



Commonwealth Edison
One First National Plaza, Chicago, Illinois
Address Reply to: Post Office Box 767
Chicago, Illinois 60690

September 3, 1980

Director of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Subject: Dresden Station Units 2 and 3
Quad Cities Station Units 1 and 2
Proposed Amendment to Appendix A,
Technical Specifications
NRC Docket Nos. 50-237/249 and
50-254/265

Reference (a): D. L. Peoples letter Director of Nuclear
Reactor Regulation dated May 15, 1980

Dear Sir:

Reference (a) submitted our request to amend Appendix A,
Technical Specifications, to Operating Licenses DPR-19, 25, 29 and
30 for Dresden Units 2, 3 and Quad Cities 1, 2, respectively. These
amendments would change the requirements for Source Range Monitor
(SRM) count rates.

In discussions with the NRC Staff, additional information
concerning the minimum critical configuration was requested. The
attached letters from General Electric Co. dated October 6, 1977,
November 10, 1977, and August 29, 1980 provide the information
requested.

Please address any questions concerning this matter to this
office.

One (1) signed original and thirty-nine (39) copies of this
transmittal and attachments are provided for your use.

Very truly yours,

Robert F. Janecek
Nuclear Licensing Administrator
Boiling Water Reactors

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GENERAL ELECTRIC

GENERAL ELECTRIC COMPANY, 2015 SPRING ROAD, OAK BROOK, ILL. 60521
Phone (312) 986-3000

INSTALLATION AND
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ADV-80-129

August 29, 1980

Mr. G.R. Grable
Fuel Engineer
Commonwealth Edison Company
One First National Plaza
P.O. Box 767
Chicago, Ill. 60690

SUBJECT: MINIMUM CRITICAL CONFIGURATION FOR
COMMONWEALTH EDISON COMPANY

Dear Mr. Grable:

The minimum critical configuration for bundles loaded into Commonwealth Edison cores by General Electric remains unchanged by the presence of prepressurized fuel or barrier bundles of enrichments similar to non-prepressurized standard retrofit bundles. Minimum critical configuration calculational results are not impacted since k_{eff} 's will be comparable.

Very truly yours,

A. F. De Vita

A.F. De Vita - Project Application Engineer
AFD/dd MECHANICAL & NUCLEAR SERVICE

cc: Messrs: R.F. Janeczek
W.M. Kiefer

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MINIMUM CRITICAL CONFIGURATION FOR DRESDEN-2, CYCLE 6

October 6, 1977

Mr. J.M. Dolter
Lead Nuclear Engineer
Dresden Nuclear Power Plant
Rural Route #1
Morris, IL 60450

REF: Letter, H.A. Zimmerman to J.M. Dolter, dated
September 13, 1977

Dear Mr. Dolter:

With reference to our September 13, 1977 letter the following information is supplied in response to your request for minimum critical masses:

The initial core databook for Dresden 2/3 (257HA230AS) presents a 9-bundle critical configuration with a 3x3 array of uncontrolled, uncurtained fuel. All fuel bundles are unexposed, each with a K_{∞} of 1.256. The eigenvalue for the minimum critical assembly was 1.01363.

The Dresden-2 core will contain initial 7x7, reload 7x7, 8D250 and 8D262 reload bundles. The maximum possible cold K_{∞} in the D2 core is less than 1.205. If nine bundles of the maximum K_{∞} fuel were inadvertently loaded together, this 3x3 assembly would be subcritical.

Calculations based on various assumptions, using various calculational tools, could be made for each fuel type or a combination of fuel types. These would take considerable time and resources and would probably come up with minimum criticals between 10 and 16 bundles. However, it can be stated without any calculations that the minimum critical assembly for Dresden-2 (any CECO core for that matter) is at least 9 bundles

GENERAL ELECTRIC

Mr. J.M. Dolter
October 6, 1977
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If we can be of any further assistance, please do not hesitate to call.

Very truly yours,



H.A. Zimmerman-PROJECT APPLICATION ENGINEER
HAZ/rj MECHANICAL & NUCLEAR SERVICE

cc: Messrs. W.M. Kiefer
Commonwealth Edison Company

B.B. Stephenson
Dresden Nuclear Power Plant

N.J. Kalivianakis, G.F. Spedl
Quad Cities Nuclear Power Plant

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MINIMUM CRITICAL CONFIGURATION FOR
DRESDEN 2 - CYCLE 6

November 10, 1977

Mr. J.M. Dolter
Lead Nuclear Engineer
Dresden Nuclear Power Plant
Rural Route #1
Morris, IL 60450

REF: Letter, H.A. Zimmerman to J.M. Dolter Dated
October 6, 1977, Same Subject

Dear Mr. Dolter:

Please amend the referenced letter by deleting the last sentence in the fourth paragraph and replacing it with the following sentence, "Without calculations the minimum critical assembly for any CECO core is at least 9 fuel assemblies made up of any combination of initial core, 7D230, 8D250, 8D262, 7DSTR, 7DMO₂, or retrofit design fuel assemblies."

With this letter we hope that we have met your information needs necessary to effect the recommendations of SIL 215. If not, please let me know.

Very truly yours,



H.A. Zimmerman-PROJECT APPLICATION ENGINEER
HAZ/rj MECHANICAL & NUCLEAR SERVICE

- cc: Messrs. W.M. Kiefer ✓
Commonwealth Edison Company
B.B. Stephenson
Dresden Nuclear Power Plant
N.J. Kalivianakis, G.F. Spedl
Quad Cities Nuclear Power Plant