

April 7, 1993

Docket No. 50-346

Mr. Donald C. Shelton  
Vice President, Nuclear - Davis-Besse  
Centerior Service Company  
c/o Toledo Edison Company  
300 Madison Avenue  
Toledo, Ohio 43652

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Dear Mr. Shelton:

SUBJECT: AMENDMENT NO.179 TO FACILITY OPERATING LICENSE NO. NPF-3  
(TAC NO. M84795)

The Commission has issued Amendment No. 179 to Facility Operating License No. NPF-3 for the Davis-Besse Nuclear Power Station, Unit No. 1. The amendment revises the Technical Specifications in response to your application dated October 29, 1992 supplemented February 17, 1993.

The amendment revises Technical Specification (TS) 5.3.1, "Fuel Assemblies," to be consistent with the model TS wording included in Supplement 1 to Generic Letter 90-02, "Alternative Requirements for Fuel Assemblies in the Design Features Section of Technical Specifications."

A copy of the Safety Evaluation is also enclosed. Notice of issuance will be included in the Commission's next biweekly Federal Register notice.

Sincerely,

ORIGINAL SIGNED BY:

Jon B. Hopkins, Sr. Project Manager  
Project Directorate III-3  
Division of Reactor Projects - III/IV/V  
Office of Nuclear Reactor Regulation

Enclosures:

1. Amendment No. 179 to License No. NPF-3
2. Safety Evaluation

cc w/enclosures:  
See next page

\*See previous concurrence

LA/PD3-3	PM/PD3-3	JBH	BC/SRXB	D/PD3-3
PKreutzer	JHopkins/bj	RJones*	JHannon	
2/11/92	2/12/92	12/17/92	2/12/92	

DOCUMENT NAME: g:\davisbes\DA875236.AMD

DB 84795.AMD

*OGC-WF needs concurrence conditioned on approval of topical report issued after topical report without such approval. There is no legal basis to approve the amendment.*

*Topical Report was approved. JBH 4-7-93*

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PDR ADOCK 05000346  
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UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D. C. 20555

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A handwritten signature in cursive script that reads "Jon B. Hopkins, Sr.".

Jon B. Hopkins, Sr. Project Manager  
Project Directorate III-3  
Division of Reactor Projects - III/IV/V  
Office of Nuclear Reactor Regulation

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See next page

Mr. Donald C. Shelton  
Toledo Edison Company

Davis-Besse Nuclear Power Station  
Unit No. 1

cc:

Mary E. O'Reilly  
Centerior Energy Corporation  
300 Madison Avenue  
Toledo, Ohio 43652

Radiological Health Program  
Ohio Department of Health  
Post Office Box 118  
Columbus, Ohio 43266-0149

Mr. Robert W. Schrauder  
Manager, Nuclear Licensing  
Toledo Edison Company  
300 Madison Avenue  
Toledo, Ohio 43652

Attorney General  
Department of Attorney  
General  
30 East Broad Street  
Columbus, Ohio 43215

Gerald Charnoff, Esq.  
Shaw, Pittman, Potts  
and Trowbridge  
2300 N Street, N.W.  
Washington, D.C. 20037

Mr. James W. Harris, Director  
Division of Power Generation  
Ohio Department of Industrial Regulations  
P. O. Box 825  
Columbus, Ohio 43216

Regional Administrator, Region III  
U.S. Nuclear Regulatory Commission  
799 Roosevelt Road  
Glen Ellyn, Illinois 60137

Ohio Environmental Protection Agency  
DERR--Compliance Unit  
ATTN: Zack A. Clayton  
P. O. Box 1049  
Columbus, Ohio 43266-0149

Mr. Robert B. Borsum  
Babcock & Wilcox  
Nuclear Power Generation Division  
1700 Rockville Pike, Suite 525  
Rockville, MD 20852

President, Board of Ottawa  
County Commissioners  
Port Clinton, Ohio 43452

Resident Inspector  
U. S. Nuclear Regulatory Commission  
5503 N. State Route 2  
Oak Harbor, Ohio 43449

State of Ohio  
Public Utilities Commission  
180 East Broad Street  
Columbus, Ohio 43266-0573

Mr. Murray R. Edelman  
Executive Vice President -  
Power Generation  
Centerior Service Company  
6200 Oak Tree Boulevard  
Independence, Ohio 44101

Mr. James R. Williams  
State Liaison to the NRC  
Adjutant General's Department  
Office of Emergency Management Agency  
2825 West Granville Road  
Columbus, Ohio 43235-2712



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

TOLEDO EDISON COMPANY  
CENTERIOR SERVICE COMPANY

AND

THE CLEVELAND ELECTRIC ILLUMINATING COMPANY

DOCKET NO. 50-346

DAVIS-BESSE NUCLEAR POWER STATION, UNIT NO. 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No.179  
License No. NPF-3

1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment by the Toledo Edison Company, Centerior Service Company, and the Cleveland Electric Illuminating Company (the licensees) dated October 29, 1992, supplemented February 17, 1993 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 2.C.(2) of Facility Operating License No. NPF-3 is hereby amended to read as follows:

(a) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No.179 , are hereby incorporated in the license. The Toledo Edison Company shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of its date of issuance and shall be implemented not later than 90 days after issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Jon B. Hopkins, Sr. Project Manager  
Project Directorate III-3  
Division of Reactor Projects III/IV/V  
Office of Nuclear Reactor Regulation

Attachment:  
Changes to the Technical  
Specifications

Date of issuance: April 7, 1993

ATTACHMENT TO LICENSE AMENDMENT NO. 179

FACILITY OPERATING LICENSE NO. NPF-3

DOCKET NO. 50-346

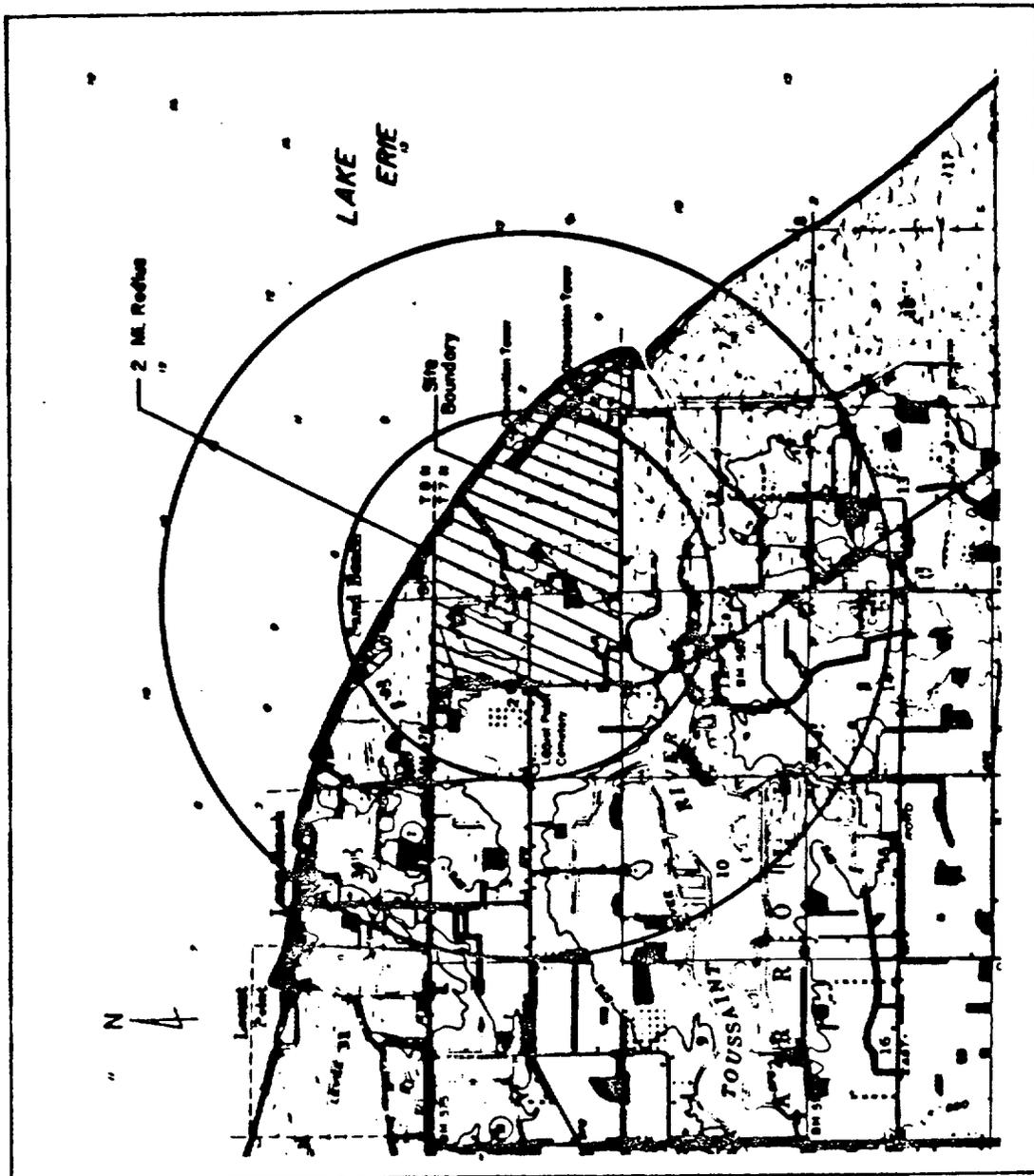
Replace the following page of the Appendix "A" Technical Specifications with the attached page. The revised page is identified by amendment number and contains vertical lines indicating the area of change. The corresponding overleaf page is also provided to maintain document completeness.

Remove

Insert

5-4

5-4



DAVIS-BESSE NUCLEAR POWER STATION  
 LOW POPULATION ZONE  
 FIGURE 5.1-2

## DESIGN FEATURES

### DESIGN PRESSURE AND TEMPERATURE

5.2.2 The reactor containment building is designed and shall be maintained for a maximum internal pressure of 40 psig and a temperature of 264°F.

### 5.3 REACTOR CORE

#### FUEL ASSEMBLIES

5.3.1 The reactor core shall contain 177 fuel assemblies. Each assembly shall consist of a matrix of zircaloy clad fuel rods with an initial composition of natural or slightly enriched uranium dioxide (UO<sub>2</sub>) as fuel material. Limited substitutions of zirconium alloy or stainless steel filler rods for fuel rods, 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 bases. A limited number of lead test assemblies that have not completed representative testing may be placed in non-limiting core regions.

#### CONTROL RODS

5.3.2 The reactor core shall contain 53 safety and regulating control rod assemblies (which may be either standard or extended life control rod assemblies) and 8 axial power shaping rod (APSR) assemblies. Standard control rods shall contain a nominal 134 inches of absorber material. The extended life control rods shall contain a nominal 139 inches of absorber material. The nominal values of absorber material for the safety and regulating control rods shall be 80 percent silver, 15 percent indium, and 5 percent cadmium. Standard control rods and APSRs shall be clad with stainless steel tubing. The extended life control rods shall be clad with Inconel. The APSRs shall contain a nominal 63 inches of absorber material at their lower ends. The absorber material for the APSRs shall be 100 percent Inconel.

### 5.4 REACTOR COOLANT SYSTEM

#### DESIGN PRESSURE AND TEMPERATURE

5.4.1 The reactor coolant system is designed and shall be maintained:

- a. In accordance with the code requirements specified in Section 5.2 of the FSAR, with allowance for normal degradation pursuant to applicable Surveillance Requirements.
- b. For a pressure of 2500 psig, and
- c. For a temperature of 650°F, except for the pressurizer and pressurizer surge line which is 670°F.

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
RELATED TO AMENDMENT NO. 179 TO FACILITY OPERATING LICENSE NO. NPF-3

TOLEDO EDISON COMPANY

CENTERIOR SERVICE COMPANY

AND

THE CLEVELAND ELECTRIC ILLUMINATING COMPANY

DAVIS-BESSE NUCLEAR POWER STATION, UNIT NO. 1

DOCKET NO. 50-346

By letter dated October 29, 1992, supplemented February 17, 1993, Toledo Edison Company requested a revision to the Technical Specifications for the Davis-Besse Nuclear Power Station. The proposed amendment would revise Technical Specification (TS) 5.3.1, "Fuel Assemblies," to be consistent with the model TS wording included in Supplement 1 to Generic Letter (GL) 90-02, "Alternative Requirements for Fuel Assemblies in the Design Features Section of Technical Specifications," dated July 31, 1992. Specifically, the proposed amendment would delete references to a "nominal active fuel length of 144 inches...a maximum total weight of 2500 grams uranium" and "a maximum enrichment of 3.8 weight percent U 235." The proposed amendment would allow the use of zirconium alloy filler rods in addition to stainless steel filler rods, and add a provision for the use of a limited number of lead test assemblies in non-limiting core regions.

By the supplemental letter of February 17, 1993, a small portion of the requested change was withdrawn. Specifically, the phrase "zirconium alloy" was withdrawn resulting in the use of the original term "zircaloy" for describing the type of fuel rod cladding. This change did not significantly change the proposed amendment nor did it change the NRC staff's evaluation of a proposed no significant hazards consideration published in the Federal Register.

## 2.0 EVALUATION

For each core reload, an analysis using NRC staff-approved codes is performed. Any updates needed will then be made to the Core Operating Limits Report (COLR) which is referenced by the TS. The approved codes, the COLR, and the TS will ensure conformance to existing design limits and ensure that safety analyses criteria are met before operation during the next fuel cycle.

Therefore, these controls are adequate for the design of core reloads without specifying the nominal length, maximum weight of uranium, and maximum enrichment of the fuel in TS 5.3.1. These controls are also adequate for the use of a limited number of lead test assemblies in non-limiting core regions. Stainless steel filler rods are already approved for use in accordance with NRC-approved applications of fuel rod configurations. Using zirconium alloy filler rods is also acceptable because the number and location of filler rod substitutions are limited to configurations for which applicable NRC approved codes and methods are valid and that have been shown by test or analyses to comply with all fuel safety design bases. Babcock and Wilcox topical report BAW-2149, "Evaluation of Replacement Rods in BWFC Fuel Assemblies," was submitted regarding filler rod substitutions. This report evaluates the applicability of test data used to derive the nuclear design of the fuel, the effect on the mechanical design of the fuel, and the structural strength of the fuel design with filler rods installed. The NRC staff has completed its review of BAW-2149, and has concluded that BAW-2149 is an acceptable basis for fuel assembly reconstitution for reload applications. Since the TS only permit the use of filler rods with approved codes, such as BAW-2149, the TS change is acceptable.

The proposed changes to TS 5.3.1 result in the TS looking like the model TS contained in GL 90-02 Supplement 1. Based on the above evaluation, the NRC staff finds that the proposed change is in accordance with the model TS in GL 90-02 Supplement 1 and is acceptable.

### 3.0 STATE CONSULTATION

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

### 4.0 ENVIRONMENTAL CONSIDERATION

This amendment changes a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 or changes a surveillance requirement. The 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 previously issued a proposed finding that the amendment involves no significant hazards consideration and there has been no public comment on such finding (57 FR 55594). Accordingly, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). 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.

## 5.0 CONCLUSION

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

Principal Contributor: Jon B. Hopkins

Date: April 7, 1993