

December 12, 2000

Mr. R. P. Powers  
Senior Vice President  
Nuclear Generation Group  
American Electric Power Company  
500 Circle Drive  
Buchanan, MI 49107-1395

SUBJECT: CLOSURE OF NRC INSPECTION MANUAL CHAPTER 0350 RESTART  
ACTION MATRIX FOR RESTART OF THE DONALD C. COOK (D. C. COOK)  
NUCLEAR PLANT - UNIT 1

Dear Mr. Powers:

This letter documents the completion of NRC actions necessary prior to restart of D. C. Cook - Unit 1 and the NRC review of specific corrective actions that your staff committed to complete prior to restarting Unit 1. Previously, the NRC completed its inspection and assessment activities pertaining to Unit 2 restart, which was described in a letter to you dated June 13, 2000. Unit 2 successfully started up and attained full power in early July 2000. The NRC began the transition towards implementation of the revised reactor oversight process and the revised assessment process at D. C. Cook upon restart of Unit 2.

In early August 2000, the NRC Restart Oversight Panel approved a revised charter implementing the revised Inspection Manual Chapter 0350. The Panel approved a Restart Action Matrix for Unit 1, which included verifying operability of safety systems and containment, assessing operational readiness of your staff, and verifying that licensing issues necessary for restart would be addressed.

The NRC staff has completed its inspection and assessment activities for Unit 1 and has evaluated the effectiveness of your staff's actions to address the issues that resulted in the plant shutdown. The NRC Restart Oversight Panel's assessment of your corrective actions was based on resident and region-based inspector observations and a number of special inspection efforts, including the Biennial Permanent Modifications and Annual 10 CFR 50.59 Inspection, and a Unit 1 Restart Readiness Assessment Team Inspection.

In addition, there have been frequent public meetings between your staff and the NRC Restart Oversight Panel, and frequent internal meetings of the NRC Restart Oversight Panel. The results of these meetings were documented in public meeting summaries and internal NRC Restart Oversight Panel meeting minutes, all of which have been or will be placed in the NRC Public Electronic Reading Room.

The NRC has concluded that your staff's performance improvement initiatives have been sufficiently effective to support restart of D. C. Cook Unit 1. After consultation with the Executive Director for Operations and the Director, Office of Nuclear Reactor Regulation, I have determined that we have no further concerns regarding restart of D. C. Cook Unit 1.

R. Powers

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Therefore, the Inspection Manual Chapter 0350 Restart Action Matrix for D. C. Cook Unit 1 is closed for all items necessary for restart. The Restart Action Matrix, which documented the actions initiated by the NRC per the Inspection Manual Chapter 0350 process, is enclosed.

The Inspection Manual Chapter 0350 Restart Oversight Panel will continue to provide oversight of D. C. Cook through restart of Unit 1 and until sufficient operating experience has accumulated such that augmented NRC oversight through a Restart Oversight Panel is no longer necessary and NRC oversight can occur under the routine inspection program.

While the specific Restart Action Matrix issues have been adequately resolved, you remain responsible for ensuring that any other issues which may impact plant restart and safe operation are promptly identified and properly addressed. In addition, continued focus must be applied to correcting the remaining deficiencies in structures, systems, and components that were deferred until after restart. Region III will continue to monitor D. C. Cook Unit 1 startup activities through resident and region-based inspection activities, including a period of continuous observation during restart of the plant.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/NRC/ADAMS/index.html> (the Public Electronic Reading Room).

Sincerely,  
/RA/

J. E. Dyer  
Regional Administrator

Docket Nos. 50-315; 50-316  
License Nos. DPR-58; DPR-74

Enclosure: Restart Action Matrix

cc w/encl: A. C. Bakken III, Site Vice President  
J. Pollock, Plant Manager  
M. Rencheck, Vice President, Nuclear Engineering  
R. Whale, Michigan Public Service Commission  
Michigan Department of Environmental Quality  
Emergency Management Division  
MI Department of State Police  
D. Lochbaum, Union of Concerned Scientists

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**\*See Previous Concurrences**

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|--------|--------------|----------|----------|----------|----------|
| NAME   | *Passehl/trn | *Veigel  | *Bajwa   | *Grant   | Dyer     |
| DATE   | 12/08/00     | 12/08/00 | 12/08/00 | 12/08/00 | 12/12/00 |

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Enclosure

**D. C. Cook Restart Action Matrix**  
**Unit 1**

December 8, 2000

| Item No.   | Description   | NRC Lead                                    | Inspection Procedure                       | References   | Documentation                     | ECD      | Status                             |
|--|---|---|--|--|-----------------------------------|----------|------------------------------------|
| <b>Inspection Report References</b>  |   |   |  |  |                                   |          |                                    |
| <p>Notes:</p> <p>ECD Estimated Completion Date (Present to IMC 0350 Panel)<br/>           NRR NRC Office of Nuclear Reactor Regulation<br/>           RRATI Restart Readiness Assessment Team Inspection<br/>           SER Safety Evaluation Report<br/>           SRI Senior Resident Inspector<br/>           UCS Union of Concerned Scientists</p> <p>IR 2000021 - Biennial Permanent Mods &amp; Annual 50.59 Insp 11/06/00 to 11/17/00<br/>           IR 2000022 - Resident Inspector Report 10/11/00 to 11/11/00<br/>           IR 2000023 - Unit 1 Restart Readiness Assessment Team Inspection 11/27/00 to 12/01/00<br/>           IR 2000025 - Resident Inspector Report 11/12/00 to 12/31/00</p> |   |   |  |  |                                   |          |                                    |
| <b>Restart Issues</b>  |   |   |  |  |                                   |          |                                    |
| <b>1. Ice Condenser Operability</b>  |   |   |  |  |                                   |          |                                    |
| 1.1  | Unit 1 ice condenser restoration - Observe ice condenser ice load & surveillance testing  | SRI   | IP 71111.22 (Surveillance Testing)         | LER 315/2000-001-00, Stress Loads for the Ice Condenser Basket Assembly Greater Than Allowed by Safety Analysis Report<br><br>IR 99026 | IR 2000022 (10/11/00 to 11/11/00) | 11/06/00 | Closed<br><br>IR 2000022 (Pending) |
| <b>2. Containment Operability</b>  |   |   |  |  |                                   |          |                                    |
| 2.1  | Evaluate modifications to the Unit 1 recirculation sump to address previous deficiencies with inadequate inventory, dead ended compartments and sump venting. | Biennial Permanent Mods & Annual 50.59 Insp | 71111.17 (Permanent Plant Modifications)   | IR 99029   | IR 2000021 (11/06/00 to 11/17/00) | 11/21/00 | Closed<br><br>IR 2000021 (Pending) |
| 2.2  | Confirm removal of fibrous material in the Unit 1 Containment that could clog the recirculation sump.   | SRI   | 71111.20 (Refueling and Outage Activities) | IR 2000016   | IR 2000023 (11/27/00 to 12/01/00) | 11/21/00 | Closed<br><br>IR 2000023 (Pending) |

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| Item No.  | Description  | NRC Lead                                     | Inspection Procedure                          | References   | Documentation  | ECD  | Status                                |
|---|--|--|---|--|--|--|---------------------------------------|
| 2.3   | Evaluate Licensee Corrective Actions for Containment Internal Structural Walls   | SRI<br>NRR                                   | 71111.20<br>(Refueling and Outage Activities) | LER 316/2000-003-00, Containment Internal Concrete Structures Do Not Meet Design Load Margins<br><br>0350 Mtg. Minutes dtd. 06/12/00                 | IR 2000023<br>(11/27/00 to 12/01/00)<br><br>Panel Internal Meeting Minutes | 11/21/00<br>(SRI)<br><br>11/28/00<br>(NRR) | Closed<br><br>IR 2000023<br>(Pending) |
| <b>3. Valve Operability</b>                         |  |  |   |  |  |  |                                       |
| 3.1   | Evaluate modifications completed to resolve operability of the Unit 1 MOVs   | Biennial Permanent Mods & Annual 50.59 Insp  | 71111.17<br>(Permanent Plant Modifications)   | LER 315/1999-031-00, Interim - Valves Required to Operate Post-Accident Could Fail to Open Due to Pressure Locking/Thermal Binding<br><br>IR 2000002 | IR 2000021<br>(11/06/00 to 11/17/00)                                       | 11/28/00                                   | Closed<br><br>IR 2000021<br>(Pending) |
| 3.2   | Evaluate Modifications Completed to Address Unit 1 Compressed Air System Operability   | Biennial Permanent Mods & Annual 50.59 Insp  | 71111.17<br>(Permanent Plant Modifications)   | IR 99029   | IR 2000021<br>(11/06/00 to 11/17/00)                                       | 11/21/00                                   | Closed<br><br>IR 2000021<br>(Pending) |
| <b>4.. Auxiliary Feedwater Operability</b>          |  |  |   |  |  |  |                                       |
| 4.1   | Evaluate modifications completed to resolve operability of the AFW system, associated with postulated high energy line breaks. | Biennial Permanent Mods & Annual 50.59 Insp) | 71111.17<br>(Permanent Plant Modifications)   | LER 315/1999-026-00, High Energy Line Break Programmatic Inadequacies Result in Unanalyzed Conditions<br><br>IR 2000007                              | IR 2000021<br>(11/06/00 to 11/17/00)                                       | 11/21/00                                   | Closed<br><br>IR 2000021<br>(Pending) |
| <b>5. Electrical System Operability</b>             |  |  |   |  |  |  |                                       |
| 5.1   | Evaluate modifications completed to resolve the Unit 1 electrical system fuse and breaker coordination.                        | Biennial Permanent Mods & Annual 50.59 Insp  | 71111.17<br>(Permanent Plant Modifications)   | IR 2000007   | IR 2000021<br>(11/06/00 to 11/17/00)                                       | 11/21/00                                   | Closed<br><br>IR 2000021<br>(Pending) |
| <b>6. Emergency Core Cooling System Operability</b> |  |  |   |  |  |  |                                       |
| 6.1   | Evaluate setpoint changes for the Unit 1 RWST Level to account for measurement error and instrument uncertainties              | Biennial Permanent Mods & Annual 50.59 Insp  | 71111.17<br>(Permanent Plant Modifications)   | IR 2000007   | IR 2000021<br>(11/06/00 to 11/17/00)                                       | 11/21/00                                   | Closed<br><br>IR 2000021<br>(Pending) |

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| Item No.  | Description   | NRC Lead                                    | Inspection Procedure                                    | References | Documentation                          | ECD      | Status                          |
|---|---|---|---|------------|--|----------|---------------------------------|
| <b>7. Licensing Basis Control Program</b>                           |   |   |   |            |  |          |                                 |
| 7.1   | Evaluate licensing basis program controls for safety reviews in accordance with 10 CFR 50.59.   | Biennial Permanent Mods & Annual 50.59 Insp | 71111.02 (Evaluation of Changes, Tests, or Experiments) | IR 99023   | IR 2000021 (11/06/00 to 11/17/00)      | 11/21/00 | Closed<br>IR 2000021 (Pending)  |
| <b>8. Licensing Issues, Amendments, Unreviewed Safety Questions</b> |   |   |   |            |  |          |                                 |
| 8.1   | Reconstitution of Assumptions and Methodology for Transient Mass Distribution (TMD)<br>Sub-compartment Analysis and Containment Sub-compartment Structural Issues | NRR   | N/A   |            | 11/28/00<br>NRR Evaluation Issued      | 11/28/00 | Closed<br>0350 Mtg.<br>11/28/00 |
| 8.2   | Tornado Missile Licensing Bases Change -<br>Use of approved PRA Techniques  | NRR   | N/A   |            | License Amendment 247 (U1)<br>228 (U2) | 11/21/00 | Closed<br>0350 Mtg.<br>11/21/00 |
| 8.3   | Pressurizer Heater Surveillance Change<br>TS 4.4.2  | NRR   | N/A   |            | License Amendment 246 (U1)<br>227 (U2) | 10/20/00 | Closed<br>0350 Mtg.<br>10/24/00 |
| 8.4   | NRC Review of Leak Before Break Methodology for the Pressurizer Surge Line  | NRR   | N/A   |            | 11/08/00<br>SER Issued                 | 11/14/00 | Closed<br>0350 Mtg.<br>11/14/00 |
| 8.5   | ILRT TS Change and Exemption  | NRR   | N/A   |            | License Amendment 248 (U1)<br>229 (U2) | 11/21/00 | Closed<br>0350 Mtg.<br>11/21/00 |
| 8.6   | QAPD Cad-Weld Commitment  | NRR   | N/A   |            | 11/07/00<br>SER Issued                 | 11/14/00 | Closed<br>0350 Mtg.<br>11/14/00 |
| 8.7   | USQ on Methodology Changes (modeling of operator actions and use of actual tube flows) to Tube Rupture Analysis. (SG Overfill)                                    | NRR   | N/A   |            | IR 2000023 (11/27/00 to 12/01/00)      | 11/21/00 | Closed<br>IR 2000023 (Pending)  |
| 8.8   | USQ on HELB - Licensing Basis Change Request for 10D on Plume and SRP, MEB 3-1 exclusion areas. Tac no. MA 8893/94  | NRR   | N/A   |            | License Amendment 249 (U1)<br>230 (U2) | 11/21/00 | Closed<br>0350 Mtg.<br>11/21/00 |
| 8.9   | Technical Specification Change Request Valve Position for Automatic Valves in the Auxiliary Feedwater System  | NRR   | N/A   |            | License Amendment 250 (U1)<br>231 (U2) | 11/29/00 | Closed<br>0350 Mtg.<br>12/01/00 |

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| Item No.                               | Description   | NRC Lead     | Inspection Procedure                         | References  | Documentation                     | ECD      | Status                         |
|--|---|--------------|--|---|-----------------------------------|----------|--------------------------------|
| <b>Guidelines for Restart Approval</b> |   |              |  |   |                                   |          |                                |
| C.3.3                                  | Operator Issues   |              |  |   |                                   |          |                                |
| C.3.3.d                                | Effectiveness of restart simulator/required training necessary to re-familiarize personnel with operating conditions.           | SRI          | 71111.11 (Licensed Operator Requalification) |   | IR 2000023 (11/27/00 to 12/01/00) | 11/28/00 | Closed<br>IR 2000023 (Pending) |
| C.3.3.e                                | Assessment of plant staff performance during restart. Sustained control room observations by NRC personnel                      | RRATI        | IMC 0350                                     |   | IR 2000023 (11/27/00 to 12/01/00) | 12/08/00 | Closed<br>IR 2000023 (Pending) |
| C.4                                    | Assessment of Physical Readiness of the Plant   |              |  |   |                                   |          |                                |
| C.4.a                                  | Operability of Technical Specification systems, specifically those with identified operational, design, and maintenance issues. | SRI<br>RRATI | 71111.15 (Operability Evaluations)           |   | IR 2000023 (11/27/00 to 12/01/00) | 12/01/00 | Closed<br>IR 2000023 (Pending) |
| C.4.b                                  | Operability of required secondary and support systems.  | SRI<br>RRATI | IMC 0350                                     |   | IR 2000023 (11/27/00 to 12/01/00) | 12/01/00 | Closed<br>IR 2000023 (Pending) |
| C.4.c                                  | Results of pre-startup testing.   | SRI          | IMC 0350                                     |   | IR 2000023 (11/27/00 to 12/01/00) | 12/01/00 | Closed<br>IR 2000023 (Pending) |
| C.4.d                                  | Adequacy of system lineups.   | RRATI<br>SRI | IMC 0350                                     |   | IR 2000023 (11/27/00 to 12/01/00) | 12/01/00 | Closed<br>IR 2000023 (Pending) |
| C.4.e                                  | Adequacy of surveillance tests/test program.  | SRI          | IP 71111.22 (Surveillance Testing)           | LER 50-315/99003-00, Control Room pressurization Surveillance Test Does Not Test System In Normal Operating Condition | IR 2000023 (11/27/00 to 12/01/00) | 12/01/00 | Closed<br>IR 2000023 (Pending) |

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| Item No. | Description  | NRC Lead   | Inspection Procedure                          | References   | Documentation                        | ECD      | Status                                |
|----------|--|--|---|--|--------------------------------------|----------|---------------------------------------|
| C.4.f    | Significant hardware issues resolved (i.e., equipment with poor material condition, equipment aging, modifications). | SRI<br><br>Biennial Permanent Mods & Annual 50.59 Insp | 71111.17<br>(Permanent Plant Modifications)   | LER 50-315/99011-01, Air System for Emergency Diesel Generators May Not Support Long Term Operability Due to Original Design Error | IR 2000023<br>(11/27/00 to 12/01/00) | 11/28/00 | Closed<br><br>IR 2000023<br>(Pending) |
| C.4.g    | Adequacy of the power ascension testing program.   | SRI  | IMC 0350                                      |  | IR 2000023<br>(11/27/00 to 12/01/00) | 11/28/00 | Closed<br><br>IR 2000023<br>(Pending) |
| C.4.h    | Effectiveness of the plant maintenance program.  | SRI  | 71111.12<br>(Maintenance Rule Implementation) |  | IR 2000023<br>(11/27/00 to 12/01/00) | 12/05/00 | Closed<br><br>IR 2000023<br>(Pending) |
| C.4.i    | Maintenance backlog managed and impact on operation assessed.  | SRI  | IMC 0350                                      |  | IR 2000023<br>(11/27/00 to 12/01/00) | 11/28/00 | Closed<br><br>IR 2000023<br>(Pending) |
| C.4.j    | Adequacy of plant housekeeping and equipment storage.  | SRI  | IMC 0350                                      |  | IR 2000023<br>(11/27/00 to 12/01/00) | 12/07/00 | Closed<br><br>IR 2000023<br>(Pending) |
| C.5      | Assessment of Compliance with Regulatory Requirements  |  |   |  |                                      |          |                                       |
| C.5.a    | Applicable licensee amendments have been issued.   | NRR  | IMC 0350                                      |  | Memo from NRR to IMC 0350 Panel      | 12/01/00 | Closed<br>0350 Mtg.<br>12/01/00       |
| C.5.b    | Applicable exemptions have been granted.   | NRR  | IMC 0350                                      |  | Memo from NRR to IMC 0350 Panel      | 12/01/00 | Closed<br>0350 Mtg.<br>11/28/00       |
| C.5.c    | Applicable reliefs have been granted.  | NRR  | IMC 0350                                      |  | Memo from NRR to IMC 0350 Panel      | 12/01/00 | Closed<br>0350 Mtg.<br>11/28/00       |
| C.5.d    | Imposed orders have been modified or rescinded.  | NRR  | IMC 0350                                      |  | Memo from NRR to IMC 0350 Panel      | 12/01/00 | Closed<br>0350 Mtg.<br>11/28/00       |
| C.5.e    | Confirmatory Action Letter conditions have been satisfied.   | Veget  | IMC 0350                                      |  | IR 2000023<br>(11/27/00 to 12/01/00) | 11/21/00 | Closed<br><br>IR 2000023<br>(Pending) |

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| Item No. | Description  | NRC Lead                   | Inspection Procedure | References | Documentation  | ECD      | Status                         |
|----------|--|----------------------------|----------------------|------------|--|----------|--------------------------------|
| C.5.f    | Significant enforcement issues have been resolved.               | Vegel                      | IMC 0350             |            | IR 2000023 (11/27/00 to 12/01/00)                      | 11/21/00 | Closed<br>IR 2000023 (Pending) |
| C.5.g    | Allegations have been appropriately addressed.                   | Vegel                      | IMC 0350             |            | IR 2000023 (11/27/00 to 12/01/00)                      | 11/21/00 | Closed<br>IR 2000023 (Pending) |
| C.5.h    | 10 CFR 2.206 Petitions have been appropriately addressed.        | NRR                        | IMC 0350             |            | Memo from NRR to IMC 0350 Panel                        | 12/01/00 | Closed<br>0350 Mtg. 11/28/00   |
| C.6      | Coordination with Interested Agencies and Parties                |                            |                      |            |  |          |                                |
| C.6.e.1  | Appropriate state and local officials -FEMA                      | RIII State Liaison Officer | IMC 0350             |            | Memo to IMC 0350 Panel                                 |          | Closed<br>0350 Mtg. 11/28/00   |
| C.6.e.2  | Appropriate state and local officials -Congressional Affairs     | NRR<br>RIII PAO            | IMC 0350             |            | OCA Notified; RIII PAO to provide press release to OCA |          | Open                           |
| C.6.e.3  | Appropriate state and local officials -Inform Stakeholders (UCS) | NRR                        | IMC 0350             |            | Memo to IMC 0350 Panel                                 |          | Closed<br>0350 Mtg. 11/28/00   |
| C.6.f    | Appropriate public interest groups.                              | Public Affairs             | IMC 0350             |            | N/A  |          | Open                           |
| C.6.g    | Local news media.  | Public Affairs             | IMC 0350             |            | N/A  |          | Open                           |