



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

Docket file
TS C3

50-265

May 2, 1997

Ms. Irene Johnson, Acting Manager
Nuclear Regulatory Services
Commonwealth Edison Company
Executive Towers West III
1400 Opus Place, Suite 500
Downers Grove, IL 60515

SUBJECT: ISSUANCE OF AMENDMENT (TAC NO. M98491)

Dear Ms. Johnson:

The U.S. Nuclear Regulatory Commission (Commission) has issued the enclosed Amendment No. 173 to Facility Operating License No. DPR-30 for the Quad Cities Nuclear Power Station, Unit 2. The amendment is in response to your application dated April 29, 1997.

The proposed amendment modifies Section 5.3.A, "Design Features" of the Technical Specifications (TS) to reflect the ATRIUM-9B fuel design and would include various Siemens Power Corporation (SPC) topical reports in TS Section 6.9.A.6, "Core Operating Limits Report," to reflect mechanical design criteria for this fuel and topical reports required for operation. This change would allow this fuel to be loaded into the core only under Operational Modes 3 (Hot Shutdown), 4 (Cold Shutdown), and 5 (Refueling) and does not permit startup or power operation using the ATRIUM-9B fuel. Although the April 29, 1997, letter requested these changes be processed on an emergency basis for Units 1 and 2, the application failed to establish that an emergency exists with respect to Unit 1.

As described in Section 4.0 of the enclosed safety evaluation, the staff has determined that an emergency exists in that failure of the Commission to act in a timely manner would result in the prevention of the resumption of operation of Quad Cities, Unit 2 and has processed this amendment accordingly.

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I. Johnson

A copy of the related Safety Evaluation is also enclosed. The Notice of Issuance and final determination of no significant hazards consideration and opportunity for a hearing will be included in the Commission's biweekly Federal Register notice.

Sincerely,

Original signed by:

Robert M. Pulsifer, Project Manager
Project Directorate III-2
Division of Reactor Projects - III/IV
Office of Nuclear Reactor Regulation

Docket No. 50-265

Enclosures: 1. Amendment No. 173 to DPR-30
2. Safety Evaluation

cc w/encl: see next page

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I. Johnson
Commonwealth Edison Company

Quad Cities Nuclear Power Station
Unit Nos. 1 and 2

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

COMMONWEALTH EDISON COMPANY

AND

MIDAMERICAN ENERGY COMPANY

DOCKET NO. 50-265

QUAD CITIES NUCLEAR POWER STATION, UNIT 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 173
License No. DPR-30

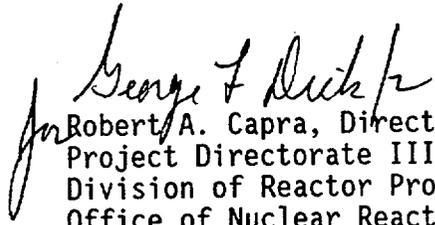
1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Commonwealth Edison Company (the licensee) dated April 29, 1997, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act) and the Commission's rules and 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 rules and 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;
 - 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 attachment to this license amendment, and paragraph 3.B. of Facility Operating License No. DPR-30 is hereby amended to read as follows:

B. Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 173, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of the date of its issuance.

FOR THE NUCLEAR REGULATORY COMMISSION


Robert A. Capra, Director
Project Directorate III-2
Division of Reactor Projects - III/IV
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of Issuance: May 2, 1997

ATTACHMENT TO LICENSE AMENDMENT NO. 173

FACILITY OPERATING LICENSE NO. DPR-30

DOCKET NO. 50-265

Revise the Unit 2 Appendix A Technical Specifications by removing the pages identified below and inserting the attached pages. The revised Unit 2 pages are identified by the captioned amendment number and contain marginal lines indicating the area of change.

REMOVE

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INSERT

5-5a

6-16a

5.0 DESIGN FEATURES

5.3 REACTOR COREFuel Assemblies

- 5.3.A The reactor core shall contain 724 fuel assemblies¹. Each assembly consists of a matrix of Zircaloy clad fuel rods with an initial composition of natural or slightly enriched uranium dioxide as fuel material. The assemblies may contain water rods or water boxes. Limited substitutions of Zircaloy or ZIRLO, in accordance with NRC-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 fuel safety design bases². A limited number of lead test assemblies that have not completed representative testing may be placed in non-limiting core regions.

Control Rod Assemblies

- 5.3.B The reactor core shall contain 177 cruciform shaped control rod assemblies. The control material shall be boron carbide powder (B_4C) and/or hafnium metal. The control rod assembly shall have a nominal axial absorber length of 143 inches.

* All changes for Amendment No. 173 apply to Unit 2 only.

- 1 ATRIUM-9B fuel is only allowed in the reactor core in Operational Modes 3, 4 and 5, and with no more than one control rod withdrawn.
- 2 The design bases applicable to ATRIUM-9B fuel are those which are applicable to Operational Modes 3, 4, and 5.

ADMINISTRATIVE CONTROLS

- (3) Commonwealth Edison Topical Report NFSR-0085, Supplement 1, "Benchmark of BWR Nuclear Design Methods - Quad Cities Gamma Scan Comparisons," (latest approved revision).
 - (4) Commonwealth Edison Topical Report NFSR-0085, Supplement 2, "Benchmark of BWR Nuclear Design Methods - Neutronic Licensing Analyses," (latest approved revision).
 - (5) Advanced Nuclear Fuels Methodology for Boiling Water Reactors, XN-NF-80-19(P)(A), Volume 1, Supplement 3, Supplement 3 Appendix F, and Supplement 4, Advanced Nuclear Fuels Corporation, November 1990.
 - (6) Commonwealth Edison Topical Report NFSR-0091, "Benchmark of CASMO/MICROBURN BWR Nuclear Design Methods", Revision 0, Supplements 1 and 2, December 1991, March 1992, and May 1992, respectively; SER letter dated March 22, 1993.
 - (7) Generic Mechanical Design Criteria for BWR Fuel Designs, ANF-89-98(P)(A) Revision 1, and Revision 1 Supplement 1, Advanced Nuclear Fuels Corporation, May 1995.
 - (8) Advanced Nuclear Fuels Corporation Generic Mechanical Design for Advanced Nuclear Fuels 9X9-IX and 9X9-9X BWR Reload Fuel, ANF-89-014(P)(A), Revision 1 and Supplements 1 and 2, Advanced Nuclear Fuels Corporation, October 1991.
- c. The core operating limits shall be determined so that all applicable limits (e.g., fuel thermal-mechanical limits, core thermal-hydraulic limits, ECCS limits, nuclear limits such as shutdown margin, and transient and accident analysis limits) of the safety analysis are met. The CORE OPERATING LIMITS REPORT, including any mid-cycle revisions or supplements thereto, shall be provided upon issuance, for each reload cycle, to the NRC Document Control Desk with copies to the Regional Administrator and Resident Inspector.

6.9.B Special Reports

Special reports shall be submitted to the Regional Administrator of the NRC Regional Office within the time period specified for each report.

*All changes for Amendment No. 173 apply to Unit 2 only.



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 173 TO FACILITY OPERATING LICENSE NO. DPR-30

COMMONWEALTH EDISON COMPANY

AND

MIDAMERICAN ENERGY COMPANY

QUAD CITIES NUCLEAR POWER STATION, UNIT 2

DOCKET NO. 50-265

1.0 INTRODUCTION

By letter dated April 29, 1997, Commonwealth Edison Company (ComEd, the licensee) submitted a request for changes to the Technical Specifications (TS) for Quad Cities Nuclear Power Station, Units 1 and 2. Although the April 29, 1997, letter requested these changes for Units 1 and 2, the application failed to show that an emergency exist only for Unit 1. Therefore, this safety evaluation addresses changes to Unit 2 TS only. The requested changes would add footnotes to Design Features Section 5.3 of the TS to allow the use of ATRIUM-9B fuel in Operational Modes 5 (Refueling), 4 (Cold Shutdown), and 3 (Hot Shutdown). On June 10, 1996 (Reference 2), as supplemented on February 17, 1997 (Reference 3), ComEd submitted a TS change request which would permit the use of ATRIUM-9B fuel under all operating conditions for the upcoming fuel cycle for Unit 2. On July 2, 1996 (Reference 4), as supplemented on February 17, 1997 (Reference 5), ComEd submitted for staff approval, a topical report regarding critical power correlation to coresident fuel and a response to the staff's request for additional information. The June 10, 1996, TS amendment request and the July 2, 1996, topical report submittals are currently under review.

2.0 BACKGROUND

On June 10, 1996 (Reference 2), ComEd submitted to the staff for review and approval, proposed TS changes to support the transition from General Electric's (GE) to Siemens Power Corporation's (SPC) ATRIUM-9B fuel. The proposed TS provided SPC terminology and applicable methodologies. On July 2, 1996 (Reference 4), ComEd submitted for review and approval, a topical report that describes the procedure for applying the SPC Advanced Nuclear Fuel for Boiling Water Reactors (ANFB) critical power correlation to the coresident GE fuel.

During an NRC audit in March 1997, the staff raised concerns with the uncertainty values used in the application of the ANFB critical power correlation to the ATRIUM-9B fuel design. To support Quad Cities, Unit 2, SPC submitted a topical report (Reference 6) to address specific concerns raised by the staff. ComEd also submitted Reference 7 which was an exigent TS amendment request that revises the Minimum Critical Power Ratio (MCPR) safety limit for Quad Cities, Unit 2, Cycle 15.

The uncertainty issues in the ANFB correlation for critical power monitoring of the SPC and GE fuel are still under staff review, which has caused an unanticipated delay in completing the approvals of References (2) and (4). Resolution of these issues is ongoing, however, to support the return to operation schedule for Quad Cities, Unit 2, ComEd is requesting a TS amendment to allow loading of ATRIUM-9B fuel in the reactor core for Operational Modes 3, 4, and 5.

3.0 EVALUATION

The proposed change would allow the plant to enter Operational Modes 3, 4, and 5 with ATRIUM-9B fuel loaded in the reactor core. Operational Modes 3 and 4 permit increases in the allowable temperatures and pressures of the reactor coolant, but would not permit the reactor to become critical.

Fuel Characteristics

Quad Cities, Unit 2, will use SPC ATRIUM-9B fuel which is a 9x9 matrix with 72 fuel rods and a water box. The mechanical design of this fuel has been analyzed in accordance with SPC NRC-approved generic mechanical design criteria (References 1 and 8).

The description of the fuel in TS Section 5.3.A is being changed to provide a description of the water rods and zirconium alloy. ATRIUM-9B contains central water boxes and the term zirconium alloy is being revised to Zircaloy and ZIRLO which are the only zirconium alloys allowed by 10 CFR 50.46. Footnotes are also added to state that the ATRIUM-9B fuel is only allowed in the reactor core in Operational Modes 3, 4, and 5 and that the design bases applicable to ATRIUM-9B fuel are those which are applicable to Operational Modes 3, 4, and 5. The TS change restricting the fuel to modes 3, 4, and 5 and not startup and power operation is acceptable to the staff.

With consent from ComEd on May 2, 1997, TS page 5-5 and page 6-16 were annotated to indicate that these changes apply to Unit 2 only. These footnotes would be superseded upon approval from the staff to operate beyond Operational Mode 3. A revised TS page would be issued at that time eliminating the restricted footnotes.

Core Loading Evaluation and Shutdown Margin

The licensee also stated that the ATRIUM-9B fuel weighs essentially the same as the current GE fuel and is compatible with the refueling platform main

grapple. Therefore, the refueling platform main hoist is sufficient to handle the new fuel. The licensee also states that the ATRIUM-9B fuel uses a channel design with mechanical and structural design similar to the GE fuel. The staff finds that this new fuel can be safely loaded into the reactor core because it is physically similar to the current fuel.

Support of fuel in Operational Modes 3, 4, and 5 requires consideration of core shutdown margin (SDM) and fuel bundle mechanical integrity. Core SDM is defined as the amount of shutdown core reactivity with all the control rods inserted and with the strongest worth control rod fully withdrawn at 68 degrees Fahrenheit and zero Xenon concentration. The licensee's methodology for calculating SDM is contained in References (9) and (10), both previously approved by the NRC. Core SDM for beginning of cycle is greater than 1.00% ΔK , which satisfies the TS value of 0.43% ΔK . Therefore, the staff finds that the ATRIUM-9B fuel can be loaded and placed in its planned Cycle 15 configuration and remain subcritical with the strongest worth control rod withdrawn.

The fuel handling equipment accidents were also considered. The licensee determined that the evaluated fuel bundle drop accident for the ATRIUM-9B fuel assembly is bounded by the results of the fuel handling accident presented in the Final Safety Analysis Report (FSAR).

Mechanical Design

TS Section 6.9.6.b would be revised to include the NRC-approved topical reports ANF-89-98(P)(A), Revision 1, and Revision 1 Supplement 1, "Generic Mechanical Design Criteria for BWR Fuel Designs," (Reference 1) and "Advanced Nuclear Fuels Corporation Generic Mechanical Design for Advanced Nuclear Fuels 9X9-IX and 9X9-9X BWR Reload Fuel," ANF-89-014(P)(A), Revision 1, and Supplements 1 and 2, Advanced Nuclear Fuels Corporation, October 1991 (Reference 8), describing the criteria used by SPC to design boiling-water reactor (BWR) fuel assemblies. The reports are appropriate for the Quad Cities plant design and are acceptable for use. The ATRIUM-9B mechanical design has been analyzed according to this generic mechanical design criteria as applicable to Operational Modes 3, 4, and 5.

SPC mechanical design calculations using the above NRC-approved methodology demonstrate that ATRIUM-9B complies with the criteria applicable to Modes 3, 4, and 5. This plant specific application of the NRC-approved criteria is acceptable by the staff along with the proposed TS reference changes.

In conclusion, the proposed changes to the Quad Cities, Unit 2, TS support loading of ATRIUM-9B fuel during Operational Modes 3, 4, and 5. Approved methodologies are used to analyze SDM and fuel bundle integrity during fuel loading in these modes. The staff has concluded that all applicable limits for Operational Modes 3, 4, and 5, such as nuclear (shutdown margin), and accident analysis limits are met. Therefore, the changes are acceptable.

Consideration of Higher Pressures

The licensee, in its submittal, also discussed the fact that it considered the potential blowdown at pressures corresponding to Operational Modes 3 and 4, which are higher than that in Operational Mode 5. The reactor would remain subcritical and no adverse consequences would result. The mechanical fuel design would accommodate both the higher pressure and a potential rapid pressure reduction, and the plant would still remain in a safe condition.

Based on the above information, the staff has concluded that operating Quad Cities, Unit 2, in Modes 3, 4, and 5 is acceptable based on the approved-mechanical design of the fuel, the maintenance of the reactor in a subcritical mode, and the existing SDM. The outstanding issues for the review of the June 10, 1996 (Reference 2), and July 2, 1996 (Reference 4), submittals, deal with the uncertainty of ANFB additive constants used for 9X9 fuels with an internal water channel in the MCPR safety limit analysis with the reactor critical and in Operational Modes 1 (operation) or 2 (startup).

4.0 EMERGENCY CIRCUMSTANCES

In its April 29, 1997, application, the licensee requested that this amendment be treated as an emergency amendment. In accordance with 10 CFR 50.91(a)(5), the licensee provided the following information regarding why this emergency situation occurred and how it could not have been avoided.

The licensee states that the circumstances have resulted from issues raised during NRC vendor inspection activities at SPC in March 1997. The NRC staff could not support the uncertainty values used in the application of the ANFB critical power correlation to the ATRIUM-9B fuel design. On April 3, 1997, a meeting was held between the staff, SPC and ComEd to discuss the issue. Since that meeting, SPC has submitted a topical report (Reference 6) addressing this issue and ComEd had submitted a TS change request to modify the MCPR safety limit (Reference 7). The issue related to the uncertainty in the ANFB correlation for critical power monitoring of the SPC and GE fuel remains under staff review. Upon resolution of this issue, the licensee expects approval to use ATRIUM-9B fuel for power operation. The continuing review has caused an unanticipated delay in completing this approval process. Quad Cities, Unit 2, expects to be ready for fuel reload on May 3, 1997, and any delay in the beginning of reload is expected to result in a commensurate delay in the return to service.

The licensee did not present sufficient information to establish that an emergency amendment was needed on Unit 1. That unit is currently operating and does not have an outage scheduled until next year.

The staff concludes that an emergency condition exists in that failure to act in a timely way would result in prevention of resumption of operation of Quad Cities Nuclear Power Station, Unit 2. In addition, the staff has assessed the licensee's reasons for failing to file an application sufficiently in advance to preclude an emergency, and concluded that the licensee has acted

expeditiously to support the reviews of the SPC fuel uncertainty issue and upon learning of the delay in approval of the applications promptly proposed this amendment to remedy the situation. Thus, the staff concludes that the licensee has not abused the emergency provisions by failing to make timely application for the amendment. Thus, conditions needed to satisfy 10 CFR 50.91(a)(5) exist, and the amendment is being processed on an emergency basis.

5.0 FINAL NO SIGNIFICANT HAZARDS CONSIDERATION DETERMINATION

The Commission's regulations in 10 CFR 50.92(c) state that the Commission may make a final determination that a license amendment involves no significant hazards consideration if operation of the facility in accordance with the amendment would not: (1) Involve a significant increase in the probability or consequences of an accident previously evaluated; or, (2) Create the possibility of a new or different kind of accident from any previously evaluated; or, (3) Involve a significant reduction in a margin of safety.

The following evaluation by the licensee demonstrates that the proposed amendment does not involve a significant hazards consideration:

- (1) Involve a significant increase in the probability or consequences of an accident previously evaluated because of the following:

The description of a fuel assembly (section 5.3.1) [5.3.A] is revised to reflect the fact that ATRIUM-9B contains a central water box. The change is administrative in nature and serves to describe the ATRIUM-9B fuel design terminology. The mechanical aspects of the ATRIUM-9B fuel design have been reviewed and accepted by the NRC.

A notation has been added to allow ATRIUM-9B fuel in the reactor core in Operational modes 3, 4 and 5. Due to the mode limitation of this proposed change, only a subset of the accident events analyzed in the FSAR needed to be addressed. The addition of ATRIUM-9B fuel to the reactor core in Operational Conditions 3, 4, or 5 does not increase the probability or consequences of an accident previously evaluated. The events considered are described below.

The fuel equipment handling accidents were considered. ComEd has evaluated the bundle drop accident for an ATRIUM-9B fuel assembly and has determined that it is bounded by the results of the fuel handling accident presented in the FSAR.

The grappling of the ATRIUM-9B fuel is similar to that of GE fuel due to the comparable bail handle dimensions and assembly weights. Therefore, ATRIUM-9B fuel is completely compatible with the refueling platform main grapple. Because the assembly weights of the ATRIUM-9B fuel and the GE fuel are essentially the same, the capacity of the refueling platform main hoist will be sufficient to handle the ATRIUM-9B fuel. Also, the ATRIUM-9B fuel uses a fuel channel design with mechanical and structural characteristics similar to the GE fuel. Therefore the ATRIUM-9B fuel is

compatible with, and can be safely inserted/placed into the reactor core.

The [Shutdown Margin] SDM for Quad Cities Unit 2 Cycle 15 was determined by ComEd using the NRC-approved methodology identified in References (e) and (f) [of letter dated April 29, 1997]. The Quad Cities Unit 2 Cycle 15 minimum calculated SDM is 1.88% ΔK . This value occurs at beginning of Cycle 15. The SDM at other Cycle 15 exposures is greater than this value. Additionally, at BOC any moderator temperature increase above 68°F will increase SDM.

Per Sections 3.3.A/4.3.A of the Quad Cities Technical Specifications, and noting that the strongest worth control rod is analytically determined, the required SDM for Quad Cities Unit 2 Cycle 15 is 0.38% $\Delta K+R$. R accounts for: a) any decrease in SDM over the cycle relative to the BOC determined value, and b) the potential SDM loss assuming full B_4C settling in all inverted control blade poison tubes present in the core. Since the SDM is a minimum at BOC 15, and the potential SDM loss assuming full B_4C settling in all inverted control blade poison tubes present in the core is 0.05% ΔK , the required SDM from the Technical Specifications is 0.38% $\Delta K + 0.00\% \Delta K + 0.05\% \Delta K = 0.43\% \Delta K$. Therefore, the calculated SDM of 1.88% ΔK is significantly greater than the required Technical Specification value of 0.43% ΔK .

Based on the foregoing, the proposed action does not involve a significant increase in the probability or consequences of an accident previously evaluated.

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

Creation of the possibility of a new or different kind of accident would require the creation of one or more new precursors of that accident. New accident precursors may be created by modifications of the plant configuration, including changes in allowable modes of operation. This Technical Specification submittal does not involve any modifications of the plant configuration or allowable modes of operation. The changes to the Technical Specifications to allow loading of ATRIUM-9B fuel into the Unit 2 reactor core do not require physical plant modifications (other than loading of the ATRIUM-9B assemblies), physically affect any plant components, or entail changes in plant operations. ATRIUM-9B fuel assemblies have approximately the same weight, outer dimensions, and the same basic bail handle design as GE fuel assemblies and are handled with the same refueling equipment.

Based on the foregoing, the proposed action does not create the possibility of a new or different kind of accident from any accident previously evaluated.

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

No modifications of the plant configuration other than the loading of ATRIUM-9B fuel into the Unit 2 reactor core is being made. The consequences of the Fuel Handling Accidents and the plant systems ability to respond are not affected. The calculated SDM of 1.88% ΔK is significantly greater than the required Technical Specification value of 0.43% ΔK required SDM for Quad Cities Unit 2 Cycle 15. The margin of safety is maintained with ATRIUM-9B fuel loaded in the reactor core and in Operational modes 3, 4, or 5.

Based on the above, the staff has made a final determination that the amendment involves no significant hazards consideration.

6.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Illinois State official was notified of the proposed issuance of the amendment. The State official had no comments.

7.0 ENVIRONMENTAL CONSIDERATION

The amendment changes a requirement with respect to the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. The NRC staff has determined that the amendment involves no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has made a final no significant hazards finding with respect to this amendment. Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendment.

8.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: R. Pulsifer

Date: May 2, 1997

9.0 REFERENCES

1. Generic Mechanical Design Criteria for BWR Fuel Designs, ANF-89-98(P)(A), Revision 1, and Revision 1 Supplement 1, Advanced Nuclear Fuels Corporation, May 1995.
2. Letter, ComEd to USNRC, "Application for Amendment Request to Facility Operating Licenses DPR-29 and DPR-30, Technical Specification Changes for Siemens Power Corporation (SPC) Fuel Transition," dated June 10, 1996.
3. Letter, ComEd to USNRC, "Supplement to Application for Amendment of Facility Operating License DPR-29 and DPR-30 Technical Specifications," dated February 17, 1997.
4. Letter, ComEd to USNRC, "ComEd Response to NRC Staff request for Additional Information (RAI) Regarding the Application of Siemen's Power Corporation ANFB Critical Power Correlation to Coresident General Electric Fuel for LaSalle Unit 2 Cycle 8 and Quad Cities Unit 2 Cycle 15," dated July 2, 1996.
5. Letter, ComEd to USNRC, "ComEd Response to Request for Additional Information on Topical Report EMF-96-051(P), Application of Siemens Power Corporation to Coresident GE Fuel for Quad Cities Unit 2 Cycle 15", dated February 17, 1997.
6. Letter from SPC to USNRC, "ANFB Critical Power Correlation Uncertainty for Limited Data Sets," ANF-1125(P), Supplement 1, Appendix D, dated April 18, 1997.
7. Letter from ComEd to the USNRC, Exigent Technical Specification Change to Revise Minimum Critical Power Ratio Safety Limit for Quad Cities Cycle 15, dated April 21, 1997.
8. "Advanced Nuclear Fuels Corporation Generic Mechanical Design for Advanced Nuclear Fuels 9X9-IX and 9X9-9X BWR Reload Fuel, ANF-89-014(P)(A), Revision 1 and Supplements 1 and 2, Advanced Nuclear Fuels Corporation, October 1991.
9. "Advanced Nuclear Fuels Methodology for Boiling Water Reactors, XN-NF-80-19 (P)(A), Volume 1, Supplement 3, Supplement 3 Appendix F, and Supplement 4, Advanced Nuclear Fuels Corporation, November 1990.
10. Commonwealth Edison Topical Report NFSR-0091, "Benchmark of CASMO/MICROBURN BWR NUCLEAR DESIGN METHODS," Revision 0, Supplements 1 and 2, December 1991, March 1992 and May 1992, respectively; SER letter dated March 22, 1993.