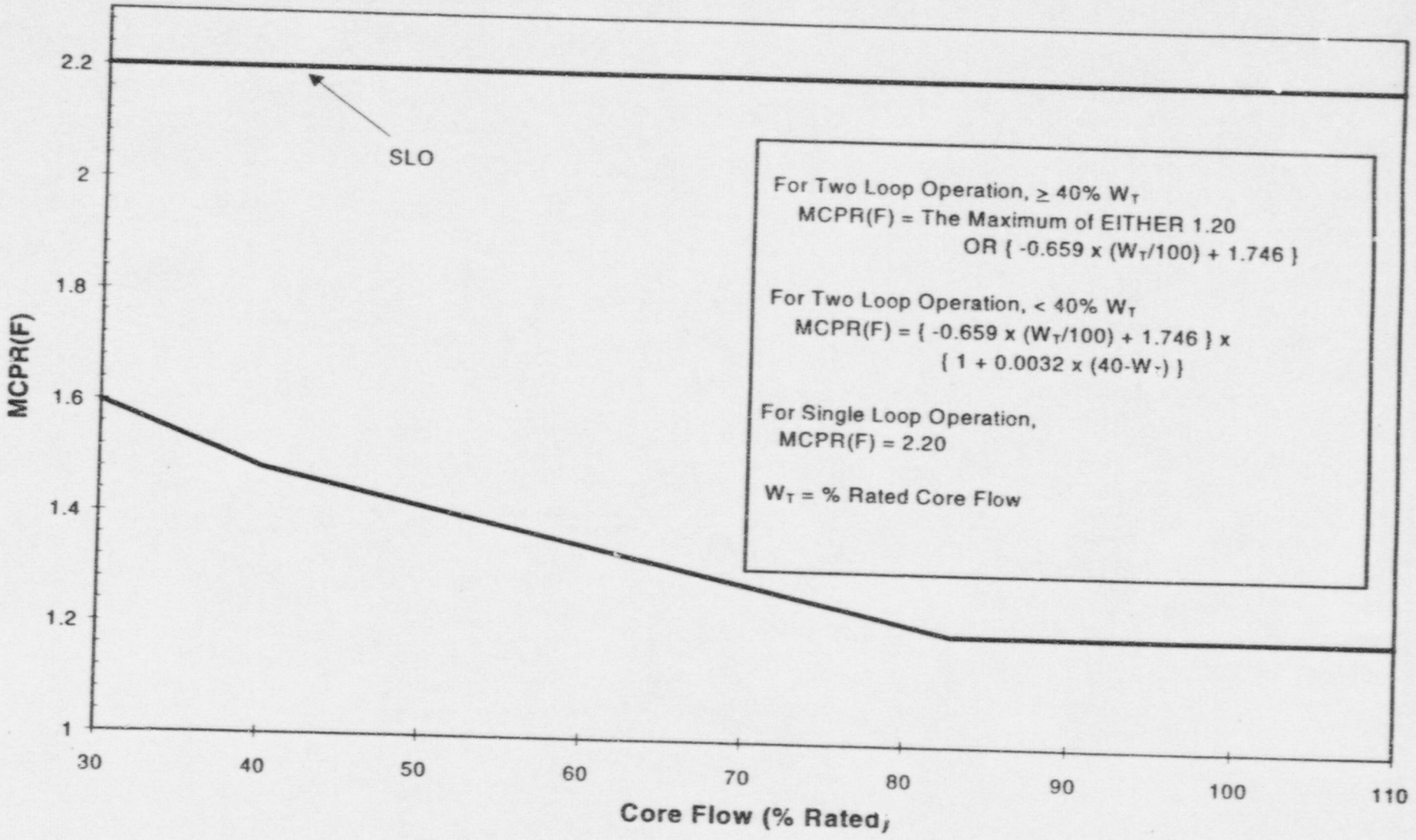


Figure 10 Flow-Dependent MAPLHGR Factor