

October 24, 2001

Mr. Robert P. Powers, Senior Vice President
Indiana Michigan Power Company
Nuclear Generation Group
500 Circle Drive
Buchanan, MI 49107

SUBJECT: DONALD C. COOK NUCLEAR PLANT, UNITS 1 AND 2 - ISSUANCE OF
AMENDMENTS (TAC NOS. MA9394 AND MA9395)

Dear Mr. Powers:

The U.S. Nuclear Regulatory Commission has issued the enclosed Amendment No. 257 to Facility Operating License No. DPR-58 and Amendment No. 240 to Facility Operating License No. DPR-74 for the Donald C. Cook Nuclear Plant, Units 1 and 2. The amendments consist of changes to the technical specifications (TSs) in response to your application dated June 12, 2000, as supplemented by letters dated November 7, 2000, June 19, and August 17, 2001.

The amendments revise the TSs to change the standard by which you test charcoal used in engineered safeguard features systems to American Society for Testing and Materials D3808-1989. These revisions are made in accordance with Generic Letter 99-02, "Laboratory Testing of Nuclear-grade Activated Charcoal." The amendments also revise the format of the TS pages to be changed.

Your application also proposed to use the methodology and the alternative source term (AST) in 10 CFR 50.67 as described in NUREG-1465, "Accident Source Terms for Light-Water Nuclear Power Plant," and draft Regulatory Guide 1081, "Alternative Radiological Source Term for Evaluating the Radiological Consequences of Design Basis Accidents at Boiling and Pressurized Water Reactors." The staff has evaluated this portion of the application and issued two requests for additional information (RAI) dated March 29, and August 16, 2001. Your responses to the March 29, 2001, RAI dated June 19, and August 17, 2001, did not provide information in sufficient detail to enable the staff to make an independent assessment regarding the acceptability of the proposed change in methodology and the use of the AST. By letter dated August 16, 2001, the staff requested additional information and indicated that your staff had agreed to a response date of September 14, 2001. By letter dated September 14, 2001, you indicated that all required information would not be submitted until January 17, 2002. Therefore, the portion of the proposed amendment dealing with the change in methodology and the use of the AST will be issued under a separate cover.

Mr. R. Powers

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A copy of our related safety evaluation is also enclosed. A Notice of Issuance will be included in the Commission's next biweekly *Federal Register* notice.

Sincerely,

/RA/

John F. Stang, Senior Project Manager, Section 1
Project Directorate III
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket Nos. 50-315 and 50-316

Enclosures: 1. Amendment No. 257 to DPR-58
2. Amendment No. 240 to DPR-74
3. Safety Evaluation

cc w/encls: See next page

Mr. R. Powers

-2-

A copy of our related safety evaluation is also enclosed. A Notice of Issuance will be included in the Commission's next biweekly *Federal Register* notice.

Sincerely,

/RA/

John F. Stang, Senior Project Manager, Section 1
Project Directorate III
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket Nos. 50-315 and 50-316

- Enclosures:
1. Amendment No. 257 to DPR-58
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 3. Safety Evaluation

cc w/encls: See next page

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Donald C. Cook Nuclear Plant, Units 1 and 2

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INDIANA MICHIGAN POWER COMPANY

DOCKET NO. 50-315

DONALD C. COOK NUCLEAR PLANT, UNIT 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 257
License No. DPR-58

1. The U.S. Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Indiana Michigan Power Company (the licensee) dated June 12, 2000, as supplemented November 7, 2000, June 19, and August 17, 2001, 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:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 257, 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 its date of issuance and shall be implemented within 90 days.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

William D. Reckley, Acting Chief, Section 1
Project Directorate III
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical Specifications

Date of Issuance: October 24, 2001

ATTACHMENT TO LICENSE AMENDMENT NO. 257

TO FACILITY OPERATING LICENSE NO. DPR-58

DOCKET NO. 50-315

Replace the following pages of the Appendix A Technical Specifications with the attached revised pages. The revised pages are identified by amendment number and contain marginal lines indicating the areas of change.

REMOVE

3/4 7-20

3/4 7-21

3/4 7-24

3/4 9-14

3/4 9-15

INSERT

3/4 7-20

3/4 7-21

3/4 7-24

3/4 9-14

3/4 9-15

INDIANA MICHIGAN POWER COMPANY

DOCKET NO. 50-316

DONALD C. COOK NUCLEAR PLANT, UNIT 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 240

License No. DPR-74

1. The U.S. Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Indiana Michigan Power Company (the licensee) dated June 12, 2000, as supplemented November 7, 2000, June 19, and August 17, 2001, 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. 240, 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 its date of issuance and shall be implemented within 90 days.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

William D. Reckley, Acting Chief, Section 1
Project Directorate III
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical Specifications

Date of Issuance: October 24, 2001

ATTACHMENT TO LICENSE AMENDMENT NO. 240

FACILITY OPERATING LICENSE NO. DPR-74

DOCKET NO. 50-316

Replace the following pages of the Appendix A Technical Specifications with the attached revised pages. The revised pages are identified by amendment number and contain marginal lines indicating the areas of change.

REMOVE

INSERT

3/4 7-15

3/4 7-15

3/4 7-16

3/4 7-16

3/4 7-18

3/4 7-18

3/4 9-13

3/4 9-13

3/4 9-14

3/4 9-14

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 257 TO FACILITY OPERATING LICENSE NO. DPR-58
AND AMENDMENT NO. 240 TO FACILITY OPERATING LICENSE NO. DPR-74
INDIANA MICHIGAN POWER COMPANY
DONALD C. COOK NUCLEAR PLANT, UNITS 1 AND 2
DOCKET NOS. 50-315 AND 50-316

1.0 INTRODUCTION

By application dated June 12, 2000, as supplemented by letters dated November 7, 2000, June 19, and August 17, 2001, the Indiana Michigan Power Company (the licensee) requested amendments to the technical specifications (TSs) for the Donald C. Cook (D. C. Cook) Nuclear Plant, Units 1 and 2. The proposed amendments would revise the TSs to change the standard by which you test charcoal used in engineered safeguard features systems to American Society for Testing and Materials (ASTM) D3808-1989 for the (1) Control Room Emergency Ventilation System (CREVS), (2) Engineered Safety Features Ventilation System (ESFVS) , and the (3) Storage Pool Ventilation System (SPVS) . These revisions are made in accordance with Generic Letter (GL) 99-02, "Laboratory Testing of Nuclear-grade Activated Charcoal." The amendments also revise the format of the TS pages to be changed.

Your application also proposed to use the methodology and the alternative source term (AST) in Title 10 of the Code of Federal Regulations (10 CFR) Section 50.67 as described in NUREG-1465, "Accident Source Terms for Light-Water Nuclear Power Plant," and draft Regulatory Guide 1081, "Alternative Radiological Source Term for Evaluating the Radiological Consequences of Design Basis Accidents at Boiling and Pressurized Water Reactors." The staff has evaluated this portion of the application and issued two requests for additional information (RAI) dated March 29, and August 16, 2001. Your responses to the March 29, 2001, RAI dated June 19, and August 17, 2001, did not provide information in sufficient detail to enable the staff to make an independent assessment regarding the acceptability of the proposed AST. By letter dated August 16, 2001, the staff requested additional information and indicated that your staff had agreed to a response date of September 14, 2001. By letter dated September 14, 2001, you indicated that all required information would not be submitted until January 17, 2002. Therefore, the portion of the proposed amendment dealing with the AST will be issued under a separate cover.

The November 7, 2000, June 19, and August 17, 2001, letters, provided clarifying information within the scope of the original application and did not change the initial proposed no significant hazards consideration determination.

Safety-related air-cleaning units used in the ESFVS of nuclear power plants reduce the potential onsite and offsite consequences of a radiological accident by filtering radioiodine. Analyses of design-basis accidents assume particular safety-related charcoal adsorption efficiencies when calculating offsite and control room operator doses. To ensure that the charcoal filters used in these systems will perform in a manner that is consistent with the licensing basis of a facility, licensees have requirements in their TSs to periodically perform a laboratory test (in accordance with a test standard) of charcoal samples taken from these ventilation systems.

In GL 99-02, "Laboratory Testing of Nuclear-Grade Activated Charcoal," dated June 3, 1999, the staff alerted licensees about an issue regarding testing nuclear-grade activated charcoal. Specifically, GL 99-02 informed licensees that testing nuclear-grade activated charcoal to standards other than ASTM D3803-1989, "Standard Test Method for Nuclear-Grade Activated Carbon," does not provide assurance for complying with current licensing bases with respect to the dose limits of General Design Criterion 19 of Appendix A to 10 CFR Part 50 of Subpart A of 10 CFR Part 100.

GL 99-02 requested that all licensees determine whether their TS reference ASTM D3803-1989 for charcoal filter laboratory testing. Licensees whose TS do not reference ASTM D3803-1989 were requested to either amend their TS to reference ASTM D3803-1989 or propose an alternative test protocol.

The proposed TS also change the formatting of the pages. The changes include margin and text spacing, corrections of typographical errors and header and footer changes. The format changes are administrative and do not result in any actual requirement changes.

2.0 EVALUATION

The Nuclear Regulatory Commission (NRC) received a letter from ASTM in response to a March 8, 2000, *Federal Register* notice (65 FR 12286) related to revising testing standards in accordance with ASTM D3803-1989 for laboratory testing of activated charcoal, in response to GL 99-02. ASTM notified the NRC that the 1989 standard is out of date and should be replaced by ASTM D3803-1991 (1998). The staff acknowledges that the most current version of ASTM D3803 is ASTM D3803-1991 (reaffirmed 1998). However, for consistency purposes, it is preferable to have all nuclear power reactors test to the same standard (ASTM D3803-1989) because, prior to the issuance of GL 99-02, about one third of the nuclear reactors had TSs that referenced ASTM D3803-1989 and there were no substantive changes between the 1989 and 1998 versions. Because the NRC staff considers ASTM D3803-1989 to be the most accurate and most realistic protocol for testing charcoal in safety-related ventilation systems, the NRC staff finds that the proposed TS revisions satisfy the actions requested in GL 99-02, and are acceptable.

The NRC staff, with technical assistance from Brookhaven National Laboratory (BNL), has reviewed the licensee's submittals. The staff has reviewed the attached BNL Technical Evaluation Report (TER) regarding the proposed TS changes for D. C. Cook.

The current and proposed laboratory charcoal sample testing TS surveillance requirements for the CREVS, the ESFVS, and the SPVS are shown in Table 1 and Table 2, respectively, for the D. C. Cook, Units 1 and 2.

The proposed use of ASTM D3803-1989 is acceptable because it provides accurate and reproducible test results. The proposed test temperature of 30 °C and relative humidity of 95 percent for all three systems are acceptable and are consistent with ASTM D3803-1989. This is consistent with the actions requested in GL 99-02.

By letter dated August 17, 2001, the licensee stated that the credited removal efficiency for radioactive organic iodine is 95 percent for CREVS when one fan is operating and 80 percent with two fans operating, and is 90 percent for both ESFVS and SPVS. The proposed test penetration for radioactive methyl iodide is less than or equal to 1 percent for CREVS and less than or equal to 5 percent for both ESFVS and SPVS. Both the 95 percent and 80 percent filter efficiencies credited in the proposed analyses assuming single fan and two fans for CREVS provided safety factors that meet or exceed 2 as specified in GL 99-02. The proposed test penetration was obtained by applying a minimum safety factor of 2 to the credited efficiency. The proposed safety factor of 2 or higher for all systems is acceptable because it ensures that the efficiency credited in the accident analysis is still valid at the end of the surveillance interval. This is consistent with the minimum safety factor of 2 specified in GL 99-02.

The August 23, 1999, errata to GL 99-02 clarified that if the maximum actual face velocity is greater than 110 percent of 40 fpm, then the test face velocity should be specified in the TS. By letters dated August 17, 2001, the licensee indicated that the face velocities for the ESFVS and the SPVS are greater than 40 fpm and therefore, are specified in the proposed TS. The face velocity for the CREVS is 43.7 fpm and is within the margins (i.e., 40 ± 10 percent fpm) stated in ASTM D3803-1989. The proposed testing of the CREVS charcoal absorbers will be performed in accordance with ASTM D3803-1989 which specifies a test face velocity of 40 fpm with appropriate margins. Therefore, it is not necessary to specify the face velocity in the proposed TS change. This is acceptable because it ensures that the testing will be consistent with the operation of the ventilation systems during accident conditions. This is consistent with the errata to GL 99-02 dated August 23, 1999.

DONALD C. COOK NUCLEAR PLANT UNITS 1 AND 2

TABLE 1 - CURRENT TS REQUIREMENTS											
System Description					Current TS Requirements						
TS Section	System	Bed Thickness (inches) *	Actual Charcoal		Credited Efficiency (% organic iodine) **	Test Penetration (% methyl iodide)	Safety Factor	Test Standard	Test Temp (° C)	Test RH (%)	Test Face Velocity (fpm)
			Res. Time (sec)*	Face Velocity (fpm)**							
3/4.7.5	Control Room Emergency Ventilation System (CREVS)	2	0.25	43.7	95 for one fan operating 80 for two fans operating	<10	NA	ANSI N510-1975	130	95	NA
3/4.7.6	ESF Ventilation System (ESFVS)	2	0.25	45.5	90	<10	1	ANSI N510-1980 (ASTM D3803-1979)	30	95	NA
3/4.9	Storage Pool Ventilation System (SPVS)	2	0.25	46.8	90	<10	1	ANSI N510-1980 (ASTM D3803-1979)	30	95	NA

NA=Not Available

* In accordance with November 7, 2000, submittal

** In accordance with August 17, 2001, submittal

DONALD C. COOK NUCLEAR PLANT UNITS 1 AND 2

TABLE 2 - PROPOSED TS REQUIREMENTS											
System Description					Proposed TS Requirement						
TS Section	System	Bed Thickness (inches) *	Actual Charcoal		Credited Efficiency (% organic iodine) **	Test Penetration (% methyl iodide)	Safety Factor	Test Standard	Test Temp (° C)	Test RH (%)	Test Face Velocity (fpm)
			Res. Time (sec)*	Face Velocity (fpm)**							
3/4.7.5	Control Room Emergency Ventilation System (CREVS)	2	0.25	43.7	95 for one fan operating 80 for two fans operating	≤1	5	ASTM D3803-1989	30	95	40***
3/4.7.6	ESF Ventilation System (ESFVS)	2	0.25	45.5	90	≤5	2	ASTM D3803-1989	30	95	>45.5
3/4.9	Storage Pool Ventilation System (SPVS)	2	0.25	46.8	90	≤5	2	ASTM D3803-1989	30	95	>46.8

NA=Not Available

* In accordance with November 7, 2000, submittal

** In accordance with August 17, 2001, submittal

*** In accordance with ASTM D3803-1989

Based on our review of the attached TER, we conclude that the proposed revisions to the TSs are consistent with GL 99-02 and will ensure that efficiency credited in the accident analysis will remain valid at the end of the surveillance interval.

The format changes to the TS pages do not change any current TS requirements. The changes provide consistency between units, improve readability, and improve page layout. Therefore, the staff finds the format changes to the TS pages acceptable.

3.0 STATE CONSULTATION

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

4.0 ENVIRONMENTAL CONSIDERATION

These amendments change the requirements with respect to surveillance requirements of a facility component located within the restricted area 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 the amendments involve no significant hazards consideration and there has been no public comment on such finding (65 FR 51356). Accordingly, the 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 the amendments.

5.0 CONCLUSION

The staff has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendments will not be inimical to the common defense and security or to the health and safety of the public.

Attachment: BNL Technical Evaluation Report

Principal Contributor: Harold Walker

Date: October 24, 2001

**TECHNICAL EVALUATION REPORT
BROOKHAVEN NATIONAL LABORATORY
FOR THE OFFICE OF NUCLEAR REACTOR REGULATION
DIVISION OF SYSTEMS SAFETY AND ANALYSIS
PLANT SYSTEMS BRANCH
RELATED TO AMENDMENT TO FACILITY OPERATING
LICENSE NOS. DPR-58 AND DPR-74
INDIANA MICHIGAN POWER COMPANY
DONALD C. COOK NUCLEAR PLANT UNITS 1 AND 2
DOCKET NOS. 50-315 AND 50-316**

1.0 INTRODUCTION

By letter dated June 12, 2000 (C0600-13), Indiana Michigan Power Company (I&M) submitted its response to the actions requested in Generic Letter (GL) 99-02, "Laboratory Testing of Nuclear-Grade Activated Charcoal," dated June 3, 1999, for the Donald C. Cook Nuclear Plant Units 1 and 2 (DNP). By the same letter, I&M requested changes to the Technical Specifications (TS) Surveillance Requirements in TS Sections 3/4.7.5, 3/4.7.6, and 3/4.9 for the: (1) Control Room Emergency Ventilation System (CREVS), (2) Engineered Safety Features Ventilation System (ESFVS), and the (3) Storage Pool Ventilation System (SPVS) for the Donald C. Cook Nuclear Plant, Units 1 and 2. By letter dated November 7, 2000 (C1100-10), I&M provided supplemental information on license amendment request for control room habitability. By letters dated June 19, 2001 (C0601-03) and August 17, 2001 (C0801-02), I&M provided a partial response and the final response to the requested information, respectively. The proposed changes would revise the TS surveillance testing of the safety related ventilation system charcoal filters to meet the requested actions of GL 99-02.

2.0 BACKGROUND

Safety-related air-cleaning units used in the engineered safety features (ESF) ventilation systems of nuclear power plants reduce the potential onsite and offsite consequences of a radiological accident by filtering radioiodine. Analyses of design basis accidents assume particular safety related charcoal adsorption efficiencies when calculating offsite and control room operator doses. To ensure that the charcoal filters used in these systems will perform in a manner that is consistent with the licensing basis of a facility, licensees have requirements in their TS to periodically perform a laboratory test (in accordance with a test standard) of charcoal samples taken from these ventilation systems.

In GL 99-02, the staff alerted licensees that testing nuclear-grade activated charcoal to standards other than American Society for Testing and Materials (ASTM) D3803-1989, "Standard Test Method for Nuclear-Grade Activated Carbon," does not provide assurance for complying with their current licensing bases with respect to the dose limits of General Design Criterion (GDC) 19 of Appendix A to Part 50 of Title 10 of the Code of Federal Regulations (10 CFR) and Subpart A of 10 CFR Part 100.

GL 99-02 requested that all licensees determine whether their TS reference ASTM D3803-1989 for charcoal filter laboratory testing. Licensees whose TS do not reference ASTM D3803-1989 were requested to either amend their TS to reference ASTM D3803-1989 or propose an alternative test protocol.

ATTACHMENT

3.0 EVALUATION

3.1 Laboratory Charcoal Sample Testing Surveillance Requirements

The current and proposed laboratory charcoal sample testing TS surveillance requirements for the Control Room Emergency Ventilation System (CREVS), the ESF Ventilation System (ESFVS), and the Storage Pool Ventilation System (SPVS) are shown in Table 1 and Table 2, respectively, for the Donald C. Cook Nuclear Plant Units 1 and 2.

The proposed use of ASTM D3803-1989 is acceptable because it provides accurate and reproducible test results. The proposed test temperature of 30°C and relative humidity of 95% for all three systems are acceptable and are consistent with ASTM D3803-1989. This is consistent with the actions requested in GL 99-02.

By letter dated August 17, 2001, the credited removal efficiency for radioactive organic iodine is 95% for CREVS when one fan is operating and 80% when two fans operating, and is 90% for both ESFVS and SPVS. The proposed test penetration for radioactive methyl iodide is less than or equal to 1% for CREVS and less than or equal to 5% for both ESFVS and SPVS. Both the 95% and 80% filter efficiencies credited in the proposed analyses, assuming single fan and two fans for CREVS, provided safety factors that meet or exceed 2 as specified in GL 99-02. The proposed test penetration was obtained by applying a minimum safety factor of 2 to the credited efficiency. The proposed safety factor of 2 or higher for all systems is acceptable because it ensures that the efficiency credited in the accident analysis is still valid at the end of the surveillance interval. This is consistent with the minimum safety factor of 2 specified in GL 99-02.

The August 23, 1999 errata to GL 99-02 clarified that if the maximum actual face velocity is greater than 110% of 40 fpm, then the test face velocity should be specified in the TS. By letters dated August 17, 2001, the face velocities for the ESFVS and the SPVS are greater than 40 fpm and therefore, are specified in the TS. The face velocity for the CREVS is 43.7 fpm and is within the margins (i.e., $40 \pm 10\%$ fpm) stated in ASTM D3803-1989. The proposed testing of the CREVS charcoal adsorbers will be performed in accordance with ASTM D3803-1989, which specifies a test face velocity of 40 fpm with appropriate margins. Therefore, it is not necessary to specify the face velocity in the proposed TS change. This is acceptable because it ensures that the testing will be consistent with the operation of the ventilation systems during accident conditions. This is consistent with the errata to GL 99-02 dated August 23, 1999.

4.0 CONCLUSION

On the basis of its evaluation, BNL recommends that the NRC staff consider the proposed TS changes to be acceptable.

Principal Contributors: Mano Subudhi
Date: September 17, 2001

DONALD C. COOK NUCLEAR PLANT UNITS 1 AND 2

TABLE 1 - CURRENT TS REQUIREMENTS											
System Description					Current TS Requirements						
TS Section	System	Bed Thickness (inches) *	Actual Charcoal		Credited Efficiency (% organic iodine) **	Test Penetration (% methyl iodide)	Safety Factor	Test Standard	Test Temp (°C)	Test RH (%)	Test Face Velocity (fpm)
			Res. Time (sec)*	Face Velocity (fpm)**							
3/4.7.5	Control Room Emergency Ventilation System (CREVS)	2	0.25	43.7	95 for one fan operating 80 for two fans operating	<10	NA	ANSI N510-1975	130	95	NA
3/4.7.6	ESF Ventilation System (ESFVS)	2	0.25	45.5	90	<10	1	ANSI N510-1980 (ASTM D3803-1979)	30	95	NA
3/4.9	Storage Pool Ventilation System (SPVS)	2	0.25	46.8	90	<10	1	ANSI N510-1980 (ASTM D3803-1979)	30	95	NA

NA=Not Available

* In accordance with November 7, 2000 submittal

** In accordance with August 17, 2001 submittal

DONALD C. COOK NUCLEAR PLANT UNITS 1 AND 2

TABLE 2 - PROPOSED TS REQUIREMENTS											
System Description					Proposed TS Requirement						
TS Section	System	Bed Thickness (inches) *	Actual Charcoal		Credited Efficiency (% organic iodine) **	Test Penetration (% methyl iodide)	Safety Factor	Test Standard	Test Temp (°C)	Test RH (%)	Test Face Velocity (fpm)
			Res. Time (sec)*	Face Velocity (fpm)**							
3/4.7.5	Control Room Emergency Ventilation System (CREVS)	2	0.25	43.7	95 for one fan operating 80 for two fans operating	≤1	5	ASTM D3803-1989	30	95	40***
3/4.7.6	ESF Ventilation System (ESFVS)	2	0.25	45.5	90	≤5	2	ASTM D3803-1989	30	95	≥45.5
3/4.9	Storage Pool Ventilation System (SPVS)	2	0.25	46.8	90	≤5	2	ASTM D3803-1989	30	95	≥46.8

NA=Not Available

- * In accordance with November 7, 2000 submittal
- ** In accordance with August 17, 2001 submittal
- *** In accordance with ASTM D3803-1989