

Exhibit B

Monticello Nuclear Generating Plant
Revision No. 2 License Amendment Request Dated September 7, 1976

Proposed Changes to the
Technical Specification Pages

Exhibit B consists of revised pages for the Monticello Nuclear
Generating Plant Technical Specifications as listed below:

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114a (new)
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2.0 SAFETY LIMITS

2.1 FUEL CLADDING INTEGRITY

Applicability

Applies to the interrelated variables associated with fuel thermal behavior.

Objective:

To establish limits below which the integrity of the fuel cladding is preserved.

Specification:

- A. Core Thermal Power Limit (Reactor Pressure >800 psia and Core Flow is >10 % of Rated)

When the reactor pressure is >800 psia and core flow is >10 % of rated, the existence of a minimum critical power ratio (MCPR) less than 1.07, for two recirculation loop operation, or less than 1.08 for single loop operation, shall constitute violation of the fuel cladding integrity safety limit.

LIMITING SAFETY SYSTEM SETTINGS

2.3 FUEL CLADDING INTEGRITY

Applicability

Applies to trip settings of the instruments and devices which are provided to prevent the reactor system safety limits from being exceeded.

Objective:

To define the level of the process variables at which automatic protective action is initiated to prevent the safety limits from being exceeded.

Specification:

The Limiting safety system setting shall be as specified below:

- A. Neutron Flux Scram

1. APRM - The APRM flux scram trip setting shall be:

$$S \leq 0.58(W-dw) + 62\%$$

where,

S = Setting in percent of rated thermal power, rated power being 1670 MWT

W = Recirculation drive flow in percent

dw = 0 for two recirculation loop operation

= 5.4 for one recirculation loop operation.

Bases Continued:

that the reactor mode switch be in the startup position where protection of the fuel cladding integrity safety limit is provided by the IRM high neutron flux scram. Thus, the combination of main steam line low pressure isolation and isolation valve closure scram assures the availability of the neutron scram protection over the entire range of applicability of the fuel cladding integrity safety limit.

The operator will set this pressure trip at greater than or equal to 825 psig. However, the actual trip setting can be as much as 10 psi lower due to the deviations discussed on page 39.

References

1. Linford, R. B., "Analytical Methods of Plant Transient Evaluations for the General Electric Boiling Water Reactor", NEDO-10802, Feb., 1973.
2. "Average Power Range Monitor, Rod Block Monitor and Technical Specifications Improvement (ARTS) Program for Monticello Nuclear Generating Plant", NEDC-30492-P, April, 1984.
3. "Monticello Nuclear Generating Plant Single Loop Operation", NEDO-24271, June, 1980.

TABLE 3.2.3
Instrumentation That Initiates Rod Block

Function	Trip Settings	Reactor Modes in Which Function Must be Operable or Operating and Allowable Bypass Condition**			Total No. of Instrument Channel per Trip System	Min. No. of Operable or Operating Instrument Channels per Trip System	Required Conditions
		Refuel	Startup	Run			
1. <u>SRM</u>							
a. Upscale	$\leq 5 \times 10^5$ cps	X	X(d)		2	1 (Note 1, 3, 6)	A or B or C
b. Detector not fully inserted		X(a)	X(a)		2	1 (Note 1, 3, 6)	A or B or C
2. <u>IRM</u>							
a. Downscale	$\geq 3/125$ full scale	X(b)	X(b)		4	2 (Note 1, 4, 6)	A or B or C
b. Upscale	$\leq 108/125$ full scale	X	X		4	2 (Note 1, 4, 6)	A or B or C
3. <u>APRM</u>							
a. Upscale (flow referenced)	$\leq .58(W-dw) + 50\%$ (Note 2)			X	3	1 (Note 1, 6, 7)	D or E
b. Downscale	$\geq 3/125$ full scale			X	3	1 (Note 1, 6, 7)	D or E

Table 3.2.3 - Continued
Instrumentation That Initiates Rod Block

Notes:

- (1) There shall be two operable or operating trip systems for each function. If the minimum number of operable or operating instrument channels cannot be met for one of the two trip systems, this condition may exist up to seven days provided that during this time the operable system is functionally tested immediately and daily thereafter.
- (2) "W" is the reactor recirculation driving flow in percent, $dw = 0$ for two recirculation loop operation, $dw = 5.4$ for single recirculation loop operation.
- (3) Only one of the four SRM channels may be bypassed.
- (4) There must be at least one operable or operating IRM channel monitoring each core quadrant.
- (5) An RMB channel will be considered inoperable if there are less than half the total number of normal inputs.
- (6) Upon discovery that minimum requirements for the number of operable or operating trip systems or instrument channels are not satisfied actions shall be initiated to:
 - (a) Satisfy the requirements by placing appropriate channels or systems in the tripped condition or
 - (b) Place the plant under the specified required conditions using normal operating procedures.
- (7) There must be a total of at least 4 operable or operating APRM channels
- (8) There are 3 upscale trip levels. Only one is applied over a specified operating core thermal power range. All RBM trips are automatically bypassed below 30% thermal power.

3.0 LIMITING CONDITIONS FOR OPERATION

4.0 SURVEILLANCE REQUIREMENTS

3. When irradiated fuel is in the reactor vessel and reactor coolant temperature is less than 212°F, all low pressure core and containment cooling subsystems may be inoperable provided no work is being done which has the potential for draining the reactor vessel except as allowed by specification 3.5.G.4 below.
4. When irradiated fuel is in the reactor vessel and the vessel head is removed, the suppression chamber may be drained completely and no more than one control rod drive housing or instrument thimble opened at any one time provided that the spent fuel pool gates are open and the fuel pool water level is maintained at a level of greater than or equal to 33 feet.

3.0 LIMITING CONDITIONS FOR OPERATION

H. Recirculation System

1. The reactor may be started and operated, or operation may continue with only one recirculation loop in operation provided that:
 - a. The following changes to setpoints and safety limit settings will be made within 24 hours after initiating operation with only one recirculation loop in operation.
 1. The Operating Limit MCPR (MCPR) will be changed per Specification 3.11.C.
 2. The Maximum Average Planar Linear Heat Generation Rate (MAPLHGR) will be changed as noted in Table 3.11.1.
 3. The APRM Neutron Flux Scram and APRM Rod Block setpoints will be changed as noted in Specification 2.3.A and Table 3.2.3.
 - b. Total core flow will be maintained greater than 39% when core thermal power is above the limit specified in Figure 3.5.1.
 - c. Prior to continued operation with only one recirculation pump in operation,
 1. the surveillance requirements of Specification 4.5.H.2 shall be met within 4 hours or,
 2. action shall be taken to:
 - b. reduce total core flow to less than 45% and,
 - b. reduce core thermal power to less than the limit specified in Figure 3.5.1.

3.5/4.5

4.0 SURVEILLANCE REQUIREMENTS

H. Recirculation System

1. See Specification 4.6.G
2. The following baseline noise levels will be obtained prior to operation with only one recirculation pump in operation at a core thermal power greater than that specified in Figure 3.5.1 or with a core flow greater than 45% provided that baseline values have not been established since the last core refueling. Baseline values will be taken with only one recirculation pump running.
 - a. Establish a baseline core plate ΔP noise level.
 - b. Establish a baseline APRM and LPRM neutron flux noise level.
3. With only one recirculation loop in operation at a core thermal power greater than that specified in Figure 3.5.1 or with a core flow greater than 45%, determine the following noise levels at least once per 8 hour period and within 30 minutes after a core thermal power increase of greater than 5% of rated thermal power.
 - a. Core plate ΔP noise levels.
 - b. APRM and LPRM neutron noise levels.

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3.0 LIMITING CONDITIONS FOR OPERATION

4.0 SURVEILLANCE REQUIREMENTS

- d. If the core plate ΔP noise level is found to be greater than 1.0 psi and 2 times its established baseline during the performance of Specification 4.5.H.3, immediately initiate corrective action and restore the noise levels to within the required limits within 2 hours by decreasing core flow and/or initiating an orderly reduction of core thermal power by inserting control rods.
- e. If the APRM and/or LPRM neutron flux noise levels are found to be greater than three times their established baseline values during the performance of Specification 4.5.H.3, immediately initiate corrective action to restore the noise levels to within the required limits within 2 hours by increasing core flow and/or initiating an orderly reduction of core thermal power by inserting control rods.

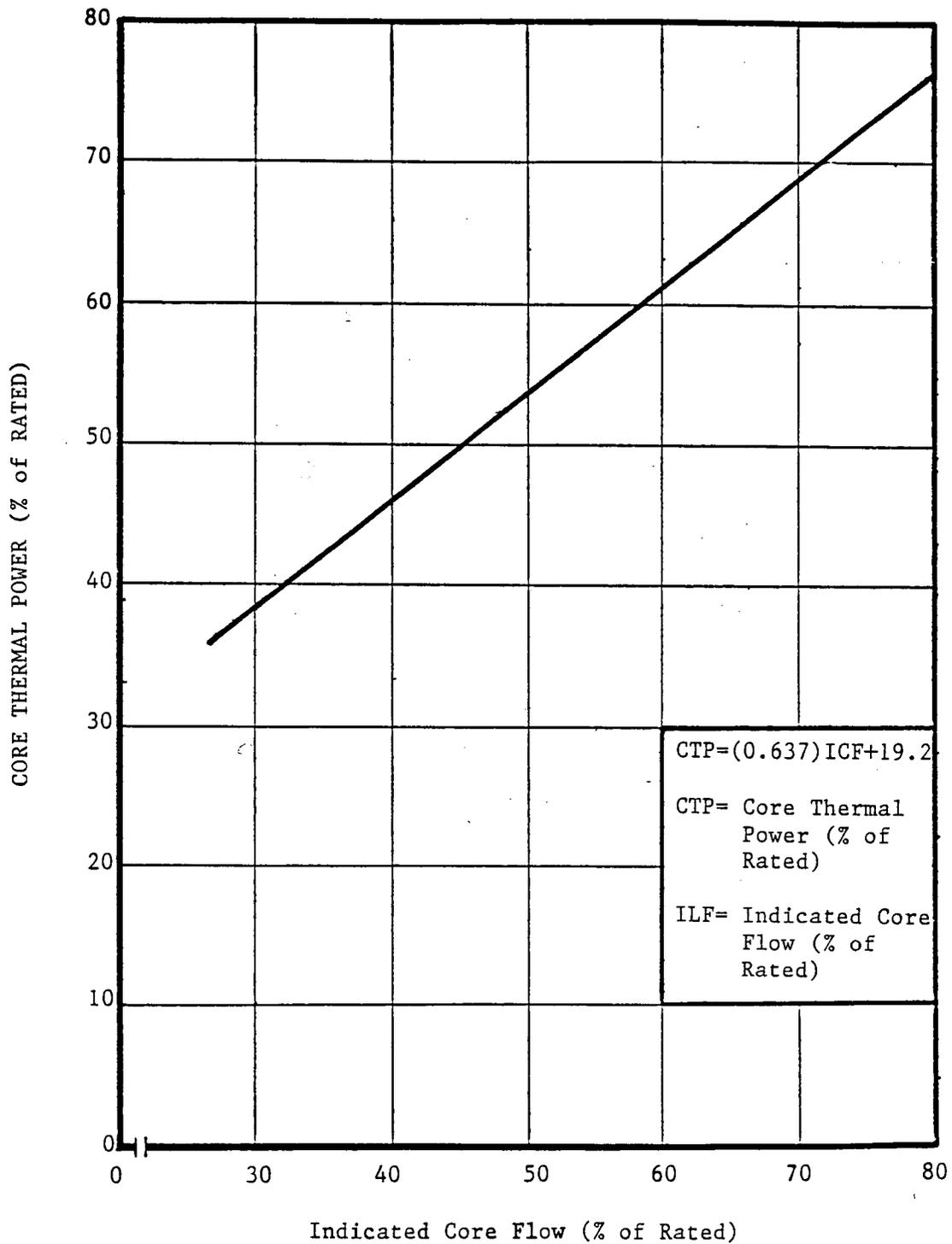


Figure 3.5.1 Single Loop Operation Surveillance Power/Flow Curve

Bases Continued 3.5:

G. Emergency Cooling Availability

The purpose of Specification G is to assure that sufficient core cooling equipment is available at all times. It is during refueling outages that major maintenance is performed and during such time that all core and containment cooling subsystems may be out of service. Specification 3.5.G.3 allows all core and containment cooling subsystems to be inoperable provided no work is being done which has the potential for draining the reactor vessel. Thus events requiring core cooling are precluded.

Specification 3.5.G.4 recognizes that concurrent with control rod drive maintenance during the refueling outage, it may be necessary to drain the suppression chamber for maintenance or for the inspection required by Specification 4.7.A.1. In this situation, a sufficient inventory of water is maintained to assure adequate core cooling in the unlikely event of loss of control rod drive housing or instrument thimble seal integrity.

H. Recirculation System

Specification 3.H.1 is based upon providing assurance that neutron flux limit cycle oscillations, which have a small probability of occurring in the high power/low flow corner of the operating domain, are detected and suppressed. Under certain high power/low flow conditions that could occur during a recirculation pump trip and subsequent Single Loop Operation (SLO) where reverse flow occurs in inactive jet pumps, a hydraulic/reactor kinetic feedback mechanism can be enhanced such that sustained limit cycle oscillations of flow noise with peak to peak levels several times normal values are exhibited. Although large margins to safety limits are maintained when these limit cycle oscillations occur, they are to be monitored for, and suppressed when flux noise exceeds the three time baseline value by inserting rods and/or increasing coolant flow. The line in Figure 3.5.1 is based on the 80% rod line below which the probability of limit cycle oscillations occurring is negligible.

APRM and/or LPRM oscillations in excess of those specified in Specification 3.5.H.1.g could be an indication that a condition of thermal hydraulic instability exists and that appropriate remedial action should be taken. By restricting core flow to greater than or equal to 39% of rated, which corresponds to the core flow at the 80% rod line with 2 recirculation pumps running at minimum speed, the region of the power/flow map where these oscillations are most likely to occur is avoided (Ref. 1).

Above 45% of rated core flow in Single Loop Operation there is the potential to set up high flow-induced noise in the core. Thus, surveillance of core plate ΔP noise is required in this region of the power/flow map to alert the operators to take appropriate remedial action if such a condition exists.

Specification 3.6.A.2 governs the restart of the pump in an idle recirculation loop. Adherence to this specification limits the probability of excessive flux transients and/or thermal stresses.

I. Deleted

References: 1. General Electric Service Information Letter No. 380, Rev. 1, February 10, 1984

3.0 LIMITING CONDITIONS FOR OPERATION

4.0 SURVEILLANCE REQUIREMENTS

3.11 REACTOR FUEL ASSEMBLIES

4.11 REACTOR FUEL ASSEMBLIES

Applicability

The Limiting Conditions for Operation associated with the fuel rods apply to those parameters which monitor the fuel rod operating conditions.

Applicability

The Surveillance Requirements apply to the parameters which monitor the fuel rod operating conditions.

Objective

The objective of the Limiting Conditions for Operation is to assure the performance of the fuel rods.

Objective

The objective of the Surveillance Requirements is to specify the type and frequency of surveillance to be applied to the fuel rods.

Specifications

Specifications

A. Average Planar Linear Heat Generation Rate (APLHGR)

A. Average Planar Linear Heat Generation Rate (APLHGR)

During power operation, the APLHGR for all core locations shall not exceed the appropriate APLHGR limit for those core locations. The APLHGR limit, which is a function of average planar exposure and fuel type, is the appropriate value from Table 3.11.1 (based on a straight line interpolation between data points) for two recirculation loop operation, or 85% of the appropriate value from Table 3.11.1 for one recirculation loop operation, multiplied by the smaller of the two MAPFAC factors determined from Figure 3-3 and 3-5 of Reference 1. If any time during operation it is determined that the limit for APLHGR is being exceeded, action shall be initiated within 15

The APLHGR for each type of fuel as a function of average planar exposure shall be determined daily during reactor operation at $\geq 25\%$ rated thermal power.

3.0 LIMITING CONDITIONS FOR OPERATION

C. Minimum Critical Power Ratio (MCPR)

During power operation, the MCPR shall be equal to or greater than the operating limit MCPR (OLMCPR) which is a function of scram time, core power, core flow, and fuel type. For two recirculation loop operation, the OLMCPR is the greater of:

- the applicable limit determined from Figure 3-4 of Reference 1 or:
 1. Thermal power greater than 45% - The applicable limit from Table 3.11.2 multiplied by the K_0 factor from Figure 3-2 of Reference 1.
 2. Thermal power equal to or less than 45% - The applicable limit from Figure 3-2 of Reference 1.

The OLMCPR limit for one recirculation loop operation is 0.01 higher than the comparable two loop value.

If at any time during operation it is determined that the limiting value for MCPR is being exceeded, action shall be initiated within 15 minutes to restore operation to within the prescribed limits. Surveillance and corresponding action shall continue until reactor operation is within the prescribed limits. If the steady state MCPR is not returned to within the prescribed limits within two (2) hours, the reactor shall be brought to the Cold Shutdown condition within 36 hours.

4.0 SURVEILLANCE REQUIREMENTS

C. Minimum Critical Power Ratio (MCPR)

MCPR shall be determined daily during reactor power operation at $>25\%$ rated thermal power and following any change in power level or distribution which has the potential of bringing the core to its operating MCPR Limit.

TABLE 3.11.1

MAXIMUM AVERAGE PLANAR LINEAR HEAT GENERATION RATE vs EXPOSURE

Exposure MWD/STU	MAPLHGR FOR EACH TYPE (kw/ft)							
	8DB262	8DB250	8DB219L	8DRB265L	P8DRB265L	8DRB282	P8DRB282	P8DRB2841B
200	11.1	11.2	11.4	11.5	11.6	11.2	11.2	11.4
1,000	11.3	11.3	11.5	11.6	11.6	11.2	11.2	11.4
5,000	11.9	11.9	11.9	11.7	11.8	11.6	11.8	11.8
10,000	12.1	12.1	12.0	11.8	11.9	11.7	11.9	11.9
15,000	12.1	12.1	11.9	11.7	11.9	11.7	11.8	11.9
20,000	12.0	11.9	11.8	11.6	11.8	11.5	11.7	11.7
25,000	11.6	11.5	11.3	11.3	11.3	11.3	11.3	11.4
30,000	10.5	10.6	10.2	10.7	10.7	11.1	11.1	10.8
35,000	9.8	9.6	9.7	10.2	10.2	10.4	10.4	10.2
40,000	8.9	9.0	9.1	9.6	9.6	9.8	9.8	9.5

Note: For two recirculation loop operation. For single recirculation loop operation Multiply these values by 0.85.

Bases Continued

This limit was determined based upon bounding analyses for the limiting transient at the given core power level. Further information on MCPR operating limits for off-rated conditions is presented in NEDC-30492-P. (1)

At thermal power levels less than or equal to 25% of rated thermal power, operating plant experience indicates that the resulting MCPR value is in excess of requirements by a considerable margin. MCPR evaluation below this power level is therefore unnecessary. The daily requirement for calculating MCPR above 25% of rated thermal power is sufficient since power distribution shifts are very slow when there have not been significant power or control rod changes.

Those abnormal operational transients, analyzed in FSAR Section 14.5, which result in an automatic reactor scram are not considered a violation of the LCO. Exceeding MCPR limits in such cases need not be reported.

References

1. "Average Power Range Monitor, Rod Block Monitor and Technical Specification Improvement (ARTS) program for Monticello Nuclear Generating Plant", NEDC-30491-P, April, 1984.
2. "Analytical Methods of Plant Transient Evaluations for the GE BWR", NEDO-10802, February, 1973.
3. "Response to NRC Request for Information on OLYN Computer Code", R H Bucholz to P S Check (USNRC), September 28, 1977
4. "General Electric Company Analytical Model for Loss-of-Coolant Analysis in Accordance with 10CFR50, Appendix K", NEDE-20566, November 1975.
5. "Revision of Low Core Flow Effects on LOCA Analysis for Operating BWRs", R L Gridley (GE) to D G Eisenhut (USNRC), September 28, 1977.
6. "Loss-of-Coolant Accident Analysis Report for the Monticello Nuclear Generating Plant", NEDO-24050-1, December, 1980, L O Mayer (NSP) to Director of Nuclear Reactor Regulation (USNRC), February 6, 1981.
7. "Monticello Nuclear Generating Plant Single-Loop Operation", NEDO-24271, July, 1980

Bases 4.11

The APLHGR, LHGR and MCPR shall be checked daily to determine if fuel burnup, or control rod movement have caused changes in power distribution. Since changes due to burnup are slow, and only a few control rods are removed daily, a daily check of power distribution is adequate. For a limiting value to occur below 25% of rated thermal power, an unreasonable large peaking factor would be required, which is not the case for operating control rod sequences. In addition, the MCPR is checked whenever changes in the core power level or distribution are made which have the potential of bringing the fuel rods to their thermal-hydraulic limits.



EXHIBIT C

General Electric Service

February 10, 1984
File Tab A

Information Letter 380 Rev. 1

SIL No. 380
Revision 1
Category 1

BWR CORE THERMAL HYDRAULIC STABILITY

The possibility of thermal hydraulic instability in a BWR has been investigated since the startup of early BWRs. These early tests oscillated a control rod within one notch position and measured the response of the core. For modern higher-power density reactors, pressure perturbation techniques were developed to measure the core stability margins. Based on these tests and analytical models, it has been previously identified (Service Information Letter 380) that the high power/low flow corner of the power/flow map (Figure 1) is the region of least stability margin. This region may be encountered during startup/shutdown, during rod sequence exchanges and as a result of a recirculation pump(s) trip event. Service Information Letter 380 discussed the possibility of increased neutron flux noise and recommended appropriate operator action in the event that neutron flux noise of increased magnitude occurs. As the result of new stability test data, additional information on BWR thermal hydraulic stability has been obtained. As such, this revision of SIL-380 is made to reflect the new information and to provide additional operating recommendations in the unlikely event that thermal hydraulic instability induced neutron flux oscillations occur. This SIL-380, Revision 1, replaces SIL-380 issued August 1982 in its entirety and applies to General Electric BWRs using GE BWR fuel.

DISCUSSION

BWR cores typically operate with the presence of global neutron flux noise in a stable mode which is due to random boiling and flow noise. This noise, although exhibiting a dominant frequency of 0.3 to 0.7 Hz (the natural frequency of the BWR), does not result in sustained limit cycle oscillations since the system is in a stable mode. This occurrence of neutron noise is best characterized by the Average Power Range Monitor (APRM) signal which typically shows neutron flux noise levels of 4-9% (peak-to-peak) at rated power/flow conditions with two recirculation pumps in operation. During single recirculation pump operation (SLO), neutron noise levels of 4-12% of rated (peak-to-peak) have been reported for the range of low to high recirculation pump speed.



As the power/flow conditions are changed, along with other system parameters (pressure, subcooling, power distribution, etc.) the thermal hydraulic/reactor kinetic feedback mechanism can be enhanced such that random perturbations may result in sustained limit cycle oscillations in power and flow at the dominant frequency of 0.3 to 0.7 Hz. These conditions are most likely to occur at the high power/low flow corner of the power/flow map (Figure 1). Previous stability tests at an operating plant demonstrated the occurrence of limit cycle neutron flux oscillations (as seen by the APRM recordings) at the intersection of the rated rod line and natural circulation flow. These oscillations were readily observed on the APRM recorders and were easily suppressed by the insertion of several control rod notches. In addition, examinations of the individual Local Power Range Monitors (LPRM) indicated that all of the LPRMs were oscillating in phase. Recent stability tests at another plant have also demonstrated the occurrence of limit cycle neutron flux oscillations at natural circulation and several percent above the rated rod line. The oscillations were again observable on the APRMs and suppressed by minimal control rod insertion. It was predicted that limit cycle oscillations would occur at the operating state tested; however, the characteristics of the observed oscillations were different than those previously observed at other stability tests. Examination of the detailed test data of these most recent tests showed that some LPRMs oscillated out of phase with the APRM signal and at higher amplitudes than the core average. Although the local oscillations were larger than the core average, very large margin to safety limits was maintained and the oscillations were detectable and easily suppressed by minimal control rod insertion.

Four hundred twenty reactor years of BWR operating experience (including 150 years of high power density plant operation) have demonstrated that instabilities in BWRs are unlikely at or above natural circulation flow rate and below the rated rod line. In addition since these instabilities are a function of power/flow ratio, they are even less likely to occur in the lower power density designs (BWR/2-3). However, the above tests along with limit cycle oscillations that have been encountered at operating reactors at minimum forced circulation above the rated rod line demonstrate that oscillations may occur at unique operating states.

In summary, as demonstrated by tests and operating experience at BWRs, these oscillations are observable on the neutron monitoring system and can be readily suppressed by control rod insertion (or core flow increase if possible). In addition, the most recent tests indicate that local regions may exhibit characteristics different from those of the core average, therefore the operators should follow the recommendations to observe and mitigate limit cycle oscillations should they occur. Because of their low power density design, these recommendations are for "information only" to BWR2-3 operators.

RECOMMENDATIONS

General Electric recommends that BWR operators using GE BWR fuel monitor the inherent neutron flux signals and avoid or control abnormal neutron flux oscillations (with particular attention to the region of sensitivity in Figure 1 where the probability of sustained neutron flux oscillations increases) as follows:

1. Become familiar and aware of your plants normal average power range monitor (APRM) and local power range monitor (LPRM) peak-to-peak neutron flux for all operating regions of the power/flow map and for all operating modes (e.g., two loop and single loop operation). In particular establish an expected APRM and LPRM peak-to-peak signal for your plant at various operating states and also for special operating modes (i.e., SLO) if these modes will be used. The expected APRM noise amplitude can be easily determined from past steady state strip chart recordings or can be established based on current operating conditions.
2. Whenever making APRM or LPRM readings, verify that the neutron flux noise level is normal. If there is any abnormal increase in the neutron flux response follow the recommendations in Section 6d to suppress the abnormal noise signal.
3. The LPRM gains should be properly calibrated as per current plant procedures. This will permit the LPRM upscale alarm trip setpoints to be set as high as full scale while providing appropriate indication against unacceptable reduction in thermal margin because of power oscillations. The LPRM upscale alarm indicators should be regularly monitored and all upscale alarms should be investigated to determine the cause and to assure that local limits are not being exceeded.
4. Whenever changes are made or happen that cause reactor power to change, monitor the power change on the APRMs and locally on the LPRMs surrounding control rod movement to become familiar with the expected neutron flux signal characteristics.
5. If a recirculation pump(s) trip event results in operation in region 1 of Figure 2:
 - a. Immediately reduce power by inserting control rods to or below the 80% rod line using the plant's prescribed control rod shutdown insertion sequence.

- b. After inserting control rods, frequently monitor the APRMs and monitor the local regions of the core by using the control rod select switch to display the various LPRM strings which surround the selected control rod. A minimum of nine control rods should be selected to adequately display LPRMs representing each octant of the core and the core center (Figure 3). If there is any abnormal increase in the expected signals, insert additional control rods to suppress the oscillations using the plant's prescribed control rod shutdown insertion sequence.
 - c. After inserting control rods, monitor the LPRM upscale alarm indicators and verify (using recommendation 5b) that any LPRM upscale alarms which are received are not the result of neutron flux limit cycle oscillations.
 - d. When restarting recirculation pumps (or switching from low to high frequency speed for flow control valve plants), the operation should be performed below the 80% rod line.
 - e. Once pumps have been restarted and recovery to power is to commence, follow the recommendations in Section 6.
6. When withdrawing control rods during startup in region 2 of Figure 2:
- a. Monitor the APRMs and the LPRMs surrounding control rod movement continually as power is being increased or flow is being reduced for any abnormal increase in the normal neutron flux response.
 - b. Monitor the LPRM upscale alarm indicators and verify (using recommendation 5b) that any LPRM upscale alarms which are received are not the result of neutron flux limit cycle oscillations.
 - c. Operate the core in as symmetric a mode as possible to avoid asymmetric power distributions. When possible, control rods should be moved in octant (sequence A) and quadrant mirror (sequence B) symmetric patterns. Control rod movement should be restricted to no more than 2 feet at a time and control rods within a symmetric rod group should be within 2 feet of each other at all times. For BWR/6 plants with ganged rod withdrawal, control rods should be moved in gangs as much as possible to maintain symmetric rod patterns.

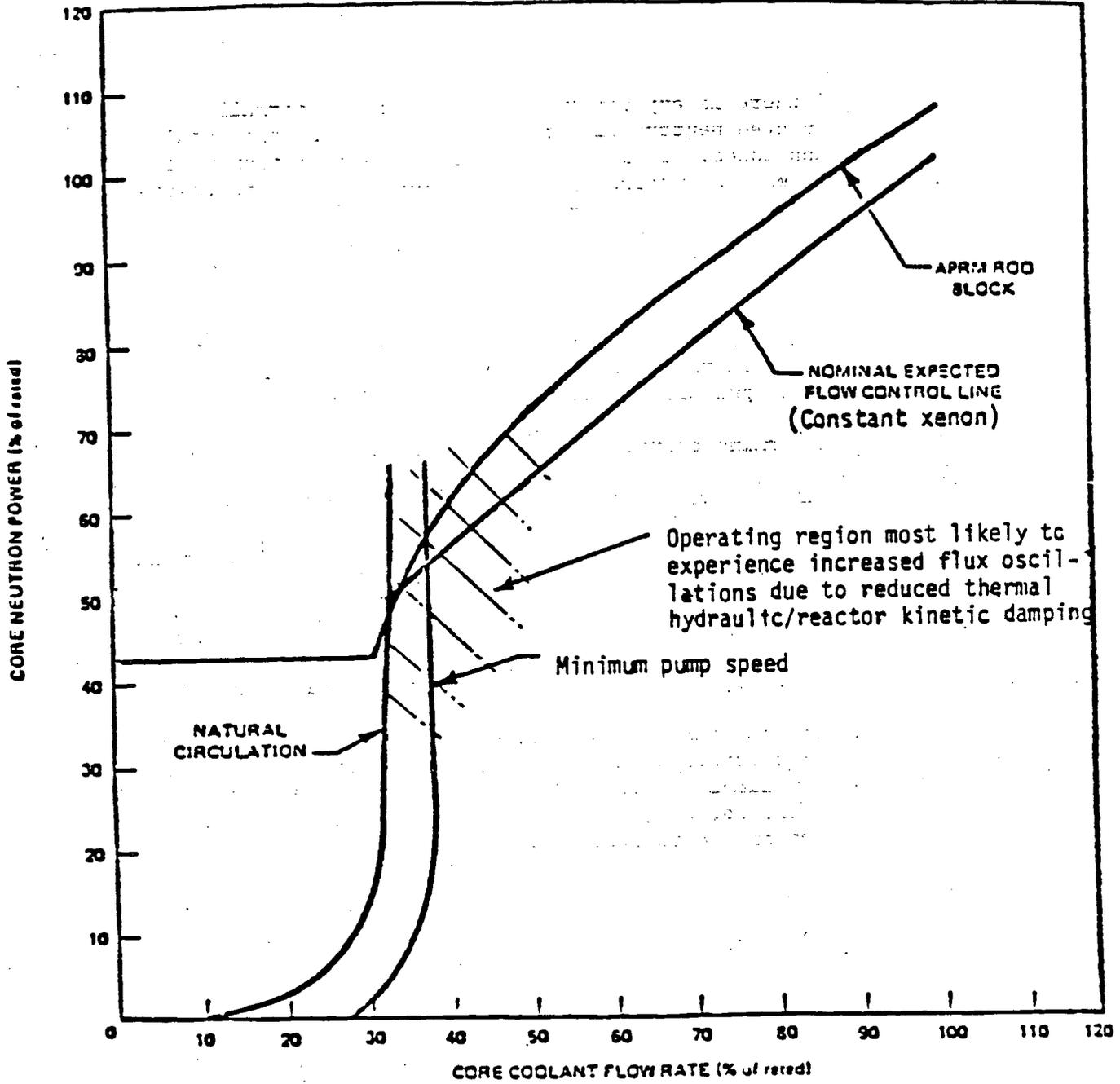
- d. If there is any abnormal increase in the normally expected neutron flux response, the variations should be suppressed. It is suggested that the operation which caused the increase in neutron flux response be reversed, if practical, to accomplish this suppression; control rod insertion or core flow increase (PCIOMR's should be followed during flow increases) will result in moving toward a region of increased stability.
 - e. An alternative to recommendation 6a-d is to increase core flow such that operating region 2 of Figure 2 is avoided. PCIOMR guidelines should still be followed.
7. When performing control rod sequence exchanges:
 - a. Follow recommendations 6a-d, or
 - b. Perform control rod sequence exchanges outside of regions 1 and 2 of Figure 2.
 8. When inserting control rods during shutdown, insert control rods to or below the 80% rod line prior to reducing flow into region 2 of Figure 2 (i.e., avoid region 2 during shutdown).
 9. Should any abnormal flux oscillations be encountered, data should be recorded on the highest speed equipment available and all available power, flow, power shape, feedwater, pressure and rod pattern information documented for subsequent evaluation and operational guidance.

Prepared by: G.A. Watford

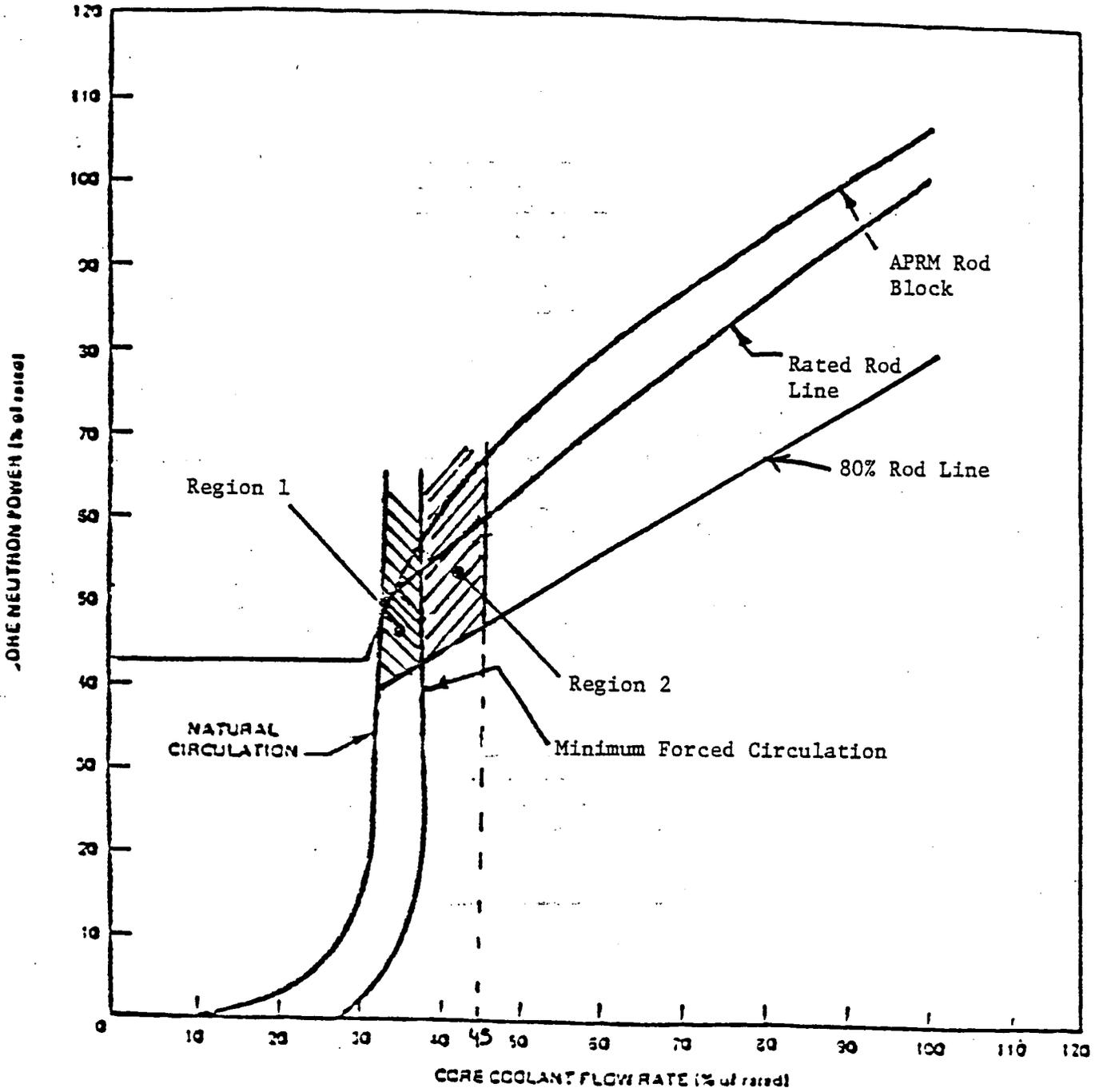
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Issued by: R.E. Bates
R.E. Bates, Specialist
Customer Communications

Product Reference: A71 - Plant Recommendations

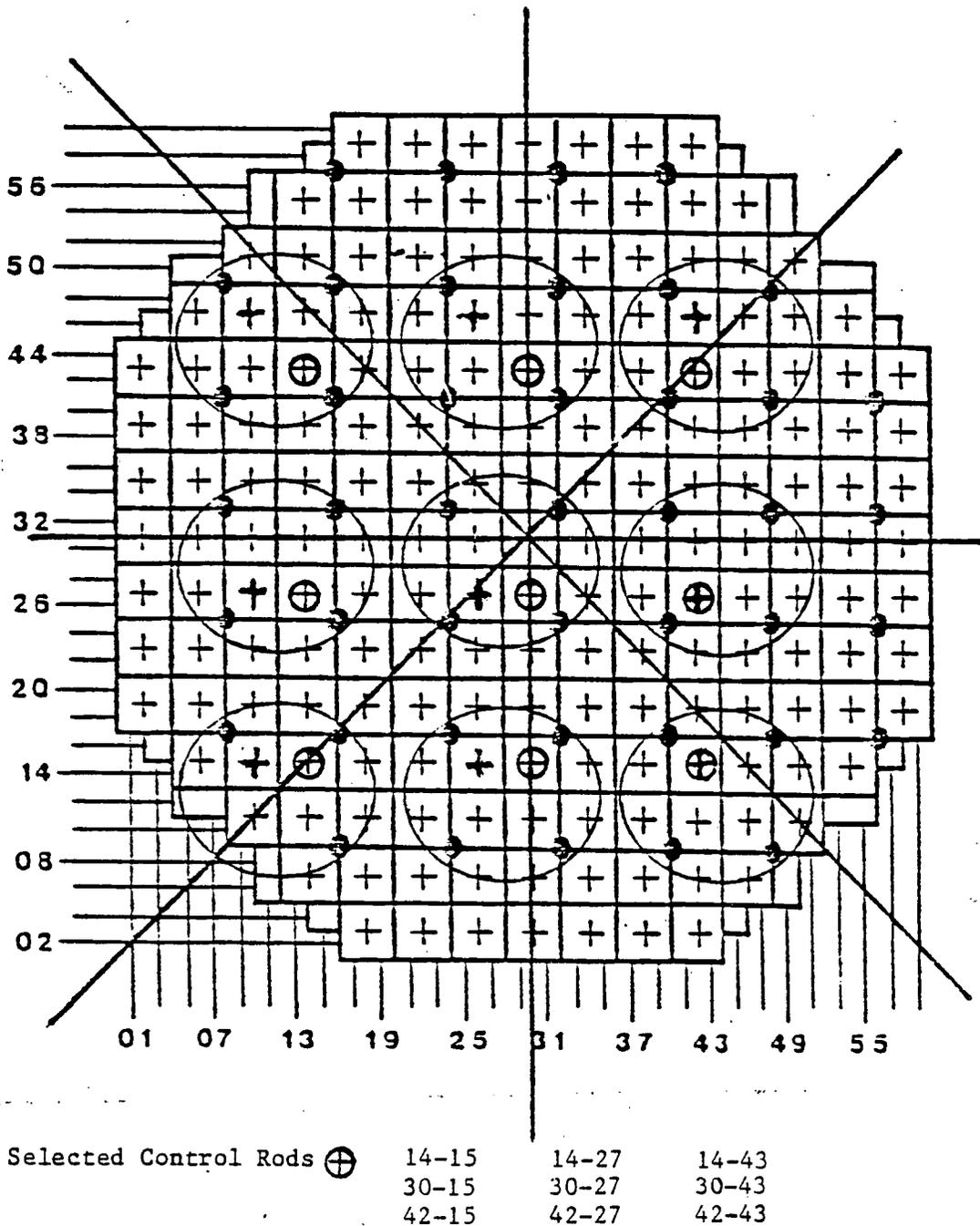


TYPICAL BWR POWER FLOW MAP
FIGURE 1



IDENTIFIED REGIONS OF THE BWR POWER FLOW MAP

Figure 2



TYPICAL LOCAL REGION MONITORING SCHEME

Figure 3