



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION**

REGION III  
2443 WARRENVILLE ROAD, SUITE 210  
LISLE, IL 60532-4352

April 20, 2011

Mr. Larry Weber  
Senior Vice President and  
Chief Nuclear Officer  
Indiana Michigan Power Company  
Nuclear Generation Group  
One Cook Place  
Bridgman, MI 49106

**SUBJECT: D.C. COOK NUCLEAR POWER PLANT EVALUATIONS OF CHANGES, TESTS,  
OR EXPERIMENTS AND PERMANENT PLANT MODIFICATIONS BASELINE  
INSPECTION REPORT 05000315/2011009; 05000316/2011009**

Dear Mr. Weber:

On April 8, 2011, the U.S. Nuclear Regulatory Commission (NRC) completed an Evaluations of Changes, Tests, or Experiments and Permanent Plant Modifications inspection at your D.C. Cook Nuclear Power Plant. The enclosed inspection report documents the inspection results, which were discussed on April 8, 2011, with you and other members of your staff.

The inspection examined activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel.

Based on the results of this inspection, no findings of significance were identified.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response (if any), will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records System (PARS) component of NRC's Agencywide Documents Access and Management System (ADAMS),

L. Weber

-2-

accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

/RA/

Robert C. Daley, Chief  
Engineering Branch 3  
Division of Reactor Safety

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

Enclosure: Inspection Report 05000315/2011009; 05000316/2011009  
w/Attachment: Supplemental Information

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U. S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket No: 50-315; 50-316

License No: DPR-58; DPR-74

Report No: 05000315/2011009; 05000316/2011009

Licensee: Indiana Michigan Power Company

Facility: D.C. Cook Nuclear Power Plant

Location: Bridgman, MI

Dates: March 21 – April 8, 2011

Inspectors: M. Munir, Reactor Inspector (Lead)  
C. Tilton, Senior Reactor Inspector  
L. Jones, Reactor Inspector

Approved by: R. Daley, Chief  
Engineering Branch 3  
Division of Reactor Safety

## SUMMARY OF FINDINGS

IR 05000315/2011009; 05000316/2011009; 03/21/2011 – 04/08/2011; D. C. Cook Nuclear Power Plant; Evaluations of Changes, Tests, or Experiments and Permanent Plant Modifications.

This report covers a two-week announced baseline inspection on evaluations of changes, tests, or experiments and permanent plant modifications. The inspection was conducted by Region III based engineering inspectors. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 4, dated December 2006.

### **A. NRC-Identified and Self-Revealed Findings**

No findings of significance were identified.

### **B. Licensee-Identified Violations**

No violations of significance were identified.

## REPORT DETAILS

### 1. REACTOR SAFETY

#### **Cornerstone: Initiating Events, Mitigating Systems, and Barrier Integrity**

#### 1R17 Evaluations of Changes, Tests, or Experiments and Permanent Plant Modifications (71111.17)

##### .1 Evaluation of Changes, Tests, or Experiments

###### a. Inspection Scope

From March 21, 2011 through April 8, 2011, the inspectors reviewed five safety evaluations performed pursuant to 10 CFR 50.59 to determine if the evaluations were adequate and that prior NRC approval was obtained as appropriate. The minimum sample size of six safety evaluations was not achieved, because the licensee had only performed five safety evaluations during the sample period. The inspectors also reviewed 17 screenings where licensee personnel had determined that a 10 CFR 50.59 evaluation was not necessary. The inspectors reviewed these documents to determine if:

- the changes, tests, or experiments performed were evaluated in accordance with 10 CFR 50.59 and that sufficient documentation existed to confirm that a license amendment was not required;
- the safety issue requiring the change, tests or experiment was resolved;
- the licensee conclusions for evaluations of changes, tests, or experiments were correct and consistent with 10 CFR 50.59; and
- the design and licensing basis documentation was updated to reflect the change.

The inspectors used, in part, Nuclear Energy Institute (NEI) 96-07, "Guidelines for 10 CFR 50.59 Implementation," Revision 1, to determine acceptability of the completed evaluations, and screenings. The NEI document was endorsed by the NRC in Regulatory Guide 1.187, "Guidance for Implementation of 10 CFR 50.59, Changes, Tests, and Experiments," dated November 2000. The inspectors also consulted Part 9900 of the NRC Inspection Manual, "10 CFR Guidance for 10 CFR 50.59, Changes, Tests, and Experiments."

This inspection constituted five samples of evaluations and 17 samples of changes as defined in IP 71111.17-04.

###### b. Findings

No findings of significance were identified.

## .2 Permanent Plant Modifications

### a. Inspection Scope

From March 21, 2011 through April 8, 2011, the inspectors reviewed five permanent plant modifications that had been installed in the plant during the last three years. This review included in-plant walkdown for portions of the installed Unit 1 motor control center (MCC) pit drain plugs and the turbine driven auxiliary feedpump rooms. The modifications were selected based upon risk significance, safety significance, and complexity. The inspectors reviewed the modifications selected to determine if:

- the supporting design and licensing basis documentation was updated;
- the changes were in accordance with the specified design requirements;
- the procedures and training plans affected by the modification have been adequately updated;
- the test documentation as required by the applicable test programs has been updated; and
- post-modification testing adequately verified system operability and/or functionality.

The inspectors also used applicable industry standards to evaluate acceptability of the modifications. The list of modifications and other documents reviewed by the inspectors is included as an Attachment to this report.

This inspection constituted five permanent plant modification samples including four calculations as defined in IP 71111.17-04.

### b. Findings

No findings of significance were identified.

## 4. **OTHER ACTIVITIES (OA)**

### 4OA2 Identification and Resolution of Problems

#### .1 Routine Review of Condition Reports

##### a. Inspection Scope

From March 21, 2011 through April 8, 2011, the inspectors reviewed various corrective action process documents that identified or were related to 10 CFR 50.59 evaluations and permanent plant modifications. The inspectors reviewed these documents to evaluate the effectiveness of corrective actions related to permanent plant modifications and evaluations for changes, tests, or experiments issues. In addition, corrective action documents written on issues identified during the inspection were reviewed to verify adequate problem identification and incorporation of the problems into the corrective

action system. The specific corrective action documents that were sampled and reviewed by the inspectors are listed in the attachment to this report.

b. Findings

No findings of significance were identified.

4OA6 Meetings

.1 Exit Meeting Summary

On April 8, 2011, the inspectors presented the inspection results to Mr. Weber and other members of the licensee staff. The licensee personnel acknowledged the inspection results presented and did not identify any proprietary content. The inspectors confirmed that all proprietary material reviewed during the inspection was returned to the licensee staff.

ATTACHMENT: SUPPLEMENTAL INFORMATION

## **SUPPLEMENTAL INFORMATION**

### **KEY POINTS OF CONTACT**

#### Licensee

L. Weber, Chief Nuclear Officer and Senior Vice President  
J. Gebbie, Site Vice President  
S. Lies, Plant Manager  
R. Ebright, Engineering Director  
T. Brown, Project Director  
D. Naughton, Design Engineering Manager  
S. Saad, Structural Design Supervisor  
M. Scarpello, Regulatory Affairs Manager  
J. Nimtz, Regulatory Affairs

#### Nuclear Regulatory Commission

R. Daley, Chief, DRS  
J. Lennartz, Senior Resident Inspector

### **LIST OF ITEMS OPENED, CLOSED AND DISCUSSED**

#### Opened, Closed, and Discussed

None



## LIST OF DOCUMENTS REVIEWED

The following is a list of documents reviewed during the inspection. Inclusion on this list does not imply that the NRC inspectors reviewed the documents in their entirety, but rather, that selected sections of portions of the documents were evaluated as part of the overall inspection effort. Inclusion of a document on this list does not imply NRC acceptance of the document or any part of it, unless this is stated in the body of the inspection report.

### CALCULATIONS

<u>Number</u>	<u>Description or Title</u>	<u>Date or Revision</u>
1-E-N-ELCP-4KV-001-VOLT	Unit 1 Voltage Adequacy Analysis	Revision 2
2-E-N-ELCP-600-003	600V Motor Control Center (MCC) Control Circuit Voltage Drop	Revision 2
1-E-N-ELCP-4KV-001-FAULT	Unit 1 4KV/600V Fault Calculation	Revision 1
MD-12-DG-011-N	Effect of EDG Frequency on Pump BHP	Revision 4
MD-12-ESW-106-N	Assessment of Increased Lake Water Temperature on Safety Related and Non Safety Related Systems	Revision 5
NSA-HELB-001	Screen House Environment Following a High Energy Line Break Outside Containment	Revision 0
PRA-DOSE-CSSEAH	Radiation Protection for Concrete Shadow Shield for Equipment Access Hatch	Revision 0
SD-990930-004	Probability of Tornado Missile Strike on DC Cook Nuclear Plant	Revision 3
MD-12-CVCS-044-N	CVCS Cross-Tie Flow Capacity	Revision 01
OAR-1784001	Holtec Technical Evaluation (Spent Fuel Pool Interim Storage Misloading Event)	Revision 00

### CORRECTIVE ACTION PROGRAM DOCUMENTS REVIEWED

<u>Number</u>	<u>Description or Title</u>	<u>Date or Revision</u>
AR 2010-10039	Seismic Qualification of Components Associated with RVCH MOD	August 3, 2010
AR 00035015	600VAC MCC Breakers Overdutied	August 29, 2000
GT 00850848	Margin Review Board for 600V Overdutied Breakers	May 3, 2009
CR P-00-03109	Superseded Calculations, Uninstalled DCPs, Limitations, Equip Not Meeting Acceptance Criteria	February 23, 2000
AR 00813401	Calculation TH-95-01 does not Model Gap at Column Line A	05/09/2007
AR 2010-8217	Tech. Spec. Basis Change to Increase UHS Temp.	08/19/2010
AR 2010-11278	QL4 mat'l was Installed on ½-OME-39 w/o and SCD Evaluation	October 22, 2010

**CORRECTIVE ACTION PROGRAM DOCUMENTS REVIEWED**

<b><u>Number</u></b>	<b><u>Description or Title</u></b>	<b><u>Date or Revision</u></b>
AR 2010-1079	EDG Flywheel Fastener Torque Check not Required	March 8, 2010
AR 00839513	CVCS Cross-Tie Common	October 2, 2008
AR 11707	Temp Mod Left Installed Beyond Planned Removal Date	October 30, 2010
AR 2010-3636	AR 2010-3636	April 23, 2010

**CORRECTIVE ACTION PROGRAM DOCUMENTS GENERATED**

<b><u>Number</u></b>	<b><u>Description or Title</u></b>	<b><u>Date or Revision</u></b>
GT 2011-4332	Safety Class for EC-50476	April 7, 2011
GT 2011-4329	Post Inspection Review of SDC-00014163	April 7, 2011
GT 2011-3735	Correct OP-1-5129 for Valve Position	March 3, 2011
GT 2011-3847	PS-4KVP-003 Needs to be Revised Due to Age and Status	March 28, 2011
GT 2011-4267	UFSAR Section 14.4.2.3 Definition of Mild Environment	March 6, 2011
GT 2011-4211	Calculations 01(2)-E-N-PROT-TOL-001 Enhancement	April 5, 2011
AR 2011-4278	Enhancement to Description of Loss of Seal Injection in SSCA	April 6, 2011
AR 2011-4291	Wrong Version of Safety Screening in Documentation	April 6, 2011
AR 2011-4023	Typographical Error in RSC1-4247	March 31, 2011
AR 2011-3489	1-QT-106-AB2-MTR-Drawing Deficiency	March 18, 2011

**DRAWINGS**

<b><u>Number</u></b>	<b><u>Description or Title</u></b>	<b><u>Date or Revision</u></b>
OP-1-12002-63	Main Auxiliary One-Line Diagram Bus C&D	Revision 63
OP-12-12007-14	Miscellaneous Aux System One-Line	Revision 14
OP-1-12001-79	Main Auxiliary One-Line Diagram Bus A & B	Revision 79
OP-2-98017-36	Diesel Generator 2CD Misc. Auxiliaries	Revision 36
OP-1-98042-34	4KV Aux Transformers 1CD and 101CD	Revision 34
OP-1-5129-59	Flow Diagram CVCS-Reactor Letdown and Charging Unit No. 1	Nov. 15, 2010

**10 CFR 50.59 EVALUATIONS**

<b><u>Number</u></b>	<b><u>Description or Title</u></b>	<b><u>Date or Revision</u></b>
2010-0188-00	Removal of Potential Transformer 1-TR101CD-SYN-PT From Service	Revision 0
2008-0365-01	Voltage Regulation for EP Alternate Offsite Power Source	Revision 0

**10 CFR 50.59 EVALUATIONS**

<b><u>Number</u></b>	<b><u>Description or Title</u></b>	<b><u>Date or Revision</u></b>
2008-0290-00	Unit 1 and 2 Auxiliary Missile Block Removal Project	Revision 0
2010-0016-00	UFSAR Change to Incorporate Updated Radiological Dose Accident Analyses	Revision 0
SS-SE-2010-0348-00	Section 9.7.2, Subsection Titled "Abnormal and Accident Conditions"	Revision 00

**10 CFR 50.59 SCREENINGS**

<b><u>Number</u></b>	<b><u>Description or Title</u></b>	<b><u>Date or Revision</u></b>
2008-0280-00	EDG Voltage and Frequency Limitations Design Bases Change	Revision 0
2010-0197-00	Generator Reactive Capability Test	Revision 0
2008-0365-01	Voltage Regulation for EP Alternate Offsite Source	Revision 0
2010-0069-00	Determine Setpoints for Thermal Overload Relays	March 23, 2010
2010-0155-00	Loss of All AC Power and Supporting Procedure Restoration of 4KV Power from EP	May 27, 2010
2009-0067-03	Containment Cooling-Balance of Scope Modification	March 18, 2010
2010-0135-00	Screenhouse – Turbine Building Masonry Wall HELB Boundary Modification	Revision 0
2010-0187-00	Installation of Gate Valve and Vacuum Breaker to the 3" Essential Service Water to Control Room Air Conditioner Condenser Line	Revision 0
2010-0217-00	Change Technical Specifications Basis B 3.7.9 to Increase Ultimate Heat Sink Temperature	Revision 0
SS-SE-2009-0036	GL-2008-01 Vent Modifications	Revision 0
SS-SE-2009-0127	Extended Low Power Operations	Revision 0
SS-SE-2009-0154	Install Temporary Shielding for Unit 2 RHR Heat Exchangers for Greater than 90 days at Power	Revision 1
SS-SE-2009-0206	Filling and Venting the Reactor Coolant System with the Steam Generator	Revision 4
SS-SE-2009-0248	Fast Start of Unit 1 EDGs Without Jet Assist	Revision 0
SS-SE-2010-0020	Placing In Service and Operating the Spent Fuel Pit Cooling and Cleanup	Revision 00

**MODIFICATIONS**

<b><u>Number</u></b>	<b><u>Description or Title</u></b>	<b><u>Date or Revision</u></b>
EC 0000049670	2-88X-DGS-1 Starter, Thermal Overload For MCC 2-ABD-C-2E	October 16,2010
EC 0000049669	1-TR101AB-GND-RES Grounding Resistor	March 11, 2009
EC 49993	Replace Div. 1 125 VDC Battery Charger D10	Revision 0
EC 47773	RHR Open Cross-Tie Modifications for Unit 1	Revision 0

**OTHER DOCUMENTS**

<b><u>Number</u></b>	<b><u>Description or Title</u></b>	<b><u>Date or Revision</u></b>
EC 0000049309	Implementation of Revised Emergency Diesel Generator Voltage and Frequency Limitations	August 29, 2008
12-OHP-SP-308	Main Generator Reactive Capability Test	Revision 1
PJM Manual 14D	Generator Operational Requirements	Revision 19
OP-G-CL-011A	AEP Circular Letter-Reactive Capability Testing of Generators	June 2, 2008
12-OHP-4030-033-001	Supplemental Diesel Generator Testing	Revision 1412
WO 55310180-66	Perform Functional Check of UPS and VR Controllers	June 8, 2010
2-OHP-4030-219-022FV	ESW Flow Verification	Revision 12
12-OHP-4021-019-001	Operation of the Essential Service Water System	Revision 41
1-OHP-4022-002-001	Malfunction of a Reactor Coolant Pump	Revision 017
12-OHP-4021-018-002	Placing in Service and Operating the Spent Fuel Pit Cooling and Cleanup System (pg. 8 of 78)	Revision 023
SCD 00014163	Justification for not Using Safety-Related Gasket Seals in the Turbine Driven Auxiliary Feedwater Pump Upper and Lower Half of the Gland Casings	Jan. 13, 2011
TB-04-22	Reactor Coolant Pump Seal Performance – Appendix R Compliance and Loss of All Seal Cooling	August 9, 2005
DB-12-CVCS	Design Basis Document For The Chemical and Volume Control System	Revision 003
SSCA	Safe Shutdown Capability Assessment	Revision 014
WCAP-16396	Westinghouse Owners Group Reactor Coolant Pump Seal Performance for Appendix R Assessments	Revision 000
12-MHP-5021-001-009	Torque Selection	Revision 015
2-OHP-4021-001-008	Extended Low Power Operations	Revision 000
MDS-614	Standard Configurations, Recurring Temporary Shielding	Revision 001
DIT-B-02674	Evaluation of Placement of Temporary Shielding on RHR Heat Exchanger to Support TSR-YY-U-003	March 27, 2003

**OTHER DOCUMENTS**

<b><u>Number</u></b>	<b><u>Description or Title</u></b>	<b><u>Date or Revision</u></b>
1-OHP-SP-304	Fast Start of Unit 1 EDGs Without Jet Assist	Revision 000
EE-2005-0403	Auxiliary Building 650 Elevation Fuel Transfer Canal to Spent Fuel Pit Weir Gate	Revision 001
12-OHP-4021-018-002	Filling And Venting The Reactor Coolant System With Steam Generator Tubes Filled	Revision 004
EHI-5202	Gas Accumulation Condition Monitoring Program	Revision 001

## LIST OF ACRONYMS

ADAMS	Agencywide Documents Access and Management System
CFR	Code of Federal Regulations
CNO	Chief Nuclear Officer
DRS	Division of Reactor Safety
IP	Inspection Procedure
IR	Inspection Report
MCC	Motor Control Center
NEI	Nuclear Energy Institute
NRC	U.S. Nuclear Regulatory Commission
NUREG	Nuclear Regulation
PARS	Public Available Records System

L. Weber

-2-

accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

/RA/

Robert C. Daley, Chief  
Engineering Branch 3  
Division of Reactor Safety

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