

August 24, 1984

Docket Nos. 50-315  
and 50-316

Mr. John Dolan, Vice President  
Indiana and Michigan Electric Company  
c/o American Electric Power Service Corporation  
1 Riverside Plaza  
Columbus, Ohio 43216

Dear Mr. Dolan:

The Commission has issued the enclosed Amendment No.81 to Facility Operating License No. DPR-58 and Amendment No. 65 to Facility Operating License No. DPR-74 for the Donald C. Cook Nuclear Plant, Unit Nos. 1 and 2, respectively. The amendments consist of changes to the Technical Specifications in response to your application transmitted by letter dated January 20, 1984, as supplemented March 15, 1984.

These amendments change the Technical Specifications by adding requirements for reactor coolant system vents on the reactor vessel and pressurizer.

A copy of the related Safety Evaluation is enclosed. A Notice of Issuance will be included in the Commission's next regular monthly Federal Register notice.

Sincerely,

/s/DWigginton

David L. Wigginton, Project Manager  
Operating Reactors Branch #1  
Division of Licensing

Enclosures:

1. Amendment No. 81 to DPR-58
2. Amendment No. 65 to DPR-74
3. Safety Evaluation

cc: w/enclosures  
See next page

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CParrish  
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8/17/84

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C-ORB#1:DL  
Swaraga  
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L. DeWey  
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GLaynas  
8/17/84

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Indiana and Michigan Electric Company

Donald C. Cook Nuclear  
Plant, Units 1 and 2

cc: Mr. M. P. Alexich  
Vice President  
Nuclear Engineering  
American Electric Power Service  
Corporation  
1 Riverside Plaza  
Columbus, Ohio 43215

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Room 1 - Capitol Building  
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Baroda, Michigan 49101

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Donald C. Cook Nuclear Plant  
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U.S. Nuclear Regulatory Commission  
Resident Inspectors Office  
7700 Red Arrow Highway  
Stevensville, Michigan 49127

Gerald Charnoff, Esquire  
Shaw, Pittman, Potts and Trowbridge  
1800 M Street, N.W.  
Washington, DC 20036

Honorable Jim Catania, Mayor  
City of Bridgman, Michigan 49106

U.S. Environmental Protection Agency  
Region V Office  
ATTN: EIS COORDINATOR  
230 South Dearborn Street  
Chicago, IL 60604

Maurice S. Reizen, M.D.  
Director  
Department of Public Health  
Post Office Box 30035  
Lansing, Michigan 48109

The Honorable Tom Corcoran  
United States House of Representatives  
Washington, DC 20515

James G. Keppler  
Regional Administrator - Region III  
U.S. Nuclear Regulatory Commission  
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Glen Ellyn, IL 60137

J. Feinstein  
American Electric Power Service  
1 Riverside Plaza  
Columbus, Ohio 43216



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

INDIANA AND MICHIGAN ELECTRIC COMPANY

DOCKET NO. 50-315

DONALD C. COOK NUCLEAR PLANT UNIT NO. 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 81  
License No. DPR-58

1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment by Indiana and Michigan Electric Company (the licensee) dated January 20, 1984, as supplemented March 15, 1984, 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. DPR-58 is hereby amended to read as follows:

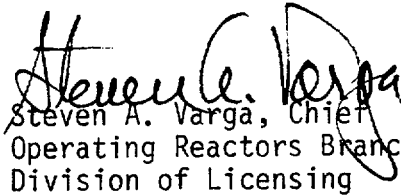
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(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 81, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. The Technical Specification are to become effective within 60 days of issuance of the amendment.
4. This license amendment is effective as of the date of its issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

  
Steven A. Varga, Chief  
Operating Reactors Branch #1  
Division of Licensing

Attachment:  
Changes to the Technical  
Specifications

Date of Issuance: August 24, 1984



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

INDIANA AND MICHIGAN ELECTRIC COMPANY

DOCKET NO. 50-316

DONALD C. COOK NUCLEAR PLANT UNIT NO. 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 65  
License No. DPR-74

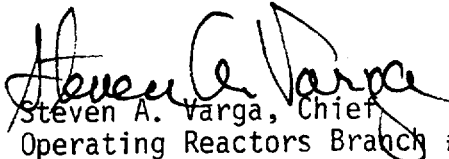
1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment by Indiana and Michigan Electric Company (the licensee) dated January 20, 1984, as supplemented March 15, 1984, complies with the standards and requirements of the Atomic Energy Act of 1954, as 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. DPR-74 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 65, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. The Technical Specifications are to become effective within 60 days of issuance of the amendment.
4. This license amendment is effective as of the date of its issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

  
Steven A. Varga, Chief  
Operating Reactors Branch #1  
Division of Licensing

Attachment:  
Changes to the Technical  
Specifications

Date of Issuance: August 24, 1984

ATTACHMENT TO LICENSE AMENDMENTS

AMENDMENT NO. 81 FACILITY OPERATING LICENSE NO. DPR-58

AMENDMENT NO. 65 FACILITY OPERATING LICENSE NO. DPR-74

DOCKET NOS. 50-315 AND 50-316

Revise Appendix A as follows:

Remove Pages

Insert Pages

UNIT 1

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3/4 4-45

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UNIT 2

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REACTOR COOLANT SYSTEM

REACTOR COOLANT VENT SYSTEM

REACTOR VESSEL HEAD VENTS

LIMITING CONDITIONS FOR OPERATION

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3.4.12.1 At least one of the Reactor Vessel head vent paths, consisting of two remotely operated valves in series, powered from Class 1E DC busses, shall be OPERABLE and closed.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTION:

- a. With both of the Reactor Vessel head vent paths inoperable, and at least one of the Pressurizer steam space vent paths OPERABLE (see Specification 3.4.12.2), operation in MODES 1, 2, 3 or 4 may continue, provided the inoperable vent paths are maintained closed with power removed from the valve actuators of all the remotely operated valves in all of the inoperable vent paths; restore at least one of the Reactor Vessel head vent paths within 30 days or be in HOT STANDBY within 6 hours and in COLD SHUTDOWN within the following 30 hours.
- b. With both of the Reactor Vessel head vent paths and both of the Pressurizer steam space vent paths inoperable; maintain the inoperable vent paths closed with power removed from the valve actuators of all of the remotely operated valves in all of the inoperable vent paths; restore one of the inoperable vent paths from either the Reactor Vessel head vent or the Pressurizer steam space within 72 hours or be in HOT STANDBY within 6 hours and in COLD SHUTDOWN within the following 30 hours.
- c. The provision of Specification 3.0.4 are not applicable.



REACTOR COOLANT SYSTEM

REACTOR COOLANT VENT SYSTEM

REACTOR VESSEL HEAD VENTS

SURVEILLANCE REQUIREMENTS

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4.4.12.1 Both Reactor Vessel head vent paths shall be demonstrated OPERABLE<sup>#</sup> at least once per 18 months by:

1. Verifying the common manual isolation valve in the Reactor vessel head vent is sealed in the open position.
2. Cycling each of the remotely operated valves in each path through at least one complete cycle of full travel from the Control Room while in Modes 5 or 6.
3. Verifying flow through both of the Reactor Vessel head vent paths during venting operation, while in Modes 5 or 6.

# Surveillance requirements to demonstrate the operability of each Reactor Vessel head vent path will be performed the next time the unit enters MODES 5 or 6 following the issuance of this Technical Specification, and after the appropriate Plant procedures have been written.

REACTOR COOLANT SYSTEM

REACTOR COOLANT VENT SYSTEM

PRESSURIZER STEAM SPACE VENTS

LIMITING CONDITION FOR OPERATION

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3.4.12.2 At least one of the Pressurizer steam space vent paths, each consisting of two remotely operated valves in series, powered from Class 1E DC busses, shall be OPERABLE and closed.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTION:

- a. With both of the Pressurizer steam space vent paths inoperable, and at least one of the Reactor Vessel head vent paths OPERABLE (see Specification 3.4.12.1), operation in MODES 1, 2, 3 or 4 may continue, provided the inoperable vent paths are maintained closed with the power removed from the valve actuators of all the remotely operated valves in all of the inoperable vent paths; restore at least one of the Pressurizer steam space vent paths within 30 days or be in HOT STANDBY within 6 hours and in COLD SHUTDOWN in the following 30 hours.
- b. With both of the Pressurizer steam space vent paths and both of the Reactor Vessel head vent paths inoperable; maintain the inoperable vent paths closed with power removed from the valve actuators of all of the remotely operated valves in all of the inoperable vent paths; restore one of the inoperable vent paths from either the Reactor Vessel head vent or the Pressurizer steam space within 72 hours or be in HOT STANDBY within 6 hours and in COLD SHUTDOWN within the following 30 hours.
- c. The provisions of Specification 3.0.4 are not applicable.

REACTOR COOLANT SYSTEM

REACTOR COOLANT VENT SYSTEM

PRESSURIZER STEAM SPACE VENTS

SURVEILLANCE REQUIREMENTS

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4.4.12.2 Both Pressurizer steam space vent paths shall be demonstrated OPERABLE<sup>#</sup> at least once per 18 months by:

1. Verifying the common manual isolation valve in the Pressurizer steam space vent is sealed in the open position.
2. Cycling each of the remotely operated valves in each path through at least one complete cycle of full travel from the Control Room while in Modes 5 or 6.
3. Verifying flow through both of the Pressurizer steam space vent paths during venting operation, while in Modes 5 or 6.

# Surveillance requirements to demonstrate the operability of each Pressurizer steam space vent path will be performed the next time the unit enters MODES 5 or 6 following the issuance of this Technical Specification, and after the appropriate Plant procedures have been written.

## REACTOR COOLANT SYSTEM

### BASES

#### 3.4.4.11 RELIEF VALVES

The power operated relief valves (PORVs) operate to relieve RCS pressure below the setting of the pressurizer code safety valves. These relief valves have remotely operated block valves to provide a positive shutoff capability should the relief valve become inoperable. The electrical power for both the relief valves and the block valves is supplied from an emergency power source to ensure the ability to seal this possible RCS leakage path.

#### 3.4.4.12 REACTOR COOLANT VENT SYSTEM

The Reactor Coolant Vent System is provided to exhaust noncondensable gases and/or steam from the primary system that could inhibit natural circulation core cooling. It has been designed to vent a volume of Hydrogen approximately equal to one-half of the Reactor Coolant System volume in one hour at system design pressure and temperature.

The Reactor Coolant Vent System is comprised of the Reactor Vessel head vent system and the pressurizer steam space vent system. Each of these subsystems consists of a single line containing a common manual isolation valve inside containment, splitting into two parallel flow paths. Each flow path provides the design basis venting capacity and contains two 1E DC powered solenoid isolation valves, which will fail closed. This valve configuration/redundancy serves to minimize the probability of inadvertent or irreversible actuation while ensuring that a single failure of a remotely-operated vent valve, power supply, or control system does not prevent isolation of the vent path. The pressurizer steam space vent is independent of the PORVs and safety valves and is specifically designed to exhaust gases from the pressurizer in a very high radiation environment. In addition, the OPERABILITY of one Reactor Vessel head vent path and one Pressurizer steam space vent path will ensure that the capability exists to perform this venting function.

The function, capabilities, and testing requirements of the Reactor Coolant Vent System are consistent with the requirements of Item II.B.1 of NUREG-0737, "Clarification of TMI Action Plan Requirement," November 1980.

The minimum required systems to meet the Specification and not enter into an action statement are one vent path from the Reactor Vessel head and one vent path from the Pressurizer steam space.

REACTOR COOLANT SYSTEM

REACTOR COOLANT VENT SYSTEM

REACTOR VESSEL HEAD VENTS

LIMITING CONDITIONS FOR OPERATION

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3.4.12.1 At least one of the Reactor Vessel head vent paths, consisting of two remotely operated valves in series, powered from Class 1E DC busses, shall be OPERABLE and closed.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTION:

- a. With both of the Reactor Vessel head vent paths inoperable, and at least one of the Pressurizer steam space vent paths OPERABLE (see Specification 3.4.12.2), operation in MODES 1, 2, 3 or 4 may continue, provided the inoperable vent paths are maintained closed with power removed from the valve actuators of all the remotely operated valves in all of the inoperable vent paths; restore at least one of the Reactor Vessel head vent paths within 30 days or be in HOT STANDBY within 6 hours and in COLD SHUTDOWN within the following 30 hours.
- b. With both of the Reactor Vessel head vent paths and both of the Pressurizer steam space vent paths inoperable; maintain the inoperable vent paths closed with power removed from the valve actuators of all of the remotely operated valves in all of the inoperable vent paths; restore one of the inoperable vent paths from either the Reactor Vessel head vent or the Pressurizer steam space within 72 hours or be in HOT STANDBY within 6 hours and in COLD SHUTDOWN within the following 30 hours.
- c. The provision of Specification 3.0.4 are not applicable.

REACTOR COOLANT SYSTEM

REACTOR COOLANT VENT SYSTEM

REACTOR VESSEL HEAD VENTS

SURVEILLANCE REQUIREMENTS

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4.4.12.1 Both Reactor Vessel head vent paths shall be demonstrated OPERABLE<sup>#</sup> at least once per 18 months by:

1. Verifying the common manual isolation valve in the Reactor vessel head vent is sealed in the open position.
2. Cycling each of the remotely operated valves in each path through at least one complete cycle of full travel from the Control Room while in Modes 5 or 6.
3. Verifying flow through both of the Reactor Vessel head vent paths during venting operation, while in Modes 5 or 6.

# Surveillance requirements to demonstrate the operability of each Reactor Vessel head vent path will be performed the next time the unit enters MODES 5 or 6 following the issuance of this Technical Specification, and after the appropriate Plant procedures have been written.

REACTOR COOLANT SYSTEM

REACTOR COOLANT VENT SYSTEM

PRESSURIZER STEAM SPACE VENTS

LIMITING CONDITION FOR OPERATION

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3.4.12.2 At least one of the Pressurizer steam space vent paths, each consisting of two remotely operated valves in series, powered from Class 1E DC busses, shall be OPERABLE and closed.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTION:

- a. With both of the Pressurizer steam space vent paths inoperable, and at least one of the Reactor Vessel head vent paths OPERABLE (see Specification 3.4.12.1), operation in MODES 1, 2, 3 or 4 may continue, provided the inoperable vent paths are maintained closed with the power removed from the valve actuators of all the remotely operated valves in all of the inoperable vent paths; restore at least one of the Pressurizer steam space vent paths within 30 days or be in HOT STANDBY within 6 hours and in COLD SHUTDOWN in the following 30 hours.
- b. With both of the Pressurizer steam space vent paths and both of the Reactor Vessel head vent paths inoperable; maintain the inoperable vent paths closed with power removed from the valve actuators of all of the remotely operated valves in all of the inoperable vent paths; restore one of the inoperable vent paths from either the Reactor Vessel head vent or the Pressurizer steam space within 72 hours or be in HOT STANDBY within 6 hours and in COLD SHUTDOWN within the following 30 hours.
- c. The provisions of Specification 3.0.4 are not applicable.

REACTOR COOLANT SYSTEM

REACTOR COOLANT VENT SYSTEM

PRESSURIZER STEAM SPACE VENTS

SURVEILLANCE REQUIREMENTS

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4.4.12.2 Both Pressurizer steam space vent paths shall be demonstrated OPERABLE\* at least once per 18 months by:

1. Verifying the common manual isolation valve in the Pressurizer steam space vent is sealed in the open position.
2. Cycling each of the remotely operated valves in each path through at least one complete cycle of full travel from the Control Room while in Modes 5 or 6.
3. Verifying flow through both of the Pressurizer steam space vent paths during venting operation, while in Modes 5 or 6.

\* Surveillance requirements to demonstrate the operability of each Pressurizer steam space vent path will be performed the next time the unit enters MODES 5 or 6 following the issuance of this Technical Specification, and after the appropriate Plant procedures have been written.



## REACTOR COOLANT SYSTEM

### BASES

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#### 3.4.4.11 RELIEF VALVES

The power operated relief valves (PORVs) operate to relieve RCS pressure below the setting of the pressurizer code safety valves. These relief valves have remotely operated block valves to provide a positive shutoff capability should the relief valve become inoperable. The electrical power for both the relief valves and the block valves is supplied from an emergency power source to ensure the ability to seal this possible RCS leakage path.

#### 3.4.4.12 REACTOR COOLANT VENT SYSTEM

The Reactor Coolant Vent System is provided to exhaust noncondensable gases and/or steam from the primary system that could inhibit natural circulation core cooling. It has been designed to vent a volume of Hydrogen approximately equal to one-half of the Reactor Coolant System volume in one hour at system design pressure and temperature.

The Reactor Coolant Vent System is comprised of the Reactor Vessel head vent system and the pressurizer steam space vent system. Each of these subsystems consists of a single line containing a common manual isolation valve inside containment, splitting into two parallel flow paths. Each flow path provides the design basis venting capacity and contains two 1E DC powered solenoid isolation valves, which will fail closed. This valve configuration/redundancy serves to minimize the probability of inadvertent or irreversible actuation while ensuring that a single failure of a remotely-operated vent valve, power supply, or control system does not prevent isolation of the vent path. The pressurizer steam space vent is independent of the PORVs and safety valves and is specifically designed to exhaust gases from the pressurizer in a very high radiation environment. In addition, the OPERABILITY of one Reactor Vessel head vent path and one Pressurizer steam space vent path will ensure that the capability exists to perform this venting function.

The function, capabilities, and testing requirements of the Reactor Coolant Vent System are consistent with the requirements of Item II.B.1 of NUREG-0737, "Clarification of TMI Action Plan Requirement," November 1980.

The minimum required systems to meet the Specification and not enter into an action statement are one vent path from the Reactor Vessel head and one vent path from the Pressurizer steam space.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NOS. 81 AND 65 TO

INDIANA AND MICHIGAN ELECTRIC COMPANY

DONALD C. COOK NUCLEAR PLANT UNITS 1 AND 2

DOCKET NOS. 50-315 AND 50-316

INTRODUCTION AND BACKGROUND

In November 1980, the staff issued NUREG-0737, "Clarification of TMI Action Plan Requirements", which included all TMI Action Plan items approved by the Commission for implementation at nuclear power reactors. NUREG-0737 identifies those items for which Technical Specifications were scheduled for implementation after December 31, 1981. The staff provided guidance on the scope of Technical Specifications for all of these items in Generic Letter 83-37. Generic Letter 83-37 was issued to all Pressurized Water Reactor (PWR) licensees on November 1, 1983. In this Generic Letter, the staff requested licensees to:

1. review their facility's Technical Specifications to determine if they were consistent with the guidance provided in the Generic Letter, and
2. submit an application for a license amendment where deviations or absence of Technical Specifications were found.

By letters dated January 20, and March 15, 1984, Indiana and Michigan Electric Company (the licensee) responded to Generic Letter 83-37 by submitting Technical Specification change requests for D. C. Cook Units 1 and 2. This evaluation covers TMI Action Plan Item II.B.1 - Reactor Coolant System Vents.

EVALUATION

Our guidance for Reactor Coolant System (RCS) vents identified the need for at least one operable vent path at the reactor vessel head and the pressurizer steam space, for Westinghouse reactors. Generic Letter 83-37 also provided limiting conditions for operation and the surveillance requirements for the RCS vents. The licensee has proposed TSs that are consistent with our guidance. We find the proposed TSs to be acceptable.

We have further evaluated the vent path as proposed and find that should a venting of the primary system be required following an accident, the vented gasses would remain inside containment along with other releases from the accident. The venting inside containment should preclude the possibility of subsequently greater releases to the containment if the voids are allowed to remain in the primary system possibly further damaging the core. The proposed

vent systems are to provide improved operational capability if necessary following an accident, therefore, no significant increases by operation of the vents systems are expected in the occupational radiation exposure.

#### ENVIRONMENTAL CONSIDERATIONS

This amendments involve a change in the installation or use of a facilities components located within the restricted areas as defined in 10 CFR Part 20. The staff has determined that the amendments involve 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 these amendments involve no significant hazards consideration and there has been no public comment on such finding. Accordingly, these amendments meet the eligibility criteria for categorical exclusion set forth in 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 these amendments.

#### CONCLUSION

We have concluded, based on the considerations discussion above, that (1) there is reasonable assurance that the health, safety and interest 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 these amendments will not be inimical to the common defense and security or to the health and safety of the public.

DATED: August 24, 1984

#### PRINCIPAL CONTRIBUTORS:

C. Patel

D. Wigginton