



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

DOCKET FILE

August 4, 1989

Docket No. 50-346

Mr. Donald C. Shelton
Vice President, Nuclear
Toledo Edison Company
Edison Plaza - Stop 712
300 Madison Avenue
Toledo, Ohio 43652

Dear Mr. Shelton:

SUBJECT: AMENDMENT NO. 134 TO FACILITY OPERATING LICENSE NO. NPF-3
(TAC NO. 66734)

The Commission has issued Amendment No. 134 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 January 15, 1988.

This amendment deletes Sections 3/4.3.3.7, Chlorine Detection Systems, from Appendix A, Technical Specifications, and Section 3/4.3.3.7 from the Bases. The index in Appendix A has also been updated to reflect this deletion.

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,

Thomas V. Wambach

Thomas V. Wambach, Sr. Project Manager
Project Directorate III-3
Division of Reactor Projects - III, IV,
V & Special Projects
Office of Nuclear Reactor Regulation

Enclosures:

1. Amendment No. 134 to License No. NPF-3
2. Safety Evaluation

cc: See next page

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

TOLEDO EDISON 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. 134
License No. NPF-3

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by the Toledo Edison Company and The Cleveland Electric Illuminating Company (the licensees) dated January 15, 1988 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:

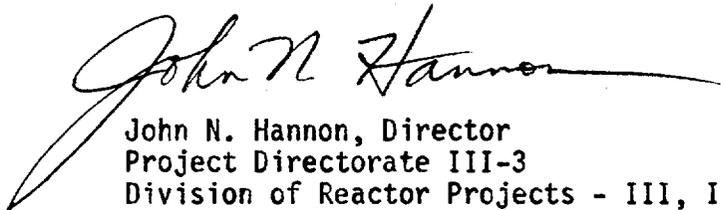
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(a) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 134, 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 September 18, 1989.

FOR THE NUCLEAR REGULATORY COMMISSION



John N. Hannon, Director
Project Directorate III-3
Division of Reactor Projects - III, IV,
V, & Special Projects
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical
Specifications

Date of Issuance: August 4, 1989

ATTACHMENT TO LICENSE AMENDMENT NO. 134

FACILITY OPERATING LICENSE NO. NPF-3

DOCKET NO. 50-346

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

Remove

Insert

IV

IV

3/4 3-51

3/4 3-51

B3/4 3-3

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INSTRUMENTATION

CHLORINE DETECTION SYSTEMS - DELETED

INSTRUMENTATION

FIRE DETECTION INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.3.3.8 As a minimum, the fire detection instrumentation for each fire detection zone shown in Table 3.3-14 shall be OPERABLE.

APPLICABILITY: Whenever equipment in that fire detection zone is required to be OPERABLE.

ACTION: With the number of OPERABLE fire detection instrument(s) less than the minimum number OPERABLE requirement of Table 3.3-14:

- a. Within 1 hour establish a fire watch patrol to inspect the accessible zone(s) with the inoperable instrument(s) at least once per hour, and.
- b. Restore the inoperable instrument(s) to OPERABLE status within 14 days or prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within the next 30 days outlining the action taken, the cause of the inoperability and the plans and schedule for restoring the instrument(s) to OPERABLE status.
- c. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.3.3.8.1 Each of the above required accessible fire detection instruments shall be demonstrated OPERABLE at least once per 6 months by performance of a CHANNEL FUNCTIONAL TEST. Each of the above required inaccessible fire detection instrument shall be demonstrated OPERABLE at least once per 18 months by performance of a CHANNEL FUNCTIONAL TEST.

4.3.3.8.2 The NFPA Code 72D Class A supervised circuits supervision associated with the detector alarms of each of the above required fire detection instruments shall be demonstrated OPERABLE at least once per 6 months.

4.3.3.8.3 The non-supervised circuits between the local panels in Specification 4.3.3.8.3 and the control room shall be demonstrated OPERABLE at least once per 31 days.

3/4.3 INSTRUMENTATION

BASES

REMOTE SHUTDOWN INSTRUMENTATION (Continued)

HOT STANDBY of the facility from locations outside of the control room. This capability is required in the event control room habitability is lost.

3/4.3.3.6 POST-ACCIDENT INSTRUMENTATION

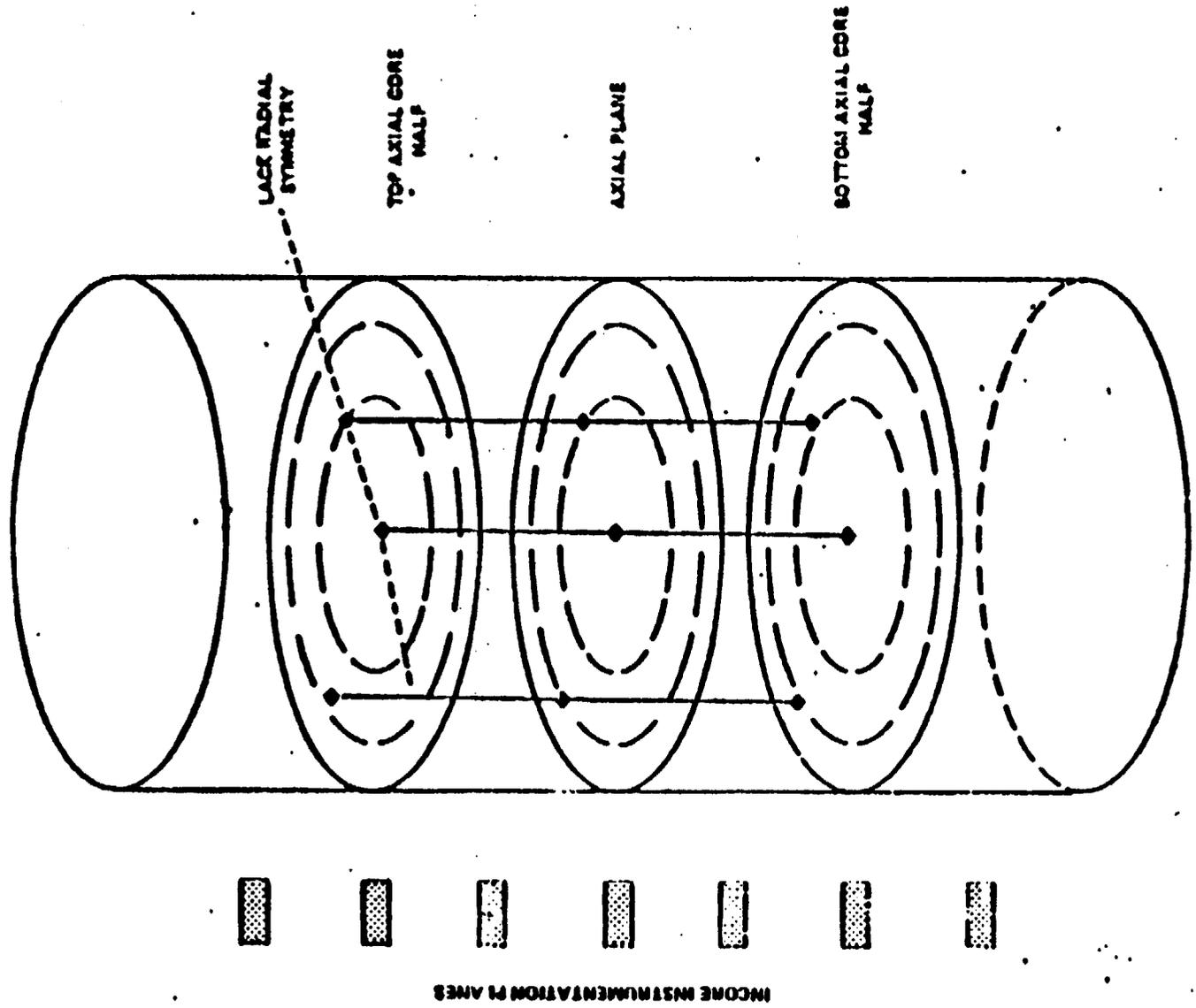
The OPERABILITY of the post-accident instrumentation ensures that sufficient information is available on selected plant parameters to monitor and assess these variables following an accident.

3/4.3.3.7 CHLORINE DETECTION SYSTEMS - Deleted

3/4.3.3.8 FIRE DETECTION INSTRUMENTATION

Operability of the fire detection instrumentation ensures that adequate warning capability is available for the prompt detection of fires. This capability is required in order to detect and locate fires in their early stages. Prompt detection of fires will reduce the potential for damage to safety related equipment and is an integral element in the overall facility fire protection program.

In the event that a portion of the fire detection instrumentation is inoperable, the establishment of frequent fire patrols in the affected areas is required to provide detection capability until the inoperable instrumentation is restored to OPERABILITY.



Bases Figure 3-1 Incore Instrumentation Specification
 Acceptable Minimum AXIAL POWER IMBALANCE Arrangement



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 134 TO FACILITY OPERATING LICENSE NO. NPF-3
TOLEDO EDISON COMPANY
AND
THE CLEVELAND ELECTRIC ILLUMINATING COMPANY
DAVIS-BESSE NUCLEAR POWER STATION, UNIT NO. 1
DOCKET NO. 50-346

1.0 INTRODUCTION

In its letter dated January 15, 1988, the Toledo Edison Company (the licensee) requested an amendment to the operating license for the Davis-Besse Nuclear Power Station, Unit No. 1 to delete, in its entirety, Sections 3/4.3.3.7, Chlorine Detection Systems, from Appendix A to the license, Technical Specifications. The sections to be deleted include the Limiting Condition for Operation, the Action Statement, the Surveillance Requirements and the Basis Section. The subject amendment application also requested that the Index in Appendix A be updated to reflect this change.

2.0 EVALUATION

The purpose of the chlorine detection system at the Davis-Besse facility is to provide an alarm and to automatically isolate the control room in the event that a chlorine concentration of 5 parts per million (ppm) or more is present. This system was required since the licensee previously stored chlorine in its gaseous elemental form on-site in a single 30-ton railroad tank car about 300 yards north of the turbine building. The chlorine in this tank car and in the piping from the tank car was the assumed chlorine source in the accident analysis in Chapter 15 of the Updated Safety Analysis Report (USAR). The licensee also kept chlorine on-site in 12 150-pound cylinders in the water treatment building.

The chlorine detection system was designed and installed in accordance with the NRC guidelines contained in Regulatory Guides 1.78 and 1.95. The principal criterion governing the design of this system was the limitation stated in Regulatory Guide 1.78 that the chlorine concentration in the control room should not exceed 15 ppm by volume within 2 minutes after the operators are made aware of the presence of chlorine.

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The licensee has removed the two on-site sources for a potential release of chlorine cited above. Instead, the licensee now uses a 15-weight-percent sodium hypochlorite (NaOCl) solution to control algae and slime in the on-site water systems. This sodium hypochlorite solution is stored in tanks at two separate locations. One of these is used in the circulating water system while the other is used in the makeup water treatment system.

It is possible that significant quantities of gaseous chlorine could be released on-site from either of the two sodium hypochlorite systems cited above by means of a chemical reaction. This release could be caused by the interaction of the sodium hypochlorite solutions with either an acid, ammonia, a detergent or any substance with a low pH (i.e., acidic in nature). While these substances are stored on-site, they are physically separated from the sodium hypochlorite solutions. Moreover, a near simultaneous rupture of one of the sodium hypochlorite systems and a system containing a solution capable of chemically releasing gaseous chlorine (e.g., an acid or ammonia) plus a mechanism for bringing both substances into contact is required to generate chlorine. Additionally, both sodium hypochlorite tanks have dikes surrounding them capable of storing 110 percent of the tank volumes.

It is highly improbable that gaseous chlorine would be released from either of the two tanks containing sodium hypochlorite solutions considering the various factors required to bring two chemical solutions together capable of releasing gaseous chlorine. These factors are: (1) the near simultaneous rupture of two separate systems; (2) a drainage path connecting the two substances; and (3) failure or overtopping of the dike. Accordingly, the staff finds that the on-site release of gaseous chlorine from either of the two sodium hypochlorite systems need not be considered.

With respect to off-site sources of chlorine, the licensee determined that chlorine is not routinely shipped nor manufactured near the Davis-Besse facility. The licensee did, however, identify a site about 3 miles from the Davis-Besse site where chlorine is stored in six 150-pound cylinders. This storage site is the Erie Industrial Park Water Treatment Facility. Had this storage site been situated at 5 miles, or greater, from the Davis-Besse facility, this limited quantity of chlorine need not have been considered per the NRC guidance in Regulatory Guide 1.78.

The licensee therefore calculated that an accidental release of this chlorine could, under certain meteorological conditions, result in a maximum chlorine concentration at the Davis-Besse control room air intake of about 6 ppm. Since this concentration is only at the center of the potential plume of gaseous chlorine, the average concentration would be significantly less. Furthermore, the meteorological conditions required to achieve this concentration (i.e., wind direction and low velocity) represent a low probability. More importantly, this maximum chlorine concentration of 6 ppm is below the guideline limit for control rooms of 15 ppm as stated in Regulatory Guide 1.78. Since chlorine would be readily detectable by the control room operators at levels of 1 to 3 ppm, there would be ample opportunity for the control room

operators to take action. This would include manually isolating the control room. This capability of manually isolating the control room air intake is independent from the chlorine detection system and will remain in place after deletion of the chlorine detection system.

The staff agrees with the licensee that there is neither an on-site nor nearby off-site source of potential chlorine release which could result in a chlorine concentration at the Davis-Besse control room air intake requiring automatic control room isolation. On this basis, the staff concludes that the present chlorine detection system is no longer required. Accordingly, the proposed deletion of Sections 3/4.3.3.7, including Section 3/4.3.3.7 in the Bases, from the Appendix A to the Davis-Besse operating license is acceptable.

3.0 ENVIRONMENTAL CONSIDERATION

This amendment involves a change to 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 or a change to 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 this amendment involves no significant hazards consideration, and there has been no public comment on such finding. Accordingly, this 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 nor environmental assessment need be prepared in connection with the issuance of this amendment.

4.0 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, and (2) such activities will be conducted in compliance with the Commission's regulations, and 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: M. D. Lynch

Dated: August 4, 1989

August 4, 1989

Docket No. 50-346

Mr. Donald C. Shelton
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Dear Mr. Shelton:

SUBJECT: AMENDMENT NO. 134 TO FACILITY OPERATING LICENSE NO. NPF-3
(TAC NO. 66734)

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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

Thomas V. Wambach, Sr. Project Manager
Project Directorate III-3
Division of Reactor Projects - III, IV,
V & Special Projects
Office of Nuclear Reactor Regulation

Enclosures:

1. Amendment No.134 to License No. NPF-3
2. Safety Evaluation

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