



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION**  
REGION III  
2443 WARRENVILLE ROAD, SUITE 210  
LISLE, IL 60532-4352

May 13, 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, UNITS 1 AND 2 – NRC TEMPORARY  
INSTRUCTION 2515/183 INSPECTION REPORT 05000315/2011011;  
05000316/2011011**

Dear Mr. Weber:

On April 29, 2011, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your D. C. Cook Nuclear Power Plant, Units 1 and 2, using Temporary Instruction (TI) 2515/183, "Followup to the Fukushima Daiichi Nuclear Station Fuel Damage Event." The enclosed inspection report documents the inspection results which were discussed on April 29, 2011, with Mr. J. Gebbie, and other members of your staff.

The objective of this inspection was to promptly assess the capabilities of the D. C. Cook Nuclear Power Plant to respond to extraordinary consequences similar to those that have recently occurred at the Japanese Fukushima Daiichi Nuclear Station. The results from this inspection, along with the results from this inspection performed at other operating commercial nuclear plants in the United States will be used to evaluate the U.S. nuclear industry's readiness to safely respond to similar events. These results will also help the NRC to determine if additional regulatory actions are warranted.

All of the potential issues and observations identified by this inspection are contained in this report. The NRC's Reactor Oversight Process will further evaluate any issues to determine if they are regulatory findings or violations. Any resulting findings or violations will be documented by the NRC in a separate report. You are not required to respond to this letter.

L. Weber

-2-

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be made 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), accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

*/RA/*

Jamnes L. Cameron, Chief  
Branch 6  
Division of Reactor Projects

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

Enclosure: Inspection Report 05000315/2011011; 05000316/2011011

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U. S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket Nos: 05000315; 05000316

License Nos: DPR-58; DPR-74

Report No: 05000315/2011011; 05000316/2011011

Licensee: Indiana Michigan Power Company

Facility: D. C. Cook Nuclear Power Plant, Units 1 and 2

Location: Bridgman, MI

Dates: March 23, 2011, through April 29, 2011

Inspectors: J. Lennartz, Senior Resident Inspector  
P. LaFlamme, Resident Inspector

Approved by: Jamnes L. Cameron, Chief  
Branch 6  
Division of Reactor Projects

Enclosure

## **INSPECTION SCOPE**

IR 05000315/20110111; 05000316/20110111, 03/23/2011 – 04/29/2011; D. C. Cook Nuclear Power Plant Temporary Instruction 2515/183 - Followup to the Fukushima Daiichi Nuclear Station Fuel Damage Event.

This report covers an announced Temporary Instruction inspection. The inspection was conducted by resident 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.

## **INSPECTION SCOPE**

The intent of the TI is to provide a broad overview of the industry's preparedness for events that may exceed the current design basis for a plant. The focus of the TI was on (1) assessing the licensee's capability to mitigate consequences from large fires or explosions on site, (2) assessing the licensee's capability to mitigate station blackout (SBO) conditions, (3) assessing the licensee's capability to mitigate internal and external flooding events accounted for by the station's design, and (4) assessing the thoroughness of the licensee's walk downs and inspections of important equipment needed to mitigate fire and flood events to identify the potential that the equipment's function could be lost during seismic events possible for the site. If necessary, a more specific follow-up inspection will be performed at a later date.

## **INSPECTION RESULTS**

All of the potential issues and observations identified by this inspection are contained in this report. The NRC's Reactor Oversight Process will further evaluate any issues to determine if they are regulatory findings or violations. Any resulting findings or violations will be documented by the NRC in a separate report.

03.01 Assess the licensee's capability to mitigate conditions that result from beyond design basis events, typically bounded by security threats, committed to as part of NRC Security Order Section B.5.b issued February 25, 2002, and severe accident management guidelines and as required by Title 10 of the Code of Federal Regulations (10 CFR) 50.54(hh). Use Inspection Procedure (IP) 71111.05T, "Fire Protection (Triennial)," Section 02.03 and 03.03 as a guideline. If IP 71111.05T was recently performed at the facility the inspector should review the inspection results and findings to identify any other potential areas of inspection. Particular emphasis should be placed on strategies related to the spent fuel pool. The inspection should include, but not be limited to, an assessment of any licensee actions to:

<b>Licensee Action</b>	<b>Describe what the licensee did to test or inspect equipment.</b>
<p>a. Verify through test or inspection that equipment is available and functional. Active equipment shall be tested and passive equipment shall be walked down and inspected. It is not expected that permanently installed equipment that is tested under an existing regulatory testing program be retested.</p> <p>This review should be done for a reasonable sample of mitigating strategies/equipment.</p>	<p>Licensee actions included identifying the equipment (active and passive) as directed by the Extensive Damage Mitigation Guidelines (EDMGs) utilized for implementing B.5.b actions and the Severe Accident Management Guidelines (SAMGs). The scope was defined as that equipment specifically designated for B.5.b or SAMG mitigation (i.e., special hoses, fittings, onsite fire truck, etc.). All equipment, permanent and temporary, that is used to perform the EDMGs was walked down to verify the equipment was in the correct physical location, and properly labeled. All procedures were reviewed and, based on the in-plant walkdowns, credited equipment was verified to be able to meet the EDMGs functional requirements. Licensee personnel then identified surveillances/tests and performance frequencies for the identified equipment and reviewed the results of recent tests. Also, active equipment within the scope defined above that was not permanently installed was tested (i.e., plant fire truck was tested to verify the capability to meet specified pressure and flow).</p>

	<p><b>Describe inspector actions taken to confirm equipment readiness (e.g., observed a test, reviewed test results, discussed actions, reviewed records, etc.).</b></p> <p>The inspectors assessed the licensee’s capabilities by reviewing the licensee’s walkdown activities and previously performed surveillance tests. In addition, the inspectors independently walked down and inspected all major B.5.b contingency response equipment staged throughout the site and verified that required testing had been completed satisfactorily. This included verifying that hoses, fittings, the onsite fire truck, tool boxes, ladders, quick identifiers/ tags and labels were accounted for, properly staged and in adequate material condition as specified by plant procedures.</p> <p><b>Discuss general results including corrective actions by licensee.</b></p> <p>Licensee personnel identified that components used for implementing the loss of spent fuel pool procedure required enhanced labeling. The inspectors verified this issue was entered into the licensee’s corrective action program.</p> <p>The inspectors did not identify any issues of concern.</p>
<p style="text-align: center;"><b>Licensee Action</b></p> <p>b. Verify through walkdowns or demonstration that procedures to implement the strategies associated with B.5.b and 10 CFR 50.54(hh) are in place and are executable. Licensees may choose not to connect or operate permanently installed equipment during this verification.</p>	<p><b>Describe the licensee’s actions to verify that procedures are in place and can be executed (e.g. walkdowns, demonstrations, tests, etc.)</b></p> <p>The licensee performed walkdowns and demonstrations using their Abnormal Operating Procedures, EDMG, and SAMG procedures credited for B.5.b strategy actions. The licensee’s walkdowns included using Auxiliary Equipment Operators to lay out hoses required to provide water as credited in their B.5.b analysis, and verifying valve lineups using drawings for credited flow paths. The licensee evaluated their ability to perform the procedures, as well as a review of equipment and plant accessibility needed to perform proceduralized actions.</p>

<p>This review should be done for a reasonable sample of mitigating strategies/equipment.</p>	<p><b>Describe inspector actions and the sample strategies reviewed. Assess whether procedures were in place and could be used as intended.</b></p> <p>The inspectors assessed the licensee’s capabilities by reviewing the licensee’s walkdown activities. In addition, the inspectors walked down several procedure sections that were walked down by the licensee to independently verify the licensee’s conclusions. These walkdowns included verifying actions required by operators to mitigate a loss of spent fuel pool inventory and/or cooling; to mitigate a large fire; to establish alternate refueling water storage tank makeup; to support steam generator depressurization; to flood containment for core cooling; and to establish an alternate supply to the turbine driven auxiliary feedwater pump, could be accomplished as specified by the procedures.</p> <p><b>Discuss general results including corrective actions by licensee.</b></p> <p>The licensee identified that the procedure for a loss of spent fuel pool cooling should be enhanced to include instructions for closing the weir gate, which separates the fuel transfer canal from the spent fuel pool. The inspectors verified that this condition was entered into the licensee’s corrective action program.</p> <p>The inspectors did not identify any issues of concern.</p>
<p style="text-align: center;"><b>Licensee Action</b></p> <p>c. Verify the training and qualifications of operators and the support staff needed to implement the procedures and work instructions are current for activities related to Security Order Section B.5.b and severe accident management guidelines as required by 10 CFR 50.54 (hh).</p>	<p><b>Describe the licensee’s actions and conclusions regarding training and qualifications of operators and support staff.</b></p> <p>The licensee reviewed the required training and qualifications of staff needed for activities related to B.5.b and SAMG procedures to verify that they were current, which included qualification requirements for the fire brigade, operations personnel, and the emergency response organization. Additionally, the licensee reviewed the number of individuals qualified for each of the positions in each department to ensure credited actions could be performed.</p> <p><b>Describe inspector actions and the sample strategies reviewed to assess training and qualifications of operators and support staff</b></p> <p>The inspectors assessed the licensee’s training and qualification activities by reviewing training and qualification materials, and records related to B.5.b and SAMG event response training. Additionally, the inspectors verified that the training was documented and current. Specifically, the inspectors reviewed a sample of training lesson plans, attendance verification sheets, and training slides.</p>

	<p><b>Discuss general results including corrective actions by licensee.</b></p> <p>Licensee personnel identified that continuing training on SAMG and B.5.b strategies for the emergency response organization decision makers had not been done in 2010. The inspectors verified that this condition was entered into the licensee's corrective action program.</p> <p>The inspectors did not identify any issues of concern.</p>
<p><b>Licensee Action</b></p>	<p><b>Describe the licensee's actions and conclusions regarding applicable agreements and contracts that are in place.</b></p>
<p>d. Verify that any applicable agreements and contracts are in place and are capable of meeting the conditions needed to mitigate the consequences of these events.</p> <p>This review should be done for a reasonable sample of mitigating strategies/equipment.</p>	<p>The licensee reviewed their procedures and commitments to determine what agreements or contracts would be needed to support necessary B.5.b and SAMG actions. The licensee verified that applicable agreements and contracts were in place and current, and that they were capable of meeting the conditions needed to mitigate the consequences of events related to B.5.b and SAMG actions.</p> <p><b>For a sample of mitigating strategies involving contracts or agreements with offsite entities, describe inspector actions to confirm agreements and contracts are in place and current (e.g., confirm that offsite fire assistance agreement is in place and current).</b></p> <p>The inspectors reviewed the licensee's B.5.b commitments and that verified the licensee had the appropriate letters of agreement and contracts in place. The inspectors sampled the letters of agreement and contracts to verify that they were current and that they could reasonably meet the conditions needed to mitigate the consequences of these events. The sample included agreements with state and local officials, the local health care provider, and local offsite fire departments.</p> <p><b>Discuss general results including corrective actions by licensee.</b></p> <p>The inspectors did not identify any issues of concern or any conditions requiring corrective actions.</p>



<p style="text-align: center;"><b>Licensee Action</b></p>	<p><b>Document the corrective action report number and briefly summarize problems noted by the licensee that have significant potential to prevent the success of any existing mitigating strategy.</b></p>
<p>e. Review any open corrective action documents to assess problems with mitigating strategy implementation identified by the licensee. Assess the impact of the problem on the mitigating capability and the remaining capability that is not impacted.</p>	<p>The following Action Requests (AR) were entered into the licensee’s Corrective Action Program in response to issues identified in Section 03.01:</p> <p>AR 2011-3416 – Enhance 12-OHP-4021-018-001, “Loss Of Spent Fuel Pit Cooling.”  AR 2011-4027 – SAMG, EDM, B.5.6 Training Not Given as Required by TPD-600-EPT, “Emergency Preparedness Training Program Description.”</p> <p>The inspectors reviewed each AR and did not identify any significant potential to impact the licensee’s mitigation strategy.</p>
<p>03.02 Assess the licensee’s capability to mitigate station blackout (SBO) conditions, as required by 10 CFR 50.63, “Loss of All Alternating Current Power,” and station design, is functional and valid. Refer to TI 2515/120, “Inspection of Implementation of Station Blackout Rule Multi-Plant Action Item A-22” as a guideline. It is not intended that TI 2515/120 be completely reinspected. The inspection should include, but not be limited to, an assessment of any licensee actions to:</p>	
<p style="text-align: center;"><b>Licensee Action</b></p>	<p><b>Describe the licensee’s actions to verify the adequacy of equipment needed to mitigate an SBO event.</b></p>
<p>a. Verify through walkdowns and inspection that all required materials are adequate and properly staged, tested, and maintained.</p>	<p>Licensee actions included identifying equipment utilized/required to mitigate an SBO and conducting walkdowns to ensure that the equipment was in adequate material condition and properly staged.</p> <p><b>Describe inspector actions to verify equipment is available and useable.</b></p> <p>The inspectors assessed the licensee’s capability to mitigate SBO conditions by reviewing the licensee’s walkdown activities. In addition, the inspectors selected a sample of equipment utilized/required to mitigate an SBO and independently walked down that equipment to verify that the equipment was properly aligned and staged. The sample of equipment selected by the inspectors included tool boxes, ladders, and hoses that were staged in the 765 kilovolt (KV), 345 KV and 69 KV switchyards, the 4 KV switchgear rooms, the emergency diesel generator rooms and the auxiliary building.</p>

	<p><b>Discuss general results including corrective actions by licensee.</b></p> <p>The licensee identified during material staging walk downs that hoses for aligning demineralized water to the spent fuel pool during a loss of inventory needed to be designated and staged in closer proximity to the spent fuel pool. Additionally, the licensee identified that specified materials required to repair or reduce spent fuel pool leakage are currently stored off site and need to be stored on site. The inspectors verified these conditions were entered into the licensee's corrective action program.</p> <p>The inspectors did not identify any issues of concern.</p>
<p><b>Licensee Action</b></p> <p>b. Demonstrate through walkdowns that procedures for response to an SBO are executable.</p>	<p><b>Describe the licensee's actions to verify the capability to mitigate an SBO event.</b></p> <p>Licensee actions included identifying the time critical operator actions associated with an SBO. These actions were then walked down and validated during the performance of a simulator scenario on April 8, 2011, consisting of a dual unit loss of offsite power and an SBO in Unit 1.</p> <p><b>Describe inspector actions to assess whether procedures were in place and could be used as intended.</b></p> <p>The inspectors reviewed the procedure actions associated with the loss of all Alternating Current (AC) power, restoration of 4KV power and supplemental diesel generators, loss of component cooling water, and steam generator level and power operated relief valve control. The inspectors also observed the simulator scenario on April 8, 2011, to compare the procedure actions with the time critical actions implemented during the simulator scenario.</p> <p><b>Discuss general results including corrective actions by licensee.</b></p> <p>The inspectors concluded that the time critical operator actions were executable and reasonable and did not identify any conditions requiring corrective actions.</p>

03.03 Assess the licensee’s capability to mitigate internal and external flooding events required by station design. Refer to IP 71111.01, “Adverse Weather Protection,” Section 02.04, “Evaluate Readiness to Cope with External Flooding” as a guideline. The inspection should include, but not be limited to, an assessment of any licensee actions to verify through walkdowns and inspections that all required materials and equipment are adequate and properly staged. These walkdowns and inspections shall include verification that accessible doors, barriers, and penetration seals are functional.

<b>Licensee Action</b>	<p><b>Describe the licensee’s actions to verify the capability to mitigate existing design basis flooding events.</b></p>
<p>a. Verify through walkdowns and inspection that all required materials are adequate and properly staged, tested, and maintained.</p>	<p>Licensee actions included identifying equipment, structures and penetration seals utilized/required to mitigate internal and external flooding. The licensee then walked down the equipment to ensure that it was adequate and properly staged. Doors, barriers, sumps, berms and penetration seals that were utilized to mitigate flooding were identified and inspected. In addition, the licensee reviewed maintenance and surveillance testing history for the Structures, Systems, and Components (SSCs) credited to mitigate internal and external flooding events.</p> <p><b>Describe inspector actions to verify equipment is available and useable. Assess whether procedures were in place and could be used as intended.</b></p> <p>The inspectors assessed the licensee’s capabilities to mitigate flooding by reviewing the licensee’s walkdown activities. In several instances, these reviews involved the inspectors accompanying licensee engineering personnel during in-field walkdowns. In addition, the inspectors independently walked down selected flood mitigation equipment to further assess the licensee’s flood mitigating capabilities. Licensee flood mitigation procedures and flooding analysis were also reviewed to verify usability and accuracy.</p>
	<p><b>Discuss general results including corrective actions by licensee.</b></p> <p>The licensee identified that the turbine building sump vault hatch did not have a periodic maintenance activity to inspect/repair the hatch. The inspectors verified that this condition was entered into the licensee’s corrective action program.</p> <p>The inspectors concluded that useable procedures and equipment were in place and available to mitigate the most limiting flooding events, which was a circulating water pipe expansion joint rupture or turbine building sump check valve failure during a postulated 11 foot seiche coupled with an historical high lake level of 583.6 feet above sea level.</p>

Licensee Action	Describe the licensee's actions to assess the potential impact of seismic events on the availability of equipment used in fire and flooding mitigation strategies.
<p>b. Verify through walkdowns that all required materials are adequate and properly staged, tested, and maintained.</p>	<p>Licensee actions included identifying equipment utilized/required to mitigate fire and flood events. Plant walkdowns were performed to assess functionality of important equipment needed to mitigate a flood or fire following a design basis earthquake. Walk downs included external visual inspections of associated pumps, diesels, motors, breakers, pipes, valves, tanks, intake structures, hoses, and fittings. The material condition of surrounding equipment and structures, including the structure that houses the credited equipment, were also inspected. Non-seismic equipment and structures were visually inspected to determine if any surrounding SSCs could be adversely impacted due to seismic interaction.</p>
	<p><b>Describe inspector actions to verify equipment is available and useable. Assess whether procedures were in place and could be used as intended.</b></p>
	<p>The inspectors accompanied licensee personnel on selected walkdowns to verify the licensee's actions and assess their adequacy. Additionally, the inspectors independently walked down fire piping, fire mitigating components, the B.5.b fire truck, B.5.b related equipment, flooding barriers, and areas susceptible to flooding. The walkdown included the residual heat removal and containment spray pump rooms, emergency diesel generator rooms, fire water storage tank yard and the screen house intake structure. The inspector's assessment was consistent with the licensee's conclusions that there were a few potential seismic vulnerabilities that need to be evaluated, as described below.</p>
	<p><b>Discuss general results including corrective actions by licensee. Briefly summarize any new mitigating strategies identified by the licensee as a result of their reviews.</b></p>
<p>The licensee identified four potential deficiencies as summarized below:</p> <ol style="list-style-type: none"> <li>1) The licensee noted that the alarms in the condenser pits and the auxiliary building sump that are credited to alert operators to take action to mitigate internally flooding are both non safety-related and non-seismic. Therefore, seismic response procedures will be enhanced to have Auxiliary Equipment Operators check the turbine and auxiliary buildings for internal flooding as soon as possible in order to assist control room operators in taking action to mitigate/terminate the event.</li> </ol>	

	<p>2) The licensee identified that during an external flooding event due to a seiche, the west wall of the turbine building is credited for preventing flooding on the turbine building 591 foot elevation. However, documentation could not be found to verify that the turbine building west wall that extends beyond the screenhouse was Seismic Class I. Therefore, structural design engineering will evaluate if the wall can be analyzed to be seismically qualified, or if it has to be modified.</p> <p>3) The license identified that although the plant is designed with diverse sources of fire protection equipment and water sources to supply fire mitigation equipment, this equipment and its associated water sources are not designed and installed to Seismic Class I requirements. Therefore, the licensee will evaluate the need to develop mitigating strategies to provide additional means of mitigating a fire following a seismic event.</p> <p>4) The licensee identified that the plant fire truck is currently housed in a structure on site that is not designed to Seismic Class I requirements. Therefore, the licensee will evaluate the need to relocate the fire truck to a Seismic Class I structure or to a location that would not present a seismic hazard to the equipment.</p> <p>The inspectors verified that all of these issues were entered into the licensee's corrective action program.</p> <p>The inspectors did not identify any issues of concern.</p>
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03.04 Assess the thoroughness of the licensee’s walkdowns and inspections of important equipment needed to mitigate fire and flood events to identify the potential that the equipment’s function could be lost during seismic events possible for the site. Assess the licensee’s development of any new mitigating strategies for identified vulnerabilities (e.g., entered it in to the corrective action program and any immediate actions taken). As a minimum, the licensee should have performed walkdowns and inspections of important equipment (permanent and temporary) such as storage tanks, plant water intake structures, and fire and flood response equipment; and developed mitigating strategies to cope with the loss of that important function. Use IP 71111.21, “Component Design Basis Inspection,” Appendix 3, “Component Walkdown Considerations,” as a guideline to assess the thoroughness of the licensee’s walkdowns and inspections.

<p style="text-align: center;"><b>Licensee Action</b></p>	<p style="text-align: center;"><b>Describe the licensee’s actions to assess the potential impact of seismic events on the availability of equipment used in fire and flooding mitigation strategies.</b></p>
<p>a. Verify through walkdowns that all required materials are adequate and properly staged, tested, and maintained.</p>	<p>Licensee actions included identifying equipment utilized/required to mitigate fire and flood events. Plant walkdowns were performed to assess functionality of important equipment needed to mitigate a flood or fire following a design basis earthquake. Walk downs included external visual inspections of associated pumps, diesels, motors, breakers, pipes, valves, tanks, intake structures, hoses, and fittings. The material condition of surrounding equipment and structures, including the structure that houses the credited equipment, were also inspected. Non-seismic equipment and structures were visually inspected to determine if any surrounding SSCs could be adversely impacted due to seismic interaction.</p> <p style="text-align: center;"><b>Describe inspector actions to verify equipment is available and useable. Assess whether procedures were in place and could be used as intended.</b></p> <p>The inspectors accompanied licensee personnel on selected walkdowns to verify the licensee’s actions and assess their adequacy. Additionally, the inspectors independently walked down fire piping, fire mitigating components, the B.5.b fire truck, B.5.b related equipment, flooding barriers, and areas susceptible to flooding. The walkdown included the residual heat removal and containment spray pump rooms, emergency diesel generator rooms, fire water storage tank yard and the screen house intake structure. The inspector’s assessment was consistent with the licensee’s conclusions that there were a few potential seismic vulnerabilities that need to be evaluated, as described below.</p>

	<p><b>Discuss general results including corrective actions by licensee. Briefly summarize any new mitigating strategies identified by the licensee as a result of their reviews.</b></p> <p>The licensee identified four potential deficiencies as summarized below:</p> <ol style="list-style-type: none"> <li>1) The licensee noted that the alarms in the condenser pits and the auxiliary building sump that are credited to alert operators to take action to mitigate internally flooding are both non safety-related and non-seismic. Therefore, seismic response procedures will be enhanced to have Auxiliary Equipment Operators check the turbine and auxiliary buildings for internal flooding as soon as possible in order to assist control room operators in taking action to mitigate/terminate the event.</li> <li>2) The licensee identified that during an external flooding event due to a seiche, the west wall of the turbine building is credited for preventing flooding on the turbine building 591 foot elevation. However, documentation could not be found to verify that the turbine building west wall that extends beyond the screenhouse was Seismic Class I. Therefore, structural design engineering will evaluate if the wall can be analyzed to be seismically qualified, or if it has to be modified.</li> <li>3) The license identified that although the plant is designed with diverse sources of fire protection equipment and water sources to supply fire mitigation equipment, this equipment and its associated water sources are not designed and installed to Seismic Class I requirements. Therefore, the licensee will evaluate the need to develop mitigating strategies to provide additional means of mitigating a fire following a seismic event.</li> <li>4) The licensee identified that the plant fire truck is currently housed in a structure on site that is not designed to Seismic Class I requirements. Therefore, the licensee will evaluate the need to relocate the fire truck to a Seismic Class I structure or to a location that would not present a seismic hazard to the equipment.</li> </ol> <p>The inspectors verified that all of these issues were entered into the licensee's corrective action program.</p> <p>The inspectors did not identify any issues of concern.</p>
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## Meetings

### .1 Exit Meeting

The inspectors presented the inspection results to Mr. J. Gebbie and other members of licensee management on April 29, 2011. The inspectors asked the licensee whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.



## **SUPPLEMENTAL INFORMATION**

### **KEY POINTS OF CONTACT**

#### Licensee

J. Gebbie, Site Vice President  
Q. Lies, Plant Manager  
D. Cobb, Maintenance Manager, WIN Team  
G. Curten, Design Engineering, Mechanical  
R. Pletz, Fire Protection and Safety Services Supervisor  
M. Scarpello, Regulatory Affairs Manager

#### Nuclear Regulatory Commission

J. Cameron, Chief, Reactor Projects Branch 6/DRP/RIII

## 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 or 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.

### 03.01 Assess the licensee's capability to mitigate conditions that result from beyond design basis events

<u>Number</u>	<u>Description or Title</u>	<u>Date or Revision</u>
	Fire Pre-Plans Fire Protection Response to a Large Fire or Explosion Event	Revision 12
	Berrien County Emergency Management Memorandum of Understanding	February 1, 2010
	Lake Township Fire and Rescue Memorandum of Understanding	November 17, 2010
	Bridgman City Fire Department Memorandum of Understanding	December 6, 2010
	Lakeland HealthCare Memorandum of Understanding	November 5, 2010
	Medic1 Ambulance Memorandum of Understanding	December 21, 2010
	Entergy, Palisades Nuclear Plant Reciprocal Laboratory Use Agreement	October 14, 2010
	Mutual Assistance Agreement between Detroit Edison, Entergy Nuclear Palisades, LLC, and Indiana Michigan Power	November 5, 2010
	Nuclear Power Plant Emergency Response Voluntary Assistance Agreement	January 17, 2007
	Voluntary Assistance Agreement by and Among Electric Utilities Involved in Transportation of Nuclear Materials	January 17, 2007
	Berrien County Sherriff's Department Memorandum of Understanding	November 9, 2010
	Michigan State Police Memorandum of Understanding	September 26, 2008
12-OHP-4022-018-001	Loss of Spent Fuel Pit Cooling	Revision 13
12-OHP-4026-EDM-001	Extensive Damage Mitigation Initial Response	November 18, 2008
12-OHP-4026-EDM-002	Extensive Damage Mitigation Enhanced Site Response Strategies	November 18, 2008
12-OHP-4026-EDM-003	Extensive Damage Mitigation Resource Management Guidance	November 18, 2008
12-OHP-5030-APR-001	Appendix R Toolbox and Ladder Inventory	Revision 3
AR 2011-3416	Enhance 12-OHP-4022-018-001 Loss of Spent Fuel Pit Cooling	
AR 2011-4027	SAMG, EDM, B.5.b Training Not Given as Req'd by TPD-600-EPT	

AR 2011-4983	Appendix R Toolbox Electrical Tape Not Correct Type By Procedure	
Donald C. Cook Nuclear Plant	Fukushima Daiichi Nuclear Station Fuel Damage Caused by Earthquake and Tsunami Action Plan Response	April 15, 2011
Lesson Plan AE-C-00104	Abnormal/ Emergency Tasks	August 12, 2008
Lesson Plan AE-C-EDMG	Auxiliary Equipment Operators Continuing Training	Revision 0
Lesson Plan AE-J-3322	B.5.b EDMG3	February 28, 2009
Lesson Plan RQ-C-3245	Validated SEC Threat/Extensive Damage Mitigation	November 8, 2007
Lesson Plan RQ-C-3614	License Operator Requalification SAMG/SACRG Review	Revision 0
Lesson Plan RQ-S-3601-D1	Licensee Operator Requalification Dual Unit Training Scenario	Revision 0
OP-12-5132-29	Flow Diagram CVCS-Boron Hold up Boric Acid Reserve Tank Units 1 & 2	Revision 29
SAMG SAG-1	Feeding Steam Generators	April 8, 2009
SAMG SAG-2	Depressurize RCS	April 8, 2009
SAMG SAG-4	Inject Into Containment	April 8, 2009
SAMG-1	Severe Accident Management Guidance Manual	April 10, 2007
WO 55367675-01	Appendix R Toolbox and Ladder Inventory	January 29, 2001

03.02 Assess the licensee's capability to mitigate station blackout (SBO) conditions

<u>Number</u>	<u>Description or Title</u>	<u>Date or Revision</u>
12-OHP-4021-033-001	Supplemental Diesel Generator Operations	Revision 6
12-OHP-4023-SUP-009	Restoration of 4KV Power from EP	Revision 7
1-OHP-4021-028-014, Attachment 6	Initiating or Restoring From ESW Cooling To Air Handling Units Following A Failure of Both Chiller Packages	Revision 26
1-OHP-4022-055-003	Loss of Condensate to Auxiliary Feedwater Pumps	Revision 9
1-OHP-4023-ECA-0.0	Loss of All AC Power	Revision 25
1-OHP-4025-R-13	Restore Diesel Generators	Revision 4
2-OHP-4022-016-004	Loss of Component Cooling Water	Revision 19
2-OHP-4023-ECA-0.0	Loss of All AC Power	Revision 24
2-OHP-4025-LS-3	Steam Generator 2/3 Level Control	Revision 4
2-OHP-4025-R-12	Component Restoration	Revision 6

2-OHP-4025-R-8	Restore Electrical System	Revision 2
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03.03 Assess the licensee's capability to mitigate internal and external flooding events required by station design

<u>Number</u>	<u>Description or Title</u>	<u>Date or Revision</u>
12-OHP-4022-001-009	Seiche	August 12, 2010
1-OHP-4024-124	Annunciator #124 Response: Containment	March 9 2007
MD-12-CW-005-N	Flooding Due to Circulating Water Expansion Joint Failure	April 6, 2006
MD-12-SCRN-001-N	Screen House Internal Flood Levels	January 15, 2009
SD-061206-001	Flooding Evaluation Report for D.C. Cook Power Plant	Revision 2
WO 55311728-02	12-DR-129, Inspect for Functionality/ Corrosion / Degradation	July 13, 2010
WO 55325852-01, MTM	Inspect and Lube Watertight Doors per ME.DOOR.001	August 26, 2009

03.04 Assess the thoroughness of the licensee's walkdowns and inspections of important equipment needed to mitigate fire and flood events to identify the potential that the equipment's function could be lost during seismic events

<u>Number</u>	<u>Description or Title</u>	<u>Date or Revision</u>
DCC-PV-12-MC17-N	Flood Protection Features	October 14, 2001
DCC-PV-12-MC33-N	Flood Protection	November 23, 1994
DIT-B-02531-00	Seismic Class I Boundaries	October 23, 2002
N920101	Fire Protection Storage Tanks at Cook Plant	February 11, 1992
OP-125152-14	Flow Diagram Fire Protection-Water Yard Piping Unit 1 & 2	Revision 14

## LIST OF ACRONYMS USED

AC	Alternating Current
ADAMS	Agencywide Documents Access and Management System
AR	Action Request
CFR	Code of Federal Regulations
EDMG	Extensive Damage Mitigation Guidelines
IP	Inspection Procedure
KV	Kilovolt
NRC	United States Nuclear Regulatory Commission
SAMG	Severe Accident Management Guidelines
SBO	Station Blackout
SSC	Structures, Systems, and Components
TI	Temporary Instruction

L. Weber

-2-

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Sincerely,

*/RA/*

Jamnes L. Cameron, Chief  
Branch 6  
Division of Reactor Projects

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

Enclosure: Inspection Report 05000315/2011011; 05000316/2011011

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SUBJECT: D. C. COOK NUCLEAR POWER PLANT, UNITS 1 AND 2 – NRC TEMPORARY  
INSTRUCTION 2515/183 INSPECTION REPORT 05000315/2011011;  
05000316/2011011

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