



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION**

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

May 13, 2011

Mr. Michael J. Pacilio  
Senior Vice President, Exelon Generation Company, LLC  
President and Chief Nuclear Officer (CNO), Exelon Nuclear  
4300 Winfield Road  
Warrenville, IL 60555

**SUBJECT: DRESDEN NUCLEAR POWER STATION UNITS 2 AND 3 –  
NRC TEMPORARY INSTRUCTION 2515/183 INSPECTION  
REPORT 05000237/2011009; 05000249/2011009**

Dear Mr. Pacilio:

On April 29, 2011, the U. S. Nuclear Regulatory Commission (NRC) completed an inspection at your Dresden Nuclear Power Station, Units 2 and 3, using Temporary Instruction 2515/183, "Followup to the Fukushima Daiichi Nuclear Station Fuel Damage Event." The enclosed inspection report documents the inspection results which were discussed on May 2, 2011, with Mr. S. Marik and other members of your staff.

The objective of this inspection was to promptly assess the capabilities of Dresden Nuclear Power Station 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 the next quarterly report. You are not required to respond to this letter.

M. Pacilio

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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,

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Mark A. Ring, Chief  
Projects Branch 1  
Division of Reactor Projects

Docket Nos. 50-237; 50-249  
License Nos. DPR-19; DPR-25

Enclosure: Inspection Report 05000237/2011009; 05000249/2011009

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U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket Nos: 05000237; 05000249  
License Nos: DPR-19; DPR-25

Report Nos: 05000237/2011-009; 05000249/2011-009

Licensee: Exelon Generation Company, LLC

Facility: Dresden Nuclear Power Station, Units 2 and 3

Location: Morris, IL

Dates: March 23 through April 29, 2011

Inspectors: C. Phillips, Senior Resident Inspector  
D. Meléndez-Colón, Resident Inspector  
J. Draper, Reactor Engineer

Approved by: M. Ring, Chief  
Projects Branch 1  
Division of Reactor Projects

Enclosure

## **SUMMARY OF FINDINGS**

IR 05000237/2011009; 05000249/2011009, 03/23/2011 – 04/29/2011; Dresden Nuclear Power Station Temporary Instruction 2515/183 - Followup to the Fukushima Daiichi Nuclear Station Fuel Damage Event.

This report covers an announced Temporary Instruction (TI) inspection. The inspection was conducted by Resident and Region III 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 the next quarterly 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>The Licensee identified equipment (active and passive) utilized for implementation of B.5.b actions and any additional equipment used in Severe Accident Management Guidelines (SAMGs). All active equipment required to mitigate the designated events was tested and all passive equipment was walked down and inspected.</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 observed the testing and reviewed the records associated with a surveillance test of the diesel-driven pump designated for use in multiple technical support guidance procedure attachments which implement SAMGs associated with B.5.b.</p>
	<p><b>Discuss general results including corrective actions by licensee.</b></p>
	<p>No issues.</p>

Licensee Action	Describe the licensee's actions to verify that procedures are in place and can be executed (e.g., walkdowns, demonstrations, tests, etc.).
<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>This review should be done for a reasonable sample of mitigating strategies/equipment.</p>	<p>Licensee actions included the identification of those procedures utilized to mitigate the consequences of a B.5.b related event and severe accidents. The licensee verified, by walkdown, the procedures necessary to implement the requirements of B.5.b and 10 CFR 50.54(hh), and that controlled copies of the procedures were in the applicable locations, including the main control room, work execution center, technical support center, operations support center, as well as posted procedures at various locations in the plant, and the safe shutdown and B.5.b staging areas.</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 conducting a review of the licensee's walkdown activities. In addition, the inspectors reviewed and walked down selected licensee procedures listed in the List of Documents Reviewed in this report. The inspectors also interviewed operations and engineering department staff.</p> <p>The inspectors verified that the SAMGs and technical support guidance (TSG) procedures were in the technical support center and operations support center and that the procedures reviewed could be performed as written.</p>

	<p><b>Discuss general results including corrective actions by licensee.</b></p> <p>SAMG-2, "Sample Drywell and Torus Hydrogen and Oxygen" – The licensee identified that the equipment was available, but no procedure existed for sampling Hydrogen. Per Chemistry Management, if a Hydrogen sample was required, it could be obtained by using the available hydrogen meter with the Oxygen sampling procedure/lineup. A temporary night order and contingency action was established to sample for Hydrogen using CY-DR-110-230, "Drywell and Torus Oxygen and Hydrogen Analysis," Revision 2 with an Orbisphere Model 3654 Hydrogen analyzer, if necessary.</p> <p>TSG 3, Attachment I, Connecting Temporary Power to U2 ERVS [electromatic relief valves] For ERV Manual Operation - Issue Report (IR) 1190765 documented that a splice kit was missing. This deficiency was corrected and a splice kit was staged at the B.5.b staging area, as required by the procedure.</p>
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<b>Licensee Action</b>	<b>Describe the licensee's actions and conclusions regarding training and qualifications of operators and support staff.</b>
<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>The licensee reviewed the qualifications of all operators, security officers, and Emergency Response Organization members, and concluded that the qualifications were up-to-date and sufficient to operate the plant in an emergency. Qualifications for specific individuals, positions or tasks were maintained and tracked on the licensee's qualification database.</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 capabilities by conducting a review of the licensee’s review activities. The inspectors reviewed the scheduled licensed operator requalification training regarding the use and implementation of the Severe Accident Management Guidelines for the last cycle, in both the classroom and the simulator, and had no issues. The inspectors also interviewed operations and engineering department staff.</p>
	<p><b>Discuss general results including corrective actions by licensee.</b></p>
	<p>All procedures required to support the postulated events were walked down and verified by operators and no tasks for which they are not qualified and trained were identified.</p>

<p><b>Licensee Action</b></p>	<p><b>Describe the licensee’s actions and conclusions regarding applicable agreements and contracts 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 offsite agreements listed below were required by the emergency plan or other procedures. The licensee verified that all agreements were current.</p> <p>General Electric, Morris Facility - Vendor support  Coal City Fire Department  Grundy County Sheriff  Will County Sheriff  Morris Hospital  U.S. Corps of Engineers  INPO Emergency Assistance</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 Letters of Agreement between Dresden Station Management and the Morris Hospital, U.S. Corps of Engineers, Coal City Fire Department, and the Will County Sheriff, and verified all were current.</p> <p>The inspectors reviewed procedure TSG-3, Attachment S, "Memo Of Understanding Participating Parties." One agreement within this procedure was for the Milwaukee County Airport to provide specific equipment, if requested. The inspectors called the phone number in the procedure and verified the validity of the number and the availability of the equipment listed in the procedure.</p>
	<p><b>Discuss general results including corrective actions by licensee.</b></p> <p>No issues.</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 inspectors reviewed the issue reports generated by the licensee and listed in the List of Documents Reviewed to this report, and verified that the items were corrected or were minor in nature.</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:

<b>Licensee Action</b>	<b>Describe the licensee’s actions to verify the adequacy of equipment needed to mitigate an SBO event.</b>
<p>a. Verify through walkdowns and inspection that all required materials are adequate and properly staged, tested, and maintained.</p>	<p>The licensee identified portable equipment required to mitigate station blackout (SBO) conditions through procedure reviews. Walkdowns were performed for all SBO related support equipment to ensure good current conditions.</p> <p>The licensee performed reviews of the issue reports generated during their review and determined that all actions were complete or appropriate for the circumstances. The licensee conducted a review of previous issue reports and all open work orders to determine if any issue report or work order identified a vulnerability to the stations ability to implement the SBO strategy. The licensee concluded that there were no open items that identified a vulnerability to implement the SBO strategy.</p> <p><b>Describe inspector actions to verify equipment is available and useable.</b></p> <p>The inspectors observed the testing and reviewed the surveillance test records of all portable diesel-driven pumps that would be called upon in a complete station blackout. In addition, the inspectors walked down the U2 and U3 Station Blackout Diesels, including the associated battery rooms. The inspectors also reviewed selected issue reports regarding station blackout procedures and equipment which are listed in the List of Documents Reviewed to this report. The inspectors also interviewed operations and engineering department staff.</p>

	<b>Discuss general results including corrective actions by licensee.</b>
	No issues.

<b>Licensee Action</b>	<b>Describe the licensee's actions to verify the capability to mitigate an SBO event.</b>
b. Demonstrate through walkdowns that procedures for response to an SBO are executable.	Licensee actions included the identification of procedures required for response to an SBO. The licensee then walked down the procedures and verified they were executable.
	<b>Describe inspector actions to assess whether procedures were in place and could be used as intended.</b>
	The inspectors reviewed and performed walkdowns of selected licensee procedures listed in the List of Documents Reviewed to this report. The inspectors also interviewed operations and engineering department staff.

	<b>Discuss general results including corrective actions by licensee.</b>
	None identified.

<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.</p>	
<b>Licensee Action</b>	<b>Describe the licensee’s actions to verify the capability to mitigate existing design basis flooding events.</b>
<p>a. Verify through walkdowns and inspection that all required materials are adequate and properly staged, tested, and maintained.</p>	<p>The licensee performed walkdowns and inspections of important equipment needed to mitigate flood events to identify the potential that the equipment’s function could be lost during seismic events appropriate for the site. The licensee also tested the diesel-driven pump designated to supply cooling water to the isolation condensers and spent fuel pools in the event of a Probable Maximum Flood (PMF).</p>

**Describe inspector actions to verify equipment is available and useable.  
Assess whether procedures were in place and could be used as intended.**

The inspectors reviewed the licensee's external flood strategy. The inspectors also interviewed operations and engineering department staff. The licensee's flood strategy was reviewed by the NRC during the Systematic Evaluation Program (SEP), documented in NUREG-0823, "Integrated Plant Safety Assessment Systematic Evaluation Program," completed in February 1983, and closed out in NUREG-1403, "Safety Evaluation Report Related To The Full-Term Operating License For Dresden Nuclear Power Station, Unit 2," completed in October 1989.

The 100 year flood level is 509' above sea level. The 500 year flood is about 513'. The PMF is at 528'. A summary of the flood strategy is that when water level rises above 517' (plant ground level), the doors to the reactor building will be opened and water will be let in. This was due to the inability of the reactor building walls to support water levels above 517'. Opening the doors will flood all safety-related emergency core cooling pumps because they are below grade. The only equipment capable of removing decay heat expected to remain functional after the PMF are the isolation condensers. The isolation condensers require make up flow to remain functional. The licensee flooding procedure requires that a sand bag wall be built around the installed diesel-driven isolation condenser make up pumps to about 519'. The only source of water for the isolation condensers on both units, after water level exceeds 519' was a single augmented-quality diesel-driven pump (flood pump). Since the PMF was 528', the pump would have to be hoisted into the air using a crane and a chain fall to remain above the flood waters. The source of water for the pump is the flood water off the reactor building floor. The pump has to be operated and refueled while hanging in the air. This pump will also provide cooling and makeup water to the spent fuel pools.

The strategy is based on the following assumptions:

- 1) Low probability of maximum probable flood (500 year flood is at 513');
- 2) Long lead time for water level to reach 517'. The licensee expects as much as 72 hours warning before water level would reach 509'. In this time, the reactor would be shutdown and cooled down and water level in the reactor would be flooded to the reactor head flange.

	<p>The inspectors assessed the licensee’s capabilities to mitigate external flooding by conducting a review of the licensee’s walkdown activities. The inspectors observed a licensee walkdown and inspection of flood barriers, penetrations and seals on the Unit 2 and Unit 3 Containment Cooling Service Water (CCSW) pump floors and vaults, the Unit 2 and Unit 3 Emergency Core Cooling System (ECCS) corner rooms and torus basements, and the 2/3 Emergency DG room.</p> <p>The inspectors observed the operation of the diesel-driven flood pump and reviewed the test results, interviewed operations management personnel, and reviewed procedures associated with flooding. The inspectors concluded that the procedures were in place and could be used as intended. However, the flood pump has never been operated while hoisted into the air.</p> <p>The inspectors reviewed the issue reports generated by the licensee during the course of their reviews.</p>
	<p><b>Discuss general results including corrective actions by licensee.</b></p> <p>The licensee runs the flood pump dry every quarter and once every six years does a full flow test of the pump. Calculation DRE99-0035, “Capacity and Discharge Head for Portable Isolation Condenser Make-up Pump To Be Used During Flood Conditions,” Revision 3, gave specific discharge head and flow requirements for the pump to be able to perform its function of providing enough water to the isolation condensers and the fuel pool to remove decay heat.</p> <p>The inspectors observed that the flood pump was tested on April 8, 2011, and credited as the six year full flow surveillance test. The test procedure had no acceptance criteria, except as determined by the test engineer, which was not documented. This issue will be evaluated further in the Dresden quarterly integrated inspection report 2011-003 under IP 71111.06, “Flood Protection Measures.”</p>

<p>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>	
<p><b>Licensee Action</b></p>	<p><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>The licensee performed 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 appropriate for the site.</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 observed a licensee walkdown of the U2/U3 Turbine Building Fire Suppression Piping. The inspectors performed walkdowns of all water tight doors and the CCSW vaults either during the course of this inspection or during the first quarter of 2011. The inspectors also interviewed operations and engineering department staff.</p> <p>The Dresden Lock and Dam and the structures that separate the Lake from the hot and cold canals are not seismically qualified. The expected outcome of a design basis seismic event was the failure of the Dresden Lock and Dam. Since the Dam is down river, the impact on the plant would be a loss of makeup water from the river to the ultimate heat sink instead of a flooding event.</p> <p>In addition, the structures that separate the lake from the hot and cold canals are not built to withstand a design basis seismic event. The inspectors asked the licensee what is expected to happen if the structures between the lake and the canals were to fail. Although no formal study had been done, the licensee showed the inspectors topography</p>

	<p>maps of the area between the lake and the plant. Based on the topography map, the inspectors concluded that if the structures between the lake and the canals were to fail, the water would most likely drain to the Kankakee River.</p> <p>The licensee neither performed a walkdown of DOA 0010-01, Lock and Dam Failures nor DOA 0010-20, Dresden Dike High Water Level and/or Dike Failure. Licensee management personnel stated that a walkdown of these procedures was not within the scope of the review as designated by Exelon Corporate.</p> <p>The inspectors reviewed DOA 0010-20, "Dresden Dike High Water Level and/or Dike Failure," Revision 5 and DOA 0010-01, "Lock and Dam Failures," Revision 29. In addition, the inspectors observed the running of one of the two portable diesel-driven pumps called upon to be used in the case of a lock and dam failure. The inspectors verified that the two portable pumps designed for putting water from the river into the CCSW system were stored in a seismically qualified building. The portable pump designed for de-watering flooding internal to the building was not stored within a seismically qualified building.</p> <p>The inspectors performed a review of the issue reports generated by the licensee during the course of their review which are listed in the List of Documents Reviewed to this report.</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 observed that the fire protection system was not seismically qualified. The licensee also observed that flood seals, within the turbine and reactor buildings, were not seismically qualified. The licensee stated that there was nothing within the licensing basis that required the systems to be seismically qualified. The inspectors were not aware of any information that would contradict the licensee's conclusion.</p> <p>The inspectors identified in the third quarter of 2010 that the floor over both of the Unit 2 ECCS corner rooms had holes that bypassed the curbs designed to keep water on the reactor building 517' floor out of the corner rooms. This was documented as an unresolved item in inspection report 05000237; 249/2010004. The inspectors observed on April 26, 2011, that the holes identified in the Unresolved Item were not yet repaired. The licensee's scheduled date for repair was during the first week of January 2012.</p> <p>The licensee had not completed a review of potential new mitigating strategies by the end of the inspection period.</p>
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## Meetings

### .1 Exit Meeting

The inspectors presented the inspection results to Mr. S. Marik, and other members of licensee management, at the conclusion of the inspection on May 2, 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

S. Marik, Station Plant Manager  
H. Bush, Radiation Protection Manager  
D. Gronek, Operations Director  
G. Ice, Regulatory Assurance – NRC Coordinator  
C. Kent, Operations Support  
D. Leggett, Regulatory Assurance Manager  
D. O’Flanagan, Security Manager  
J. Reda, Design Engineering  
J. Sipek, Engineering Director

#### Nuclear Regulatory Commission

C. Phillips, Senior Resident Inspector  
D. Melendez-Colon, Resident Inspector  
J. Draper, Reactor Engineer

## 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>
WO 1374055	D2/3 SAN COM Run B.5.b Portable Pump	3/22/2011
TSG-3	Operational contingency Action Guidelines	Revision 4
TSG-3, Attachment C	Manual Operation of Unit 2 Isolation Condenser	Revision 4
TSG-3, Attachment L	Spent Fuel Pool Makeup/Spray Cooling Spray Using A Fire Truck	Revision 4
TSG-3, Attachment M	Drywell Injection Using Portable Diesel Pump	Revision 4
DOA 1600-09	Emergency Containment Venting.	Revision 4
DFPP 4123-13	Alternate Water Sources for Fire Protection LOOP Using Fire Truck and other Sources	Revision 7
IR 1189771	B.5.b Portable Generator/Rectifier Procedures Issues	3/20/2011
IR 1189875	IER 11-01: Wrong Jumpers In DEOP Locker For DEOP 0500-03	3/20/2011
IR 1189832	IER 11-01: Manual Containment Vent Procedure Deficiencies	3/20/2011
IR 1189997	IER 11-01: Jumper Enhancement For DEOP 500-02 G.13	3/21/2011
IR 1190279	IER 11-01: DEOP 0500-03 Step G.10 Enhancement	3/21/2011
IR 1190658	IER 11-01: Torus and Drywell Sampling For O2 & H2	3/22/2011
IR 1190687	IER 11-01: DFPP 4123-13 Improvements	3/22/2011
IR 1190674	IER 11-01: Items Noted During B.5.b Pump Run	3/22/2011
IR 1190765	IER 11-01: TSG-3 Attachment I & Attachment J Verification	3/22/2011
IR 1190796	IER 11-01: TSG-3 Attachment K Needs Updates	3/22/2011
IR 1201637	NER 11-009: Interference Between Hose Reels & Fuel Pool	4/12/2011

### 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>
IR 1194015	IER 11-01, DGA 12 Walkdown Procedure Enhancements	3/29/2011
IR 1190727	IER 11-01, TSG-3 Attach B Enhancement	3/28/2011
IR 1095235	NRC Question Various SBO Related Deficiencies	3/08/2010
IR 1039853	NRC Resident Questions SBO DG Availability	3/08/2010
DGA 12	Partial or Complete Loss of AC Power	Revision 64
TSG-3, Attachment M	Drywell Injection Using Portable Diesel Pump;	Revision 4

<u>Number</u>	<u>Description or Title</u>	<u>Date or Revision</u>
DOS 0010-34	Petro-Guard Pump Testing	Revision 0
DOP 6620-19	Filling SBO 2(3) Fuel Oil Day Tank With Installed System Unavailable	Revision 3

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>
WO 872864	D2/3 6Y PM Emergency Diesel Pump (Flood Pump) Operation	4/8/2011
DOA 0010-04	Floods	Revision 31
DOS 1300-04	Operation of the Isolation Condenser External Flood Emergency Make-up Pump	Revision 7
DOA 0010-20	Dresden Dike High Water and/or Dike Failure	Revision 9
IR 1203243	Flood Pump Flow During Test Point Was Lower Than Expected	4/15/2011
NUREG-0823	Integrated Plant Safety Assessment	February 1983
NUREG-1403	Safety Evaluation Report related to the full-term operating license for Dresden Nuclear Power Station, Unit 2	October 1989
IR 1200303	NOS ID Potential Delay In Flooding Actions	4/9/2011
IR 1200568	NOS ID Procedure Enhancement On Support Actions For Flooding	4/10/2011
IR 1198074	IER 11-1 Review of DOA 0010-04 Floods	4/5/2011

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>
DOA 0040-02	Localized Flooding in Plant	Revision 22
DOA 0010-01	Lock and Dam Failures	Revision 29
DOA 0010-20	Dresden Dike High Water Level and/or Dike Failure	Revision 5
DOS 1500-19	Operation of the Dresden Lock and Dam Failure CCSW Emergency Pump	Revision 6
WO 1374038-01	D2 SA PM Emergency Diesel Pump (CCSW Pump) Operation	4/12/2011
WO 1374038-02	D2 SA PM Emergency Diesel Pump (CCSW Pump) Operation	4/11/2011

## LIST OF ACRONYMS

ADAMS	Agencywide Documents Access and Management System
CC	Component Cooling Water
CCSW	Containment Cooling Service Water
CFR	Code of Federal Regulations
ECCS	Emergency Core Cooling System
ERV	Electromatic Relief Valves
IP	Inspection Procedure
IR	Issue Report
NRC	U.S.Nuclear Regulatory Commission
PARS	Publicly Available Records System
PMF	Probable Maximum Flood
SAMG	Severe Accident Management Guideline
SBO	Station Blackout
SEP	Systematic Evaluation Program
TSG	Technical Support Guides

M. Pacilio

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Sincerely,

*/RA/*

Mark A. Ring, Chief  
Projects Branch 1  
Division of Reactor Projects

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SUBJECT: DRESDEN NUCLEAR POWER STATION UNITS 2 AND 3 –  
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