Indiana Michigan
Power Company
500 Circle Drive
Buchanan, MI 49107 1373

INDIANA MICHIGAN POWER

September 20, 2002

AEP:NRC:2075-01
10 CFR 50.90

Docket No.: 50-315
50-316

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Mail Stop O-P1-17
Washington, DC 20555-0001

Donald C. Cook Nuclear Plant Units 1 and 2
SUPPLEMENT TO LICENSE AMENDMENT REQUEST REGARDING CONTROL ROOM HABITABILITY

This letter provides a supplement to a previously proposed license amendment that addresses control room habitability issues at Donald C. Cook Nuclear Plant (CNP). The documents referenced below are identified in Attachment 1 to this letter.

In Reference 1, Indiana Michigan Power Company (I&M) proposed to amend Facility Operating Licenses DPR-58 and DPR-74, for CNP Unit 1 and Unit 2, to address control room habitability issues. In Reference 2, I&M provided supplemental information in support of that proposed amendment. Reference 3 transmitted a Nuclear Regulatory Commission (NRC) Request for Additional Information (RAI) regarding the proposed amendment. References 4 and 5 transmitted I&M's responses to that RAI. Reference 6 transmitted a second RAI pertaining to the proposed amendment. References 7 and 8 transmitted I&M's responses to the second RAI and to NRC concerns identified in telephone conferences with members of the NRC staff. Members of the NRC staff have subsequently identified additional questions pertaining to the analyses associated with a reactor coolant pump locked rotor event that were performed in support of the proposed amendment. This supplement provides I&M's responses to the additional NRC questions.

A003

This supplement also addresses the following administrative matters pertaining to the proposed amendment.

- Reconciliation of the originally-proposed Technical Specification (TS) change with a subsequent revision of the proposed change, NRC issuance of an amendment containing a portion of the proposed change, and the deferred issuance of changes associated with the HEPA filter/charcoal adsorber differential pressure.
- Sequencing of implementation of the proposed control room habitability amendment with respect to implementation of a proposed measurement uncertainty recapture power uprate amendment.
- Correction of values for charcoal bed residence time.

Attachment 2 to this letter provides I&M's responses to the NRC questions regarding the locked rotor analyses. Attachment 3 provides supporting tables for Attachment 2. The information in Attachment 3 is proprietary to Westinghouse Electric Company, LLC. Attachment 4 to this letter addresses the above-described administrative matters. Attachments 5A and 5B provide TS pages that are marked to show the reconciled proposed changes for Unit 1 and Unit 2, respectively. Attachments 6A and 6B provide TS pages with the reconciled proposed changes incorporated for Unit 1 and Unit 2, respectively. Attachment 7 provides an affidavit setting forth the basis on which the proprietary information contained in Attachment 3 may be withheld from public disclosure pursuant to 10 CFR 2.790. Attachment 8 contains a non-proprietary version of Attachment 3. Attachment 9 identifies the new commitments made in this letter.

The information provided in this letter consists of supporting information for the amendment request previously submitted by References 1 and 5. The information provided in this letter does not alter the requested amendment and does not affect the validity of the original evaluation of significant hazards considerations performed in accordance with 10 CFR 50.92 as documented in Attachment 4 to Reference 1. The environmental assessment provided in Attachment 5 to Reference 1 also remains valid.

Should you have any questions, please contact Mr. Brian A. McIntyre, Manager of Regulatory Affairs, at (269) 697-5806.

Sincerely,

J. E. Pollock
Site Vice President

JRW/jen

Attachments:

1. References
2. Response to NRC Questions Regarding Locked Rotor Analyses
3. Supporting Tables for Attachment 2 (Proprietary)
4. Resolution of Administrative Matters
5A. Unit 1 Technical Specification Pages Marked To Show Proposed Changes
5B. Unit 2 Technical Specification Pages Marked To Show Proposed Changes
6A. Unit 1 Proposed Technical Specification Pages
6B. Unit 2 Proposed Technical Specification Pages
7. Affidavit Setting Forth the Basis on Which Information Contained in Attachment 3 May be Withheld from Public Disclosure
8. Supporting Tables for Attachment 2 (Non-proprietary)
9. Commitments

c: K. D. Curry, Ft. Wayne AEP
J. E. Dyer, NRC Region III
MDEQ - DW & RPD
NRC Resident Inspector
J. F. Stang, Jr., NRC Washington, DC
R. Whale, MPSC

AFFIRMATION

I, Joseph E. Pollock, being duly sworn, state that I am Site Vice President of Indiana Michigan Power Company (I&M), that I am authorized to sign and file this request with the Nuclear Regulatory Commission on behalf of I&M, and that the statements made and the matters set forth herein pertaining to I&M are true and correct to the best of my knowledge, information, and belief.

Indiana Michigan Power Company

J E Pollock

J. E. Pollock
Site Vice President

SWORN TO AND SUBSCRIBED BEFORE ME

THIS 20 DAY OF SEPTEMBER, 2002

Jennifer L Kernosky
Notary Public

My Commission Expires 5/26/05

JENNIFER L KERNOSKY
Notary Public, Berrien County, Michigan
My Commission Expires May 26, 2005

ATTACHMENT 1 TO AEP:NRC:2075-01

REFERENCES

The following identifies documents referenced in this letter and attachments.

1) Letter from R. P. Powers, Indiana Michigan Power Company (I&M), to U. S. Nuclear Regulatory Commission (NRC) Document Control Desk, "License Amendment Request for Control Room Habitability and Generic Letter 99-02 Requirements," C0600-13, dated June 12, 2000

2) Letter from M. W. Rencheck (I&M) to NRC Document Control Desk, "Supplemental Information on License Amendment Request for Control Room Habitability," C1100-01, dated November 7, 2000

3) Letter from J. F. Stang (NRC) to R. P. Powers (I&M), "Donald C. Cook Nuclear Plant, Units 1 and 2 – Request for Additional Information, License Amendment Request for Control Room Habitability, (TAC Nos. MA9394 and MA9395)," dated March 29, 2001

4) Letter from M. W. Rencheck (I&M) to NRC Document Control Desk, "Partial Response to Nuclear Regulatory Commission Request for Additional Information Regarding License Amendment Request for Control Room Habitability, (TAC Nos. MA9394 and MA9395)," C0601-03, dated June 19, 2001

5) Letter from M. W. Rencheck (I&M) to NRC Document Control Desk, "Final Response to Nuclear Regulatory Commission Request for Additional Information Regarding License Amendment Request for Control Room Habitability (TAC Nos. MA9394 and MA9395)," C0801-02, dated August 17, 2001

6) Letter from J. F. Stang (NRC) to R. P. Powers (I&M), "Donald C. Cook Nuclear Plant, Units 1 and 2 – Request for Additional Information, License Amendment Request for Control Room Habitability (TAC Nos. MA9394 and MA9395)," dated August 16, 2001

7) Letter from A. C. Bakken (I&M) to NRC Document Control Desk, "Partial Response to Second Nuclear Regulatory Commission Request for Additional Information Regarding License Amendment Request for Control Room Habitability," C0102-04, dated January 15, 2002

8) Letter from J. E. Pollock (I&M) to NRC Document Control Desk, "Final Response to Second Nuclear Regulatory Commission Request for Additional Information and Verbal Concerns Regarding License Amendment Request for Control Room Habitability," AEP:NRC:2075, dated June 5, 2002

9) Letter from E. E. Fitzpatrick (I&M) to NRC Document Control Desk, "Proposed Technical Specification Changes Supported by Analyses to Increase Unit 1 Steam Generator Tube Plugging Limit and Certain Proposed Changes for Unit 2 Supported by Related Analyses," AEP:NRC:1207, dated May 26, 1995

10) Letter from J. B. Hickman (NRC) to E. E. Fitzpatrick (I&M), "Donald C. Cook Nuclear Plant, Unit Nos. 1 and 2 – Issuance of Amendments Re: Increased Steam Generator Tube Plugging Limit (TAC Nos. M92587 and M92588)," dated March 13, 1997

11) Letter from M. P. Alexich (I&M) to T. E. Murley (NRC), "Unit 2 Cycle 8 Reload Licensing, Proposed Technical Specifications for Unit 2 Cycle 8, and Related Unit 1 Proposals," AEP:NRC:1071E, dated February 6, 1990

12) Letter from T. G. Colburn (NRC) to M. P. Alexich (I&M), "Amendment Nos. 148 and 134 to Facility Operating License Nos. DPR-58 and DPR-74: (TAC Nos. 75396 and 76816)," dated August 27, 1990

13) WCAP-12901 (Proprietary), "Input and Output Parameters for the Accident Analyses Performed for VANTAGE 5 Fuel Transition for Donald C. Cook Nuclear Plant Unit 2," dated May 1991

14) WCAP-7956-A, "THINC-IV An Improved Program for Thermal-Hydraulic Analysis of Rod Bundle Cores," dated June 1973

15) WCAP-8054-P-A, "Application of the THINC-IV Program to PWR Design," dated February 1989

16) WCAP-12330-A, "Improved THINC-IV Modeling for PWR Core Design," dated August 1989

17) WCAP-11397-P-A, "Revised Thermal Design Procedure," dated April 1989

18) Letter from J. F. Stang (NRC) to R. P. Powers (I&M), "Donald C. Cook Nuclear Plant, Units 1 and 2 – Issuance of Amendments (TAC Nos. MA9394 and MA 9395)," dated October 24, 2001

19) NUREG-1465, "Accident Source Terms For Light –Water Nuclear Power Plants," dated February 1995

20) Letter from J. E. Pollock (I&M) to NRC Document Control Desk, "License Amendment Request for Appendix K Measurement Uncertainty Recapture – Power Uprate Request," AEP:NRC:2900, dated June 28, 2002

21) NRC Regulatory Issue Summary 2002-03, "Guidance on the Content of Measurement Uncertainty Recapture Power Uprate Applications," dated January 31, 2002

ATTACHMENT 2 TO AEP:NRC:2075-01

RESPONSE TO NUCLEAR REGULATORY COMMISSION (NRC) QUESTIONS REGARDING LOCKED ROTOR ANALYSES

The documents referenced in this attachment are identified in Attachment 1 to this letter.

Following discussions with Indiana Michigan Power Company (I&M) personnel conducted on August 13, 2002, members of the NRC staff identified questions pertaining to the analyses associated with a reactor coolant pump locked rotor event that were performed in support of a previously-proposed amendment regarding control room habitability at Donald C. Cook Nuclear Plant (CNP). These questions are addressed below.

NRC Question 1

Discuss when LOFTRAN, FACTRAN, and THINC IV analyses of record were performed for each unit and the validity of these analyses to current plant design and operation, accounting for modifications made to the plant that are relevant to the locked rotor DNB analyses. Justify your assumption of no loss of offsite power for the locked rotor analysis and state and justify your assumption related to pressurizer pressure vs. time used in the locked rotor DNB THINC IV analysis.

I&M Response to NRC Question 1

Each part of the NRC question is addressed individually below.

LOFTRAN, FACTRAN, and THINC IV Analyses of Record

The Unit 1 LOFTRAN and FACTRAN analyses of record are described in WCAP-14285, Revision 1, "Donald C. Cook Nuclear Plant Unit 1 Steam Generator Tube Plugging Program Licensing Report," which was transmitted to the NRC on May 26, 1995, by Reference 9. NRC approval of the associated amendment was transmitted on March 13, 1997, by Reference 10. The current Unit 1 THINC IV analysis of record was performed as part of the Fuel Cycle 18 Reload Safety Evaluation, dated April 2002.

The Unit 2 LOFTRAN and FACTRAN analyses of record were documented in the VANTAGE 5 reload transition safety report (RTSR), which was transmitted to the NRC on February 6, 1990, by Reference 11. NRC approval of the associated amendment was transmitted on August 27, 1990, by Reference 12. Additional information regarding the VANTAGE 5 RTSR was published in May 1991 as WCAP-12901 (Reference 13). The current Unit 2 THINC IV analysis of record was performed as part of the Fuel Cycle 13 Reload Safety Evaluation dated November 2001.

Validity of Locked Rotor Departure from Nucleate Boiling (DNB) Analyses to Current Plant Design and Operation

I&M has considered the significant design changes and the processes for assessing their impact on LOFTRAN, FACTRAN, and THINC IV analyses of record. The only modification to CNP Unit 1 or Unit 2 that is potentially relevant to the analyses of record is the removal of rod cluster control assembly thimble plugs. Removal of these plugs results in some coolant bypassing the core. The analyses of record were not re-performed for this modification because evaluations by Westinghouse showed that the locked rotor DNB transient analysis remained valid. As shown in the response to NRC Question 2 below, margin in the DNB ratio (DNBR) calculation has been allocated for both units to account for the impact of the modification.

Assumption of No Loss of Offsite Power

The locked rotor DNB analyses for Unit 1 and Unit 2 do not assume a loss of offsite power during the event. The assumption that offsite power is available is consistent with the original CNP licensing basis as indicated by Figure 14.1.6-11 of the original Final Safety Analysis Report. Figure 14.1.6-11 is a plot of reactor coolant system (RCS) flow versus time for a locked rotor event. The figure shows that, following the event, RCS flow continues at 60% to 75% of the initial value, depending on the number of loops initially operating. The continuous flow could only occur if power were maintained to the non-faulted reactor coolant pumps.

Assumption Regarding Pressurizer Pressure Versus Time

In the locked rotor DNB analysis, the statepoints other than RCS pressure (i.e., heat flux, flow rate, core inlet temperature) reflect the time-dependent response of the fuel and RCS to conditions resulting from the event. The RCS pressure, however, is assumed to remain constant at the value existing at the start of the event. This assumption is conservative since the initial RCS pressure would be the lowest pressure occurring during the early stages of the event, which is the period when DNB conditions are most limiting. It is not necessary to model power-operated relief valve or pressurizer spray operation since, even with their operation, RCS pressure would rise above the initial pressure.

NRC Question 2

Provide plots or tables of minimum DNBR vs. time for each unit for the thimble and typical cell. Please indicate on the plot or table the initial DNBR value at time = 0 and provide several points on each side of the minimum DNBR achieved. Also, provide a discussion explaining each of the DNBR margin allocations and how the value was obtained.

I&M Response to NRC Question 2

Each part of the NRC question is addressed individually below.

Tables of Minimum DNBR versus Time for Each Unit

Tables of the calculated DNBR as a function of time are provided for the current Unit 1 and Unit 2 fuel cycles as Table 1 and Table 2 in Attachment 3 to this letter. DNBR values at time = 0 are not provided in these tables because minimum DNBR occurs at a later time. At time = 0, the DNBR would be that existing at normal steady-state operation. Although there is only one point on each side of the minimum DNBR point given for Unit 1, discussions with NRC staff on August 13, 2002, indicate that this is adequate to address the question.

Discussion Explaining DNBR Margin Allocations and How the Values Were Obtained

The difference between the DNBR limits used in the safety analyses and the DNBR limits used in the core design provides margin. As shown in Table 3 and Table 4 provided in Attachment 3 to this letter, a small amount of DNBR margin was used for each unit to account for the DNBR being below the safety analysis limits. Table 3 and Table 4 also show that DNB margin is maintained for both units. Therefore, there are no fuel rods in DNB. A discussion of the other (non-locked rotor) margin allocations is provided below.

- Margin Allocated to Rod Bow Penalty (Unit 1)

  This margin allocation is common throughout the industry. Discussions with NRC staff indicate that no detailed explanation is needed.

- Margin Allocated to One Degree Temperature Bias from Plant Instrumentation (Unit 1)

  This allocation accounts for a potential condition known as cold leg streaming, in which there are temperature gradients in an operating RCS cold leg. These gradients may result in a deviation between the actual and indicated cold leg temperature. Additional detail is provided in the discussion below of the margin allocation for cold leg streaming in Unit 2. The DNB penalty was developed using a plant-specific sensitivity study.

- Margin Allocated to Increase in Bypass Flow due to Thimble Plug Removal (Unit 1 and Unit 2)

  This margin allocation is described in the discussion of the validity of the locked rotor DNB analyses to current plant design and operation in the response to NRC Question 1 above.

- Margin Allocated to THINC IV Penalty Due to Use of the Old THINC IV Model (Unit 2)

  The locked rotor DNB analyses for Unit 2 use an older version of THINC IV. The older version of THINC IV is documented in NRC approved WCAPs: WCAP-7956-A (Reference 14) and WCAP-8054-P-A (Reference 15). The newer version has more conservative core flow modeling. A generic study was performed which generated conservative penalties that are applicable when the older version of THINC IV is used. Unit 1 uses a newer version of THINC IV with the error corrected and no penalty needs to be applied. The newer version of THINC IV is documented in NRC-approved WCAP-12330-A (Reference 16).

  Since the locked rotor transient analysis statepoints generated with FACTRAN and LOFTRAN are only used as input to the THINC IV code and are not impacted by THINC IV modeling differences, revision of the LOFTRAN and FACTRAN locked rotor transient analysis was not necessary.

- Margin Allocated to Pressure Drop Penalty (Difference Between Pressurizer and Core) (Unit 2)

  The THINC IV DNB analysis uses statepoints that are based on results from the LOFTRAN and FACTRAN computer codes. For all the Unit 2 thermal hydraulic analyses, it was assumed that the pressure in the core was 30 pounds per square inch (psi) higher than that in the pressurizer. However, the actual differential pressure may be less. A DNB penalty has been assessed to address this potential difference. The DNB penalty was developed using a plant-specific sensitivity generated for the condition.

  The pressure drop penalty is a correction that is applied to modeling assumptions used in the locked rotor DNB THINC IV analysis. Since the pressure correction and pressure drop penalty is applied separately from the statepoint generation, revision of the LOFTRAN and FACTRAN locked rotor transient analysis is not necessary.

  The lower core pressure is already accounted for in the Unit 1 analysis. Therefore, no penalty has been applied to the Unit 1 analysis.

- Margin Allocated to Cold Leg Streaming - Equivalent to 1 Degree Bias (Unit 2)

  Cold leg streaming (i.e., the existence of temperature gradients in an operating RCS cold leg) could result in a deviation between the actual and indicated cold leg temperature. The conservative assumption of a maximum temperature gradient of 4.0 degrees Fahrenheit (°F) bounds all reactor coolant pump models and plants. If a 4.0°F temperature gradient exists, the actual cold leg temperature could be as much as 2.0°F higher than the indicated cold leg temperature. This would result in the actual RCS average temperature being 1.0°F higher than indicated, which is non-conservative for locked rotor DNB analyses.

The effects of cold leg streaming have not been measured for CNP Unit 1 or Unit 2. Therefore, the maximum temperature gradient was conservatively assumed in assessing the associated DNB penalty for CNP. As described above, this results in an RCS average temperature penalty of 1°F, which was assumed for Unit 2 in establishing the DNB penalty. This DNB penalty was developed using a plant-specific sensitivity study generated for this issue.

- Margin Allocated to 0.2% Flow Shortfall (Unit 2)

The 0.2% RCS flow shortfall penalty is associated with cold leg streaming. Cold leg streaming has the potential to introduce both a temperature bias and a flow shortfall in the nominal RCS conditions used in the safety analysis. The amount of flow shortfall was based on a conservative application of a sensitivity study generated for another 4-loop plant. The associated DNB penalty was developed using a plant-specific sensitivity study generated for this issue.

When DNB-related events are analyzed (i.e., locked rotor rods-in-DNB transient analysis), the safety analysis is performed assuming nominal RCS initial conditions, while the applicable uncertainties (and biases) are implicitly included in the DNB design limit. Since the locked rotor rods-in-DNB transient analysis (performed with LOFTRAN and FACTRAN) models only the nominal reactor coolant system initial conditions and does not apply uncertainty, the (LOFTRAN and FACTRAN) locked rotor transient analyses do not need to be revised when the effects of cold leg streaming are accounted for.

NRC Question 3

For the locked rotor DNB analysis for Unit 1 you assumed an initial pressure of 2100 psia and initial RCS average temperature of 576.3 degrees F. Your TS values for these parameters are 2050 psig and 579.3 degrees F. The values in your TS are non-conservative when compared to the values in the analysis. Please modify your TS to be consistent with the values used in the analyses.

I&M Response to NRC Question 3

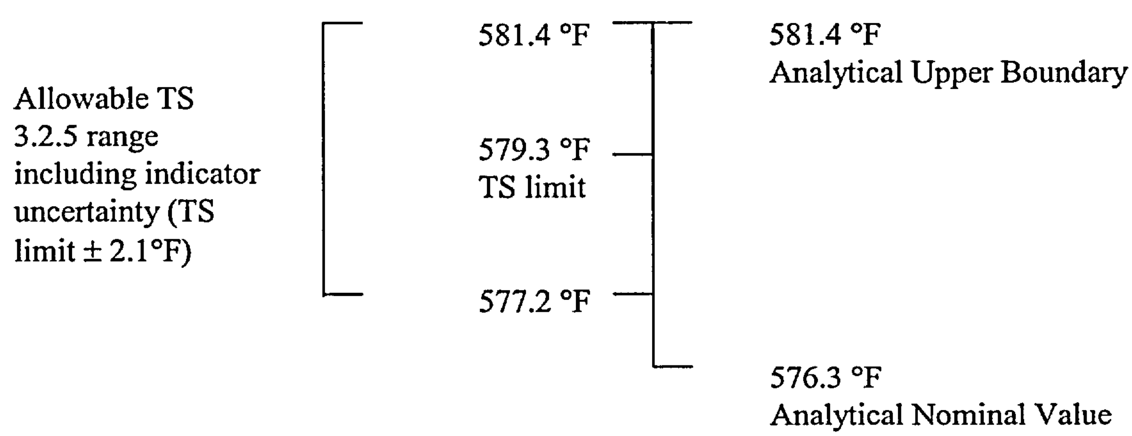
As described in the following paragraphs, the values for RCS average temperature and pressurizer pressure in the Unit 1 Technical Specifications (TS) are conservative when compared to the values in the analysis. Therefore, I&M considers that the TS values do not need to be modified.

Unit 1 RCS Average Temperature

A high RCS average temperature promotes DNB. The locked rotor DNB transient analysis was performed for a nominal initial RCS average temperature of 576.3°F. Application, in accordance with the Revised Thermal Design Procedure (RTDP) (Reference 17), of a total uncertainty consisting of a ±4.1°F controller uncertainty, plus a +1.0°F bias for cold leg streaming, results in the analysis being valid for an RCS average temperature up to 581.4 °F.

The limiting condition for operation section of Unit 1 TS 3.2.5 requires that RCS average temperature be maintained less than or equal to 579.3°F. The RCS average temperature indication has an uncertainty of ±2.1°F. Therefore, the highest temperature possible while complying with TS 3.2.5 is 581.4°F. Consequently, the TS limit ensures that the value used in the locked rotor DNB analysis is not exceeded. This is illustrated in the figure below.

<u>Comparison of Unit 1 TS RCS Average Temperature Upper Limit to Upper Range of Locked Rotor DNB Analysis</u>

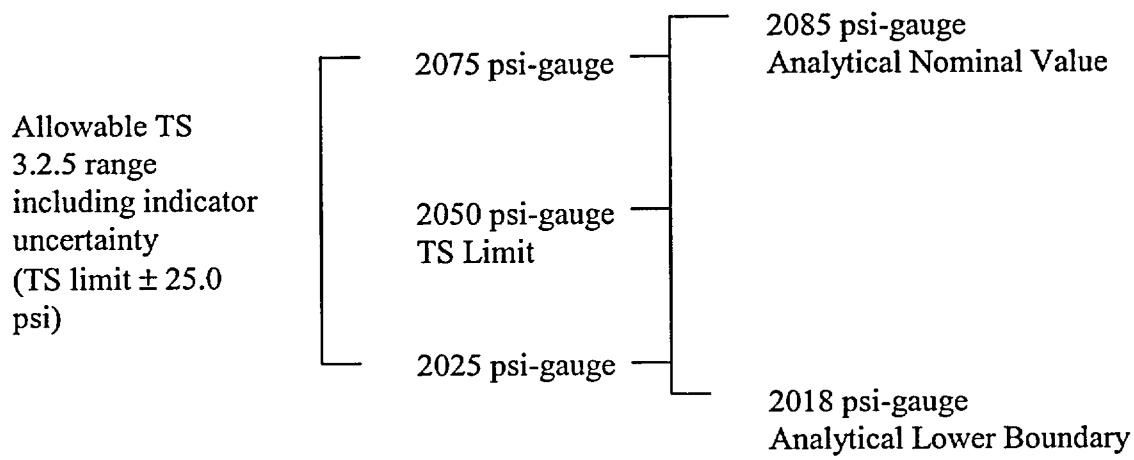


Unit 1 Pressurizer Pressure

A low RCS pressure promotes DNB. The locked rotor DNB transient analysis was performed for a nominal RCS pressure of 2100 psi-absolute, i.e., 2085 psi-gauge. Application, in accordance with the RTDP, of an uncertainty of ±67 psi results in the analysis being valid for an RCS pressure as low as 2018 psi-gauge.

The limiting condition for operation section of Unit 1 TS 3.2.5 requires that pressurizer pressure be maintained greater than or equal to 2050 psi-gauge. The pressurizer pressure indication has an uncertainty of ±25 psi. Therefore, the lowest pressurizer pressure possible while complying with TS is 2025 psi-gauge. Since the lowest pressurizer pressure allowed by TS is greater than the lowest pressure considered in the analysis, the TS limit is conservative with respect to the value used in the locked rotor DNB analysis. This is illustrated in the figure below.

Comparison of Unit 1 TS Pressurizer Pressure Lower Limit to Lower Range of Locked Rotor DNB Analysis



NRC Question 4

What input parameters in the THINC IV code are expected to be cycle specific? For the other codes, confirm that you will be checking the bounding analyses, on a cycle specific basis, to ensure that they bound plant operation for that cycle.

I&M Response to NRC Question 4

The axial power shape input for the THINC IV computer program is expected to be cycle-specific. Use of a cycle-specific power shape increases the calculated DNBR and provides greater margin than use of a power shape that bounds all expected future cycles.

The bounding transient analysis, using computer programs such as LOFTRAN and FACTRAN, will be checked for each fuel cycle to ensure that the locked rotor DNB analysis remains bounding.

ATTACHMENT 4 TO AEP:NRC:2075-01

RESOLUTION OF ADMINISTRATIVE MATTERS

The documents referenced in this attachment are identified in Attachment 1 to this letter.

Reconciliation of Technical Specification Pages

In Reference 1, Indiana Michigan Power Company (I&M) submitted proposed changes to the Donald C. Cook Nuclear Plant (CNP) Unit 1 and Unit 2 Technical Specifications (TS) for safety-related ventilation systems. In Reference 5, I&M submitted revisions to certain TS changes proposed in Reference 1. In Reference 18, the Nuclear Regulatory Commission (NRC) issued amendments to the CNP Unit 1 and Unit 2 TS incorporating portions of the changes proposed by I&M in References 1 and 5.

Reference 1 included a proposed reduction in the allowable value for HEPA filter/charcoal adsorber differential pressure specified in the ventilation systems TS. In a telephone conference on September 12, 2002, the NRC identified concerns regarding validation of the proposed values. I&M requests that the NRC approve the alternative source term and issue all outstanding TS changes proposed in Reference 1 and Reference 5, except for the changes associated with the HEPA filter/charcoal adsorber differential pressure. The TS changes associated with the HEPA filter/charcoal adsorber differential pressure may be issued later, by separate amendments, following resolution of the associated NRC concerns.

I&M has reconciled the TS changes proposed in Reference 1 and Reference 5 with the changes issued by the NRC in Reference 18, and with the deferral of changes associated with the HEPA filter/charcoal adsorber differential pressure. Attachments 4A and 4B to this letter provide current TS pages that are marked to show all remaining proposed changes for Unit 1 and Unit 2, except those associated with the HEPA filter/charcoal adsorber differential pressure. Attachments 5A and 5B provide new Unit 1 and Unit 2 TS pages with all remaining proposed changes incorporated, except those associated with the HEPA filter/charcoal adsorber differential pressure.

Sequencing of Implementation of Control Room Habitability Amendment with Respect to Implementation of Measurement Uncertainty Recapture Power Uprate Amendment

The proposed control room habitability amendment documented in Reference 1 included a proposal, in accordance with 10 CFR 50.67, to use the methodology and alternative source term described in NUREG-1465 (Reference 19). In support of this proposal, I&M submitted re-analyses of the dose to control room personnel from postulated accidents and transients. I&M subsequently submitted a measurement uncertainty recapture power uprate for Unit 1 in Reference 20. Guidance for such power uprate amendments is given in NRC Regulatory Issue Summary (RIS) 2002-03, (Reference 21). Section II of Attachment 1 to RIS 2002-03 states that licensees should confirm that the requested power uprate is bounded by accident analyses of record that have been approved by the NRC or that have been conducted using methods or processes approved by the NRC. Consistent with this guidance, I&M will sequence implementation of the amendment approving the use of an alternative source term and the TS changes identified in Attachments 5A, 5B, 6A, and 6B, such that it precedes or occurs simultaneously with implementation of the measurement uncertainty recapture power uprate amendment proposed for Unit 1 in Reference 19. I&M requests an implementation period for the amendment approving the use of an alternative source term and the TS changes identified in Attachments 5A, 5B, 6A, and 6B, of 60 days from the date of NRC approval.

Correction of Values for Charcoal Bed Residence Time

As noted above, Reference 18 transmitted amendments to the CNP Unit 1 and Unit 2 facility operating licenses incorporating portions of the TS changes proposed by I&M in Reference 1 and Reference 5. The TS affected by Reference 18 were those involving charcoal adsorbers in the control room emergency ventilation system (CREVS), the engineered safety features ventilation system (ESFVS), and the spent fuel storage pool ventilation system (SPVS). The Safety Evaluation and the Technical Evaluation Report transmitted by Reference 18 each contain two tables indicating that the residence time for the charcoal adsorbers in the CREVS, the ESFVS, and the SPVS is 0.25 seconds. The correct values, which are provided in Reference 4, are as follows:

CREVS – 0.229 seconds, ESFVS – 0.220 seconds, and SPVS – 0.214 seconds.

ATTACHMENT 5A TO AEP:NRC:2075-01

UNIT 1 TECHNICAL SPECIFICATIONS PAGES
MARKED TO SHOW PROPOSED CHANGES

REVISED PAGES

SECTION PAGE

3/4.6 CONTAINMENT SYSTEMS (Continued)

SECTION PAGE

3/4.7.5 CONTROL ROOM VENTILATION SYSTEM

~~3/4 7 5~~CONTROL ROOM EMERGENCY VENTILATION SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.5.1 The control room emergency ventilation system (CREVS) shall be OPERABLE with:

~~a Two independent heating and cooling systems,~~

~~b.~~a. Two independent pressurization ~~fans~~trains, and

~~c.~~b. One charcoal adsorber ~~and~~ HEPA filter ~~train~~unit.

NOTE

The control room envelope/pressure boundary may be opened intermittently under administrative control.

APPLICABILITY: MODES 1, 2, 3, ~~and~~ 4, and during the movement of irradiated fuel assemblies.

ACTION:

MODES 1, 2, 3, and 4:

~~a. With one heating and cooling system inoperable, restore the inoperable system 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.~~

~~b.~~a. With one pressurization ~~fan~~train inoperable, restore the inoperable train~~fan~~ 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.

~~c.~~b. With the filter ~~train~~unit inoperable, restore the filter ~~train~~unit to OPERABLE status within 24 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

c. With two CREVS pressurization trains inoperable due to an inoperable control room envelope/pressure boundary, restore the control room envelope/pressure boundary to OPERABLE status within 24 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

During the movement of irradiated fuel assemblies:

d. With one pressurization train inoperable, restore the inoperable pressurization train to OPERABLE status within 7 days, or initiate and maintain operation of the remaining OPERABLE train in the pressurization/cleanup alignment.

e. With any of the following: (1) both pressurization trains inoperable; (2) the filter unit inoperable; or (3) the control room envelope/pressure boundary inoperable, immediately suspend all operations involving the movement of irradiated fuel assemblies.

SURVEILLANCE REQUIREMENTS

4.7.5.1 The control room emergency ventilation system shall be demonstrated OPERABLE:

a. ~~At least once per 12 hours by verifying that the control room air temperature is less than or equal to 95°F.~~ Deleted

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

c. 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. Verifying that the charcoal adsorbers remove ≥ 99% of a halogenated hydrocarbon refrigerant test gas when they are tested in-place in accordance with ANSI N510-1975 while operating the ventilation system at a flow rate of 6000 cfm ± 10%.

2. Verifying that the HEPA filter banks remove ≥ 99% of the DOP when they are tested in-place in accordance with ANSI N510-1975 while operating the ventilation system at a flow rate of 6000 cfm ± 10%.

3. 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 shows a penetration of less than or equal to 1.0% radioactive methyl iodide when the sample is tested in accordance with ASTM D3803-1989, 30°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.

4. Verifying a system flow rate of 6000 cfm ± 10% during system operation when tested in accordance with ANSI N510-1975.

SURVEILLANCE REQUIREMENTS (Continued)

e. At least once per 18 months by:

   1. Verifying that the pressure drop across the combined HEPA filters and charcoal adsorber banks is less than 6 inches Water Gauge while operating the ventilation system at a flow rate of 6000 cfm plus or minus 10%.

   2. a. Verifying that on a Safety Injection Signal from Unit 1, the system automatically operates in the pressurization/cleanup mode.

      b. Verifying that on a Safety Injection Signal from Unit 2, the system automatically operates in the pressurization/cleanup mode.

   3. Verifying that the system maintains the control room envelope/pressure boundary at a positive pressure of greater than or equal to 1/16 inch W. G. relative to the outside atmosphere at a system flow rate of 6000 cfm plus or minus 10%, with a makeup air flow rate of ≤ 1000 cfm.

e. After each complete or partial replacement of a HEPA filter bank by verifying that the HEPA filter banks remove greater than or equal to 99% of the DOP when they are tested in-place in accordance with ANSI N510-1975 while operating the ventilation system at a flow rate of 6000 cfm plus or minus 10%.

f. After each complete or partial replacement of a charcoal adsorber bank by verifying that the charcoal adsorbers remove greater than or equal to 99% of a halogenated hydrocarbon refrigerant test gas when they are tested in-place in accordance with ANSI N510-1975 while operating the ventilation system at a flow rate of 6000 cfm plus or minus 10%.

CONTROL ROOM AIR CONDITIONING SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.5.2 The control room air conditioning system (CRACS) shall be OPERABLE with two heating and cooling systems.

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

ACTION:

With one heating and cooling system inoperable, restore the inoperable system 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

4.7.5.2 The control room air conditioning system shall be demonstrated OPERABLE at least once per 12 hours by verifying that the control room air temperature is less than or equal to 95°F.

~~3/4.7.5 CONTROL ROOM EMERGENCY VENTILATION SYSTEM~~
3/4.7.5 CONTROL ROOM EMERGENCY VENTILATION AND CONTROL ROOM AIR CONDITIONING SYSTEMS

The OPERABILITY of the control room emergency ventilation system (CREVS) ensures that the control room will remain habitable for operations personnel during and following all credible accident conditions. In MODES 1-4, the CREVS provides radiological protection to allow operators to take the actions necessary to mitigate the consequences of a design basis accident. The CREVS is also required to be OPERABLE for operations involving the movement of irradiated fuel assemblies to provide protection from a fuel handling accident. The CREVS operation is not credited during the rupture of a waste gas tank or toxic gas release. The CREVS has two pressurization trains with each pressurization train consisting of a pressurization fan, normal intake air damper, and emergency intake air damper available to align and maintain flow to the control room. The charcoal adsorber/HEPA filter unit consists of the prefilter, charcoal adsorbers, HEPA filter, and filter housing. 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 less than or equal to 5 rem Total Effective Dose Equivalent (TEDE) ~~or less whole body, or its equivalent~~. This limitation is consistent with the requirements of General Design Criteria (GDC) 19 of Appendix "A", 10 CFR 50.

The control room envelope/pressure boundary consists of the control room, the control room HVAC equipment room, and the plant process computer room. The Limiting Condition for Operation is modified by a Note allowing the control room envelope/pressure boundary to be opened intermittently under administrative controls. For entry and exit through doors to the control room, the administrative control of the opening is performed by the person(s) entering or exiting the area. For other openings, these controls consist of stationing a dedicated individual at the opening who is in continuous communication with the control room. This individual will have a method to rapidly close the opening when a need for control room envelope/pressure boundary isolation is indicated.

If the control room envelope/pressure boundary is inoperable in MODES 1, 2, 3, and 4, the CREVS trains cannot perform their intended functions. Actions must be taken to restore an OPERABLE control room envelope/pressure boundary within 24 hours. During the period that the control room envelope/pressure boundary is inoperable, appropriate compensatory measures (consistent with the intent of GDC 19) should be utilized to protect control room operators from potential hazards such as radioactive contamination, smoke, temperature and relative humidity, and physical security. Preplanned measures should be available to address these concerns for intentional and unintentional entry into the condition. The 24 hour completion time is reasonable based on the low probability of a design basis accident occurring during this time period, and the use of compensatory measures. The 24 hour completion time is a typically reasonable time to diagnose, plan and possibly repair, and test most problems with the control room envelope/pressure boundary.

The Unit 1 control room emergency ventilation system aligns and operates automatically on a Safety Injection (SI) Signal from either Unit 1 or Unit 2. Both pressurization fans start on the SI signal. Procedures direct realignment of the CREVS to single fan operation within two hours after receiving the SI signal. The automatic start from Unit 2 is normally only available when the Unit 2 ESF actuation system is active in modes 1 through 4 in Unit 2.

The Limiting Condition for Operation requires two independent control room heating cooling systems. Each cooling system requires a functional air handling unit and associated cooling water supply. Cooling water is provided from a chilled water unit. At the design maximum essential service water (ESW) supply temperature of 86°F, a chilled water unit will maintain the control room temperature below 95°F. Cooling water may also be supplied directly by ESW when ESW supply temperature is ≤ 65°F.

The control room air conditioning~~ventilation~~ system (CRACS) normally maintains the control room at temperatures at which control room equipment is qualified for the life of the plant. Continued operation at the Technical Specification limit is permitted since the portion of time the temperature is likely to be elevated is small in comparison to the qualified life of the equipment at the limit.

Each control room cooling system can maintain control room temperature ≤ 102°F during accident conditions with the control room isolated. At control room temperatures of ≤ 102°F, vital control room equipment remains within its manufacturer's recommended operating temperature range.

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

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.

ATTACHMENT 5B TO AEP:NRC:2075-01

UNIT 2 TECHNICAL SPECIFICATIONS PAGES
MARKED TO SHOW PROPOSED CHANGES

REVISED PAGES

Index page VIII
3/4 7-14
3/4 7-15
3/4 7-16a
3/4 7-16b
B 3/4 7-4a
B 3/4 7-4b

3/4.7.5 CONTROL ROOM VENTILATION SYSTEM

~~3/4.7.5~~ CONTROL ROOM EMERGENCY VENTILATION SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.5.1 The control room emergency ventilation system (CREVS) shall be OPERABLE with:

~~a Two independent heating and cooling systems,~~

~~b.~~a. Two independent pressurization trains~~fans~~, and

~~c.~~b. One charcoal adsorber ~~and~~/HEPA filter ~~train~~unit.

NOTE

The control room envelope/pressure boundary may be opened intermittently under administrative control.

APPLICABILITY: MODES 1, 2, 3, ~~and~~ 4, and during the movement of irradiated fuel assemblies.

ACTION:

MODES 1, 2, 3, and 4:

~~a With one heating and cooling system inoperable, restore the inoperable system 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.~~

~~b.~~a. With one pressurization ~~fan~~train inoperable, restore the inoperable ~~fan~~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.

~~c.~~b. With the filter ~~train~~unit inoperable, restore the filter ~~train~~unit to OPERABLE status within 24 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

c. With two CREVS pressurization trains inoperable due to an inoperable control room envelope/pressure boundary, restore the control room envelope/pressure boundary to OPERABLE status within 24 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

During the movement of irradiated fuel assemblies:

d. With one pressurization train inoperable, restore the inoperable pressurization train to OPERABLE status within 7 days, or initiate and maintain operation of the remaining OPERABLE train in the pressurization/cleanup alignment.

e. With any of the following: (1) both pressurization trains inoperable; (2) the filter unit inoperable; or (3) the control room envelope/pressure boundary inoperable, immediately suspend all operations involving the movement of irradiated fuel assemblies.

SURVEILLANCE REQUIREMENTS

4.7.5.1 The control room emergency ventilation system shall be demonstrated OPERABLE:

a. ~~At least once per 12 hours by verifying that the control room air temperature is less than or equal to 95°F~~ Deleted

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

c. 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. 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 N510-1975 while operating the ventilation system at a flow rate of 6000 cfm $\pm$ 10%.

2. Verifying that the HEPA filter banks remove $\geq$ 99% of the DOP when they are tested in-place in accordance with ANSI N510-1975 while operating the ventilation system at a flow rate of 6000 cfm $\pm$ 10%.

3. 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 shows a penetration of less than or equal to 1.0% for radioactive methyl iodide when the sample is tested in accordance with ASTM D3803-1989, 30°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.

4. Verifying a system flow rate of 6000 cfm $\pm$ 10% during system operation when tested in accordance with ANSI N510-1975.

SURVEILLANCE REQUIREMENTS (Continued)

e. At least once per 18 months by:

1. Verifying that the pressure drop across the combined HEPA filters and charcoal adsorber banks is less than 6 inches Water Gauge while operating the ventilation system at a flow rate of 6000 cfm plus or minus 10%.

2. a. Verifying that on a Safety Injection Signal from Unit 1, the system automatically operates in the pressurization/cleanup mode.

   b. Verifying that on a Safety Injection Signal from Unit 2, the system automatically operates in the pressurization/cleanup mode.

3. Verifying that the system maintains the control room envelope/pressure boundary at a positive pressure of greater than or equal to 1/16 inch W. G. relative to the outside atmosphere at a system flow rate of 6000 cfm plus or minus 10% with a makeup air flow rate of $\leq$ 1000 cfm.

f. After each complete or partial replacement of a HEPA filter bank by verifying that the HEPA filter banks remove greater than or equal to 99% of the DOP when they are tested in-place in accordance with ANSI N510-1975 while operating the ventilation system at a flow rate of 6000 cfm plus or minus 10%.

g. After each complete or partial replacement of a charcoal adsorber bank by verifying that the charcoal adsorbers remove greater than or equal to 99% of a halogenated hydrocarbon refrigerant test gas when they are tested in-place in accordance with ANSI N510-1975 while operating the ventilation system at a flow rate of 6000 cfm plus or minus 10%.

CONTROL ROOM AIR CONDITIONING SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.5.2 The Control room air conditioning system (CRACS) shall be OPERABLE with two heating and cooling systems.

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

ACTION:

With one heating and cooling system inoperable, restore the inoperable system 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

4.7.5.2 The control room air conditioning system shall be demonstrated OPERABLE at least once per 12 hours by verifying that the control room air temperature is less than or equal to 95°F.

3/4.7.5 CONTROL ROOM EMERGENCY VENTILATION AND CONTROL ROOM AIR CONDITIONING SYSTEMS

The OPERABILITY of the control room ~~EMERGENCY~~emergency ventilation system (CREVS) ensures that the control room will remain habitable for operations personnel during and following all credible accident conditions. In MODES 1-4, the CREVS provides radiological protection to allow operators to take the actions necessary to mitigate the consequences of a design basis accident. The CREVS is also required to be OPERABLE for operations involving the movement of irradiated fuel assemblies to provide protection from a fuel handling accident. The CREVS has two pressurization trains with each pressurization train consisting of a pressurization fan, normal intake air damper, and emergency intake air damper available to align and maintain flow to the control room. The charcoal adsorber/HEPA filter unit consists of the prefilter, charcoal adsorbers, HEPA filter, and filter housing. 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 less than or equal to 5 rem Total Effective Dose Equivalent (TEDE) ~~5 rem or less whole body, or its equivalent~~. This limitation is consistent with the requirements of General Design Criteria (GDC) 19 of Appendix "A", 10 CFR 50.

The control room envelope/pressure boundary consists of the control room, the control room HVAC equipment room, and the plant process computer room. The Limiting Condition for operation is modified by a Note allowing the control room envelope/pressure boundary to be opened intermittently under administrative controls. For entry and exit through doors to the control room, the administrative control of the opening is performed by the person(s) entering or exiting the area. For other openings, these controls consist of stationing a dedicated individual at the opening who is in continuous communication with the control room. This individual will have a method to rapidly close the opening when a need for control room envelope/pressure boundary isolation is indicated.

If the control room envelope/pressure boundary is inoperable in MODES 1, 2, 3, and 4, the CREVS trains cannot perform their intended functions. Actions must be taken to restore an OPERABLE control room envelope/pressure boundary within 24 hours. During the period that the control room envelope/pressure boundary is inoperable, appropriate compensatory measures (consistent with the intent of GDC 19) should be utilized to protect control room operators from potential hazards such as radioactive contamination, smoke, temperature and relative humidity, and physical security. Preplanned measures should be available to address these concerns for intentional and unintentional entry into the condition. The 24 hour completion time is reasonable based on the low probability of a design basis accident occurring during this time period, and the use of compensatory measures. The 24 hour completion time is a typically reasonable time to diagnose, plan and possibly repair, and test most problems with the control room envelope/pressure boundary.

The Unit 2 control room emergency ventilation system aligns and operates automatically on a Safety Injection (SI) Signal from either Unit 1 or Unit 2. Both pressurization fans start on the SI signal. Procedures direct realignment of the CREVS to single fan operation within two hours after receiving the SI signal. The automatic start from Unit 1 is normally only available when the Unit 1 ESF actuation system is active in modes 1 through 4 in Unit 1.

The Limiting Condition for Operation requires two independent control room heating and cooling systems. Each cooling system requires a functional air handling unit and associated cooling water supply. Cooling water is provided from a chilled water unit. At the design maximum essential service water (ESW) supply temperature of 86°F, a chilled water unit will maintain the control room temperature below 95°F. Cooling water may also be supplied directly by ESW when ESW supply temperature is ≤ 65°F.

3/4.7.5 CONTROL ROOM EMERGENCY VENTILATION AND CONTROL ROOM AIR CONDITIONING SYSTEMS (Continued)

The control room ~~ventilation~~air conditioning system (CRACS) normally maintains the control room at temperatures at which control room equipment is qualified for the life of the plant. Continued operation at the Technical Specification limit is permitted since the portion of time the temperature is likely to be elevated is small in comparison to the qualified life of the equipment at the limit.

Each control room cooling system can maintain control room temperature ≤ 102°F during accident conditions with the control room isolated. At control room temperatures of ≤ 102°F, vital control room equipment remains within its manufacturer's recommended operating temperature range.

ATTACHMENT 6A TO AEP:NRC:2075-01`

PROPOSED UNIT 1 TECHNICAL SPECIFICATIONS PAGES

REVISED PAGES

Index page VIII
Index page XII
3/4 7-19
3/4 7-20
3/4 7-22
3/4 7-22a
B 3/4 7-5
B 3/4 7-5a

SECTION PAGE

3/4 6 CONTAINMENT SYSTEMS (Continued)

3/4.7.5 CONTROL ROOM VENTILATION SYSTEM

CONTROL ROOM EMERGENCY VENTILATION SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.5.1 The control room emergency ventilation system (CREVS) shall be OPERABLE with:

a. Two independent pressurization trains, and

b. One charcoal adsorber/HEPA filter unit.

---NOTE---
The control room envelope/pressure boundary may be opened intermittently under administrative control.

APPLICABILITY: MODES 1, 2, 3, 4, and during the movement of irradiated fuel assemblies.

ACTION:

MODES 1, 2, 3, and 4:

a. With one pressurization 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.

b. With the filter unit inoperable, restore the filter unit to OPERABLE status within 24 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours

c. With two CREVS pressurization trains inoperable due to an inoperable control room envelope/pressure boundary, restore the control room envelope/pressure boundary to OPERABLE status within 24 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

During the movement of irradiated fuel assemblies:

d. With one pressurization train inoperable, restore the inoperable pressurization train to OPERABLE status within 7 days, or initiate and maintain operation of the remaining OPERABLE train in the pressurization/cleanup alignment.

e. With any of the following: (1) both pressurization trains inoperable; (2) the filter unit inoperable; or (3) the control room envelope/pressure boundary inoperable, immediately suspend all operations involving the movement of irradiated fuel assemblies.

SURVEILLANCE REQUIREMENTS

4.7.5.1 The control room emergency ventilation system shall be demonstrated OPERABLE:

a. Deleted

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

c. 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. Verifying that the charcoal adsorbers remove ≥ 99% of a halogenated hydrocarbon refrigerant test gas when they are tested in-place in accordance with ANSI N510-1975 while operating the ventilation system at a flow rate of 6000 cfm ± 10%.

2. Verifying that the HEPA filter banks remove ≥ 99% of the DOP when they are tested in-place in accordance with ANSI N510-1975 while operating the ventilation system at a flow rate of 6000 cfm ± 10%.

3. 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 shows a penetration of less than or equal to 1.0% radioactive methyl iodide when the sample is tested in accordance with ASTM D3803-1989, 30°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.

4. Verifying a system flow rate of 6000 cfm ± 10% during system operation when tested in accordance with ANSI N510-1975.

SURVEILLANCE REQUIREMENTS (Continued)

e. At least once per 18 months by:

   1. Verifying that the pressure drop across the combined HEPA filters and charcoal adsorber banks is less than 6 inches Water Gauge while operating the ventilation system at a flow rate of 6000 cfm plus or minus 10%.

   2. a. Verifying that on a Safety Injection Signal from Unit 1, the system automatically operates in the pressurization/cleanup mode.

      b. Verifying that on a Safety Injection Signal from Unit 2, the system automatically operates in the pressurization/cleanup mode.

   3. Verifying that the system maintains the control room envelope/pressure boundary at a positive pressure of greater than or equal to 1/16 inch W. G. relative to the outside atmosphere at a system flow rate of 6000 cfm plus or minus 10%, with a makeup air flow rate of $\leq$ 1000 cfm.

f. After each complete or partial replacement of a HEPA filter bank by verifying that the HEPA filter banks remove greater than or equal to 99% of the DOP when they are tested in-place in accordance with ANSI N510-1975 while operating the ventilation system at a flow rate of 6000 cfm plus or minus 10%.

g. After each complete or partial replacement of a charcoal adsorber bank by verifying that the charcoal adsorbers remove greater than or equal to 99% of a halogenated hydrocarbon refrigerant test gas when they are tested in-place in accordance with ANSI N510-1975 while operating the ventilation system at a flow rate of 6000 cfm plus or minus 10%.

CONTROL ROOM AIR CONDITIONING SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.5.2 The control room air conditioning system (CRACS) shall be OPERABLE with two heating and cooling systems.

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

ACTION:

With one heating and cooling system inoperable, restore the inoperable system 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

4.7.5.2 The control room air conditioning system shall be demonstrated OPERABLE at least once per 12 hours by verifying that the control room air temperature is less than or equal to 95°F.

3/4.7.5 CONTROL ROOM EMERGENCY VENTILATION SYSTEM

3/4.7.5 CONTROL ROOM EMERGENCY VENTILATION AND CONTROL ROOM AIR CONDITIONING SYSTEMS

The OPERABILITY of the control room emergency ventilation system (CREVS) ensures that the control room will remain habitable for operations personnel during and following all credible accident conditions. In MODES 1-4, the CREVS provides radiological protection to allow operators to take the actions necessary to mitigate the consequences of a design basis accident. The CREVS is also required to be OPERABLE for operations involving the movement of irradiated fuel assemblies to provide protection from a fuel handling accident. The CREVS operation is not credited during the rupture of a waste gas tank or toxic gas release. The CREVS has two pressurization trains with each pressurization train consisting of a pressurization fan, normal intake air damper, and emergency intake air damper available to align and maintain flow to the control room. The charcoal adsorber/HEPA filter unit consists of the prefilter, charcoal adsorbers, HEPA filter, and filter housing. 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 less than or equal to 5 rem Total Effective Dose Equivalent, TEDE. This limitation is consistent with the requirements of General Design Criteria (GDC) 19 of Appendix "A", 10 CFR 50.

The control room envelope/pressure boundary consists of the control room, the control room HVAC equipment room, and the plant process computer room. The Limiting Condition for Operation is modified by a Note allowing the control room envelope/pressure boundary to be opened intermittently under administrative controls. For entry and exit through doors to the control room, the administrative control of the opening is performed by the person(s) entering or exiting the area. For other openings, these controls consist of stationing a dedicated individual at the opening who is in continuous communication with the control room. This individual will have a method to rapidly close the opening when a need for control room envelope/pressure boundary isolation is indicated.

If the control room envelope/pressure boundary is inoperable in MODES 1, 2, 3, and 4, the CREVS trains cannot perform their intended functions. Actions must be taken to restore an OPERABLE control room envelope/pressure boundary within 24 hours. During the period that the control room envelope/pressure boundary is inoperable, appropriate compensatory measures (consistent with the intent of GDC 19) should be utilized to protect control room operators from potential hazards such as radioactive contamination, smoke, temperature and relative humidity, and physical security. Preplanned measures should be available to address these concerns for intentional and unintentional entry into the condition. The 24 hour completion time is reasonable based on the low probability of a design basis accident occurring during this time period, and the use of compensatory measures. The 24 hour completion time is a typically reasonable time to diagnose, plan and possibly repair, and test most problems with the control room envelope/pressure boundary.

The Unit 1 control room emergency ventilation system aligns and operates automatically on a Safety Injection (SI) Signal from either Unit 1 or Unit 2. Both pressurization fans start on the SI signal. Procedures direct realignment of the CREVS to single fan operation within two hours after receiving the SI signal. The automatic start from Unit 2 is normally only available when the Unit 2 ESF actuation system is active in modes 1 through 4 in Unit 2.

The Limiting Condition for Operation requires two independent control room heating cooling systems. Each cooling system requires a functional air handling unit and associated cooling water supply. Cooling water is provided from a chilled water unit. At the design maximum essential service water (ESW) supply temperature of 86°F, a chilled water unit will maintain the control room temperature below 95°F. Cooling water may also be supplied directly by ESW when ESW supply temperature is $\leq$ 65°F.

The control room air conditioning system (CRACS) normally maintains the control room at temperatures at which control room equipment is qualified for the life of the plant. Continued operation at the Technical Specification limit is permitted since the portion of time the temperature is likely to be elevated is small in comparison to the qualified life of the equipment at the limit.

Each control room cooling system can maintain control room temperature ≤ 102°F during accident conditions with the control room isolated. At control room temperatures of ≤ 102°F, vital control room equipment remains within its manufacturer's recommended operating temperature range.

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

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.

ATTACHMENT 6B TO AEP:NRC:2075-01

PROPOSED UNIT 2 TECHNICAL SPECIFICATIONS PAGES

REVISED PAGES

Index page VIII
3/4 7-14
3/4 7-15
3/4 7-16a
3/4 7-16b
B 3/4 7-4a
B 3/4 7-4b

3/4.7.5 CONTROL ROOM VENTILATION SYSTEM

CONTROL ROOM EMERGENCY VENTILATION SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.5.1 The control room emergency ventilation system (CREVS) shall be OPERABLE with:

a. Two independent pressurization trains, and

b. One charcoal adsorber/HEPA filter unit.

---NOTE---
The control room envelope/pressure boundary may be opened intermittently under administrative control.

APPLICABILITY: MODES 1, 2, 3, 4, and during the movement of irradiated fuel assemblies.

ACTION:

MODES 1, 2, 3, and 4:

a. With one pressurization 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.

b. With the filter unit inoperable, restore the filter unit to OPERABLE status within 24 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

c. With two CREVS pressurization trains inoperable due to an inoperable control room envelope/pressure boundary, restore the control room envelope/pressure boundary to OPERABLE status within 24 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

During the movement of irradiated fuel assemblies:

d. With one pressurization train inoperable, restore the inoperable pressurization train to OPERABLE status within 7 days, or initiate and maintain operation of the remaining OPERABLE train in the pressurization/cleanup alignment.

e. With any of the following: (1) both pressurization trains inoperable; (2) the filter unit inoperable; or (3) the control room envelope/pressure boundary inoperable, immediately suspend all operations involving the movement of irradiated fuel assemblies.

SURVEILLANCE REQUIREMENTS

4.7.5.1 The control room emergency ventilation system shall be demonstrated OPERABLE:

a. Deleted

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

c. 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. 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 N510-1975 while operating the ventilation system at a flow rate of 6000 cfm $\pm$ 10%.

2. Verifying that the HEPA filter banks remove $\geq$ 99% of the DOP when they are tested in-place in accordance with ANSI N510-1975 while operating the ventilation system at a flow rate of 6000 cfm $\pm$ 10%.

3. 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 shows a penetration of less than or equal to 1.0% for radioactive methyl iodide when the sample is tested in accordance with ASTM D3803-1989, 30°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.

4. Verifying a system flow rate of 6000 cfm $\pm$ 10% during system operation when tested in accordance with ANSI N510-1975.

SURVEILLANCE REQUIREMENTS (Continued)

e. At least once per 18 months by:

1. Verifying that the pressure drop across the combined HEPA filters and charcoal adsorber banks is less than 6 inches Water Gauge while operating the ventilation system at a flow rate of 6000 cfm plus or minus 10%.

2. a. Verifying that on a Safety Injection Signal from Unit 1, the system automatically operates in the pressurization/cleanup mode.

   b. Verifying that on a Safety Injection Signal from Unit 2, the system automatically operates in the pressurization/cleanup mode.

3. Verifying that the system maintains the control room envelope/pressure boundary at a positive pressure of greater than or equal to 1/16 inch W. G. relative to the outside atmosphere at a system flow rate of 6000 cfm plus or minus 10% with a makeup air flow rate of $\leq$ 1000 cfm.

f. After each complete or partial replacement of a HEPA filter bank by verifying that the HEPA filter banks remove greater than or equal to 99% of the DOP when they are tested in-place in accordance with ANSI N510-1975 while operating the ventilation system at a flow rate of 6000 cfm plus or minus 10%.

g. After each complete or partial replacement of a charcoal adsorber bank by verifying that the charcoal adsorbers remove greater than or equal to 99% of a halogenated hydrocarbon refrigerant test gas when they are tested in-place in accordance with ANSI N510-1975 while operating the ventilation system at a flow rate of 6000 cfm plus or minus 10%.

CONTROL ROOM AIR CONDITIONING SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.5.2 The Control room air conditioning system (CRACS) shall be OPERABLE with two heating and cooling systems.

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

ACTION:

With one heating and cooling system inoperable, restore the inoperable system 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

4.7.5.2 The control room air conditioning system shall be demonstrated OPERABLE at least once per 12 hours by verifying that the control room air temperature is less than or equal to 95°F.

3/4.7.5 CONTROL ROOM EMERGENCY VENTILATION AND CONTROL ROOM AIR CONDITIONING SYSTEMS

The OPERABILITY of the control room emergency ventilation system (CREVS) ensures that the control room will remain habitable for operations personnel during and following all credible accident conditions. In MODES 1-4, the CREVS provides radiological protection to allow operators to take the actions necessary to mitigate the consequences of a design basis accident. The CREVS is also required to be OPERABLE for operations involving the movement of irradiated fuel assemblies to provide protection from a fuel handling accident. The CREVS has two pressurization trains with each pressurization train consisting of a pressurization fan, normal intake air damper, and emergency intake air damper available to align and maintain flow to the control room. The charcoal adsorber/HEPA filter unit consists of the prefilter, charcoal adsorbers, HEPA filter, and filter housing. 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 less than or equal to 5 rem Total Effective Dose Equivalent, TEDE. This limitation is consistent with the requirements of General Design Criteria (GDC) 19 of Appendix "A", 10 CFR 50.

The control room envelope/pressure boundary consists of the control room, the control room HVAC equipment room, and the plant process computer room. The Limiting Condition for operation is modified by a Note allowing the control room envelope/pressure boundary to be opened intermittently under administrative controls. For entry and exit through doors to the control room, the administrative control of the opening is performed by the person(s) entering or exiting the area. For other openings, these controls consist of stationing a dedicated individual at the opening who is in continuous communication with the control room. This individual will have a method to rapidly close the opening when a need for control room envelope/pressure boundary isolation is indicated.

If the control room envelope/pressure boundary is inoperable in MODES 1, 2, 3, and 4, the CREVS trains cannot perform their intended functions. Actions must be taken to restore an OPERABLE control room envelope/pressure boundary within 24 hours. During the period that the control room envelope/pressure boundary is inoperable, appropriate compensatory measures (consistent with the intent of GDC 19) should be utilized to protect control room operators from potential hazards such as radioactive contamination, smoke, temperature and relative humidity, and physical security. Preplanned measures should be available to address these concerns for intentional and unintentional entry into the condition. The 24 hour completion time is reasonable based on the low probability of a design basis accident occurring during this time period, and the use of compensatory measures. The 24 hour completion time is a typically reasonable time to diagnose, plan and possibly repair, and test most problems with the control room envelope/pressure boundary.

The Unit 2 control room emergency ventilation system aligns and operates automatically on a Safety Injection (SI) Signal from either Unit 1 or Unit 2. Both pressurization fans start on the SI signal. Procedures direct realignment of the CREVS to single fan operation within two hours after receiving the SI signal. The automatic start from Unit 1 is normally only available when the Unit 1 ESF actuation system is active in modes 1 through 4 in Unit 1.

The Limiting Condition for Operation requires two independent control room heating and cooling systems. Each cooling system requires a functional air handling unit and associated cooling water supply. Cooling water is provided from a chilled water unit. At the design maximum essential service water (ESW) supply temperature of 86°F, a chilled water unit will maintain the control room temperature below 95°F. Cooling water may also be supplied directly by ESW when ESW supply temperature is $\leq$ 65°F.

3/4.7.5 CONTROL ROOM EMERGENCY VENTILATION AND CONTROL ROOM AIR CONDITIONING SYSTEMS (Continued)

The control room air conditioning system (CRACS) normally maintains the control room at temperatures at which control room equipment is qualified for the life of the plant. Continued operation at the Technical Specification limit is permitted since the portion of time the temperature is likely to be elevated is small in comparison to the qualified life of the equipment at the limit.

Each control room cooling system can maintain control room temperature ≤ 102°F during accident conditions with the control room isolated. At control room temperatures of ≤ 102°F, vital control room equipment remains within its manufacturer's recommended operating temperature range.

ATTACHMENT 7 TO AEP:NRC:2075-01

AFFIDAVIT SETTING FORTH THE BASIS ON WHICH
INFORMATION CONTAINED IN ATTACHMENT 3
MAY BE WITHHELD FROM PUBLIC DISCLOSURE

Westinghouse Electric Company LLC

Box 355
Pittsburgh Pennsylvania 15230-0355

September 18, 2002

CAW-02-1553

Document Control Desk
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Attention: Mr. Samuel J. Collins

APPLICATION FOR WITHHOLDING PROPRIETARY INFORMATION FROM PUBLIC DISCLOSURE

Subject: LTR-ESI-02-165, "Response to NRC RAIs on the Locked Rotor Rods-in-DNB Analysis for D. C. Cook Units 1 and 2", September 2002.

Dear Mr. Collins:

The proprietary information for which withholding is being requested in the above-referenced report is further identified in Affidavit CAW-02-1553 signed by the owner of the proprietary information, Westinghouse Electric Company LLC. The affidavit, which accompanies this letter, sets forth the basis on which the information may be withheld from public disclosure by the Commission and addresses with specificity the considerations listed in paragraph (b)(4) of 10 CFR Section 2.790 of the Commission's regulations.

Accordingly, this letter authorizes the utilization of the accompanying Affidavit by American Electric Power Company.

Correspondence with respect to the proprietary aspects of the application for withholding or the Westinghouse affidavit should reference this letter, CAW-02-1553 and should be addressed to the undersigned.

Very truly yours,

H. A. Sepp, Manager
Regulatory and Licensing Engineering

Enclosures

cc: M. Scott, NRR/OWFN/DRPW/PDIV2 (Rockville, MD) 1L

CAW-02-1553

AFFIDAVIT

COMMONWEALTH OF PENNSYLVANIA:

ss

COUNTY OF ALLEGHENY:

Before me, the undersigned authority, personally appeared H. A. Sepp, who, being by me duly sworn according to law, deposes and says that he is authorized to execute this Affidavit on behalf of Westinghouse Electric Company LLC ("Westinghouse"), and that the averments of fact set forth in this Affidavit are true and correct to the best of his knowledge, information, and belief:

PATRICIA L. CROWN COMMONWEALTH OF PENNSYLVANIA NOTARY PUBLIC

H. A. Sepp, Manager

Regulatory and Licensing Engineering

Sworn to and subscribed before me this 18th day of September, 2002

Patricia L Crown

Notary Public

Notarial Seal
Patricia L. Crown, Notary Public
Monroeville Boro, Allegheny County
My Commission Expires Feb. 7, 2005
Member, Pennsylvania Association of Notaries

/cm/02535 doc

(1) I am Manager, Regulatory and Licensing Engineering, in Nuclear Services, Westinghouse Electric Company LLC ("Westinghouse"), and as such, I have been specifically delegated the function of reviewing the proprietary information sought to be withheld from public disclosure in connection with nuclear power plant licensing and rule making proceedings, and am authorized to apply for its withholding on behalf of the Westinghouse Electric Company LLC.

(2) I am making this Affidavit in conformance with the provisions of 10CFR Section 2.790 of the Commission's regulations and in conjunction with the Westinghouse application for withholding accompanying this Affidavit.

(3) I have personal knowledge of the criteria and procedures utilized by the Westinghouse Electric Company LLC in designating information as a trade secret, privileged or as confidential commercial or financial information.

(4) Pursuant to the provisions of paragraph (b)(4) of Section 2.790 of the Commission's regulations, the following is furnished for consideration by the Commission in determining whether the information sought to be withheld from public disclosure should be withheld.

(i) The information sought to be withheld from public disclosure is owned and has been held in confidence by Westinghouse.

(ii) The information is of a type customarily held in confidence by Westinghouse and not customarily disclosed to the public. Westinghouse has a rational basis for determining the types of information customarily held in confidence by it and, in that connection, utilizes a system to determine when and whether to hold certain types of information in confidence. The application of that system and the substance of that system constitutes Westinghouse policy and provides the rational basis required.

Under that system, information is held in confidence if it falls in one or more of several types, the release of which might result in the loss of an existing or potential competitive advantage, as follows:

(a) The information reveals the distinguishing aspects of a process (or component, structure, tool, method, etc.) where prevention of its use by any of Westinghouse's competitors without license from Westinghouse constitutes a competitive economic advantage over other companies.

(b) It consists of supporting data, including test data, relative to a process (or component, structure, tool, method, etc.), the application of which data secures a competitive economic advantage, e.g., by optimization or improved marketability.

(c) Its use by a competitor would reduce his expenditure of resources or improve his competitive position in the design, manufacture, shipment, installation, assurance of quality, or licensing a similar product.

(d) It reveals cost or price information, production capacities, budget levels, or commercial strategies of Westinghouse, its customers or suppliers.

(e) It reveals aspects of past, present, or future Westinghouse or customer funded development plans and programs of potential commercial value to Westinghouse.

(f) It contains patentable ideas, for which patent protection may be desirable.

There are sound policy reasons behind the Westinghouse system which include the following:

(a) The use of such information by Westinghouse gives Westinghouse a competitive advantage over its competitors. It is, therefore, withheld from disclosure to protect the Westinghouse competitive position.

(b) It is information which is marketable in many ways. The extent to which such information is available to competitors diminishes the Westinghouse ability to sell products and services involving the use of the information.

(c) Use by our competitor would put Westinghouse at a competitive disadvantage by reducing his expenditure of resources at our expense.

(d) Each component of proprietary information pertinent to a particular competitive advantage is potentially as valuable as the total competitive advantage. If competitors acquire components of proprietary information, any one component may be the key to the entire puzzle, thereby depriving Westinghouse of a competitive advantage.

(e) Unrestricted disclosure would jeopardize the position of prominence of Westinghouse in the world market, and thereby give a market advantage to the competition of those countries.

(f) The Westinghouse capacity to invest corporate assets in research and development depends upon the success in obtaining and maintaining a competitive advantage.

(iii) The information is being transmitted to the Commission in confidence and, under the provisions of 10CFR Section 2.790, it is to be received in confidence by the Commission.

(iv) The information sought to be protected is not available in public sources or available information has not been previously employed in the same original manner or method to the best of our knowledge and belief.

(v) The proprietary information sought to be withheld in this submittal is that which is appropriately marked in letter LTR-ESI-02-165 (Proprietary), September 2002 for D. C. Cook Units 1 and 2 being transmitted by the American Electric Company letter and Application for Withholding Proprietary Information from Public Disclosure, to the Document Control Desk, Attention Mr. Samuel J. Collins. The proprietary information as submitted for use by American Electric Company for D. C. Cook Units 1 and 2 is expected to be applicable in other licensee submittals in response to certain NRC requests for information to support the locked rotor rods-in-DNB analysis for D. C. Cook Unit 1 or 2.

This information is part of that which will enable Westinghouse to:

(a) Justify no rods-in-DNB for the locked rotor analysis.

(b) Assist the customer to respond to NRC requests for information.

Further this information has substantial commercial value as follows:

(a) Westinghouse plans to sell the use of similar information to its customers for purposes of meeting NRC requirements for licensing documentation.

(b) Westinghouse can sell support and justification for no rods-in-DNB for the locked rotor analysis.

Public disclosure of this proprietary information is likely to cause substantial harm to the competitive position of Westinghouse because it would enhance the ability of competitors to provide similar support documentation and licensing defense services for commercial power reactors without commensurate expenses. Also, public disclosure of the information would enable others to use the information to meet NRC requirements for licensing documentation without purchasing the right to use the information.

The development of the technology described in part by the information is the result of applying the results of many years of experience in an intensive Westinghouse effort and the expenditure of a considerable sum of money.

In order for competitors of Westinghouse to duplicate this information, similar technical programs would have to be performed and a significant manpower effort, having the requisite talent and experience, would have to be expended for developing testing and analytical methods and performing tests.

Further the deponent sayeth not.

PROPRIETARY INFORMATION NOTICE

Transmitted herewith are proprietary and/or non-proprietary versions of documents furnished to the NRC in connection with requests for generic and/or plant-specific review and approval.

In order to conform to the requirements of 10 CFR 2.790 of the Commission's regulations concerning the protection of proprietary information so submitted to the NRC, the information which is proprietary in the proprietary versions is contained within brackets, and where the proprietary information has been deleted in the non-proprietary versions, only the brackets remain (the information that was contained within the brackets in the proprietary versions having been deleted). The justification for claiming the information so designated as proprietary is indicated in both versions by means of lower case letters (a) through (f) contained within parentheses located as a superscript immediately following the brackets enclosing each item of information being identified as proprietary or in the margin opposite such information. These lower case letters refer to the types of information Westinghouse customarily holds in confidence identified in Sections (4)(ii)(a) through (4)(ii)(f) of the affidavit accompanying this transmittal pursuant to 10 CFR 2.790(b)(1).

COPYRIGHT NOTICE

ATTACHMENT 8 TO AEP:NRC:2075-01

Supporting Tables for Attachment 2

Information from Westinghouse Letter LTR-ESI-02-165, dated September, 2002

WESTINGHOUSE PROPRIETARY CLASS 3

(a, b, c)

Table 1 - Unit 1 Fuel Cycle 18 DNBR vs. Time

Time - Seconds	DNBR	
	Typical Cell	Thimble Cell

* Time at which minimum DNBR occurs.

Table 2 - Unit 2 Fuel Cycle 13 DNBR vs. Time

Time - Seconds	DNBR	
	Typical Cell	Thimble Cell

* Time at which minimum DNBR occurs.

WESTINGHOUSE PROPRIETARY CLASS 3

(a, b, c)

Table 3 - Unit 1 Cycle 18 DNBR Margin Allocations

	Typical Cell	Thimble Cell
DNBR Design Limit (DL)		
DNBR Safety Analysis Limit (SAL)		
Margin available= 1 – DNBR DL/ DNBR SAL, %		
Margin allocated to locked rotor analysis, %		
Margin allocated to rod bow penalty, %		
Margin allocated to one degree temperature bias from plant instrumentation, %		
Margin allocated to increase in bypass flow due to thimble plug removal, %		
Total margin allocated, %		
Net remaining margin available, %		

Table 4 - Unit 2 Cycle 13 DNBR Margin Allocations

	Typical Cell	Thimble Cell
DNBR DL		
DNBR SAL		
DNBR SAL (Reduced due to rotated grids)		
Margin available = 1 – DNBR DL/ DNBR SAL (Reduced), %		
Margin allocated to locked rotor analysis, %		
Margin allocated to rod bow penalty (No rod bow penalty with IFMs), %		
Margin allocated to THINC IV penalty due to use of the old THINC IV model, %		
Margin allocated to pressure drop penalty (difference between pressurizer and core), %		
Margin allocated to cold leg streaming – equivalent to 1 degree bias, %		
Margin allocated to 0.2% flow shortfall, %		
Margin allocated to increase in bypass flow due to thimble plug removal, %		
Total margin allocated, %		
Net remaining margin available, %		

ATTACHMENT 9 TO AEP:NRC:2075-01

COMMITMENTS

The following table identifies those actions committed to by Indiana Michigan Power Company (I&M) in this document. Any other actions discussed in this submittal represent intended or planned actions by I&M. They are described to the Nuclear Regulatory Commission (NRC) for the NRC's information and are not regulatory commitments.

Commitment	Date
I&M will sequence implementation of the control room habitability amendment such that it precedes or occurs simultaneously with the measurement uncertainty recapture power uprate amendment proposed for Unit 1.	Consistent with the NRC approval dates for the amendments.
The bounding transient analysis, using computer programs such as LOFTRAN and FACTRAN, will be checked for each fuel cycle to ensure that the locked rotor DNB analysis remains bounding.	Prior to the start of each fuel cycle.