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ComEd

April 8, 1996

United States Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, D.C. 20

Subject: LaSalle County Nuclear Power Station Units 1 and 2
Application for Amendment Request to Facility Operating Licenses NPF-11 and NPF-18, Technical Specifications Changes for Siemens Power Corporation Fuel Transition
Docket Numbers 50-373 and 50-374

Pursuant to 10 CFR 50.90, ComEd proposes to amend Appendix A, Technical Specifications, of Facility Operating Licenses NPF-11 and NPF-18 to reflect the transition of fuel supplier from General Electric to Siemens Power Corporation (SPC).

LaSalle County Station currently operates with General Electric (GE) fuel and methodologies. Siemens Power Corporation (SPC) has been awarded the contract to provide fuel and related support services for LaSalle beginning with Unit 2 Cycle 8 and Unit 1 Cycle 9. The fuel assembly designs and methods used by SPC are NRC approved for Boiling Water Reactors (Attachment E, EMF-94-217(P).) Boiling Water Reactor (BWR) plants (e.g., Grand Gulf, Washington Nuclear, Dresden, Susquehanna) have been licensed and operated with SPC fuel. Since the changes deal with a transition from one set of NRC approved methods to another, this amendment is largely administrative. The majority of the changes being made are in the Bases of the Technical Specifications and the methodologies reference lists in the Technical Specifications. For details of the individual changes, see the attachments

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Generic licensing topical reports for SPC BWR methodologies have been NRC approved and have been applied at other BWR-5 and BWR-6 class reactors (e.g., Washington Nuclear Power Unit 2, and Grand Gulf). The ATRIUM-9B fuel design, which will be used in the initial LaSalle reloads, is a Nuclear Regulatory Commission (NRC) approved design that has also been used at other reactors. Two relevant licensing actions are still in progress: (1) concerning Critical Power Ratio (CPR) treatment of the mixed core and (2) an amendment to support an increase in the fuel enrichment for SPC's new fuel shipping container (Certificate of Compliance 9248). Neither of these topics directly affect the content of the proposed Technical Specifications, but are discussed here for completeness. At the request of the Reactor Systems Branch in a recent meeting with SPC, a plant specific topical report (EMF-96-021, "Application of the ANFB Critical Power Correlation to Coresident GE Fuel for LaSalle Unit 2 Cycle 8") was prepared for the CPR treatment of the mixed core. This was submitted to the Staff (Reference: Letter dated March 8, 1996, ComEd to NRR, "Application of Siemen's Power Corporation ANFB Critical Power Correlation to Coresident General Electric Fuel for LaSalle Unit 2 Cycle 8"). A generic methodology document (EMF-1125(P) Supplement 1 Appendix C, "ANFB Critical Power Correlation Application for Co-Resident Fuel"), has also been submitted to the Staff (Reference: Letter dated November 30, 1995, Siemens Power Corporation to NRR, "Submittal of EMF-1125(P), Supplement 1 Appendix C"). The amendment for the SPC new fuel shipping container is an SPC request pending at Nuclear Materials and Management Safeguards Systems (Reference: Letter dated February 9, 1996, SPC to NRC Cask Certification Section, "Application to Amend Certificate of Compliance 9248"). It should be noted that the shipping container amendment is needed to support Fuel delivery for LaSalle Unit 2 Cycle 8, scheduled for June of 1996.

Siemens Power Corporation considers some of the information contained in EMF-94-217(P), Revision 1, "Boiling Water Reactor Licensing Methodology Summary," to be proprietary. In accordance with the requirements of 10 CFR 2.790(b), an affidavit (Attachment F) is enclosed to support withholding of this document from public disclosure. A non-proprietary version is also provided.

This proposed amendment request is subdivided as follows:

1. Attachment A provides a description and evaluation of the proposed changes in this amendment.

2. Attachment B includes a summary of the proposed changes, index of the changes, and the marked up pages for LaSalle Unit 1 with the requested changes indicated, followed by the corresponding marked up pages for LaSalle Unit 2.

3. Attachment C describes ComEd's evaluation performed in accordance with 10 CFR 50.92(c), which confirms that no significant hazard consideration is involved.

4. Attachment D provides the Environmental Assessment Applicability Review.

5. Attachment E is an SPC Licensing Methodology summary document for Boiling Water Reactors (EMF-94-217), which has been prepared to provide an integrated summary of the various approved topical reports, design criteria and licensing methods used by SPC. This document is provided to facilitate your staff's review of this amendment but does not contain any new or revised SPC methods. Also included is a non-proprietary version.

6. Attachment F is an affidavit to support withholding Attachment E, EMF-94-217(P) from public disclosure.

This amendment is needed to support LaSalle operations with Siemens fuel. Siemens fuel will be initially loaded into LaSalle Unit 2 Cycle 8 (startup approximately November 21, 1996) and LaSalle Unit 1 Cycle 9 (startup approximately November 1997); therefore, this amendment is required prior to the startup of LaSalle Unit 2 Cycle 8. It is requested that the amendments be approved by October 21, 1996, with the amendments to be implemented prior to the startup of Cycle 8 for Unit 2 and prior to the startup of Cycle 9 for Unit 1.

This proposed amendment has been reviewed and approved by ComEd On-Site and Off-Site Review in accordance with ComEd procedures.

Commonwealth Edison is notifying the State of Illinois of this application for amendment by transmitting a copy of this letter and its attachments to the designated state official.

If there are any further questions or comments concerning this submittal, please refer them to JoEllen Burns at (815) 357-6761, extension 2383.

Respectfully,

R. E. Querio
Site Vice President
LaSalle County Station

Enclosure

cc: H. J. Miller, NRC Region III Administrator
P. G. Brochman, NRC Senior Resident Inspector - LaSalle
D. M. Skay, Project Manager - NRR - LaSalle
F. Niziolek, Office of Nuclear Facility Safety - IDNS
Central File

STATE OF ILLINOIS

COUNTY OF LASALLE

IN THE MATTER OF | **Docket Nos. 50-373**
50-374

COMMONWEALTH EDISON COMPANY

LASALLE COUNTY - UNITS 1 & 2

AFFIDAVIT

I affirm that the content of this transmittal is true and correct to the best of my knowledge, information and belief.

R. E. Querio
Site Vice President
LaSalle County Station

Subscribed and sworn to before me, a Notary Public in and for the State and County above named, this 8th day of April, 1996. My Commission expires on January 24, 1997.

Notary Public

OFFICIAL SEAL
LYNN ELLEN GASSMAN
NOTARY PUBLIC, STATE OF ILLINOIS
MY COMMISSION EXPIRES 1-24-97

List of Attachments

A. Description and Evaluation of the Proposed Changes

B. Summary of Proposed Changes, including Marked-up Technical Specification Pages

C. Evaluation of Significant Hazards Considerations

D. Environmental Assessment Applicability Review

E. Boiling Water Reactor Licensing Methodology Summary, Siemens Power Corporation, EMF-94-217(P) and EMF-94-217(NP)

F. Proprietary Withholding Affidavit for EMF-94-217(P)

Attachment A

Description and Evaluation of Proposed Changes

A. Description and Evaluation of the Proposed Changes

Table of Contents

1. Background Information

LaSalle County Station operates with General Electric (GE) fuel and methodologies. ComEd performs core designs using NRC approved methodologies. Siemens Power Corporation (SPC) has been awarded the contract to provide fuel and related support services for LaSalle. Beginning with Unit 2 Cycle 8 and Unit 1 Cycle 9, SPC fuel will be loaded with co-resident GE fuel. The fuel designs and methods used by SPC are Nuclear Regulatory Commission (NRC) approved for Boiling Water Reactors (See Attachment E, EMF-94-217(P)). Other Boiling Water Reactor (BWR) plants (e.g. Grand Gulf, Washington Nuclear, Dresden, Susquehanna) have been licensed and operated with SPC fuel. The following is a discussion of the topics in the Technical Specifications affected by this change in fuel vendors. Since the changes deal with a transition from one set of NRC approved methods to another, the amendment requested is largely administrative. The majority of the changes being made are in the Bases of the Technical Specifications and the methodologies reference lists in the Technical Specifications. For details of the individual changes, see the discussion below for the particular change.

Fuel Thermal Limits:

Definitions

Three of the more important design operating limits for the fuel are: LINEAR HEAT GENERATION RATE (LHGR), MINIMUM CRITICAL POWER RATIO (MCPR) and AVERAGE PLANAR LINEAR HEAT GENERATION RATE (APLHGR).

a. The first of these limits, LHGR, is defined as the heat generation per unit length of fuel rod. It is the integral of the heat flux over the heat transfer area associated with the unit length. LHGR is calculated and monitored in units of kilowatt per foot. Excessive LHGR values (high kW/ft) can cause the fuel pellet to expand to the point of overstressing the cladding. Operating the fuel within its design LHGR limits, combined with analyses of Anticipated Operational Occurrences (AOOs), ensures that 1% plastic strain of the cladding is not exceeded.

b. MCPR is the smallest CRITICAL POWER RATIO (CPR) which exists in the core, where CPR is the ratio of that power in the assembly which is calculated by application of an NRC approved correlation to cause some point in the assembly to experience boiling transition, divided by the actual assembly operating power. Operating a bundle at a power level beyond that required for the onset of transition boiling creates a condition with poor heat transfer and may cause fuel failure due to the elevated cladding temperature. Operating limits for MCPR are set so that the MCPR Safety Limit is not exceeded during Anticipated Operational Occurrences. The Safety Limit is set for MCPR such that 99.9% of the fuel rods avoid boiling transition if the Safety Limit is not violated. Core transients are analyzed for Anticipated Operational Occurrences to determine the change in MCPR during the transients. MCPR is calculated using the critical power correlation of record.

c. APLHGR is applicable to a specific planar height and is equal to the sum of the LINEAR HEAT GENERATION RATES for all the fuel rods in the specified bundle at the specified height divided by the number of fuel rods in the fuel bundle. Operating the fuel within its APLHGR limits ensures that 10CFR50.46 limits are maintained during a loss of coolant accident.

Discussion

GE LHGR and APLHGR limits will be applied to the co-resident GE fuel in the core, while SPC LHGR and APLHGR limits will be applied to the SPC fuel in the core. As such, the Technical Specifications Bases for the GE methods will remain and the SPC methods will be added. LaSalle County Station has APLHGR limits for GE fuel that are reduced at less than rated conditions via power and flow factors. This provides protection from transients at these conditions. For SPC fuel and methods, a similar power and flow biasing is applied to the LHGR limits.

The SPC critical power correlation, ANFB, will be the correlation of record for GE and SPC fuel, and will be used to analyze core transients for MCPR protection. The MCPR of co-resident GE fuel will be calculated using bundle geometry dependent constants so the ANFB calculated CPR data are conservative relative to those calculated by the GE correlation (GEXL). Therefore, discussion of the GE MCPR methods in the Bases for MCPR are to be replaced by SPC methods.

Miscellaneous Change:

The Basis for the Reactivity Anomaly surveillance is being upgraded to be consistent with SPC methods and NUREG-1434.

Minor Changes unrelated to the SPC Transition:

The Traversing In-core Probe (TIP) system surveillance section is proposed to be re-located from the Technical Specifications to the COLR as a line item from the Improved Technical Specifications (ITS) upgrade project in progress at LaSalle (per NUREG-1434).

The fuel description in Specification 5 is also being upgraded as a line item from ITS.

A typographical error is being corrected in the bases on page B 2-9 to agree with the UFSAR. The error is in the power level at which the IRMs terminate a low power control rod withdrawal error transient.

2. Description of the Proposed Changes

As stated in the transmittal cover letter, LaSalle County Station is in the process of changing fuel vendors from General Electric (GE) to Siemens Power Corporation (SPC). The first reload of SPC fuel is scheduled for insertion into the reactor for Unit 2 Cycle 8, scheduled for startup in November of 1996. This amendment request proposes the changes to the Technical Specifications related to the SPC transition.

SPC methods and analyses are different from those of GE. This package reflects those differences and does not incorporate new or different SPC methods for which NRC approval is being requested (Note that the approval requests regarding SPC shipping containers and mixed core treatment of CPR are being pursued in parallel with this submittal). Attachment E is a copy of the SPC Licensing Methodology Summary for Boiling Water Reactors. This document is a summary of SPC methods and contains references to the appropriate detailed documents related to the particular subject. It also contains a list of the NRC approved SPC methodology documents. The SPC ATRIUM-9B (9x9-IX) fuel design planned for use has been approved by the NRC. (Reference: ANF-89-014(P)(A), Rev. 1, "Generic Mechanical Design for Advanced Nuclear Fuels 9x9-IX and 9x9-9x BWR Reload Fuel," which is applicable to LaSalle). Note that 9x9-IX is the former name for ATRIUM-9B.

A summary of the proposed changes is presented in this attachment. All of the proposed changes are identified (via markups) in Attachment B. Unless specified otherwise, the change applies to both units. An effort has been made to use fuel vendor and analysis method independent terminology where appropriate in order to minimize the need for future changes. This is consistent with the concept of the Core Operating Limits Report (COLR) (Reference Generic Letter 88-16).

3. Descriptions of the Current Requirements

a. **Linear Heat Generation Rate (LHGR)**: The LHGR is the heat generation per unit length of fuel rod. It is the integral of the heat flux over the heat transfer area associated with the unit length. LHGR is calculated and monitored in units of kilowatt per foot. General Electric fuel has fuel specific LHGR limits and compliance with this limit is monitored by the parameters Fraction of Limiting Power Density (FLPD) and Maximum Fraction of Limiting Power Density (MFLPD). Technical Specification 3.2.4 requires that the fuel be operated with an LHGR less than or equal to the LHGR limit specified in the Core Operating Limits Report (COLR). The GE definitions of these are items 1.14 and 1.24 in the current definitions (Section 1.0) of the LaSalle Technical Specifications (pages I, 1-3, and 1-4).

b. **Critical Power Ratio (CPR):** The CPR is the smallest CPR which exists in the core, where CPR (CRITICAL POWER RATIO) is the ratio of that power in the assembly which is calculated by application of the NRC approved correlation to cause some point in the assembly to experience boiling transition, divided by the actual assembly operating power. The operating CPR needs to be monitored and maintained above the operating limit during normal operation to ensure that the Safety Limit will not be exceeded during Anticipated Operational Occurrences (AOOs), should they occur. The Safety Limit is set such that 99.9% of the fuel rods avoid boiling transition if the Safety Limit is not violated. Technical Specification 3.2.3 requires that the fuel be operated with the Minimum CPR greater than or equal to the MCPR limit specified in the COLR.

c. **Average Planar Linear Heat Generation Rate (APLHGR)**: The APLHGR is applicable to a specific planar height and is equal to the sum of the LINEAR HEAT GENERATION RATES for all the fuel rods in the specified bundle at the specified height divided by the number of fuel rods in the fuel bundle. Technical Specification 3.2.1 requires that the fuel be operated with an APLHGR less than or equal to the APLHGR limits specified in the COLR.

d. **Traversing In-core Probe (TIP) Out of Service Limitations**: Technical Specification 3.3.7.7 requires that the TIP system be operable for the purposes of calibrating LPRM detectors, which are used as inputs for monitoring APLHGR, LHGR, and MCPR. The system allows certain TIP measurement locations to be inoperable provided the core is operating with an octant symmetric control rod pattern and the total core TIP uncertainty is less than 8.7 percent. These requirements are based on GE core monitoring methods.

e. **Reactivity Anomaly:** Technical Specification 3.1.2 requires that the reactivity equivalence of the difference between the actual ROD DENSITY and the predicted ROD DENSITY be less than or equal to 1% delta k/k.

f. **Fuel Assemblies**: Technical Specification 5.3.1 (page 5-4) describes the number of fuel bundles in the core and general composition of the bundles.

g. **IRM flux scram typographical error**: The current statement in the Bases for the Intermediate Range Monitor (IRM) system flux scram (Page B 2-9) refers to the power level at which the IRM system terminates the low power Rod Withdrawal Error (RWE) event. The existing discussion refers to 1% power.

4. Bases for the Current Requirements

a. **Linear heat Generation Rate (LHGR)**: One of the design limits for GE fuel is the fuel type specific LHGR limit, monitored as a Fraction of Limiting Power Density (FLPD) and Maximum Fraction of Limiting Power Density (MFLPD). FLPD and MFLPD are the ratio of the LHGR to its limit for a bundle and the maximum ratio for any bundle in the core, respectively. The LHGR limit, combined with analyses of abnormal operational occurrences, ensures that 1% plastic strain of the cladding is not exceeded. These analyses ensure that fuel system damage, fuel rod failure or inability to cool the fuel does not occur during the anticipated operational occurrences (AOOs) analyzed during the reload licensing process. The effects of fuel densification are accounted for in the GE fuel design methods.

b. **Critical Power Ratio (CPR)**: The current requirements are based on GE methods, including the use of GE models and the GE CPR correlation (GEXL) to calculate the CPR for the GE fuel bundles. GE methods/models are also used to determine the fuel dependent MCPR Safety Limit. GE transient analysis methods are used to determine the delta CPR for various Anticipated Operational Occurrences (AOOs). As stated in the description above, the basis for the CPR is to avoid boiling transition in the fuel bundle.

   The required operating limit MCPRs at normal operating conditions are derived from the established fuel cladding integrity Safety Limit MCPR and an analysis of abnormal operational transients. For any AOO transient analysis evaluation with the initial condition of the reactor being at the steady-state operating limit, it is required that the resulting MCPR does not decrease below the Safety Limit MCPR at any time during the transient assuming Reactor Protection System instrument trip settings given in Technical Specification 2.2. GE methods include a MCPR adjustment at off rated power or flow conditions.

   To ensure that the fuel cladding integrity Safety Limit is not exceeded during any AOO transient, the most limiting transients are analyzed to determine which result in the largest reduction in CRITICAL POWER RATIO (CPR). The type of transients evaluated were loss of flow, increase in pressure and power, positive reactivity insertion, and coolant temperature decrease. The limiting transient yields the largest delta MCPR. When added to the Safety Limit MCPR, the required minimum operating limit MCPR is obtained and presented in the CORE OPERATING LIMITS REPORT (COLR). This operating limit may be a function of control rod scram times.

c. Average Planar Linear Heat Generation Rate (APLHGR): The APLHGR specification assures that the peak cladding temperature following the postulated design basis loss-of-coolant accident will not exceed the limit specified in 10CFR50.46. This specification also assures that fuel rod mechanical integrity is maintained during normal and transient operations.

   The peak cladding temperature (PCT) following a postulated loss-of-coolant accident is primarily a function of the average heat generation rate of all the rods of a fuel assembly at any axial location and is dependent only secondarily on the rod to rod power distribution within an assembly. The purpose of the power and flow dependent MAPLHGR factors specified in the CORE OPERATING LIMITS REPORT is to define operating limits at other than rated core flow and core power conditions. At less than 100% of rated flow or rated power, the required MAPLHGR is the minimum of either (a) the product of the rated MAPLHGR limit and the power dependent MAPLHGR factor or (b) the product of the rated MAPLHGR limit and the flow dependent MAPLHGR factor. The power and flow dependent MAPLHGR factors assure that the fuel remains within the fuel design basis during transients at off-rated conditions. These factors are required because LaSalle, similar to other BWRs with power and flow dependent limits, does not reduce the APRM scram settings at low power or flow conditions.

d. **Traversing In-core Probe (TIP) Out of Service Limitations**: The OPERABILITY of the traversing in-core probe (TIP) system with the specified minimum complement of equipment ensures that the measurements obtained from the use of this equipment accurately represent the spatial neutron flux distribution in the reactor core.

The specification allows use of substituted TIP data from symmetric channels if the control rod pattern is symmetric since the TIP data is adjusted by the plant computer to remove machine dependent and power level dependent bias. The source of data for the substitution may also be a 3-dimensional BWR core simulator calculated data set which is normalized to available calibrated LPRM data. Since uncertainty could be introduced by this substitution of TIP data, confirmation of the following is required: (a) that the core is operating in an octant symmetric control rod pattern and (b) the total TIP uncertainty has been demonstrated to be less than 8.7% for the current cycle.

e. **Reactivity Anomaly**: Per NUREG-1434, the reactivity anomaly limit is established to ensure plant operation is maintained within the assumptions of the safety analyses. Large differences between monitored and predicted core reactivity may indicate that the assumptions of the Design Basis Accident (DBA) and transient analyses are no longer valid, or that the uncertainties in the Nuclear Design Methodology are larger than expected. A limit on the difference between the monitored reactivity and the predicted reactivity of 1% delta k/k has been established based on engineering judgment. A deviation greater than 1% from that predicted is larger than expected for normal operation and should therefore be evaluated.

f. **Fuel Assemblies:** The fuel assemblies are a key component of the reactor and are therefore included in the Design Features section of the Technical Specifications.

g. **IRM flux scram typographical error:** The basis for the IRM flux scram is to provide backup protection for the Average Power Range Monitor (APRM) system. The power level cited on page B 2-9 that the IRMs would terminate the low power RWE is 1% power.

5. Need for Revision of the Requirements

a. **Linear Heat Generation Rate (LHGR)**: The subject LHGR terminology (FLPD and MFLPD) is specific to GE. Since ComEd is beginning a transition from GE to Siemens Power Corporation (SPC) fuel and core monitoring methods, Technical Specifications related to GE should be removed, made vendor independent, or changed to apply to SPC. In this case, the FLPD and MFLPD terms are deleted and the required operating limit is presented with more generic terminology. The co-resident GE fuel in the core will be monitored via the GE fuel dependent LHGR limits and the SPC fuel will be monitored via SPC LHGR limits. Technical Specification 3.2.4, including its surveillance requirements, remains unchanged. The plant will still be required to maintain the LHGRs less than or equal to the LHGR limit specified in the Core Operating Limits Report (COLR). However, the vendor dependent terminology used to monitor LHGR (FLPD and MFLPD for GE fuel vs. Fuel Design Limiting Ratio for SPC fuel) is to be removed from the Technical Specifications and placed in the COLR. Therefore, the GE terminology may be eliminated from the Technical Specification definitions (1.14 and 1.24) and generic terminology for LHGR used in its place.

   The basis for LHGR contains a reference to a 1973 GE document which discusses the effects of fuel densification. During the intervening years, GE methods have changed to include consideration of fuel densification in the design of the fuel. Therefore, this Basis section is being modified to refer to the current revision to the General Electric Standard Application for Reactor Fuel (GESTAR), NEDE-24011-P-A-US.

b. **Critical Power Ratio (CPR):** With the change to SPC fuel and methods, it is necessary to update the Technical Specifications to reflect the SPC methods and references for assuring margin to transition boiling. The GE critical power correlation (GEXL) will no longer be used; instead, the SPC critical power correlation (ANFB) will be the correlation of record; as discussed in section 7 (basis for the revised requirements), the GE fuel will be monitored using the ANFB correlation with additive constants that are used to ensure the ANFB results are conservative.

   Technical Specification 3.2.3 remains unchanged. The plant will still be required to maintain the MCPR greater than or equal to its operating limit as specified in the COLR. The operating limit for MCPR may be scram time dependent. GE methods utilize the 20% scram insertion point (notch position 39) to determine the operating limit for MCPR. SPC methods utilize the 5%, 20%, 50%, and 90% scram insertion points to determine the MCPR operating limit. Analyzing 4 insertion points provides additional conservatism in the evaluation of the dependence of the MCPR operating limit on scram speeds. Surveillance Requirement 4.2.3 is modified to reflect this difference.

c. **Average Planar Linear Heat Generation Rate (APLHGR)**: Both GE and SPC use APLHGR to protect the fuel cladding from exceeding 10CFR50.46 limits during the design basis LOCA. GE also provides transient protection via power and flow biasing of APLHGR; SPC provides this protection via power and flow biasing of LHGR. Since the methods used by the two vendors differ, the bases for both need to be included in the Technical Specifications Bases. This will be true as long as there is co-resident GE fuel in the core. Each fuel type (GE and SPC) will be monitored using its respective vendor supplied APLHGR limits. Technical Specification 3.2.1, including its surveillance requirements, remains unchanged. The plant will still be required to maintain the APLHGR less than or equal to its limits as specified in the COLR.

d. **Traversing In-core Probe (TIP) Out of Service Limitations:** SPC performs the analyses to support the TIP system out of service limitations as part of the reload design and analysis activities. Because SPC performs these analyses on a cycle specific basis and are similar to other reload analysis activities (e.g. MCPR analyses) that affect the thermal limits, the section is re-located to the COLR, consistent with the Final Policy Statement on Technical Specifications Improvements for Nuclear Power Reactors (Federal Register Vol. 58, No. 139, July 22, 1993).

e. **Reactivity Anomaly**: The SPC core monitoring code (POWERPLEX), as well as the existing GE Core Monitoring Code (CMC), enables the site to monitor predicted Keff vs. actual Keff. In order to use this capability, the reference to ROD DENSITY is being deleted and critical control rod configuration added. The basis is also being upgraded to be consistent with Improved Technical Specifications, per NUREG-1434.

f. **Fuel Assemblies**: The description of the fuel bundles in the core is being expanded to be consistent with Improved Technical Specifications, per NUREG-1434 and to better reflect the ATRIUM-9B design.

g. **IRM flux scram typographical error:** The power level cited on page B 2-9 is a typographical error. The correct value (21%) is in section 15.4.1.2 of the UFSAR.

6. Description of the Revised Requirements

a. **Linear Heat Generation Rate (LHGR)**: The definition of Fraction of Limiting Power Density (FLPD) is deleted from the index and Section 1.0. This definition is specific to GE fuel. LHGR ratio monitoring is added to the definition of Linear Heat Generation Rate. Also deleted is the Maximum Fraction of Limiting Power Density (MFLPD) for the same reason. Affected pages are I, 1-3, and 1-4. The definitions are listed as "Deleted" to maintain the same numbering. The SPC Fuel Design Limiting Ratio (FDLRX) is the parameter monitored for compliance with the SPC LHGR. The basis section for the GE based LHGR is modified to refer to the latest approved revision to GESTAR. The bases for the SPC LHGR limits are added to page B 3/4 2-6:

   SPC Fuel

   The Linear Heat Generation Rate (LHGR) is a measure of the heat generation rate per unit length of a fuel rod in a fuel assembly at any axial location. LHGR limits are specified to ensure that fuel integrity limits are not exceeded during normal operation or anticipated operational occurrences (AOOs). Operation above the LHGR limit followed by the occurrence of an AOO could potentially result in fuel damage and subsequent release of radioactive material. Sustained operation in excess of the LHGR limit could also result in exceeding the fuel design limits. The failure mechanism prevented by the LHGR limit that could cause fuel damage during AOOs is rupture of the fuel rod cladding caused by strain from the expansion of the fuel pellet. One percent plastic strain of the fuel cladding has been defined as the limit below which fuel damage caused by overstraining of the fuel cladding is not expected to occur. Fuel design evaluations are performed to demonstrate that the mechanical design limits are not exceeded during continuous operation with LHGRs up to the limit defined in the CORE OPERATING LIMITS REPORT. The analysis also includes allowances for short term transient operation above the LHGR limit.

   At reduced power and flow conditions, the LHGR limit may need to be reduced to ensure adherence to the fuel mechanical design bases during limiting transients. At reduced power and flow conditions, the LHGR limit is reduced (multiplied) using the smaller of either the flow-dependent LHGR factor ($LHGRFAC_f$) or the power-dependent LHGR factor ($LHGRFAC_p$) corresponding to the existing core flow and power. The $LHGRFAC_f$ multipliers are used to protect the core during slow flow runout transients. The $LHGRFAC_p$ multipliers are used to protect the core during plant transients other than core flow transients. The applicable $LHGRFAC_f$ and $LHGRFAC_p$ multipliers are specified in the CORE OPERATING LIMITS REPORT.

b. **Critical Power Ratio (CPR)**: The definition of CPR (definition 1.9) is modified to be vendor independent. The "THERMAL POWER, Low Pressure or Low Flow" basis is modified to reflect the applicability of the ANFB correlation at low pressure and flow. The basis for the "THERMAL POWER, High Pressure and High Flow" (MCPR Safety Limit) is also modified to reflect the SPC methods and references. GE scram time dependent methods for determining the MCPR operating limit are replaced with the equivalent SPC methods. Specification 3.4.1.1.a.1.b (Recirculation Loops, Single Loop Operation) is modified to remove the repetition of the MCPR Safety Limit. The bases for the MCPR are modified to reflect SPC methods, including discussion of the power and flow biased limits, as follows:

   The purpose of the power- and flow-dependent MCPR limits (MCPRp and $MCPR_f$ respectively) specified in the CORE OPERATING LIMITS REPORT (COLR) is to define operating limits dependent on core flow and core power. At a given power and flow operating condition, the required MCPR is the maximum of either the power-dependent MCPR limit or the flow-dependent MCPR limit. The required MCPR limit assures that the Safety Limit MCPR will not be violated.

The flow dependent MCPR limits ($MCPR_f$) are established to protect the core from inadvertent core flow increases. The core flow increase event used to establish the limits is a slow flow runout to maximum flow that does not result in a scram from neutron flux overshoot exceeding the APRM neutron flux-high level (Table 2.2.1-1, Item 2). A conservative flow control line is used to define several core power/flow state points at which the analyses are performed. $MCPR_f$ limits are established to support both the automatic and manual modes of operation. In the automatic mode, $MCPR_f$ limits are established to protect the operating limit MCPR. For the manual mode, the limits are set to protect against violation of the safety limit MCPR.

The power-dependent MCPR limits, (MCPRp), are established to protect the core from plant transients other than core flow increases, including pressurization and the localized control rod withdrawal error events.

Analyses have been performed to determine the effects of assuming various equipment out-of-service scenarios on the (CPR) during transient events. Scenarios were performed to allow continuous plant operation with these systems out of service. Appropriate MCPR limits and/or penalties are included in the COLR for each of the equipment out-of-service scenarios identified in the COLR. In some cases, the reported limits or penalties are based on a cycle-independent analysis, while in other cases, analyses are performed on a cycle-specific basis.

References 2-6 [Technical Specification 3/4.2] describe the methodology and codes used to evaluate the potentially bounding non-LOCA transient events identified in Chapter 15 of the UFSAR.

MCPR limits are presented in the CORE OPERATING LIMITS REPORT (COLR) for both Nominal Scram Speed (NSS) and Technical Specification Scram Speed (TSSS) insertion times. The negative reactivity insertion rate resulting from the scram plays a major role in providing the required protection against violating the Safety Limit MCPR during transient events. Faster scram insertion times provide greater protection and allow for improved MCPR performance. The application of NSS MCPR limits takes advantage of improved scram insertion rates, while the TSSS MCPR limits provide the necessary protection for the slowest allowable average scram insertion times identified in Specification 3.1.3.3. If the scram insertion times determined per surveillance 4.1.3.2 meet the NSS insertion times, the appropriate NSS MCPR limits identified in the COLR are applied. If the scram insertion times do not meet the NSS insertion criteria, the TSSS MCPR limits are applied.

The details of the analyses performed for equipment out of service have been removed from the bases, consistent with a previous submittal in which the details of the equipment out-of-service options were removed from the basis and replaced with reference to the Core Operating Limits Report (COLR). (Reference: Gary G. Benes (ComEd) to US NRC Document Control desk, May 23, 1995). The discussion of the effects of the EOC-RPT on MCPR being inoperable (page B 3/4 3-3) is being modified to reflect that SPC analyses are not performed generically. The current basis discussion assumes the analysis is generic; SPC analysis will be cycle specific.

c. **Average Planar Linear Heat Generation Rate (APLHGR)**: The basis for the GE fuel APLHGR is modified on page B 3/4 2-1 to update references and clarify it applies to GE fuel. A new section has been added which discusses the basis for the SPC application of the APLHGR limits:

<u>SPC Fuel</u>

This specification assures that the peak cladding temperature of SPC fuel following a postulated design basis loss-of-coolant accident will not exceed the peak cladding temperature (PCT) and maximum oxidation limits specified in 10CFR50.46. The calculational procedure used to establish the AVERAGE

PLANAR LINEAR HEAT GENERATION RATE (APLHGR) limits is based on a loss-of-coolant accident analysis. The analysis is performed using calculational models which are consistent with the requirements of APPENDIX K to 10CFR50. The models are described in Reference 1 [of Technical Specification 3/4.2].

The PCT following a postulated loss-of-coolant accident is primarily a function of the average heat generation rate of all the rods of a fuel assembly at any axial location and is not strongly influenced by the rod-to rod power distribution within the assembly.

The AVERAGE PLANAR LINEAR HEAT GENERATION RATE (APLHGR) limits for two-loop operation are specified in the CORE OPERATING LIMITS REPORT (COLR). For single-loop operation, an APLHGR limit corresponding to the product of the two-loop limit and a reduction factor specified in the COLR can be conservatively used to ensure that the PCT for single-loop operation is bound by the PCT for two-loop operation.

d. **Traversing In-core Probe (TIP) Out of Service Limitations**: Specification 3.3.7.7 is being re-located from the Technical Specifications to the Core Operating Limits Report (COLR), consistent with Improved Technical Specifications (Reference: NUREG-1434).

e. **Reactivity Anomaly:** The words "ROD DENSITY" are changed to critical control rod configuration and the basis is modified to include discussion of the Keff method. The basis is changed to read consistent with NUREG-1434. The quotation marks bound the section that is taken directly from NUREG-1434:

"The reactivity anomaly limit is established to ensure plant operation is maintained within the assumptions of the safety analyses. Large differences between monitored and predicted core reactivity may indicate that the assumptions of the DBA and transient analyses are no longer valid, or that the uncertainties in the Nuclear Design Methodology are larger than expected. A limit on the difference between the monitored core k_{eff} and the predicted core k_{eff} of 1% delta k/k has been established based on engineering judgment." Alternatively, predicted control rod configuration can be compared with actual control rod configuration, and shown to be within 1% delta k/k. "A > 1% deviation in reactivity from that predicted is larger than expected for normal operation and should therefore be evaluated."

f Fuel Assemblies: A statement is added to refer to the use of water rods or water boxes which is consistent with the SPC fuel design . Discussion of substituted rods, approved fuel designs, and lead test assembly programs is added, consistent with Improved Technical Specifications (NUREG-1434):

Fuel Assemblies

The reactor shall contain 764 fuel assemblies. Each assembly shall consist of a matrix of Zircalloy fuel rods with an initial composition of natural or slightly enriched uranium dioxide (UO_2) as fuel material. The bundles may contain water rods or water boxes. Limited substitutions of zirconium alloy or stainless steel filler rods for fuel rods, in accordance with approved applications of fuel rod configurations, may be used. Fuel assemblies shall be limited to those fuel designs that have been analyzed with applicable NRC staff approved codes and methods and shown by tests or analyses to comply with all safety design bases. A limited number of lead test assemblies that have not completed representative testing may be placed in nonlimiting core regions.

g. **IRM flux scram typographical error:** The correct value is 21% power for the IRM scram protection from the low power control rod withdrawal error event.

7. Basis for the Revised Requirements

a. **Linear Heat Generation Rate (LHGR)**: The fuel vendor specific terminology is being deleted from the definitions and the LHGR definition is being modified to include monitoring relative to the limits associated with it. This method will remove vendor specific terms from the technical specifications, consistent with the intent of avoiding cycle specific administrative changes per Generic Letter 88-16 (COLR implementation). Since the core will contain co-resident GE fuel, the bases for the GE LHGR limits are being retained. The GE fuel will be monitored using GE LHGR limits and the SPC fuel will be monitored using SPC LHGR limits. The bases for the SPC LHGR limits, including discussion of their power and flow biasing, is being added for the SPC fuel being utilized in the core. The SPC basis for LHGR is the mechanical integrity of the fuel and includes the design criteria of less than one percent plastic strain and avoidance of fuel centerline melt.

The SER for ANF-89-014, Advanced Nuclear Fuels Corporation "Generic Mechanical Design for Advanced Nuclear Fuels 9x9-IX and 9x9-9X BWR Reload Fuel," discusses the mechanical design analyses performed by SPC for the subject fuel designs. It concludes that the 9x9-IX (currently known as ATRIUM-9B) and 9x9-9X designs as described in ANF-89-014 are acceptable for licensing applications for BWRs, with the exception that plant-specific analysis of a seismic/LOCA event is required for reload applications. The SPC analysis of a Seismic-LOCA event is in progress as part of the L2C8 reload licensing calculations. Attachment E, (EMF-94-217(P), Boiling Water Reactor Licensing Methodology Summary) summarizes the Siemens methods and refers to the NRC approved documents regarding the methods used. ComEd has determined that this licensing methodology is applicable to LaSalle.

The effects of fuel densification are accounted for in the GE design methods. The latest approved revision of GESTAR discusses the methods being used. Therefore, the Technical Specification Basis reference is being changed to identify GESTAR to ensure the most recent methods are referred to.

b. **Critical Power Ratio (CPR)**: The SPC CPR correlation (ANFB) has different assumptions and ranges of validity for pressures and flows. The SPC methods have different governing documents. Therefore, the bases and references are updated to reflect these differences. The SPC methods for analyzing the scram time dependence of the MCPR operating limit utilize cycle specific nominal values. Therefore, the discussion of the process for determining the MCPR operating limit in this section has been replaced by the SPC methods, including clarification of the use of nominal scram times being maintained in the COLR. SPC methodology determines the MCPR Safety Limit on a cycle-specific basis. The repeated detailed reference to the MCPR safety limit in 3.4.1.1.a.1.b is removed. This is not directly related to the transition, but removes redundancy of the Safety Limit value. Note that Specification 2.1.2 is still referred to. The discussion of the basis for the analysis of the EOC-RPT being inoperable is being modified slightly for SPC methods; the major reason for the change is that the current Basis states that the analysis is generic while SPC methods analyze this on a cycle specific basis. The NRC approved SPC CPR correlation (ANFB) is documented in ANF/EMF-1125, ANFB Critical Power Correlation.

Each vendor has developed its own correlation for determining the fuel assembly critical power. Since future reload fuel will be supplied by SPC, the SPC ANFB correlation will be used for determining the critical power in the mixed core. As such, the critical power for the SPC fuel will be determined with the ANFB correlation. The critical power for the existing co-resident GE fuel will also be based on the ANFB correlation. However, for the GE fuel, appropriate bundle geometry constants will be used with the ANFB critical power correlation to ensure that the mean of the ANFB calculated critical power results for the GE fuel is conservative relative to the results that would be

determined with the GE GEXL correlation. A cycle specific application of the uncertainty associated with applying ANFB to the co-resident GE fuel is documented in EMF-96-021 and has been submitted by ComEd for NRC review (Reference: Letter dated March 8, 1996, ComEd to NRR, "Application of Siemen's Power Corporation ANFB Critical Power Correlation to Coresident General Electric Fuel for LaSalle Unit 2 Cycle 8). It is anticipated that EMF-1125 Supplement 1 Appendix C, "ANFB Critical Power Correlation Application for Co-Resident Fuel," will be generically approved by the NRC prior to the first SPC cycle for Unit 1 (late 1997). This document was submitted to the NRC by SPC in November of 1995 (Reference: Letter dated November 30, 1995, Siemens Power Corporation to NRR, "Submittal of EMF-1125(P), Supplement 1 Appendix C"). If not approved, a cycle specific document similar to EMF-96-021 will be prepared and submitted.

LaSalle has implemented the BWR Owners Group Interim Corrective Actions (ICAs) for avoiding the areas of the power to flow map that are susceptible to thermal hydraulic instability. The ICAs are an exclusion region approach agreed upon between the BWR Owners Group (BWROG) and the NRC for addressing instability concerns until a long term solution is operational. These ICAs are administrative operating boundaries, without assuming cycle specific stability analyses. SPC methods currently support the stability exclusion regions by confirming the regions on a cycle-specific basis. For LaSalle, the long term solution will be a hardware modification that provides MCPR protection in the event of a thermal hydraulic core instability. Figure 3.4.1.5-1 (Power to Flow Map) will be revised when the long term solution is operational. SPC has also established appropriate hydraulic information for the co-resident GE fuel by performing single phase flow tests on the GE fuel. This hydraulic data augments design analyses to ensure hydraulic compatibility between the SPC reload fuel and the co-resident GE fuel.

c **Average Planar Linear Heat Generation Rate (APLHGR)**: APLHGR is monitored for GE fuel to ensure mechanical integrity of the fuel rods is maintained and the peak clad temperature during the Design Basis Loss of Coolant Accident is less than the 10CFR50.46 limit. APLHGR is monitored for SPC fuel to limit peak clad temperature while the mechanical integrity of the fuel is maintained via LHGR monitoring. These differences require both bases to be included in the Technical Specifications. The GE fuel will be monitored using GE APLHGR limits and the SPC fuel will be monitored using SPC APLHGR limits. These limits will be identified in the COLR.

The SER for ANF-89-014 (P)(A), Advanced Nuclear Fuels Corporation, "Generic Mechanical Design for Advanced Nuclear Fuels 9x9-IX [ATRIUM-9B] and 9x9-9X BWR Reload Fuel," states: "The ANF design criteria for ECCS evaluation met the requirements of 10 CFR 50.46 as it relates to cladding embrittlement for a LOCA; i.e., the criteria of a peak cladding temperature limit of 2200 degrees Fahrenheit and a 17% limit on maximum cladding oxidation. We conclude that these criteria or limits are also applicable for application to the 9x9-IX and 9x9-9X designs up to the burnup levels requested in ANF-89-014. Evaluation - The principal cause of cladding embrittlement during severe accidents such as LOCA is the high cladding temperatures that result in severe cladding oxidation. The ANF methodology for evaluating cladding oxidation and embrittlement during a LOCA is included in their approved report for LOCA-ECCS analysis," 'EXEM-ECCS Evaluation,' XN-NF-80-19(P)(A), Volumes 2, 2A, 2B, and 2C. Further discussion of the SPC LOCA-ECCS methods can be found in ANF-91-048(P)(A), "Advanced Nuclear Fuels Corporation Methodology for Boiling Water Reactors EXEM BWR ECCS Evaluation Model," and EMF-94-217(P), "Boiling Water Reactor Licensing Methodology Summary."

A line item is added to the single loop operation (SLO) specification (page 3/4 4-1) to include applicable adjustment to the SLO operating limit for APLHGR. SPC methods may require this reduction factor for SPC fuel to ensure that the analyses performed for two loop operation bound the results for SLO. This cycle-specific evaluation is performed due to the fact that, in the case of the limiting break occurring in the active loop, there is no flow coastdown due to pump inertia in the intact loop.

d. **Traversing In-core Probe (TIP) Out of Service Limitations** (Technical Specification 3.3.7.7):

The TIP system allows calibration of LPRM signals by correlating TIP signals to LPRM signals as the TIP is positioned in various radial and axial locations in the core. The TIP guide tubes inside the reactor are divided into groups with each group having its associated TIP machine. When not in use, the TIPs are retracted into a storage position outside primary containment. The TIP system isolation function and APRM operability are not affected by this re-location. SPC methods use a statistical check of TIP symmetry, which is an assumed parameter in their analysis methods. Therefore, this method needs to be incorporated into the site COLR.

The basis for re-location of this requirement to an administrative technical requirement document is that the section does not meet the criteria for inclusion in the Technical Specifications given in the Final Policy Statement on Technical Specifications Improvements for Nuclear Power Reactors (Federal Register Vol. 58, No. 139, July 22, 1993). The criteria are discussed below. The evaluation demonstrates that the re-location of section 3.3.7.7 meets the criteria for re-location from the Technical Specifications.

Improved Technical Specification Criterion 1: Installed instrumentation that is used to detect, and indicate in the control room, a significant abnormal degradation of the reactor coolant pressure boundary.

The TIP system is not used for detecting and indicating significant abnormal degradation of the primary pressure boundary. Any leakage of the portion of the TIP tubing in the reactor pressure boundary would be indicated in the control room similar to any other primary boundary leak (e.g., drywell pressure increase, increased sump flow rates).

Improved Technical Specification Criterion 2: A process variable, design feature, or operating restriction that is an initial condition of a Design Basis Accident or Transient analysis that either assumes the failure of or presents a challenge to the integrity of a fission product barrier.

The TIP system does not meet criterion 2 as it is only used as a calibration tool for the LPRMs. The uncertainty of its measurements are included in the core monitoring methods.

Improved Technical Specification Criterion 3: A structure, system, or component that is part of the primary success path and which functions or actuates to mitigate a Design Basis Accident or Transient that either assumes the failure of or presents a challenge to the integrity of a fission product barrier.

The TIP system's direct accident/transient function is the containment isolation function of the TIPs when they are penetrating primary containment. This system function is not related to the calibration function covered by the subject specification. Its function as a calibration tool for the LPRMs results in uncertainties that are included in the core monitoring methods.

Improved Technical Specifications Criterion 4: A structure, system, or component which operating experience or probabilistic safety assessment has shown to be significant to public health and safety.

Per page 5-182 of NEDO-31466, Technical Specification Screening Criteria Application and Risk Assessment: "The Traversing In-Core Probe (TIP) system is used only for calibration of the LPRM detectors. The TIP system (1) is not used to prevent degradation of the reactor coolant pressure boundary, (2) is not a condition of a DBA or transient analysis that is based upon the integrity of the fission product barrier, and (3) is not a portion of the primary success path of a safety sequence analysis." That document does not identify any probabilistic risk assessment concerns with the TIP system. ComEd concurs with this assessment.

The TIP system requirements will be incorporated into the Core Operating Limits Report (COLR), due to the TIP system uncertainty effects on the calculation of bundle power and MCPR. The COLR revision will coincide with the first transition cycle with SPC fuel. Therefore, the relocation of section 3.3.7.7 to the COLR meets the criteria for removal from the Technical Specifications.

e. **Reactivity Anomaly:** The changes enable the site to use the Keff method of monitoring for reactivity anomalies that is available with the POWERPLEX monitoring code. This method is being used currently at Dresden. Monitoring core reactivity via ROD DENSITY utilizes a correlation between a change in ROD DENSITY and core reactivity. The method of using k_{eff} is a more direct measurement method and is consistent with NUREG-1434. The capability to use control rod configuration is retained as an alternate method. The Bases is also upgraded to be consistent with NUREG-1434.

f. **Fuel Assemblies**: The design features section describing the fuel bundles is being modified to be consistent with NUREG-1434. The section is expanded to include discussion of the use of inert rods and fuel that has been approved by the NRC, including mention of Lead Test Assemblies. The description of the fuel is consistent with the fuel at LaSalle.

g. **IRM flux scram typographical error:** The basis for the correction is the analysis in section 15.4.1.2 of the UFSAR. The value is confirmed by a plot illustrating the peak power level during the event.

Schedule

This amendment is needed to support LaSalle operations with Siemens fuel. Siemens fuel will be initially loaded into LaSalle Unit 2 Cycle 8 (startup approximately November 21, 1996) and LaSalle Unit 1 Cycle 9 (startup approximately November 1997); therefore, this amendment is required prior to the startup of LaSalle Unit 2 Cycle 8. It is requested that the amendments be approved by October 21, 1996, with the amendments to be implemented prior to the startup of Cycle 8 for Unit 2 and prior to the startup of Cycle 9 for Unit 1.

Attachment B

Summary of Proposed Changes

B. Summary of Proposed Changes

1. The index has the definitions of MFLPD and CMFLPD deleted.

2. The Definition for Critical Power Ratio is modified to a form that is not fuel vendor specific. Affected pages are 1-2 through 1-4. As in item 1 above, the definitions of FLPD and MFLPD are deleted. The definition of Linear Heat Generation Rate (LHGR) is modified to include the statement "LHGR is monitored by the ratio of LHGR to its fuel specific limit, as specified in the COLR."

3. GE methods (GEXL correlation, GETAB, NEDO documents) are discussed on pages B 2-1 and B 2-2. Affected pages for Unit 2 are B 2-1 through B 2-3. These sections have been modified to refer to SPC methods.

4. Per LaSalle UFSAR section 15.4.1.2, the peak power during an unblocked low power rod withdrawal error is limited by the IRMs to 21% power. Page B 2-9 of LaSalle Technical Specifications is changed to reflect this number. This item is unrelated to the SPC transition, but is an apparent typographical error and is being corrected.

5. Specification 3/4.1.2 (page 3/4 1-2) is modified so that the Keff process for monitoring reactivity anomaly can be used in accordance with SPC methodology. The associated basis (page B 3/4 1-1) is also modified.

6. Section 4.2.3 (page 3/4 2-4) is changed to reflect SPC methods for the use of CRD scram time data and its application to the MCPR operating limit.

7. Section 3.3.7.7 (page V, page 3/4 3-73 and page B 3/4 3-5) contains TIP system requirements. It is being relocated to the COLR from the Technical Specifications as a line item from the Improved Technical Specifications upgrade.

8. Tech Spec 3.4.1.1 (page 3/4 4-1) refers to the MCPR safety limit during SLO. The explicit reference to the Safety Limit value is deleted by removing the words "to 1.08." Also, a line item is added to include applicable APLHGR limit adjustments for single loop operation.

9. The documents referenced in the basis for section 3/4.1.4 (page B 3/4 1-4) are changed to the appropriate SPC reference. Also, the GE references on page B 3/4 1-5 are deleted.

10. Page B 3/4 2-1 is changed to denote GE fuel APLHGR monitoring, and has its reference numbers changed due to the new reference list with SPC fuel references. The next section (page B 3/4 2-1(a)) is added for SPC APLHGR methods.

11. Pages B 3/4 2-2 through B 3/4 2-5 have sections related to GE methods deleted. New information is added related to SPC methods for MCPR operating limit determination.

12. Page B 3/4 2-6 is modified to refer to the latest approved revision of GESTAR for effects of fuel densification.

13. Page B 3/4 2-6 has been modified to include a section for LHGR using SPC methods for SPC fuel.

14. The references on page B3/4 2-6 are modified to include SPC references.

1'. The basis for section 3/4.3.4 has the third paragraph on page B 3/4 3-3 clarified and includes reference to the COLR.

16. Page 5-4 has the fuel bundle description changed to be consistent with the Improved Technical Specifications (ITS). The water box of the SPC fuel is also referred to.

17. Page 6-25 is changed to reflect revised MCPR methods (SPC vs. GE) and the reference list is amended with SPC references

Index of Proposed Changes for LaSalle Unit 1

Index	page I	Items 1.14 and 1.24 deleted
Index	page V	TIP Section deleted (re-located)
Definition 1.9	page 1-2	CPR correlation reference made vendor independent
Definition 1.14	page 1-3	FLPD definition deleted
Definition 1.22	page 1-4	Clarified LHGR monitoring
Definition 1.24	page 1-4	MFLPD definition deleted
B 2.1.1	p. B 2-1	Changed due to SPC CPR correlation
B 2.1.2	p. B 2-2	Changed references to SPC CPR methods
B 2.2.1.1	p. B 2-9	corrected power level reference for IRM discussion
3/4.1.2	p. 3/4 1-2	modified reactivity anomaly for Keff monitoring
B 3/4.1.1	B 3/4 1-1	mod. reactivity anomaly for Keff monitoring/NUREG-1434
4.2.3	p. 3/4 2-4	Changed MCPR operating limit to SPC methods
3.3.7.7	p. 3/4 3-73	Re-located TIP section to COLR
B 3/4.1.4	p. B 3/4 1-4	Changed RDA references from GE to SPC
B 3/4.1	p. B 3/4 1-5	Changed GE references to SPC
3.4.1.1a.1.b)	p. 3/4 4-1	deleted "to 1.08"
3.4.1.1	p. 3/4 4-1	added SLO APLHGR adjustment
B 3/4.2.1	p. B 3/4 2-1	Added APLHGR discussion for SPC fuel
B 3/4.2.3	p. B 3/4 2-2 p. B 3/4 2-3 p. B 3/4 2-4 p. B 3/4 2-5	Replaced GE MCPR method discussion with SPC Deleted detail of equipment out of service analyses, consistent with submittal dated May 23, 1995 Added discussion of SPC power/flow biased fuel limits
B 3/4.2.4	p. B 3/4 2-6	Added SPC LHGR discussion and updated references to SPC
B 3/4.2.4	p. B 3/4 2-6	Refer to GESTAR vs. NEDM-10735
B 3/4.3.4	p. B 3/4 3-3	Changed EOC-RPT discussion for SPC methods
B 3/4.3.7.7	p. B 3/4 3-5	Re-located to COLR

5.3.1	p. 5-4	Modified fuel assembly descriptions
6.6.A.6.a(2)	p. 6-25	Removed reference to GE MCPR methods
6.6.A.6.b	p. 6-25	Added SPC references

Index of Proposed Changes for LaSalle Unit 2

Index	page I	Items 1.14 and 1.24 deleted, items re-numbered
Index	page V	Tip Section Deleted (Re-located)
Definition 1.9	page 1-2	CPR correlation reference made vendor independent
Definition 1.14	page 1-3	FLPD definition deleted
Definition 1.22	page 1-4	Clarified LHGR monitoring
Definition 1.24	page 1-4	MFLPD definition deleted
B 2.1.1	p. B 2-1	Changed due to SPC CPR correlation
B 2.1.2	p. B 2-2	Changed references to SPC CPR methods
B 2.1.2	p. B 2-3	Changed references to SPC CPR methods
B 2.2.1.1	p. B 2-9	corrected power level reference for IRM discussion
3/4.1.2	p. 3/4 1-2	modified reactivity anomaly for Keff monitoring
B 3/4.1	p. B 3/4 1-1	mod. reactivity anomaly for Keff monitoring/NUREG-1434
4.2.3	p. 3/4 2-4	Changed MCPR operating limit to SPC methods
3.3.7.7	p. 3/4 3-73	Re-located TIP section to COLR
B 3/4.1.4	p. B 3/4 1-4	Changed RDA references from GE to SPC
B 3/4.1	p. B 3/4 1-5	Changed GE references to SPC
3.4.1.1a.1.b)	p. 3/4 4-1	deleted "to 1.08"
3/4.4	p. 3/4 4-1	added SLO APLHGR adjustment
B 3/4.2.1	p. B 3/4 2-1	Added APLHGR discussion for SPC fuel
B 3/4.2.3	p. B 3/4 2-2 p. B 3/4 2-3 p. B 3/4 2-4 p. B 3/4 2-5	Replaced GE MCPR method discussion with SPC Deleted detail of equipment out of service analyses, consistent with submittal dated May 23, 1995 Added discussion of SPC power/flow biased fuel limits
B 3/4.2.4	p. B 3/4 2-6	Added SPC LHGR discussion and updated references to SPC
B 3/4.2.4	p. B 3/4 2-6	Refer to GESTAR vs. NEDM-10735
B 3/4.3.7.7	p. B 3/4 3-5	Re-located to COLR

B 3/4.3.4	p. B 3/4 3-3	Changed EOC-RPT discussion for SPC methods
5.3.1	p. 5-4	Modified fuel assembly descriptions
6.6.A.6.a(2)	p. 6-25	Removed reference to GE MCPR methods
6.6.A.6.b	p. 6-25	Added SPC references

[The marked-up License pages are attached.]