UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

COMMONWEALTH EDISON COMPANY

DOCKET NO. 50-373

LASALLE COUNTY STATION, UNIT 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 60
License No. NPF-11

1. The Nuclear Regulatory Commission (the Commission) has found that:

   A. The application for amendment filed by the Commonwealth Edison Company (the licensee), dated April 26, 1988 supplemented May 31, 1988 complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's regulations set forth in 10 CFR Chapter I;

   B. The facility will operate in conformity with the application, the provisions of the Act, and the regulations of the Commission;

   C. There is reasonable assurance: (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations set forth in 10 CFR Chapter I;

   D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and

   E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by removing License Condition 2.C.(34) which is obsolete and by changes to the Technical Specifications as indicated in the enclosure to this license amendment and paragraph 2.C.(2) of the Facility Operating License No. NPF-11 is hereby amended to read as follows:

   (2) Technical Specifications and Environmental Protection Plan

   The Technical Specifications contained in Appendix A, as revised through Amendment No. 60 , and the Environmental Protection Plan contained in Appendix B, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. This amendment is effective on the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

Daniel R. Muller

Daniel R. Muller, Director
Project Directorate III-
Division of Reactor Projects - III, IV, V and Special Projects

Enclosure:
Changes to the Technical Specifications

Date of Issuance: September 7, 1988

ENCLOSURE TO LICENSE AMENDMENT NO. 60

FACILITY OPERATING LICENSE NO. NPF-11

DOCKET NO. 50-373

Replace the following pages of the Appendix "A" Technical Specifications with the enclosed pages. The revised pages are identified by Amendment No. 60 and contain a vertical line indicating the area of change.

REMOVE	INSERT
VI	VI
XIX	XIX
3/4 4-1	3/4 4-1
3/4 4-1a	3/4 4-1a
3/4 4-1b	3/4 4-1b
- - -	3/4 4-4a
- - -	3/4 4-4b
- - -	3/4 4-4c
B 3/4 4-1	B 3/4 4-1
B 3/4 4-2	B 3/4 4-2
----	B 3/4 4-2a

LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS

LIST OF FIGURES

3/4.4 REACTOR COOLANT SYSTEM

3/4.4.1 RECIRCULATION SYSTEM

RECIRCULATION LOOPS

LIMITING CONDITION FOR OPERATION

3.4.1.1 Two reactor coolant system recirculation loops shall be in operation.

APPLICABILITY: OPERATIONAL CONDITIONS 1 and 2

ACTION

a. With only one (1) reactor coolant system recirculation loop in operation, comply with Specification 3.4.1.5 and:

   1. Within four (4) hours:

      a) Place the recirculation flow control system in the Master Manual mode or lower, and

      b) Increase the MINIMUM CRITICAL POWER RATIO (MCPR) Safety Limit by 0.01 to 1.08 per Specification 2.1.2, and

      c) Increase the MINIMUM CRITICAL POWER RATIO (MCPR) Limiting Condition for Operation by 0.01 per Specification 3.2.3, and,

      d) Reduce the Average Power Range Monitor (APRM) Scram and Rod Block and Rod Block Monitor Trip Setpoints and Allowable Values to those applicable to single recirculation loop operation per Specifications 2.2.1, 3.2.2, and 3.3.6.

   2. The provisions of Specification 3.0.4 are not applicable.

   3. Otherwise, be in at least HOT SHUTDOWN within the next twelve (12) hours.

b. With no reactor coolant recirculation loops in operation:

   1. Take the ACTION required by Specification 3.4.1.5, and

   2. Be in at least HOT SHUTDOWN within the next six (6) hours.

SURVEILLANCE REQUIREMENTS

4.4.1.1 Each reactor coolant system recirculation loop flow control valve shall be demonstrated OPERABLE at least once per 18 months by:

a. Verifying that the control valve fails "as is" on loss of hydraulic pressure at the hydraulic power units, and

b. Verifying that the average rate of control valve movement is:

1. Less than or equal to 11% of stroke per second opening, and

2. Less than or equal to 11% of stroke per second closing.

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3/4.4 REACTOR COOLANT SYSTEM

3/4.4.1 RECIRCULATION SYSTEM

THERMAL HYDRAULIC STABILITY

LIMITING CONDITION FOR OPERATION

3.4.1.5 Forced core circulation shall be maintained with:

a. Total core flow greater than or equal to 45% of rated core flow, or

b. THERMAL POWER within Region III of Figure 3.4.1.5-1, or

c. THERMAL POWER within Region II of Figure 3.4.1.5-1 AND APRM and LPRM noise levels not exceeding the larger of: i) Three (3) times the established baseline noise levels or, ii) 10% peak-to-peak indicated noise level.

APPLICABILITY: OPERATIONAL CONDITION 1

ACTION

a. In Region I of Figure 3.4.1.5-1:

1. With at least 1 reactor coolant recirculation loop in operation immediately initiate action to:

   a) Decrease THERMAL POWER by control rod insertion, completing the power decrease within two (2) hours to exit Region I or,

   b) Increase core flow with the operating Recirculation Loop(s), to exit Region I within two (2) hours.

2. With no reactor coolant recirculation loops in operation:

   a) Immediately reduce CORE THERMAL POWER by inserting control rods, observing the indicated APRM and LPRM noise levels, and complete power reduction to below 36% of RATED CORE THERMAL POWER within two (2) hours, and

   b) If indicated LPRM or APRM noise levels exceed 10% peak-to-peak, immediately place the reactor mode switch in the SHUTDOWN position.

   c) Comply with Specification 3.4.1.1 ACTION b.2

ACTION (Continued)

b. In Region II of Figure 3.4.1.5-1, with APRM or LPRM neutron flux noise levels exceeding the larger of: i) Three (3) times the established baseline noise levels, or ii) 10% peak-to-peak noise indication.

   1. Immediately initiate corrective action by inserting control rods or increasing core flow to restore the noise levels to within the required limit within 2 hours, otherwise.

   2. Insert control rods to reduce THERMAL POWER and/or increase core flow to enter Region III of Figure 3.4.1.5-1 within the next 2 hours.

SURVEILLANCE REQUIREMENTS

4.4.1.5 When operating within Region II of Figure 3.4.1.5-1, verify:

1. That the APRM and LPRM neutron flux noise levels do not exceed the larger of: i) Three (3) times the established baseline levels or, ii) 10% peak-to-peak indicated noise level:

   a. At least once per 12 hours, and

   b. Initiate the surveillance within 15 minutes after entering the region or completing an increase of at least 5% of RATED THERMAL POWER, completing the surveillance within the next 30 minutes.

2. That core flow is greater than or equal to 39% of rated core flow at least once per 12 hours.

#Detector levels A and C of one LPRM string per core octant plus detector levels A and C of one LPRM string in the center region of the core should be monitored.

Power vs. Flow

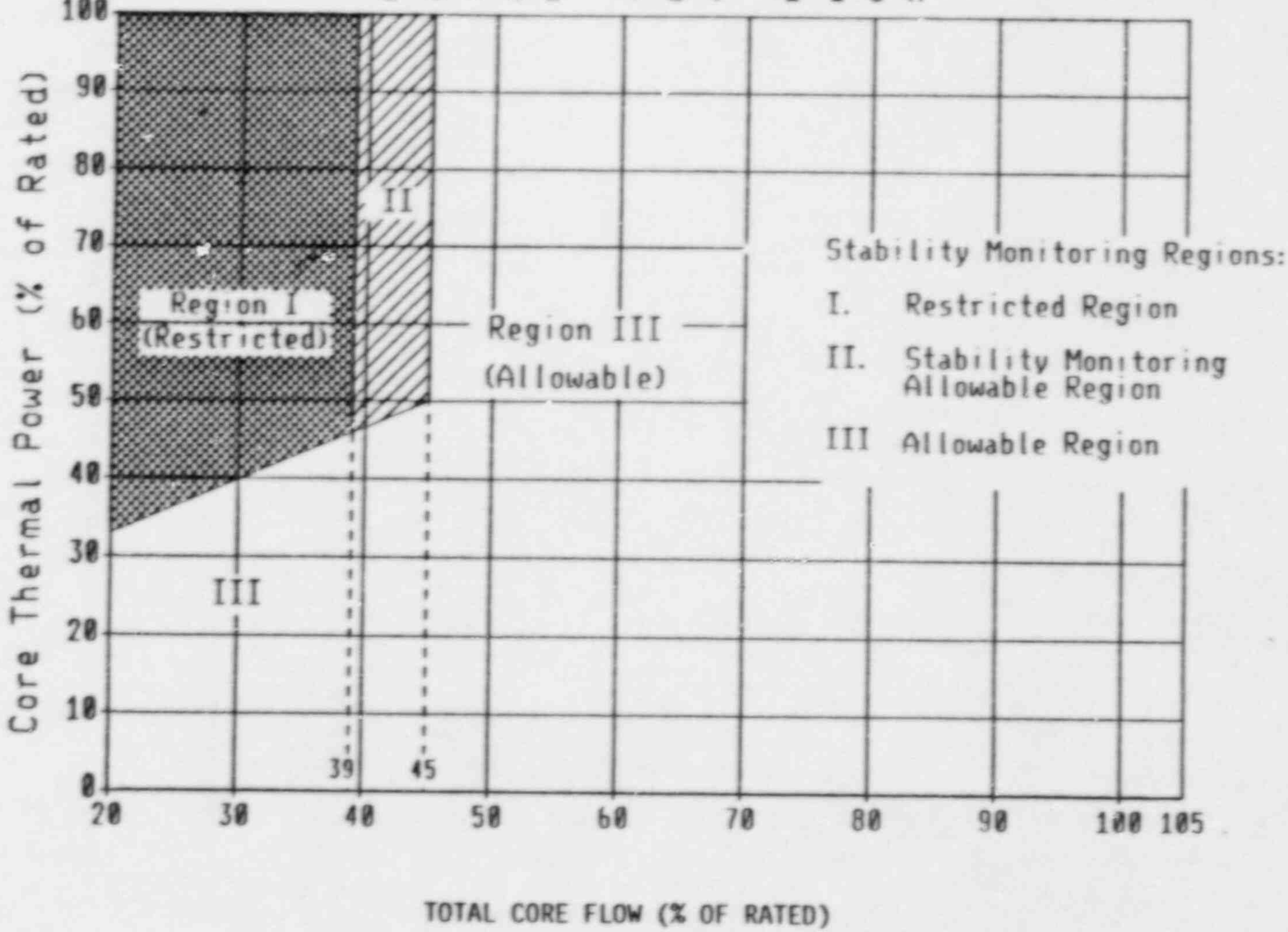

Figure 3.4.1.5-1

3/4.4.1 RECIRCULATION SYSTEM

Operation with one reactor recirculation loop inoperable has been evaluated and been found to be acceptable, provided the unit is operated in accordance with the single recirculation loop operation Technical Specifications herein.

An inoperable jet pump is not, in itself, a sufficient reason to declare a recirculation loop inoperable, but it does present a hazard in case of a design-basis-accident by increasing the blowdown area and reducing the capability of reflooding the core, thus, the requirement for shutdown of the facility with a jet pump inoperable. Jet pump failure can be detected by monitoring jet pump performance on a prescribed scheduled for significant degradation. During dual loop operation, the jet pump operability surveillance should be performed with balanced drive flow (drive flow mismatch less than 5%) to ensure an accurate indication of jet pump performance.

Recirculation loop flow mismatch limits are in compliance with the ECCS LOCA analysis design criterion. The limits will ensure an adequate core flow coastdown from either recirculation loop following a LOCA. Where the recirculation loop flow mismatch limits cannot be maintained during the recirculation loop operation, continued operation is permitted in the single recirculation loop operation mode.

In order to prevent undue stress on the vessel nozzles and bottom head region, the recirculation loop temperatures shall be within 50°F of each other prior to startup of an idle loop. The loop temperature must also be within 50°F of the reactor pressure vessel coolant temperature to prevent thermal shock to the recirculation pump and recirculation nozzles. Since the coolant in the bottom of the vessel is at a lower temperature than the water in the upper regions of the core, undue stress on the vessel would result if the temperature difference were greater than 145°F.

The possibility of thermal hydraulic instability in a BWR has been investigated since the startup of early BWRs. Based on tests and analytical models, it has been identified that the high power-low flow corner of the power-to-flow map is the region of least stability margin. This region may be encountered during startups, shutdowns, sequence exchanges, and as a result of a recirculation pump(s) trip event.

Region I of Figure 3.4.1.5-1 represents a region of the power/flow map where instability in neutron flux have been observed. Operation in this region is prohibited to ensure that stable reactor conditions are maintained. Actions to immediately exit Region I are intended to prevent lower priority (i.e., non-emergency) concerns from delaying exit from the region. Observation of neutron flux indications, while not requiring formal surveillance, is needed to avoid reliance on automatic protective systems. A manual reactor scram is required if instabilities are evidenced in Region I with no recirculation pumps operating.

Operation within a designated surveillance region (Region II of Figure 3.4.1.5-1) requires monitoring of APRM and LPRM noise levels. Observed instabilities require immediate corrective action due to the potential for increasing oscillations.

3/4.4.2 SAFETY/RELIEF VALVES

The safety valve function of the safety/relief valves operate to prevent the reactor coolant system from being pressurized above the Safety Limit of 1325 psig in accordance with the ASME Code. Analysis has shown that with the safety function of one of the eighteen safety/relief valves inoperable the reactor pressure is limited to within ASME III allowable values for the worst case upset transient. Therefore, operation with any 17 SRV's capable of opening is allowable, although all installed SRV's must be closed and have position indication to ensure that integrity of the primary coolant boundary is known to exist at all times.

Demonstration of the safety/relief valve lift settings will occur only during shutdown and will be performed in accordance with the provisions of Specification 4.0.5.

3/4.4.3 REACTOR COOLANT SYSTEM LEAKAGE

3/4.4.3.1 LEAKAGE DETECTION SYSTEMS

The RCS leakage detection systems required by this specification are provided to monitor and detect leakage from the reactor coolant pressure boundary. These detection systems are consistent with the recommendations of Regulatory Guide 1.45, "Reactor Coolant Pressure Boundary Leakage Detection Systems," May 1973.

3/4.4.3.2 OPERATIONAL LEAKAGE

The allowable leakage rates from the reactor coolant system have been based on the predicted and experimentally observed behavior of cracks in pipes. The normally expected background leakage due to equipment design and the detection capability of the instrumentation for determining system leakage was also considered. The evidence obtained from experiments suggests that for leakage somewhat greater than that specified for unidentified leakage the probability is small that the imperfection or crack associated with such leakage would grow rapidly. However, in all cases, if the leakage rates exceed the values specified or the leakage is located and known to be PRESSURE BOUNDARY LEAKAGE, the reactor will be shutdown to allow further investigation and corrective action.

The Surveillance Requirements for RCS pressure isolation valves provide added assurance of valve integrity thereby reducing the probability of gross valve failure and consequent intersystem LOCA. Leakage from the RCS pressure isolation valves is IDENTIFIED LEAKAGE and will be considered as a portion of the allowed limit.

3/4.4.4 CHEMISTRY

The water chemistry limits of the reactor coolant system are established to prevent damage to the reactor materials in contact with the coolant. Chloride limits are specified to prevent stress corrosion cracking of the stainless steel. The effect of chloride is not as great when the oxygen concentration in the coolant is low, thus the higher limit on chlorides is permitted during POWER OPERATION. During shutdown and refueling operations, the temperature necessary for stress corrosion to occur is not present so high concentrations of chlorides are not considered harmful during these periods.

CHEMISTRY (Continued)

Conductivity measurements are required on a continuous basis since changes in this parameter are an indication of abnormal conditions. When the conductivity is within limits, the pH, chlorides and other impurities affecting conductivity must also be within their acceptable limits. With the conductivity meter inoperable, additional samples must be analyzed to ensure that the chlorides are not exceeding the limits.

The surveillance requirements provide adequate assurance that concentrations in excess of the limits will be detected in sufficient time to take corrective action.

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

COMMONWEALTH EDISON COMPANY

DOCKET NO. 50-374

LASALLE COUNTY STATION, UNIT 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 40
License No. NPF-18

1. The Nuclear Regulatory Commission (the Commission) has found that:

   A. The application for amendment filed by the Commonwealth Edison Company (the licensee), dated April 26, 1988 supplemented May 31, 1988 complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's regulations set forth in 10 CFR Chapter I;

   B. The facility will operate in conformity with the application, the provisions of the Act, and the regulations of the Commission;

   C. There is reasonable assurance: (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations set forth in 10 CFR Chapter I;

   D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and

   E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the enclosure to this license amendment and paragraph 2.C.(2) of the Facility Operating License No. NPF-18 is hereby amended to read as follows:

   (2) Technical Specifications and Environmental Protection Plan

   The Technical Specifications contained in Appendix A, as revised through Amendment No. 40 , and the Environmental Protection Plan contained in Appendix B, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. This amendment is effective on the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

Daniel R. Muller

Daniel R. Muller, Director
Project Directorate III-
Division of Reactor Projects - III,
IV, V and Special Projects

Enclosure:
Changes to the Technical
Specifications

Date of Issuance: September 7, 1988

ENCLOSURE TO LICENSE AMENDMENT NO. 40

FACILITY OPERATING LICENSE NO. NPF-18

DOCKET NO. 50-374

Replace the following pages of the Appendix "A" Technical Specifications with the enclosed pages. The revised pages are identified by Amendment No. and contain a vertical line indicating the area of change.

REMOVE	INSERT
VI	VI
XIX	XIX
3/4 4-1	3/4 4-1
3/4 4-2	3/4 4-2
3/4 4-2a	3/4 4-2a
- - -	3/4 4-5a
- - -	3/4 4-5b
- - -	3/4 4-5c
B 3/4 4-1	B 3/4 4-1
- - -	B 4/4 4-1a

LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS

SECTION PAGE

3/4.4 REACTOR COOLANT SYSTEM

3/4.5 EMERGENCY CORE COOLING SYSTEMS

3/4.4 REACTOR COOLANT SYSTEM

3/4.4.1 RECIRCULATION SYSTEM

RECIRCULATION LOOPS

LIMITING CONDITION FOR OPERATION

3.4.1.1 Two reactor coolant system recirculation loops shall be in operation.

APPLICABILITY: OPERATIONAL CONDITIONS 1 and 2

ACTION

a. With only one (1) reactor coolant system recirculation loop in operation, comply with Specification 3 4.1.5 and:

   1. Within four (4) hours:

      a) Place the recirculation flow control system in the Master Manual mode or lower, and

      b) Increase the MINIMUM CRITICAL POWER RATIO (MCPR) Safety Limit by 0.01 to 1.08 per Specification 2.1.2, and

      c) Increase the MINIMUM CRITICAL POWER RATIO (MCPR) Limiting Condition for Operation by 0.01 per Specification 3.2.3, and,

      d) Reduce the Average Power Range Monitor (APRM) Scram and Rod Block and Rod Block Monitor Trip Setpoints and Allowable Values to those applicable to single recirculation loop operation per Specifications 2.2.1, 3.2.2, and 3.3.6, and

      e) Reduce the MAXIMUM AVERAGE PLANAR LINEAR HEAT GENERATION RATE (MAPLHGR) limit to a value of 0.85 times the two recirculation loop operation limit per Specification 3.2.1.

   2. The provisions of Specification 3.0.4 are not applicable.

   3. Otherwise, be in at least HOT SHUTDOWN within the next twelve (12) hours.

b. With no reactor coolant recirculation loops in operation:

   1. Take the ACTION required by Specification 3.4.1.5, and

   2. Be in at least HOT SHUTDOWN within the next six (6) hours.

REACTOR COOLANT SYSTEM

SURVEILLANCE REQUIREMENTS

4.4.1.1 Each reactor coolant system recirculation loop flow control valve shall be demonstrated OPERABLE at least once per 18 months by:

a. Verifying that the control valve fails "as is" on loss of hydraulic pressure at the hydraulic power units, and

b. Verifying that the average rate of control valve movement is:

   1. Less than or equal to 11% of stroke per second opening, and

   2. Less than or equal to 11% of stroke per second closing.

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REACTOR COOLANT SYSTEM

3/4.4 REACTOR COOLANT SYSTEM

3/4.4.1 RECIRCULATION SYSTEM

THERMAL HYDRAULIC STABILITY

LIMITING CONDITION FOR OPERATION

3.4.1.5 Forced core circulation shall be maintained with:

a. Total core flow greater than or equal to 45% of rated core flow, or

b. THERMAL POWER within Region III of Figure 3.4.1.5-1, or

c. THERMAL POWER within Region II of Figure 3.4.1.5-1 AND APRM and LPRM noise levels not exceeding the larger of: i) Three (3) times the established baseline noise levels or, ii) 10% peak-to-peak indicated noise level.

APPLICABILITY: OPERATIONAL CONDITION 1

ACTION

a. In Region I of Figure 3.4.1.5-1:

1. With at least 1 reactor coolant recirculation loop in operation immediately initiate action to:

   a) Decrease THERMAL POWER by control rod insertion, completing the power decrease within two (2) hours to exit Region I or,

   b) Increase core flow with the operating Recirculation Loop(s), to exit Region I within two (2) hours.

2. With no reactor coolant recirculation loops in operation:

   a) Immediately reduce CORE THERMAL POWER by inserting control rods, observing the indicated APRM and LPRM noise levels, and complete power reduction to below 36% of RATED CORE THERMAL POWER within two (2) hours, and

   b) If indicated LPRM or APRM noise levels exceed 10% peak-to-peak, immediately place the reactor mode switch in the SHUTDOWN position.

   c) Comply with Specification 3.4.1.1 ACTION b.2

ACTION (Continued)

b. In Region II of Figure 3.4.1.5-1, with APRM or LPRM neutron flux noise levels exceeding the larger of: i) Three (3) times the established baseline noise levels, or ii) 10% peak-to-peak noise indication.

   1. Immediately initiate corrective action by inserting control rods or increasing core flow to restore the noise levels to within the required limit within 2 hours, otherwise.

   2. Insert control rods to reduce THERMAL POWER and/or increase core flow to enter Region III of Figure 3.4.1.5-1 within the next 2 hours.

SURVEILLANCE REQUIREMENTS

4.4.1.5 When operating within Region II of Figure 3.4.1.5-1, verify:

1. That the APRM and LPRM neutron flux noise levels do not exceed the larger of: i) Three (3) times the established baseline levels or, ii) 10% peak-to-peak indicated noise level:

   a. At least once per 12 hours, and

   b. Initiate the surveillance within 15 minutes after entering the region or completing an increase of at least 5% of RATED THERMAL POWER, completing the surveillance within the next 30 minutes.

2. That core flow is greater than or equal to 39% of rated core flow at least once per 12 hours.

#Detector levels A and C of one LPRM string per core octant plus detector levels A and C of one LPRM string in the center region of the core should be monitored.

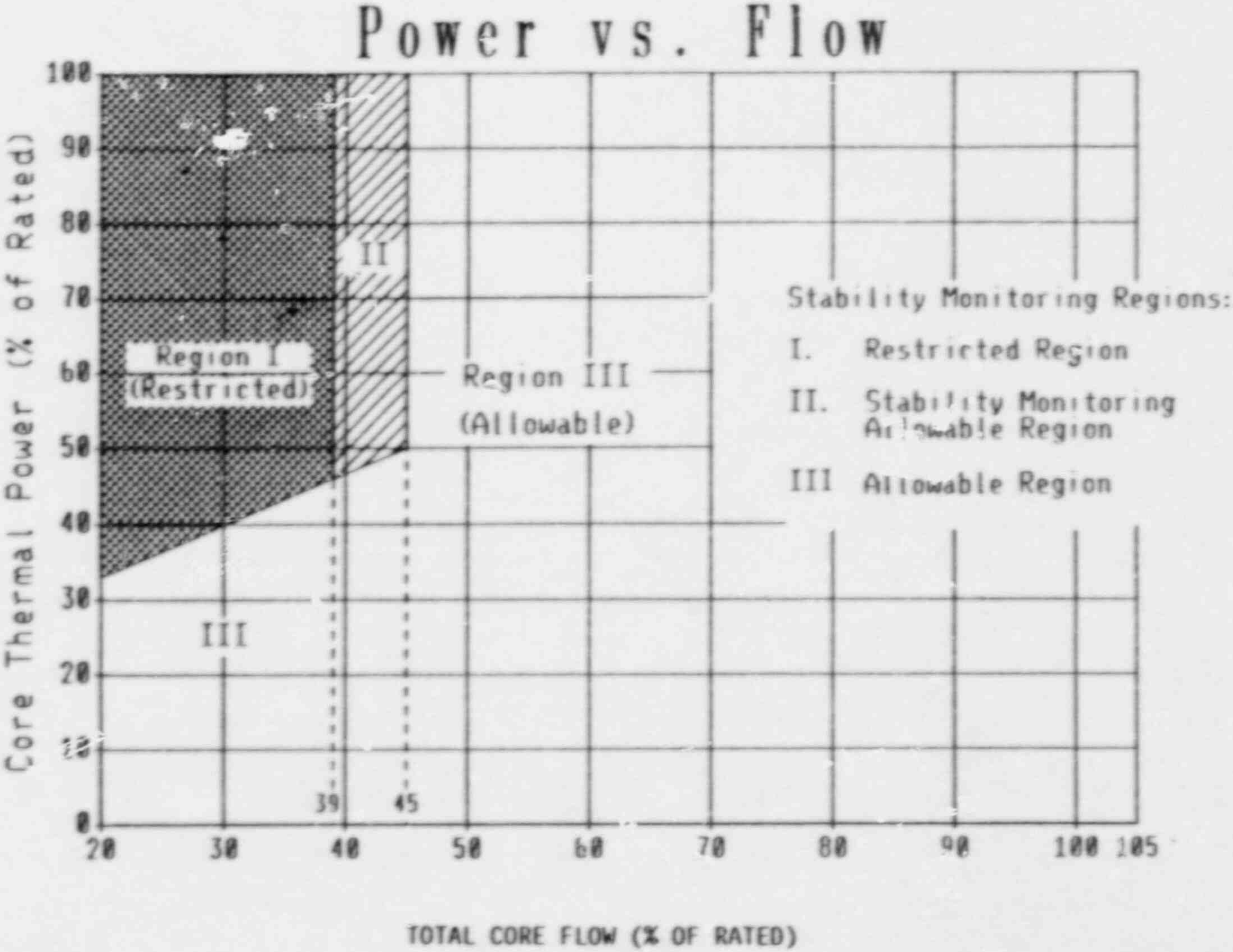

Figure 3.4.1.5-1

3/4.4.1 RECIRCULATION SYSTEM

Operation with one reactor recirculation loop inoperable has been evaluated and been found to be acceptable provided the unit is operated in accordance with the single recirculation loop operation Technical Specifications herein.

An inoperable jet pump is not, in itself, a sufficient reason to declare a recirculation loop inoperable, but it does present a hazard in case of a design-basis-accident by increasing the blowdown area and reducing the capability of reflooding the core; thus, the requirement for shutdown of the facility with a jet pump inoperable. Jet pump failure can be detected by monitoring jet pump performance on a prescribed scheduled for significant degradation. During dual loop operation, the jet pump operability surveillance should be performed with balanced drive flow (drive flow mismatch less than 5%) to ensure an accurate indication of jet pump performance.

Recirculation loop flow mismatch limits are in compliance with the ECCS LOCA analysis design criterion. The limits will ensure an adequate core flow coastdown from either recirculation loop following a LOCA. Where the recirculation loop flow mismatch limits cannot be maintained during the recirculation loop operation, continued operation is permitted in the single recirculation loop operation mode.

In order to prevent undue stress on the vessel nozzles and bottom head region, the recirculation loop temperatures shall be within 50°F of each other prior to startup of an idle loop. The loop temperature must also be within 50°F of the reactor pressure vessel coolant temperature to prevent thermal shock to the recirculation pump and recirculation nozzles. Since the coolant in the bottom of the vessel is at a lower temperature than the water in the upper regions of the core, undue stress on the vessel would result if the temperature difference was greater than 145°F.

The possibility of thermal hydraulic instability in a BWR has been investigated since the startup of early BWRs. Based on tests and analytical models, it has been identified that the high power-low flow corner of the power-to-flow map is the region of least stability margin. This region may be encountered during startups, shutdowns, sequence exchanges, and as a result of a recirculation pump(s) trip event.

Region I of Figure 3.4.1.5-1 represents a region of the power/flow map where instability in neutron flux have been observed. Operation in this region is prohibited to ensure that stable reactor conditions are maintained. Actions to immediately exit Region I are intended to prevent lower priority (i.e., non-emergency) concerns from delaying exit from the region. Observation of neutron flux indications, while not requiring formal surveillance, is needed to avoid reliance on automatic protective systems. A manual reactor scram is required if instabilities are evidenced in Region I with no recirculation pumps operating.

Operation within a designated surveillance region (Region II of Figure 3.4.1.5-1) requires monitoring of APRM and LPRM noise levels. Observed instabilities require immediate corrective action due to the potential for increasing oscillations.

3/4.4.2 SAFETY/RELIEF VALVES

The safety valve function of the safety/relief valves operate to prevent the reactor coolant system from being pressurized above the Safety Limit of 1325 psig in accordance with the ASME Code. A total of 18 OPERABLE safety/relief valves is required to limit reactor pressure to within ASME III allowable values for the worst case upset transient.

Demonstration of the safety/relief valve lift settings will occur only during shutdown and will be performed in accordance with the provisions of Specification 4.0.5.