May 19, 1989

Docket Nos. 50-315
and 50-316

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Mr. Milton P. Alexich, Vice President
Indiana Michigan Power Company
c/o American Electric Power Service Corporation
1 Riverside Plaza
Columbus, Ohio 43216

Dear Mr. Alexich:

SUBJECT: AMENDMENTS NOS. 124 AND 111 TO FACILITY OPERATING LICENSES NOS. DPR-58 AND DPR-74: TECHNICAL SPECIFICATION CHANGES FOR THE ENGINEERED SAFETY FEATURES AND STORAGE POOL VENTILATION SYSTEM (TACS NOS. 65559 and 65560)

The Commission has issued the enclosed Amendment No. 124 to Facility Operating License No. DPR-58 and Amendment No. 111 to Facility Operating License No. DPR-74 for the Donald C. Cook Nuclear Plant, Units Nos. 1 and 2. The amendments consist of changes to the Technical Specifications in response to your application dated May 28, 1987.

The amendments will modify the Engineered Safeguards Features (ESF) and Storage Pool Ventilation System Technical Specification (3/4.7.6.1 and 3/4.9.12, respectively). The proposed amendments will update the licensee's ventilation system testing standard and clarify several aspects of system operation. In addition, the amendments also will correct several typographical errors in the Technical Specifications.

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

Sincerely,

John F. Stang

John F. Stang, Project Manager
Project Directorate III-1
Division of Reactor Projects - III, IV, V
& Special Projects

Enclosures:
1. Amendment No. 124 to DPR-58
2. Amendment No. 111 to DPR-74
3. Safety Evaluation

cc w/enclosures:
See next page

5520 TITLE: COOK TAC 6559/60

LA/PD31:DRSP	PM/PD31:DRSP	(A)D/PD31:DRSP	OGC
PShuttleworth	JStang:cr	~~TQuay~~ JStang	
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May 19, 1989

Docket Nos. 50-315
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Indiana Michigan Power Company
c/o American Electric Power Service Corporation
1 Riverside Plaza
Columbus, Ohio 43216

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SUBJECT: AMENDMENTS NOS. 124 AND 111 TO FACILITY OPERATING LICENSES NOS. DPR-58 AND DPR-74: TECHNICAL SPECIFICATION CHANGES FOR THE ENGINEERED SAFETY FEATURES AND STORAGE POOL VENTILATION SYSTEM (TACS NOS. 65559 and 65560)

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John F. Stang, Project Manager
Project Directorate III-1
Division of Reactor Projects - III, IV, V
& Special Projects

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1. Amendment No. 124 to DPR-58
2. Amendment No. 111 to DPR-74
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PShuttleworth	JStang:cr	~~TQuay~~ JStang	
5/11/89	5/18/89	5/18/89	5/18/89

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

May 19, 1989

Dockets Nos. 50-315
and 50-316

Mr. Milton P. Alexich, Vice President
Indiana Michigan Power Company
c/o American Electric Power Service Corporation
1 Riverside Plaza
Columbus, Ohio 43216

Dear Mr. Alexich:

SUBJECT: AMENDMENTS NOS. 124 AND 111 TO FACILITY OPERATING LICENSES NOS. DPR-58 AND DPR-74: TECHNICAL SPECIFICATION CHANGES FOR THE ENGINEERED SAFETY FEATURES AND STORAGE POOL VENTILATION SYSTEM (TACS NOS. 65559 and 65560)

The Commission has issued the enclosed Amendment No. 124 to Facility Operating License No. DPR-58 and Amendment No. 111 to Facility Operating License No. DPR-74 for the Donald C. Cook Nuclear Plant, Units Nos. 1 and 2. The amendments consist of changes to the Technical Specifications in response to your application dated May 28, 1987.

The amendments will modify the Engineered Safeguards Features (ESF) and Storage Pool Ventilation System Technical Specification (3/4.7.6.1 and 3/4.9.12, respectively). The proposed amendments will update the licensee's ventilation system testing standard and clarify several aspects of system operation. In addition, the amendments also will correct several typographical errors in the Technical Specifications.

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

Sincerely,

John F. Stang

John F. Stang, Project Manager
Project Directorate III-1
Division of Reactor Projects - III, IV, V
& Special Projects

Enclosures:
1. Amendment No. 124 to DPR-58
2. Amendment No. 111 to DPR-74
3. Safety Evaluation

cc w/enclosures:
See next page

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

Attorney General
Department of Attorney General
525 West Ottawa Street
Lansing, Michigan 48913

Township Supervisor
Lake Township Hall
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Donald C. Cook Nuclear Plant
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Special Assistant to the Governor
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Nuclear Facilities and Environmental
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Mr. S. Brewer
American Electric Power
Service Corporation
1 Riverside Plaza
Columbus, Ohio 43216

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

INDIANA MICHIGAN POWER COMPANY

DOCKET NO. 50-315

DONALD C. COOK NUCLEAR PLANT, UNIT NO. 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 124
License No. DPR-58

1. The Nuclear Regulatory Commission (the Commission) has found that:

   A. The application for amendment by Indiana Michigan Power Company (the licensee) dated May 28, 1987, 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:

Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 124 , 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

Lawrence Yandell, Acting Director
Project Directorate III-1
Division of Reactor Projects - III, IV, V
& Special Projects

Attachment:
Changes to the Technical
Specifications

Date of Issuance: May 19, 1989

ATTACHMENT TO LICENSE AMENDMENTS

AMENDMENT NO. 124 TO FACILITY OPERATING LICENSE NO. DPR-58

DOCKET NO. 50-315

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

REMOVE	INSERT
3/4 7-23	3/4 7-23
3/4 7-24	3/4 7-24
3/4 7-25	3/4 7-25
3/4 9-13	3/4 9-13
3/4 9-14	3/4 9-14
3/4 9-15	3/4 9-15
3/4 9-16	3/4 9-16
B 3/4 7-5	B 3/4 7-5
B 3/4 9-3	B 3/4 9-3
-	B 3/4 9-4

PLANT SYSTEMS

3/4.7.6 ESF VENTILATION SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.6.1 Two independent ESF ventilation system exhaust air filter trains shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With one ESF ventilation system exhaust air filter train inoperable, restore the inoperable train to OPERABLE status within 7 days or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.7.6.1 Each ESF ventilation system exhaust air filter train shall be demonstrated OPERABLE:

a. At least once per 31 days on a STAGGERED TEST BASIS by initiating, from the control room, flow through the HEPA filter and charcoal adsorber train and verifying that the train operates for at least 15 minutes.

b. At least once per 18 months or (1) after any structural maintenance on the HEPA filter or charcoal adsorber housings, or (2) following painting, fire or chemical release in any ventilation zone communicating with the system, by:

1. Deleted.

2. Verifying that the charcoal adsorbers remove $\geq$ 99% of a halogenated hydrocarbon refrigerant test gas when they are tested in-place in accordance with ANSI N510-1980 while operating the ventilation system at a flow rate of 25,000 cfm $\pm$ 10%.

3. Verifying that the HEPA filter banks remove $\geq$ 99% of the DOP when they are tested in-place in accordance with ANSI N510-1980 while operating the ventilation system at a flow rate of 25,000 cfm $\pm$ 10%.

SURVEILLANCE REQUIREMENTS (Continued)

4. Verifying within 31 days after removal that a laboratory analysis of a carbon sample from either at least one test canister or at least two carbon samples removed from one of the charcoal adsorbers demonstrates a removal efficiency of $\geq$ 90% for radioactive methyl iodide when the sample is tested in accordance with ANSI N510-1980 (130°C, 95% R.H.). The carbon samples not obtained from test canisters shall be prepared by either:

   a) Emptying one entire bed from a removed adsorber tray, mixing the adsorbent thoroughly, and obtaining samples at least two inches in diameter and with a length equal to the thickness of the bed, or

   b) Emptying a longitudinal sample from an adsorber tray, mixing the adsorbent thoroughly, and obtaining samples at least two inches in diameter and with a length equal to the thickness of the bed.

   Subsequent to reinstalling the adsorber tray used for obtaining the carbon sample, the system shall be demonstrated OPERABLE by also verifying that the charcoal adsorbers remove $\geq$ 99% of a halogenated hydrocarbon refrigerant test gas when they are tested in-place in accordance with ANSI N510-1980 while operating the ventilation system at a flow rate of 25,000 cfm $\pm$ 10%.

5. Verifying a system flow rate of 25,000 cfm $\pm$ 10% during system operation when tested in accordance with ANSI N510-1980.

c. After every 720 hours of charcoal adsorber operation by either:

1. Verifying within 31 days after removal that a laboratory analysis of a carbon sample obtained from a test canister demonstrates a removal efficiency of $\geq$ 90% for radioactive methyl iodide when the sample is tested in accordance with ANSI N510-1980 (130°C, 95% R.H.); or

2. Verifying within 31 days after removal that laboratory analyses of at least two carbon samples demonstrate a removal efficiency of $\geq$ 90% for radioactive methyl iodide when the samples are tested in accordance with ANSI N510-1980 (130°C, 95% R.H.) and the samples are prepared by either:

   a) Emptying one entire bed from a removed adsorber tray, mixing the adsorbent thoroughly, and obtaining samples at least two inches in diameter and with a length equal to the thickness of the bed, or

SURVEILLANCE REQUIREMENTS (Continued)

b) Emptying a longitudinal sample from an adsorber tray, mixing the adsorbent thoroughly, and obtaining samples at least two inches in diameter and with a length equal to the thickness of the bed.

Subsequent to reinstalling the adsorber tray used for obtaining the carbon sample, the system shall be demonstrated OPERABLE by also verifying that the charcoal adsorbers remove ≥ 99% of a halogenated hydrocarbon refrigerant test gas when they are tested in-place in accordance with ANSI N510-1980 while operating the ventilation system at a flow rate of 25,000 cfm ± 10%.

d. At least once per 18 months by:

1. Verifying that the pressure drop across the combined HEPA filters and charcoal adsorber banks is < 6 inches Water Gauge while operating the ventilation system at a flow rate of 25,000 cfm ± 10%.

2. Deleted.

3. Verifying that the standby fan starts automatically on a Containment Pressure--High-High Signal and directs its exhaust flow through the HEPA filters and charcoal adsorber banks on a Containment Pressure--High-High Signal.*

e. After each complete or partial replacement of a HEPA filter bank by verifying that the HEPA filter banks remove ≥ 99% of the DOP when they are tested in-place in accordance with ANSI N510-1980 while operating the ventilation system at a flow rate of 25,000 cfm ± 10%.

f. After each complete or partial replacement of a charcoal adsorber bank by verifying that the charcoal adsorbers remove ≥ 99% of a halogenated hydrocarbon refrigerant test gas when they are tested in-place in accordance with ANSI N510-1980 while operating the ventilation system at a flow rate of 25,000 cfm ± 10%.

* The provisions of Specification 4.0.6 are applicable.

REFUELING OPERATIONS

STORAGE POOL VENTILATION SYSTEM**

LIMITING CONDITION FOR OPERATION

3.9.12 The spent fuel storage pool exhaust ventilation system shall be OPERABLE.

APPLICABILITY: Whenever irradiated fuel is in the storage pool.

ACTION:

a. With no fuel storage pool exhaust ventilation system OPERABLE, suspend all operations involving movement of fuel within the storage pool or crane operation with loads over the storage pool+ until at least one spent fuel storage pool exhaust ventilation system is restored to OPERABLE status.*

b. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.9.12 The above required fuel storage pool ventilation system shall be demonstrated OPERABLE:

a. At least once per 31 days by initiating flow through the HEPA filter and charcoal adsorber train and verifying that the train operates for at least 15 minutes.

b. At least once per 18 months or (1) after any structural maintenance on the HEPA filter or charcoal adsorber housings, or (2) following painting, fire or chemical release in any ventilation zone communicating with the system, by:

1. Deleted.

2. Verifying that the charcoal adsorbers remove $\geq$ 99% of a halogenated hydrocarbon refrigerant test gas when they are tested in-place in accordance with ANSI N510-1980 while operating the exhaust ventilation system at a flow rate of 30,000 cfm $\pm$ 10%.

* The crane bay roll-up door and the drumming room roll-up door may be opened under administrative control during movement of fuel within the storage pool or crane operation with loads over the storage pool.
** Shared system with D. C. COOK - UNIT 2.
+ This does not include the main load block. For purposes of this specification, a deenergized main load block need not be considered a load.

3. Verifying that the HEPA filter banks remove ≥ 99% of the DOP when they are tested in-place in accordance with ANSI N510-1980 while operating the exhaust ventilation system at a flow rate of 30,000 cfm ± 10%.

4. Verifying within 31 days after removal that a laboratory analysis of a carbon sample from either at least one test canister or at least two carbon samples removed from one of the charcoal adsorbers demonstrates a removal efficiency of ≥ 90% for radioactive methyl iodide when the sample is tested in accordance with ANSI N510-1980 (130°C, 95% R.H.). The carbon samples not obtained from test canisters shall be prepared by either:

   (a) Emptying one entire bed from a removed adsorber tray, mixing the adsorbent thoroughly, and obtaining samples at least two inches in diameter and with a length equal to the thickness of the bed, or

   (b) Emptying a longitudinal sample from an adsorber tray, mixing the adsorbent thoroughly, and obtaining samples at least two inches in diameter and with a length equal to the thickness of the bed.

   Subsequent to reinstalling the adsorber tray used for obtaining the carbon sample, the system shall be demonstrated OPERABLE by also verifying that the charcoal adsorbers remove ≥ 99% of a halogenated hydrocarbon refrigerant test gas when they are tested in-place in accordance with ANSI N510-1980 while operating the ventilation system at a flow rate of 30,000 cfm ± 10%.

5. Verifying a system flow rate of 30,000 cfm ± 10% during system operation when tested in accordance with ANSI N510-1980.

c. After every 720 hours of charcoal adsorber operation by either:

1. Verifying within 31 days after removal that a laboratory analysis of a carbon sample obtained from a test canister demonstrates a removal efficiency of ≥ 90% for radioactive methyl iodide when the sample is tested in accordance with ANSI N510-1980 (130°C, 95% R.H.); or

SURVEILLANCE REQUIREMENTS (Continued)

2. Verifying within 31 days after removal that laboratory analyses of at least two carbon samples demonstrate a removal efficiency of ≥ 90% for radioactive methyl iodide when the samples are tested in accordance with ANSI N510-1980 (130°C, 95% R.H.) and the samples are prepared by either:

   a) Emptying one entire bed from a removed adsorber tray, mixing the adsorbent thoroughly, and obtaining samples at least two inches in diameter and with a length equal to the thickness of the bed, or

   b) Emptying a longitudinal sample from an adsorber tray, mixing the adsorbent thoroughly, and obtaining samples at least two inches in diameter and with a length equal to the thickness of the bed.

   Subsequent to reinstalling the adsorber tray used for obtaining the carbon sample, the system shall be demonstrated OPERABLE by also verifying that the charcoal adsorbers remove ≥ 99% of a halogenated hydrocarbon refrigerant test gas when they are tested in-place in accordance with ANSI N510-1980 while operating the ventilation system at a flow rate of 30,000 cfm ± 10%.

d. At least once per 18 months by:

   1. Verifying that the pressure drop across the combined HEPA filters and charcoal adsorber banks is ≤ 6 inches Water Gauge while operating the exhaust ventilation system at a flow rate of 30,000 cfm ± 10%.

   2. Deleted.

   3. Verifying that on a high-radiation signal, the system automatically directs its exhaust flow through the charcoal adsorber banks and automatically shuts down the storage pool ventilation system supply fans.

   4. Verifying that the exhaust ventilation system maintains the spent fuel storage pool area at a negative pressure of ≥ 1/8 inches Water Gauge relative to the outside atmosphere during system operation.

SURVEILLANCE REQUIREMENTS (Continued)

e. After each complete or partial replacement of a HEPA filter bank by verifying that the HEPA filter banks remove ≥ 99% of the DOP when they are tested in-place in accordance with ANSI N510-1980 while operating the ventilation system at a flow rate of 30,000 cfm ± 10%.

f. After each complete or partial replacement of a charcoal adsorber bank by verifying that the charcoal adsorbers remove ≥ 99% of a halogenated hydrocarbon refrigerant test gas when they are tested in-place in accordance with ANSI N510-1980 while operating the ventilation system at a flow rate of 30,000 cfm ± 10%.

3/4.7.5 CONTROL ROOM EMERGENCY VENTILATION SYSTEM

The OPERABILITY of the control room emergency ventilation system ensures that 1) the ambient air temperature does not exceed the allowable temperature for continuous duty rating for the equipment and instrumentation cooled by this system and 2) the control room will remain habitable for operations personnel during and following all credible accident conditions. The OPERABILITY of this system in conjunction with control room design provisions is based on limiting the radiation exposure to personnel occupying the control room to 5 rem or less whole body, or its equivalent. This limitation is consistent with the requirements of General Design Criterion 19 of Appendix "A", 10 CFR 50.

3/4.7.6 ESF VENTILATION SYSTEM

The OPERABILITY of the ESF ventilation system ensures that adequate cooling is provided for ECCS equipment and that radioactive materials leaking from the ECCS equipment within the pump rooms following a LOCA are filtered prior to reaching the environment. The operation of this system and the resultant effect on offsite dosage calculations were assumed in the accident analyses.

The 1980 version of ANSI N510 is used as a testing guide. This standard, however, is intended to be rigorously applied only to systems which, unlike the ESF ventilation system, are designed to ANSI N509 standards. For the specific case of the air-aerosol mixing uniformity test required by ANSI N510 as a prerequisite to in-place leak testing of charcoal and HEPA filters, the air-aerosol uniform mixing test acceptance criteria were not rigorously met. For this reason, a statistical correction factor will be applied to applicable surveillance test results where required.

3/4.7.7 SEALED SOURCE CONTAMINATION

The limitations on sealed source removable contamination ensure that the total body or individual organ irradiation does not exceed allowable limits in the event of ingestion or inhalation of the probable leakage from the source material. The limitations on removable contamination for sources requiring leak testing, including alpha emitters, are based on 10 CFR 70.39(c) limits for plutonium. Quantities of interest to this specification which are exempt from the leakage testing are consistent with the criteria of 10 CFR Parts 30.11-20 and 70.19. Leakage from sources excluded from the requirements of this specification is not likely to represent more than one maximum permissible body burden for total body irradiation if the source material is inhaled or ingested.

3/4.7.8 HYDRAULIC SNUBBERS

All snubbers are required OPERABLE to ensure that the structural integrity of the reactor coolant system and all other safety related systems is maintained during and following a seismic or other event initiating dynamic loads. Snubbers excluded from this inspection program are those installed on nonsafety-related systems and then only if their failure or failure of the system on which they are installed, would have no adverse affect on any safety-related system.

3/4.9.10 AND 3/4.9.11 WATER LEVEL - REACTOR VESSEL AND STORAGE POOL

The restrictions on minimum water level ensure that sufficient water depth is available to remove 99% of the assumed 10% iodine gap activity released from the rupture of an irradiated fuel assembly. The minimum water depth is consistent with the assumptions of the accident analysis. Water level above the vessel flange in MODE 6 will vary as the reactor vessel head and the system internals are removed. The 23 feet of water are required before any subsequent movement of fuel assemblies or control rods.

3/4.9.12 STORAGE POOL VENTILATION SYSTEM

The limitations on the storage pool ventilation system ensure that all radioactive material released from an irradiated fuel assembly will be filtered through the HEPA filters and charcoal adsorber prior to discharge to the atmosphere. The OPERABILITY of this system and the resulting iodine removal capacity are consistent with the assumptions of the accident analyses.

The 1980 version of ANSI N510 is used as a testing guide. This standard, however, is intended to be rigorously applied only to systems which, unlike the storage pool ventilation system, are designed to ANSI N509 standards. For the specific case of the air-aerosol mixing uniformity test required by ANSI N510 as a prerequisite to in-place leak testing of charcoal and HEPA filters, the air-aerosol uniform mixing test acceptance criteria were not rigorously met. For this reason, a statistical correction factor will be applied to applicable surveillance test results where required.

In order to maintain the minimum negative pressure required by Technical Specifications (1/8 inch W.G.) during movement of fuel within the storage pool or during crane operation with loads over the pool, the crane bay roll-up door and the drumming room roll-up door, located on the 609-foot elevation of the auxiliary building, must be closed. However, they may be opened during these operations under administrative control. If the crane bay door needs to be opened during fuel movement, an example of an administrative control might be to station an individual at the door who would be in communication with personnel in the spent fuel pool area and could open the door when passage was completed or in the event of an emergency. For the drumming room door, an example of an administrative control might be to require the door to be reclosed after normal ingress and egress of personnel or material, or to station an individual at the door if the door needs to remain open for an extended period of time.

Should the doors become blocked or stuck open while under administrative control, Technical Specification requirements will not be considered to be violated provided the Action Statement requirements of Specification 3.9.12 are expeditiously followed, i.e., movement of fuel within the storage pool or crane operation with loads over the pool is expeditiously suspended.

3/4.9.13 SPENT FUEL CASK MOVEMENT

The limitations of this specification ensure that, during insertion or removal of spent fuel casks from the spent fuel pool, fuel cask movement will be constrained to the path and lift height assumed in the Cask Drop Protection System safety analysis. Restricting the spent fuel cask movement within these requirements provides protection for the spent fuel pool and stored fuel from the effects of a fuel cask drop accident.

3/4.9.14 SPENT FUEL CASK DROP PROTECTION SYSTEM

The limitations on the use of spent fuel casks weighing in excess of 110 tons (nominal) provide assurance that the spent fuel pool would not be damaged by a dropped fuel cask since this weight is consistent with the assumptions used in the safety analysis for the performance of the Cask Drop Protection System.

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

INDIANA MICHIGAN POWER COMPANY

DOCKET NO. 50-316

DONALD C. COOK NUCLEAR PLANT, UNIT NO. 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 111
License No. DPR-74

1. The Nuclear Regulatory Commission (the Commission) has found that:

   A. The application for amendment by Indiana Michigan Power Company (the licensee) dated May 28, 1987, 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:

Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 111 , 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

Lawrence A. Yandell

Lawrence A. Yandell, Acting Director
Project Directorate III-1
Division of Reactor Projects - III, IV, V
& Special Projects

Attachment:
Changes to the Technical
Specifications

Date of Issuance: May 19, 1989

ATTACHMENT TO LICENSE AMENDMENTS

AMENDMENT NO. 111 TO FACILITY OPERATING LICENSE NO. DPR-74

DOCKET NO. 50-316

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

REMOVE	INSERT
3/4 7-17	3/4 7-17
3/4 7-18	3/4 7-18
3/4 7-19	3/4 7-19
3/4 7-19a	3/4 7-19a
3/4 9-11*	3/4 9-11*
3/4 9-12	3/4 9-12
3/4 9-13	3/4 9-13
3/4 9-14	3/4 9-14
3/4 9-15	3/4 9-15
B 3/4 7-5	B 3/4 7-5
B 3/4 7-6	B 3/4 7-6
B 3/4 9-3	B 3/4 9-3
-	B 3/4 9-4

*Overleaf page provided to maintain document completeness. No changes contained on this page.

PLANT SYSTEMS

3/4.7.6 ESF VENTILATION SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.6.1 Two independent ESF ventilation system exhaust air filter trains shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With one ESF ventilation system exhaust air filter train inoperable, restore the inoperable train to OPERABLE status within 7 days or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.7.6.1 Each ESF ventilation system exhaust air filter train shall be demonstrated OPERABLE:

a. At least once per 31 days on a STAGGERED TEST BASIS by initiating, from the control room, flow through the HEPA filter and charcoal adsorber train and verifying that the train operates for at least 15 minutes.

b. At least once per 18 months or (1) after any structural maintenance on the HEPA filter or charcoal adsorber housings, or (2) following painting, fire or chemical release in any ventilation zone communicating with the system, by:

1. Deleted.

2. Verifying that the charcoal adsorbers remove $\geq$ 99% of a halogenated hydrocarbon refrigerant test gas when they are tested in-place in accordance with ANSI N510-1980 while operating the ventilation system at a flow rate of 25,000 cfm $\pm$ 10%.

3. Verifying that the HEPA filter banks remove $\geq$ 99% of the DOP when they are tested in-place in accordance with ANSI N510-1980 while operating the ventilation system at a flow rate of 25,000 cfm $\pm$ 10%.

SURVEILLANCE REQUIREMENTS (Continued)

4. Verifying within 31 days after removal that a laboratory analysis of a carbon sample from either at least one test canister or at least two carbon samples removed from one of the charcoal adsorbers demonstrates a removal efficiency of $\geq$ 90% for radioactive methyl iodide when the sample is tested in accordance with ANSI N510-1980 (130°C, 95% R.H.). The carbon samples not obtained from test canisters shall be prepared by either:

   a) Emptying one entire bed from a removed adsorber tray, mixing the adsorbent thoroughly, and obtaining samples at least two inches in diameter and with a length equal to the thickness of the bed, or

   b) Emptying a longitudinal sample from an adsorber tray, mixing the adsorbent thoroughly, and obtaining samples at least two inches in diameter and with a length equal to the thickness of the bed.

   Subsequent to reinstalling the adsorber tray used for obtaining the carbon sample, the system shall be demonstrated OPERABLE by also verifying that the charcoal adsorbers remove $\geq$ 99% of a halogenated hydrocarbon refrigerant test gas when they are tested in-place in accordance with ANSI N510-1980 while operating the ventilation system at a flow rate of 25,000 cfm $\pm$ 10%.

5. Verifying a system flow rate of 25,000 cfm $\pm$ 10% during system operation when tested in accordance with ANSI N510-1980.

c. After every 720 hours of charcoal adsorber operation by either:

1. Verifying within 31 days after removal that a laboratory analysis of a carbon sample obtained from a test canister demonstrates a removal efficiency of $\geq$ 90% for radioactive methyl iodide when the sample is tested in accordance with ANSI N510-1980 (130°C, 95% R.H.); or

2. Verifying within 31 days after removal that laboratory analyses of at least two carbon samples demonstrate a removal efficiency of $\geq$ 90% for radioactive methyl iodide when the samples are tested in accordance with ANSI N510-1980 (130°C, 95% R.H.) and the samples are prepared by either:

   a) Emptying one entire bed from a removed adsorber tray, mixing the adsorbent thoroughly, and obtaining samples at least two inches in diameter and with a length equal to the thickness of the bed, or

SURVEILLANCE REQUIREMENTS (Continued)

b) Emptying a longitudinal sample from an adsorber tray, mixing the adsorbent thoroughly, and obtaining samples at least two inches in diameter and with a length equal to the thickness of the bed.

Subsequent to reinstalling the adsorber tray used for obtaining the carbon sample, the system shall be demonstrated OPERABLE by also verifying that the charcoal adsorbers remove $\geq$ 99% of a halogenated hydrocarbon refrigerant test gas when they are tested in-place in accordance with ANSI N510-1980 while operating the ventilation system at a flow rate of 25,000 cfm $\pm$ 10%.

d. At least once per 18 months by:

1. Verifying that the pressure drop across the combined HEPA filters and charcoal adsorber banks is < 6 inches Water Gauge while operating the ventilation system at a flow rate of 25,000 cfm $\pm$ 10%.

2. Deleted.

3. Verifying that the standby fan starts automatically on a Containment Pressure--High-High Signal and directs its exhaust flow through the HEPA filters and charcoal adsorber banks on a Containment Pressure--High-High Signal.*

e. After each complete or partial replacement of a HEPA filter bank by verifying that the HEPA filter banks remove $\geq$ 99% of the DOP when they are tested in-place in accordance with ANSI N510-1980 while operating the ventilation system at a flow rate of 25,000 cfm $\pm$ 10%.

f. After each complete or partial replacement of a charcoal adsorber bank by verifying that the charcoal adsorbers remove $\geq$ 99% of a halogenated hydrocarbon refrigerant test gas when they are tested in-place in accordance with ANSI N510-1980 while operating the ventilation system at a flow rate of 25,000 cfm $\pm$ 10%.

*The provisions of Specification 4.0.7 are applicable.

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REFUELING OPERATIONS

STORAGE POOL WATER LEVEL*

LIMITING CONDITION FOR OPERATION

3.9.11 At least 23 feet of water shall be maintained over the top of irradiated fuel assemblies seated in the storage racks.

APPLICABILITY: Whenever irradiated fuel assemblies are in the storage pool.

ACTION:

With the requirements of the specification not satisfied, suspend all movement of fuel assemblies and crane operations with loads in the fuel storage areas and restore the water level to within its limit within 4 hours. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.9.11 The water level in the storage pool shall be determined to be at least its minimum required depth at least once per 7 days when irradiated fuel assemblies are in the fuel storage pool.

*Shared system with D. C. COOK - UNIT 1.

REFUELING OPERATIONS

STORAGE POOL VENTILATION SYSTEM**

LIMITING CONDITION FOR OPERATION

3.9.12 The spent fuel storage pool exhaust ventilation system shall be OPERABLE.

APPLICABILITY: Whenever irradiated fuel is in the storage pool.

ACTION:

a. With no fuel storage pool exhaust ventilation system OPERABLE, suspend all operations involving movement of fuel within the storage pool or crane operation with loads over the storage pool+ until at least one spent fuel storage pool exhaust ventilation system is restored to OPERABLE status.*

b. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.9.12 The above required fuel storage pool ventilation system shall be demonstrated OPERABLE:

a. At least once per 31 days by initiating flow through the HEPA filter and charcoal adsorber train and verifying that the train operates for at least 15 minutes.

b. At least once per 18 months or (1) after any structural maintenance on the HEPA filter or charcoal adsorber housings, or (2) following painting, fire or chemical release in any ventilation zone communicating with the system, by:

1. Deleted.

2. Verifying that the charcoal adsorbers remove $\geq$ 99% of a halogenated hydrocarbon refrigerant test gas when they are tested in-place in accordance with ANSI N510-1980 while operating the exhaust ventilation system at a flow rate of 30,000 cfm $\pm$ 10%.

* The crane bay roll-up door and the drumming room roll-up door may be opened under administrative control during movement of fuel within the storage pool or crane operation with loads over the storage pool.
** Shared system with D. C. COOK - UNIT 1.
+ This does not include the main load block. For purposes of this specification, a deenergized main load block need not be considered a load.

3. Verifying that the HEPA filter banks remove ≥ 99% of the DOP when they are tested in-place in accordance with ANSI N510-1980 while operating the exhaust ventilation system at a flow rate of 30,000 cfm ± 10%.

4. Verifying within 31 days after removal that a laboratory analysis of a carbon sample from either at least one test canister or at least two carbon samples removed from one of the charcoal adsorbers demonstrates a removal efficiency of ≥ 90% for radioactive methyl iodide when the sample is tested in accordance with ANSI N510-1980 (130°C, 95% R.H.). The carbon samples not obtained from test canisters shall be prepared by either:

   (a) Emptying one entire bed from a removed adsorber tray, mixing the adsorbent thoroughly, and obtaining samples at least two inches in diameter and with a length equal to the thickness of the bed, or

   (b) Emptying a longitudinal sample from an adsorber tray, mixing the adsorbent thoroughly, and obtaining samples at least two inches in diameter and with a length equal to the thickness of the bed.

   Subsequent to reinstalling the adsorber tray used for obtaining the carbon sample, the system shall be demonstrated OPERABLE by also verifying that the charcoal adsorbers remove ≥ 99% of a halogenated hydrocarbon refrigerant test gas when they are tested in-place in accordance with ANSI N510-1980 while operating the ventilation system at a flow rate of 30,000 cfm ± 10%.

5. Verifying a system flow rate of 30,000 cfm ± 10% during system operation when tested in accordance with ANSI N510-1980.

c. After every 720 hours of charcoal adsorber operation by either:

1. Verifying within 31 days after removal that a laboratory analysis of a carbon sample obtained from a test canister demonstrates a removal efficiency of ≥ 90% for radioactive methyl iodide when the sample is tested in accordance with ANSI N510-1980 (130°C, 95% R.H.); or

2. Verifying within 31 days after removal that laboratory analyses of at least two carbon samples demonstrate a removal efficiency of $\geq$ 90% for radioactive methyl iodide when the samples are tested in accordance with ANSI N510-1980 (130°C, 95% R.H.) and the samples are prepared by either:

   a) Emptying one entire bed from a removed adsorber tray, mixing the adsorbent thoroughly, and obtaining samples at least two inches in diameter and with a length equal to the thickness of the bed, or

   b) Emptying a longitudinal sample from an adsorber tray, mixing the adsorbent thoroughly, and obtaining samples at least two inches in diameter and with a length equal to the thickness of the bed.

   Subsequent to reinstalling the adsorber tray used for obtaining the carbon sample, the system shall be demonstrated OPERABLE by also verifying that the charcoal adsorbers remove $\geq$ 99% of a halogenated hydrocarbon refrigerant test gas when they are tested in-place in accordance with ANSI N510-1980 while operating the ventilation system at a flow rate of 30,000 cfm $\pm$ 10%.

d. At least once per 18 months by:

   1. Verifying that the pressure drop across the combined HEPA filters and charcoal adsorber banks is $\leq$ 6 inches Water Gauge while operating the exhaust ventilation system at a flow rate of 30,000 cfm $\pm$ 10%.

   2. Deleted.

   3. Verifying that on a high-radiation signal, the system automatically directs its exhaust flow through the charcoal adsorber banks and automatically shuts down the storage pool ventilation system supply fans.

   4. Verifying that the exhaust ventilation system maintains the spent fuel storage pool area at a negative pressure of $\geq$ 1/8 inches Water Gauge relative to the outside atmosphere during system operation.

SURVEILLANCE REQUIREMENTS (Continued)

e. After each complete or partial replacement of a HEPA filter bank by verifying that the HEPA filter banks remove ≥ 99% of the DOP when they are tested in-place in accordance with ANSI N510-1980 while operating the ventilation system at a flow rate of 30,000 cfm ± 10%.

f. After each complete or partial replacement of a charcoal adsorber bank by verifying that the charcoal adsorbers remove ≥ 99% of a halogenated hydrocarbon refrigerant test gas when they are tested in-place in accordance with ANSI N510-1980 while operating the ventilation system at a flow rate of 30,000 cfm ± 10%.

3/4.7.6 ESF VENTILATION SYSTEM

The OPERABILITY of the ESF ventilation system ensures that adequate cooling is provided for ECCS equipment and that radioactive materials leaking from the ECCS equipment within the pump rooms following a LOCA are filtered prior to reaching the environment. The operation of this system and the resultant effect on offsite dosage calculations were assumed in the accident analyses.

The 1980 version of ANSI N510 is used as a testing guide. This standard, however, is intended to be rigorously applied only to systems which, unlike the ESF ventilation system, are designed to ANSI N509 standards. For the specific case of the air-aerosol mixing uniformity test required by ANSI N510 as a prerequisite to in-place leak testing of charcoal and HEPA filters, the air-aerosol uniform mixing test acceptance criteria were not rigorously met. For this reason, a statistical correction factor will be applied to applicable surveillance test results where required.

3/4.7.7 HYDRAULIC SNUBBERS

All snubbers are required OPERABLE to ensure that the structural integrity of the reactor coolant system and all other safety related systems is maintained during and following a seismic or other event initiating dynamic loads. Snubbers excluded from this inspection program are those installed on nonsafety-related systems and then only if their failure, or failure of the system on which they are installed, would have no adverse effect on any safety-related system.

The visual inspection frequency is based upon maintaining a constant level of snubber protection to systems. Therefore, the required inspection interval varies inversely with the observed snubber failures and is determined by the number of inoperable snubbers found during an inspection. Inspections performed before that interval has elapsed may be used as a new reference point to determine the next inspection. However, the results of such early inspections performed before the original required time interval has elapsed (nominal time less 25%) may not be used to lengthen the required inspection interval. Any inspection whose results required a shorter inspection interval will override the previous schedule.

When the cause of the rejection of a snubber is clearly established and remedied for that snubber and for any other snubbers that may be generically susceptible, and verified by inservice functional testing, that snubber may be exempted from being counted as inoperable. Generically susceptible snubbers are those which are of a specific make or model and have the same design features directly related to rejection of the snubber by visual inspection, or are similarly located or exposed to the same environmental conditions such as temperature, radiation, and vibration.

When a snubber is found inoperable, an engineering evaluation is performed, in addition to the determination of the snubber mode of failure, in order to determine if any safety-related component or system has been adversely affected by the inoperability of the snubber. The engineering evaluation shall determine whether or not the snubber mode of failure has imparted a significant effect or degradation on the supported component or system.

To provide assurance of snubber functional reliability, a representative sample of the installed snubbers will be functionally tested during plant shutdowns at 18-month intervals. Observed failures of these sample snubbers shall require functional testing of additional units.

The service life of a snubber is evaluated via manufacturer's input and information through consideration of the snubber service conditions and associated installation and maintenance records (newly installed snubber, seal replaced, spring replaced, in high radiation area, in high temperature area, etc...). The requirement to monitor the snubber service life is included to insure that the snubbers periodically undergo a performance evaluation in view of their age and operating conditions. These records will provide statistical bases for future consideration of snubber service life. The requirements for the maintenance of records and the snubber service life review are not intended to affect plant operation.

The number of snubbers to be functionally tested during each surveillance is based on calculations performed to allow extension of the surveillance interval from 18-months to 24-months, and therefore, the number of snubbers functionally tested deviates from the number required by the Westinghouse Standard Technical Specifications (NUREG-0452, Revision 4).

3/4.7.8 SEALED SOURCE CONTAMINATION

The limitations on removable contamination for sources requiring leak testing, including alpha emitters, are based on 10 CFR 70.39(c) limits for plutonium. These limitations ensure that leakage from byproduct, source, and special nuclear material sources will not exceed allowable intake values.

3/4.7.9 FIRE SUPPRESSION SYSTEMS

The OPERABILITY of the fire suppression systems ensures that adequate fire suppression capability is available to confine and extinguish fires occurring in any portion of the facility where safety related equipment is located. The fire suppression system consists of the water system, spray and/or sprinklers, Co_2, Halon and fire hose stations. The collective capability of the fire suppression systems is adequate to minimize potential damage to safety related equipment and is a major element in the facility fire protection program.

In the event that one or more of the required low pressure CO_2 systems are isolated for personnel protection, to permit entry for routine tours, maintenance, construction or surveillance testing, the fire detection system(s) required by specification 3.3.3.8 shall be verified to be operable and a Roving Fire Watch Patrol established in the affected areas not occupied by workers. The Roving Fire Watch Patrol(s) shall consist of one or more persons knowledgeable of the location and operation of the fire fighting equipment and good fire protection/personnel safety practices such as maintenance of access and egress routes and personnel accountability measures. The functions of the Roving Fire Watch Patrol can be fulfilled by personnel involved in

3/4.9.9 CONTAINMENT PURGE AND EXHAUST ISOLATION SYSTEM

The OPERABILITY of this system ensures that the containment vent and purge penetrations will be automatically isolated upon detection of high radiation levels within the containment. The OPERABILITY of this system is required to restrict the release of radioactive material from the containment atmosphere to the environment.

3/4.9.10 AND 3/4.9.11 WATER LEVEL - REACTOR VESSEL AND STORAGE POOL

The restrictions on minimum water level ensure that sufficient water depth is available to remove 99% of the assumed 10% iodine gap activity released from the rupture of an irradiated fuel assembly. The minimum water depth is consistent with the assumptions of the accident analysis. Water level above the vessel flange in MODE 6 will vary as the reactor vessel head and the system internals are removed. The 23 feet of water are required before any subsequent movement of fuel assemblies or control rods.

3/4.9.12 STORAGE POOL VENTILATION SYSTEM

The limitations on the storage pool ventilation system ensure that all radioactive material released from an irradiated fuel assembly will be filtered through the HEPA filters and charcoal adsorber prior to discharge to the atmosphere. The OPERABILITY of this system and the resulting iodine removal capacity are consistent with the assumptions of the accident analyses.

The 1980 version of ANSI N510 is used as a testing guide. This standard, however, is intended to be rigorously applied only to systems which, unlike the storage pool ventilation system, are designed to ANSI N509 standards. For the specific case of the air-aerosol mixing uniformity test required by ANSI N510 as a prerequisite to in-place leak testing of charcoal and HEPA filters, the air-aerosol uniform mixing test acceptance criteria were not rigorously met. For this reason, a statistical correction factor will be applied to applicable surveillance test results where required.

In order to maintain the minimum negative pressure required by Technical Specifications (1/8 inch W.G.) during movement of fuel within the storage pool or during crane operation with loads over the pool, the crane bay roll-up door and the drumming room roll-up door, located on the 609-foot elevation of the auxiliary building, must be closed. However, they may be opened during these operations under administrative control. If the crane bay door needs to be opened during fuel movement, an example of an administrative control might be to station an individual at the door who would be in communication with personnel in the spent fuel pool area and could open the door when passage was completed or in the event of an emergency. For the drumming room door, an example of an administrative control might be to require the door to be reclosed after normal ingress and egress of personnel or material, or to station an individual at the door if the door needs to remain open for an extended period of time.

Should the doors become blocked or stuck open while under administrative control, Technical Specification requirements will not be considered to be violated provided the Action Statement requirements of Specification 3.9.12 are expeditiously followed, i.e., movement of fuel within the storage pool or crane operation with loads over the pool is expeditiously suspended.

3/4.9.13 SPENT FUEL CASK MOVEMENT

The limitations of this specification ensure that, during insertion or removal of spent fuel casks from the spent fuel pool, fuel cask movement will be constrained to the path and lift height assumed in the Cask Drop Protection System safety analysis. Restricting the spent fuel cask movement within these requirements provides protection for the spent fuel pool and stored fuel from the effects of a fuel cask drop accident.

3/4.9.14 SPENT FUEL CASK DROP PROTECTION SYSTEM

The limitations on the use of spent fuel casks weighing in excess of 110 tons (nominal) provide assurance that the spent fuel pool would not be damaged by a dropped fuel cask since this weight is consistent with the assumptions used in the safety analysis for the performance of the Cask Drop Protection System.

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 124 TO FACILITY OPERATING LICENSE NO. DPR-58

AND AMENDMENT NO. 111 TO FACILITY OPERATING LICENSE NO. DPR-74

INDIANA MICHIGAN POWER COMPANY

DONALD C. COOK NUCLEAR PLANT, UNITS NOS. 1 AND 2

DOCKETS NOS. 50-315 AND 50-316

1.0 INTRODUCTION

By letter dated May 28, 1987, the Indiana Michigan Power Company (the licensee) requested amendments to the Technical Specifications (TSs) appended to Facility Operating Licenses Nos. DPR-58 and DPR-74 for the Donald C. Cook Nuclear Plant, Units Nos. 1 and 2. The proposed amendments would modify the Engineering Safeguards Features (ESF) and Storage Pool Ventilation System TS (3/4.7.6.1 and 3/4.9.12, respectively). The proposed changes will update the licensee's testing standards and clarify several aspects of system operation.

2.0 EVALUATION

2.1 Adoption of the 1980 Version of ANSI N510

The proposed change consists of replacing references to the 1975 version of the ANSI N510 standard "Testing of Nuclear Air-Cleaning Systems," with references to the 1980 version. The licensee stated that literal compliance with all requirements of ANSI N510 testing standards cannot physically be achieved because the Engineered Safety Features (ESF) and Storage Pool Ventilation Systems are not of ANSI N509 design. The 1980 version of ANSI N510 differs from the 1975 version in that (among other things) the 1980 version states specifically that "It is the intent of this standard that it be rigorously applied only to systems designed and built to ANSI N509; however, sections of this standard may be used for technical guidance for testing of non-N509 systems." Also NUREG-0800, "Standard Review Plan," Section 6.5.1, "ESF Atmosphere Cleanup System," acceptance criteria include "Acceptability with respect to in-place testing should include meeting the requirements of ANSI N510-1980. For laboratory testing of activated carbon adsorbent, conformance with ANSI N509-1980 will be used as an acceptability criterion."

This change would allow the use of a less stringent acceptability criterion for the air-aerosol mixing uniformity test described in Section 9 of ANSI N520-1980 (± 20%, compared to ±10% for ANSI N510-1975). This test is

prescribed only upon completion of initial system installation, modification, or major repair, and is not required each time an in-place leak test of filters (Section 10) or adsorbers (Section 12) is made. The purpose of the uniformity test is to verify that the tracer injection and sampling locations provide proper mixing of the tracer in the air approaching the stage to be in-place leak tested. Both ANSI N510-1975 and ANSI N510-1980 provide that, where the mixing uniformity test acceptance criterion is not met, the injection port should be relocated, means for additional mixing should be provided, or multiple sampling should be specified in the procedures for the in-place leak tests. Otherwise, single point sampling upstream and downstream is prescribed. A recommended multiple sampling technique is provided in Section 11 of both ANSI N510-1975 and ANSI N510-1980.

The licensee has conducted the air-aerosol mixing uniformity tests required by Section 9 of ANSI N510-1980 with the result that, for ESF and Storage Pool Ventilation Systems filter units, certain individual readings differ from the mean concentrations by more than the prescribed value of ± 20%. The licensee has determined that the addition of baffling or other attempts to enhance the uniformity of mixing would be fruitless; and no provisions were included in the design of these systems to allow for multiple sampling. Therefore, the licensee has developed, based on the mixing uniformity test results, correction factors which are proposed for use in the in-place leak tests to account for the non-uniformity of mixing displayed by these systems.

The licensee's comparison of the 1975 and 1980 versions of ANSI N510 has determined that the above differences are the only ones of significance, except for requirements related to the laboratory testing of activated carbon adsorbent. Also, minor changes related to penetrometer sensitivity, adsorber residence time calculations and background dust testing occur in the 1980 version but were determined by the licensee to be either more restrictive or to have a minimal impact on safety.

Regarding laboratory testing of adsorbent, ANSI N510-1980 specifies ASTM D 3803 as the testing standard and that testing conditions shall be in accordance with plant Technical Specifications. ASTM D 3803 provides methods for methyl iodide penetration tests at 30°C and 95% relative humidity, 80°C and 95% relative humidity, and 130°C and 95% relative humidity. Currently, the licensee test is in accordance with the RDT M 16-1T-1973 standard referenced in ANSI N510-1975, which specifies the test conditions of 130°C and 95% relative humidity included in the present plant Technical Specifications. The licensee has been evaluating the appropriateness of the candidate test temperatures by conducting parallel tests at 30°C and 130°C whenever practicable. These comparative tests were to continue through July 8, 1988 at which time the need for adapting different test conditions would be evaluated and, following this, revision to the Technical Specifications would be proposed if appropriate.

The licensee stated that the proposed changes discussed above do not increase the consequences of a previously analyzed accident. While the 1980 version of ANSI-N510 involves certain relaxations of requirements contained in the 1975 version, the 1980 version is considered current by the industry and corresponds more closely to the D. C. Cook system design. The correction factors determined to apply to the specific ANSI N510 test, which cannot literally be met, will assure that no significant decrease in safety margin should result.

The staff concurs with the above stated evaluation and finds that the proposed changes described meet the intent of Regulatory Guide (RG) 1.52, "Design, Testing, and Maintenance Criteria for Post Accident Engineered-Safety-Feature Atmosphere Cleanup Air Filtration and Adsorption Units of Light-Water-Cooled Nuclear Power Plants," and Standard Review Plan (SRP) Section 6.5.1, "ESF Atmosphere Cleanup Systems," and are, therefore, acceptable.

2.2 Motor - Operated Roll-up Doors

The proposed change consists of adding a footnote applicable to the Action Statement of the Technical Specification governing the Storage Pool Ventilation System and adding a further explanation to the Bases for this Technical Specification. The footnote would state that the crane bay roll-up door and the drumming room roll-up door may be opened under administrative control during movement of fuel within the storage pool or during crane operation with loads over the storage pool. The Bases would explain that administrative control might be, for example, to station a person at the door in question to control its opening and closing; and that, if the doors became blocked or stuck open while under administrative control, movement of fuel within the storage pool or crane operation with loads over the pool would be expeditiously suspended. In addition, the person stationed at the crane bay door would be in communication with personnel in the spent fuel pool area so that he would be readily informed of an emergency and, if needed, actuate the door closure mechanism (closes within 30 seconds after activation).

In order to maintain the minimum negative pressure required by Technical Specifications during movement of fuel within the storage pool or during crane operation with loads over the pool, the crane bay roll-up door and the drumming room roll-up door must be closed. The licensee has stated that, per Technical Specifications, movement of fuel within the storage pool or crane operation with loads over the pool must be suspended whenever either of the doors is open; and this can cause significant operational burdens, particularly during outages, when the roll-up doors are needed quite often for ingress and egress of personnel and material.

The staff has performed an independent analysis of the consequences of a fuel-handling accident in the auxiliary building. In this, no credit was given for removal of radioiodine by the charcoal adsorbers.

Based on this, the staff estimates that the 0-2 hours site boundary thyroid dose, without credit for containment and charcoal filtration, meets the intent of the SRP Section 15.7.4, "Radiological Consequences of Fuel Handling Accidents," acceptance criteria of "well within" the 10 CFR Part 100 exposure guideline values, i.e., 75 rem for the thyroid and 6 rem for the whole body doses. In reality, the quantity of unfiltered radioiodines released would be significantly below that assumed to be released without filtration or containment, since the roll-up doors would be expected to be closed quickly enough to significantly reduce the quantities of unfiltered radioiodines released to the environment.

Based on the above, the staff finds that the above described proposed changes meet the intent of SRP Sections 9.4.2, "Spent Fuel Pool Area Ventilation System," and 15.7.4 and, therefore, are acceptable.

2.3 Spent Fuel Pool Ventilation Configuration

The licensee stated that the proposed changes are considered administrative in nature and are intended to clarify the TS requirements. TS Section 4.9.12.d does not adequately reflect the D. C. Cook system design. The current wording requires that, on a high radiation signal, the system automatically starts (unless already operating) and directs its exhaust flow through the HEPA filters and charcoal adsorber banks. The revised wording would require that, on a high radiation signal, the system automatically directs its exhaust flow through the charcoal adsorber banks and automatically shuts down the storage pool ventilation system supply fans.

The staff concurs that the proposed change is administrative in nature and, therefore, finds it to be acceptable.

2.4 Filter Unit Air Flow Distribution Test

The licensee proposes to delete the air flow distribution testing requirement from TS Sections 4.7.6.1 and 4.9.12 because air distribution is a function of the as-built configuration of the system and not a parameter that needs to be regularly reverified. This is based on Section 8.3.2 of ANSI N510-1980, which states that the air distribution test should be performed only as an acceptance test following original installation and after major modification or repair of the air cleaning system. Further, the Standard Technical Specifications (STS) provided in NUREG-0452, Revision 4 do not require this testing.

The staff concurs with the above evaluation and finds that this change is consistent with the guidance of ANSI N510-1980, R.G. 1.52, SRP Section 6.5.1, and the STS and, therefore, is acceptable.

2.5 Filter Bypass Testing Requirements and ESF Ventilation Unit Operations

The licensee proposes to delete the specific testing requirement that total filter bypass of the ESF Ventilation System to the facility vent, including leakage through diverting valves, is not greater than 1% when tested by admitting DOP at the system intake. The licensee stated that, because of the design of the D. C. Cook system, this testing requirement is redundant to the other requirements for testing the bypass flow around the HEPA filters and the bypass flow around the charcoal adsorbers and, therefore, is not needed.

Other changes are proposed for clarification which the licensee considers to be administrative in nature.

The staff concurs in the licensee's evaluation of the above changes and finds the proposed changes consistent with R.G. 1.52 and SRP Section 6.5.1 and, therefore, acceptable.

2.6 Leak Testing of Charcoal and HEPA Filters

The licensee proposes to add a leak testing requirement to TS Sections 4.7.6.1.b.4 and 4.9.12.b.4 to achieve consistency with the leak testing required by TS Sections 4.7.6.1.c.2 and 4.9.12.c.2. The licensee proposes to delete the requirements of TS Sections 4.7.6.1.c.2 and 4.9.12.c.2 for leak testing of the HEPA filters following reinstallation of the charcoal tray used to obtain a charcoal sample. Such tests are not recommended by ANSI N510-1980 or by R. G. 1.52. Reinstallation of a charcoal tray would not be expected to impact the leakage characteristics of the HEPA units which are located in different sections of the filter housing. Consequently, the requirement for leak testing the HEPA filters following reinstallation of a charcoal tray is not necessary.

The staff concurs in the licensee's evaluation and finds the proposed change consistent with ANSI N510-1980, R. G. 1.52 and SRP Section 6.5.1 and, therefore, acceptable.

2.7 Addition of Footnotes Related to Crane Operation

The licensee stated that the proposed change would add a footnote to TS Section 3.9.12, Action a, which would exempt the auxiliary building crane main load block from the restrictions on crane operation over the spent fuel storage pool with an inoperable storage pool exhaust ventilation, provided the main load block is de-energized. A similar footnote was previously added to TS Section 3.9.7, "Crane Travel-Spent Fuel Storage Pool Building," which prohibited operation of the auxiliary building crane with the main load block over the storage pool. (The main load block weighs more than the TS Section 3.9.7.2, 500 pound limit.) As noted in the NRC's safety evaluation report for the previous amendment, "by de-energizing the main hook it becomes a passive, integral component of the auxiliary building crane and need not be considered a heavy load." The proposed footnote is to ensure consistency between the above TS sections and to avoid problems associated with literal interpretation of TS Section 3.9.12, Action a. This change is, therefore, considered administrative in nature and the staff finds the proposed change acceptable.

2.8 Editorial Changes

The proposed amendment also makes several editorial changes to the TS. Table 1 is a list of each change. The changes are to correct typographical errors in the TS or were necessary in renumbering or retyping a TS page The changes are administrative in nature and, therefore, do not reduce the margin of safety. Consequently, the staff finds these proposed changes acceptable.

3.0 ENVIRONMENTAL CONSIDERATION

These amendments involve a change in the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 and a change to the surveillance requirements. 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 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 these amendments.

4.0 CONCLUSION

We have 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 the amendments will not be inimical to the common defense and security or to the health and safety of the public.

Date: May 19, 1989

Principal Contributor: C. Nichols

TABLE 1
EDITORIAL CHANGES

Unit	TS	Description
1	4.7.6.1.b	"or" added after "18" months"
1	4.7.6.1.b.1	word "deleted" replaces paragraph
1	4.7.6.1.c.1	"of" added after "efficiency"
1	4.7.6.1.c.2	"a" deleted; "analysis" changed to "analyses"
1	4.7.6.1.d.1	extra "c" removed from "across"
1	4.7.6.1.d.2	word "deleted" replaces paragraph
1	4.7.6.1.d.3	additional "-" added after "Containment Pressure"
1	4.7.6.1.e	"a" added after "replacement of"; "band" changed to "bank"
1	3/4.7.6	The entire TS was retyped; thus, the location of sections on the various pages has changed
1	3.9.12	phrase added to indicate that system is shared with D. C. Cook Unit 2
1	4.9.12.b.1	word "deleted" replaces paragraph
1	4.9.12.b.4.b	"the" added before "thickness"
1	4.9.12.b.5	"cfm" added after "30,000"
1	4.9.12.c.2	"a" deleted; "analysis" changed to "analyses"
1	4.9.12.d	Semicolon changed to colon after "18 months by"
1	4.9.12.d.1	"the" added before "pressure drop"; "Guage" changed to "Gauge"
1	4.9.12.d.2	Word "deleted" replaces paragraph
1	3/4.9.12	The entire TS was retyped; thus, the location of sections on the various pages has changed
1	Bases 3/4.7.5	"t" added to "consisten"; "General Design Criteria 10" changed to General Design Criterion 19"
1	Bases 3/4.7.6	"s" added to "room"; "was" changed to "were"
1	Bases 3/4.7.7	"is" changed to "are"
1	Bases 3/4.9.13 and 3/4.9.14	Text moved to new page B 3/4 9-4

TABLE 1 (CONTINUED)

Unit	TS	Description
1	Bases 3/4.9.13	"ensures" changed to "ensure"
1	Bases 3/4.9.14	"provides" changed to "provide"
2	4.7.6.1.b	comma added after "system"
2	4.7.6.1.b.1	word "deleted" replaces paragraph
2	4.7.6.1.c.1	"of" added after "efficiency"
2	4.7.6.1.c.2	"a" deleted; "analysis" changed to "analyses"
2	4.7.6.1.d.2	word "deleted" replaces paragraph
2	4.7.6.1.e	"a" added after "replacement of"
2	3/4.7.6.1	The entire TS was retyped; thus, the location of sections on the various pages has changed; page 3/4 7-19a intentionally left blank because of reduced space required for retyped TSs.
2	3.9.12	"*" changed to "**" in heading and footnote
2	4.9.12	"air cleanup systems" changed to "ventilation system"
2	4.9.12.b	"gamma" added after "with the system"
2	4.9.12.b.1	word "deleted" replaces paragraph
2	4.9.12.b.4.b	"the" added before "thickness"
2	4.9.12.b.5	"cfm" added after "30,000"
2	4.9.12.c.2	"a" deleted: "analysis" changed to "analyses"
2	4.9.12.d	Semicolon changed to colon after "18 months by"
2	4.9.12.d.1	"the" added before "pressure drop"; "Guage" changed to "Gauge"
2	4.9.12.d.2	word "deleted" replaces paragraph
2	3/4.9.12	The entire TS was retyped; thus, the location of sections on the various pages has changed
2	Bases 3/4.7.6	"s" added to "room"; "was" changed to "were"
2	Bases 3/4.7.7	Comma added in paragraph 1 of the Bases 3/4.7.7; "-" added to "18 month" in paragraph 5.

TABLE 1 (CONTINUED)

Unit	TS	Description
2	Bases 3/4.7.7	Text from page B 3/4 7-5 moved to page B 3/4 7-6
2	Bases 3/4.7.8	"is" changed to "are"; "This limitation will" changed to "These limitations"
2	Bases 3/4.7.9	"occuring" changed to "occurring" in paragraph 1
2	Bases 3/4.9.10 and 3/4.9.11	"assemble" changed to "assembly"; paragraphs merged; "intervals" changed to "internals"
2	Bases 3/4.9.13 and 3/4.9.14	text moved to new page B 3/4 9-4
2	Bases 3/4.9.13	"ensures" changed to "ensure"
2	Bases 3/4.9.14	"provides" changed to "provide"