



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
REGION IV  
612 EAST LAMAR BLVD, SUITE 400  
ARLINGTON, TEXAS 76011-4125

May 13, 2011

Mr. Edward D. Halpin, President  
and Chief Executive Officer  
STP Nuclear Operating Company  
P.O. Box 289  
Wadsworth, TX 77483

SUBJECT: SOUTH TEXAS PROJECT ELECTRIC GENERATING STATION – NRC  
TEMPORARY INSTRUCTION 2515/183 INSPECTION  
REPORT 05000498/2011008 AND 05000499/2011008

Dear Mr. Halpin:

On April 26, 2011, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your South Texas Project Electric Generating Station facility, Units 1 and 2, using Temporary Instruction 2515/183, "Follow-up to the Fukushima Daiichi Nuclear Station Fuel Damage Event." The enclosed inspection report documents the inspection results, which were discussed on April 26, 2011, with Mr. C. Bowman, General Manager, Nuclear Safety Assurance, and other members of your staff.

The objective of this inspection was to assess the adequacy of actions taken at South Texas Project Electric Generating Station facility, Units 1 and 2, in response to the Fukushima Daiichi Nuclear Station fuel damage event. The results from this inspection, along with the results from similar inspections at other operating commercial nuclear plants in the United States, will be used to evaluate the United States nuclear industry's readiness to respond to a similar event. 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.

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 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).

STP Nuclear Operating Company

- 2 -

Sincerely,

***/RA/ By David L. Proulx***

Wayne Walker, Chief  
Project Branch A  
Division of Reactor Projects

Dockets: 50-498  
50-499  
Licenses: NPF-76  
NPF-80

Enclosure:  
NRC Inspection Report 05000498/2011008 AND 05000499/2011008  
w/Attachment: Supplemental Information

cc w/Enclosure:

Distribution via ListServ

Electronic distribution by RIV:  
 Regional Administrator (Elmo.Collins@nrc.gov)  
 Deputy Regional Administrator (Art.Howell@nrc.gov)  
 DRP Director (Kriss.Kennedy@nrc.gov)  
 DRP Deputy Director (Troy.Pruett@nrc.gov)  
 DRS Director (Anton.Vegel@nrc.gov)  
 DRS Deputy Director (Vacant)  
 Senior Resident Inspector (John.Dixon@nrc.gov)  
 Resident Inspector (Binesh.Tharakan@nrc.gov)  
 Branch Chief, DRP/A (Wayne.Walker@nrc.gov)  
 Senior Project Engineer, DRP/A (David.Proulx@nrc.gov)  
 STP Administrative Assistant (Lynn.Wright@nrc.gov)  
 Project Engineer, DRP/A (Laura.Micewski@nrc.gov)  
 Public Affairs Officer (Victor.Dricks@nrc.gov)  
 Public Affairs Officer (Lara.Uselding@nrc.gov)  
 Project Manager (Balwant.Singal@nrc.gov)  
 Branch Chief, DRS/TSB (Michael.Hay@nrc.gov)  
 RITS Coordinator (Marisa.Herrera@nrc.gov)  
 Regional Counsel (Karla.Fuller@nrc.gov)  
 NRR/DIRS/IRIB (Timothy.Kobertz@nrc.gov)  
 Congressional Affairs Officer (Jenny.Weil@nrc.gov)  
 OEmail Resource  
 ROPreports  
 RIV/ETA:OEDO (Stephanie.Bush-Goddard@nrc.gov)  
 DRS/TSB STA (Dale.Powers@nrc.gov)

R:\\_ REACTORS/ TI-183/STP2011-008-TI-WCW.docx ADAMS ML

SUNSI Rev Compl.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	ADAMS	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Reviewer Initials	wcw
Publicly Avail	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Sensitive	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Sens. Type Initials	wcw
RI:DRP/A	SRI:DRP/A	DRS/TSB	D:DRP/PBA		
BKTharakan	JLDixon	EARuesch	WCWalker		
WCW for-T	WCW for-T	/RA/	DP for		
05/09/2011	05/09/2011	05/09/2011	05/12/2011		

OFFICIAL RECORD COPY

T=Telephone

E=E-mail

F=Fax \

**U.S. NUCLEAR REGULATORY COMMISSION**

**REGION IV**

Docket: 05000498, 05000499

License: NPF-76, NPF-80

Report: 05000498/2011008 and 05000499/2011008

Licensee: STP Nuclear Operating Company

Facility: South Texas Project Electric Generating Station, Units 1 and 2

Location: FM521 - 8 miles West of Wadsworth  
Wadsworth, Texas 77483

Dates: March 23, 2011 through April 26, 2011

Inspectors: J. Dixon, Senior Resident Inspector  
B. Tharakan, CHP, Resident Inspector

Approved By: Wayne Walker, Chief, Project Branch A  
Division of Reactor Projects

## **SUMMARY OF FINDINGS**

IR 05000498/2011008 and 05000499/2011008, 03/23/2011 – 04/26/2011; South Texas Project Electric Generating Station, Units 1 and 2, 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 temporary instruction is to be a high-level look at the industry's preparedness for events that may exceed the design basis for a plant. The focus of the temporary instruction was on (1) assessing the licensee's capability to mitigate conditions that result from beyond design basis events, typically bounded by security threats; (2) assessing the licensee's capability to mitigate station blackout conditions; (3) assessing the licensee's capability to mitigate internal and external flooding events required by station design; and (4) assessing 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. If necessary, a more specific follow-up inspection will be performed at a later date.

## **INSPECTION RESULTS**

The following table documents the NRC inspection at South Texas Project Electric Generating Station, Units 1 and 2, facility, performed in accordance with Temporary Instruction 2515/183. The numbering system in the table corresponds to the inspection items in the temporary instruction.

**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 71111.05T, “Fire Protection (Triennial),” Section 02.03 and 03.03 as a guideline. If Inspection Procedure 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:**

Licensee Action	Describe what the licensee did to test or inspect equipment.
<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 tested active equipment, and walked down and inspected passive equipment. The licensee performed these activities in accordance with existing station procedures and preventive maintenance work orders. Some items were verified to be complete, if performed within the last month, through a review of completion paperwork; activities not accomplished within the last month were re-performed.</p>
	<p>Describe inspector actions taken to confirm equipment readiness (e.g., observed a test, reviewed test results, discussed actions, reviewed records, etc.).</p>
	<p>The inspectors reviewed the test results and observed some tests (normal fire water pumps). The inspectors independently walked down the passive equipment and verified that the contents of the licensee’s emergency lockers were in accordance with station procedures. The inspectors discussed with plant and licensed operators how the active and passive equipment is tested, maintained, and stored, and training is conducted on its use. Additionally, the inspectors walked down several of the procedures with a plant operator to ensure familiarity with the operation of the equipment, storage locations of portable equipment, and locations of permanently installed equipment.</p>
	<p>Discuss general results including corrective actions by licensee.</p>

	<p>The licensee determined that, with minor exceptions, equipment to mitigate beyond design basis events was available and functional. Condition reports were written to document that some of the passive equipment checklists did not include all of the required items. The licensee does not have a routine maintenance activity to measure portable fire pump flow. The portable fire pump was flow tested as part of initial purchase. However, the pump has since been overhauled due to damage during a dewatering activity in the turbine building. The licensee performed a flow verification test on April 21, 2011; the results were satisfactory.</p>
<p>Licensee Action</p>	<p>Describe the licensee's actions to verify that procedures are in place and can be executed (e.g. walkdowns, demonstrations, tests, etc.).</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>This review should be done for a reasonable sample of mitigating strategies/equipment.</p>	<p>The licensee determined that procedures to mitigate beyond design basis events were in place and executable. The licensee's procedures to implement strategies associated with B.5.b and 10 CFR 50.54(hh) are verified during refresher training on a periodic basis. The licensee is currently in the process of performing this refresher training. The licensee performed walkdowns of some procedures. For some of the procedures, the licensee staged the equipment to ensure that the procedures could be followed correctly. In the case of equipment that is also used for other activities, the licensee has verified through those other activities that the systems work and operators are familiar with how to operate the equipment.</p> <p>Describe inspector actions and the sample strategies reviewed. Assess whether procedures were in place and could be used as intended.</p> <p>The inspectors reviewed all the severe accident procedures and guidelines to ensure that the appropriate equipment, training, and staging were in place and those actions could be accomplished in accordance with the established timelines. The inspectors determined that the licensee's procedures were in place, effective, had been recently trained on, and could be implemented as intended. The inspectors walked down several strategies with plant operators to ensure that the operators knew where the equipment was located, how to</p>

	<p>operate the equipment, and the ease of use of the equipment.</p>
	<p>Discuss general results including corrective actions by licensee.</p>
	<p>The licensee's procedures were effective in ensuring that the desired action could be accomplished. The procedures were logically organized, clearly written, and could be accomplished by the most junior plant operator. Several key pieces of equipment are pre-staged, and several are designed to function without continuous operator coverage. The licensee wrote condition reports to ensure that hard copies of the latest revisions of the procedures were in the required locations. Even though the licensee does not have a specific test to ensure the discharge flow from the portable fire pump, they use it sufficiently for other activities that there is a high confidence that it will provide the required amount of flow. The licensee is in the process of obtaining the equipment and developing a procedure to test the discharge flow of the pump. The licensee performed a flow verification test on April 21, 2011; the results were satisfactory.</p>
<p>Licensee Action</p>	<p>Describe the licensee's actions and conclusions regarding training and qualifications of operators and support staff.</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>Plant operators receive initial training on these severe accident procedures through walkdowns with qualified operators, which is required prior to initial watch standing. Continuing training for plant operators, accomplished in accordance with the plant operator requalification 4-year plan, includes classroom and walkthroughs. Licensed operators receive initial training on these severe accident procedures along with all emergency operating and off normal operating procedures as part of initial licensed operator qualification. Continuing training for licensed operators is accomplished in accordance with the licensed operator requalification 2-year plan and emergency planning continuation training. The emergency response organization training requirements are proceduralized in the emergency preparedness-training program and personnel on the emergency response roster must complete training/requalification every three years. Security has an annual requirement to read and discuss in security officer requalification and in all initial security officer training, the actions required to implement the severe accident procedures.</p>
	<p>Describe inspector actions and the sample strategies reviewed to assess training and qualifications of operators and support staff.</p>
	<p>The inspectors reviewed the training records of all plant and licensed operators and of all emergency response roster personnel to ensure that they were still within their training window. The inspectors walked down and discussed several strategies with plant and licensed operators to ensure that the operators knew where the equipment was located, how to operate the equipment, the ease of use of the equipment, and could complete the procedures as written.</p>
	<p>Discuss general results including corrective actions by licensee.</p>
	<p>The licensee's procedures were effective in ensuring that the desired action could be accomplished. The procedures were logically organized, clearly written, and could be accomplished by the most junior plant operator.</p>

Licensee Action	Describe the licensee's actions and conclusions regarding applicable agreements and contracts are in place.
<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 Letters of Agreement with state and local entities, required by NUREG 0654, "Emergency Support and Resources," to verify their adequacy and currency. Annually, in accordance with the licensee's emergency response procedures, the licensee reviews the Letters of Agreement for each offsite organization and ensure that all letters are current or are updated as necessary. This review was recently accomplished in November 2010.</p>
	<p>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).</p>
	<p>The inspectors reviewed the licensee's procedures for requiring the Letters of Agreement to be maintained current. Additionally, the inspectors reviewed a sample of Letters of Agreement to verify that they were current.</p>
	<p>Discuss general results including corrective actions by licensee.</p>
	<p>The licensee had difficulty contacting two agencies to update the Letters of Agreement. They have since made contact and signed new Letters of Agreement.</p>

<p>Licensee Action</p>	<p>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.</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 licensee is capturing all items associated with the Fukushima event in Condition Report 11-4827. The licensee identified the following discrepancies: old revisions of procedures in the fields, incomplete inventory checklists, excess items in emergency lockers, not periodically flow testing the portable fire pump, not periodically testing some removable maintenance panels, and other miscellaneous items. None of the identified gaps or deficiencies would be expected to impact the success of any severe accident action.</p>

<p><b>03.02 Assess the licensee’s capability to mitigate station blackout conditions, as required by 10 CFR 50.63, “Loss of All Alternating Current Power,” and station design is functional and valid. Refer to Temporary Instruction 2515/120, “Inspection of Implementation of Station Blackout Rule Multi-Plant Action Item A-22,” as a guideline. It is not intended that Temporary Instruction 2515/120 be completely re-inspected. The inspection should include, but not be limited to, an assessment of any licensee actions to:</b></p>	
<p>Licensee Action</p>	<p>Describe the licensee’s actions to verify the adequacy of equipment needed to mitigate a station blackout event.</p>
<p>a. Verify through walkdowns and inspection that all required materials are adequate and properly staged, tested, and maintained.</p>	<p>The licensee reviewed 10 CFR 50.63, Regulatory Guide 1.155, NUMARC 87-00, its Updated Final Safety Analysis Report, and the NRC’s Safety Evaluation Report in response to the Updated Final Safety Analysis Report to ensure the basis for actions for a station blackout. Because the licensee is credited as an alternate ac source plant, any one of the three engineered safety features standby diesel generators is fully capable of providing power to one complete train of engineered safety features equipment during and after a station blackout event. Therefore, the licensee does not need special equipment or tools to mitigate station blackout conditions. The licensee verified through surveillance test review</p>

	<p>and condition report searching that all standby diesel generators were operable. In addition, the licensee verified that all required equipment contained in the emergency lockers was present.</p> <p>Describe inspector actions to verify equipment is available and useable.</p> <p>The inspectors reviewed the licensee's Updated Final Safety Analysis Report to understand the implementation and required equipment for station blackout and alternate ac source plant criteria. The inspectors walked down each standby diesel generator looking for deficiencies that might call into question the operability of the diesel. The inspectors reviewed the most recent surveillance test data for each diesel generator and the emergency locker inventory checklist. Additionally, the inspectors searched through the corrective action program database for items that could impact the operability of the standby diesel generators.</p> <p>Discuss general results including corrective actions by licensee.</p> <p>No operability concerns were identified during the inspectors walkdown of the standby diesel generators. The inspectors identified some additional items that had been stored in the emergency lockers that should not have been; however, the quantity was small and did not impact the accessibility of the emergency items. The licensee has captured this in a condition report and is removing the excess items.</p>
<p>Licensee Action</p>	<p>Describe the licensee's actions to verify the capability to mitigate a station blackout event.</p>

<p>b. Demonstrate through walkdowns that procedures for response to a station blackout are executable.</p>	<p>The licensee recently completed a combined function drill during which the “Loss of All AC Power,” Procedure 0POP05-E0-EC00 was executed. The licensee also walked down the procedure to ensure that all sections of the procedure could be completed in the event where all sections had not been reviewed/performed during the combined function drill. Finally, the licensee verified that the operations simulator training incorporated training scenarios that included various losses of all ac power situations. The most recent training scenario for loss of all ac was conducted from September to October 2010.</p>
	<p>Describe inspector actions to assess whether procedures were in place and could be used as intended.</p>
	<p>The inspectors verified the licensing basis to ensure that the facility is an alternate ac source plant. The inspectors verified that the licensee’s surveillance procedures were up to date, could be performed, and had been accomplished within the last month on all standby diesel generators. The inspectors verified that the operators had been trained periodically as required. Additionally, the inspectors observed the combined function drill and verified that the licensee was capable of completing the procedure as written.</p>
	<p>Discuss general results including corrective actions by licensee.</p>
	<p>The licensee has an open unresolved item from the 2010 Component Design Basis Inspection dealing with whether STP uses a 4-hour coping strategy or is an alternate ac source plant. The current wording to the Updated Final Safety Analysis Report includes both phrases. As a result, the Component Design Basis Inspection team could not determine which criterion to follow. The licensee captured this issue in a condition report and has revised the Updated Final Safety Analysis Report to remove the coping strategy and only list the alternate ac source plant criterion.</p>

**03.03 Assess the licensee’s capability to mitigate internal and external flooding events required by station design. Refer to Inspection Procedure 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>Licensee Action</p>	<p>Describe the licensee’s actions to verify the capability to mitigate existing design basis flooding events.</p>
<p>a. Verify through walkdowns and inspection that all required materials are adequate and properly staged, tested, and maintained.</p>	<p>The licensee determined that, with some exceptions, equipment and materials required to mitigate internal and external flooding was adequate, staged, tested and maintained. The licensee reviewed the design calculations for external and internal flooding, reviewed instrumentation, sump pump capabilities, and alarms used for detection of flooding to ensure they were functional. The licensee walked down flood seals and penetrations to ensure they were properly sealed and in good material condition. The licensee generated the population of seals and penetrations to inspect by reviewing civil (construction and architectural), and as built drawings.</p> <p>Describe inspector actions to verify equipment is available and useable. Assess whether procedures were in place and could be used as intended.</p> <p>The inspectors performed independent walkdowns of exterior and interior flood seals and penetrations. The inspectors observed material conditions of instrumentation and pumps used to detect and mitigate flooding. The inspectors reviewed logs to identify emergent issues with flooding mitigation equipment or barriers. The inspectors reviewed the Updated Final Safety Analysis Report, external and internal flooding design calculations, and flood seal and penetration design drawings. The inspectors observed the licensee perform walkdowns of exterior and interior flood seals and penetrations. The inspectors reviewed records of the licensee’s preventive maintenance program to ensure installed flood mitigation equipment was properly maintained. The inspectors reviewed the corrective</p>

	<p>action program to ensure the licensee had taken corrective action on issues that were identified during the walkdowns and reviews.</p>
	<p>Discuss general results including corrective actions by licensee.</p>
	<p>Results indicate that the licensee has adequately implemented controls to prevent flooding of systems, structures, and components necessary for safely shutting down the reactors, maintaining core cooling, and removing decay heat. The walkdowns identified minor material conditions, which have been entered into the corrective action program for repair, including degraded seals on access shafts, coatings and seals on flood panels, and chipped grout and concrete around pipe support plates. None of these conditions would have prevented the barriers from functioning resulting in flooding the area, with the exception of a cluster of penetrations in the Unit 1 and 2 mechanical auxiliary building that had one unsealed 2-inch cable penetration below the flood line. The licensee determined that if the design flood of the main cooling reservoir breach were to occur, then water would have entered into the buildings. The licensee determined that the 2-inch diameter penetration would not result in enough water to flood or cause damage to any safety related equipment. This vulnerability was entered into the corrective action program and the penetration was sealed shortly after discovery. The licensee is evaluating implementing additional preventive maintenance work orders to inspect seals, doors, and penetrations that are not already inspected as part of work orders.</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 into 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 Inspection Procedure 7111.21, “Component Design Basis Inspection,” Appendix 3, “Component Walkdown Considerations,” as a guideline to assess the thoroughness of the licensee’s walkdowns and inspections.**

<p>Licensee Action</p>	<p>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>
<p>Verify through walkdowns that all required materials are adequate and properly staged, tested, and maintained.</p>	<p>The licensee identified equipment that would be used for mitigation of fire and flooding events. The licensee determined whether this equipment was seismically qualified or if it could be evaluated as seismically rugged. All of the fire suppression systems were walked down by a qualified fire protection engineer, all of the fire protection program procedures were reviewed for any potential impacts/vulnerabilities, and all portable firefighting equipment was examined for any potential impacts. All flood mitigating equipment was walked down to the extent allowable, and all flooding procedures were reviewed for any potential impacts/vulnerabilities. The licensee also reviewed the Letters of Agreement with State and local entities that specifically dealt with providing support functions needed to mitigate an event and contacted each entity by phone to ensure the agreement was still in effect and to confirm that support would be provided. The licensee also performed an aggregate review of all the vulnerabilities identified to determine if any cumulative effects presented additional vulnerabilities.</p> <p>Describe inspector actions to verify equipment is available and useable. Assess whether procedures were in place and could be used as intended.</p> <p>The inspectors reviewed the Updated Final Safety Analysis Report to determine the maximum flood level for the site and the required equipment to combat fires and floods. The inspectors reviewed the licensee's fire protection program and flooding mitigation procedures, including natural and destructive phenomena procedures. The inspectors independently walked down the licensee's equipment to ensure it was available and usable and to ensure that the procedures could be accomplished as written. These walk downs included contingency response equipment, all external watertight doors, the walls of all external buildings for signs of degradation, the fire protection system diesel pumps, and the fire main header. The inspectors also observed the licensee perform flow testing on the portable fire pump and daily monitoring of the main cooling reservoir.</p>



	<p>Discuss general results including corrective actions by licensee. Briefly summarize any new mitigating strategies identified by the licensee because of their reviews.</p> <p>The licensee determined that all the fire protection systems were designed and installed in accordance with the National Fire Protection Association Codes. Consequently, none of the fire protection systems are seismically qualified. The licensee is considering mitigating strategies to address this vulnerability and has entered the concern into the corrective action program. The following items were noted to be stored in a non-seismic building: portable fire pump, aqueous film forming foam, fire brigade van, portable fire fighting monitor, and the fire brigade assembly area. The licensee is considering mitigating strategies to address these vulnerabilities, and has entered the concern into the corrective action program. Additionally, the licensee had not performed periodic flow measurement testing of the portable fire pump; it is currently tested unloaded. The licensee has captured this issue in its corrective action program, has purchased equipment to allow flow testing, and is generating preventive maintenance procedures for periodic testing of the portable fire pump in a loaded condition (flow measurement). The licensee performed a flow verification test on April 21, 2011; the results were satisfactory. The licensee is developing strategies to inspect the seals and penetrations that were determined to be inaccessible and to inspect the floor drain system for the safety-related structures; currently, there is no active preventive maintenance plan that verifies the function of the check valves in the system. Both of these items have been entered into the corrective action program.</p>
--	--

### **EXIT MEETING SUMMARY**

The inspectors presented the inspection results to Mr. C. Bowman, General Manager, Nuclear Safety Assurance, and other members of licensee management at the conclusion of the inspection on April 26, 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 Personnel**

M. Berg, Manager, Design Engineering  
C. Bowman, General Manager, Nuclear Safety Assurance  
J. Calvert, Manager, Training  
R. Dunn Jr., Manager, Fuels and Analysis  
R. Engen, Site Engineering Director  
T. Frawley, Manager, Operations  
R. Gangluff, Manager, Knowledge Transfer  
E. Halpin, President and Chief Executive Officer  
W. Harrison, Manager, Licensing  
G. Hildebrant, Manager, Plant Protection  
G. Janak, Manager, Operations Division, Unit 1  
B. Jenewein, Manager, Systems Engineering  
W. Jump, Senior Manager, Safety Review Team  
R. McNiel, Manager, Maintenance Engineering  
J. Milliff, Manager, Operations Division, Unit 2  
M. Murray, Manager, Safety Review Team  
J. Paul, Engineer, Licensing Consultant  
L. Peter, Plant General Manager  
J. Phelps, Manager, Safety Review Team  
J. Pierce, Manager, Operations Training  
G. Powell, Vice President, Technical Support and Oversight  
M. Reddix, Manager, Security  
D. Rencurrel, Senior Vice President, Units 1 and 2  
M. Ruvalcaba, Manager, Testing and Programs  
R. Savage, Engineer, Licensing Staff Specialist  
M Svetlik, Rapid Response Team  
R. Westmoreland, Rapid Response Team  
D. Wiegand, Engineer, Fire Protection

### **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.

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

CONDITION REPORTS

07-457	07-5234	08-13501	08-17328	08-18608
08-18611	10-12895	10-24694	11-4827	11-4894
11-5594	11-6504	11-6657		

MISCELLANEOUS

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
STI 32251563	Severe Accident Management Guidelines	1

PROCEDURES

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
OPOP01-ZA-0001	Plant Operations Department Administrative Guidelines	34
OPOP04-FC-0001	Loss of Spent Fuel Pool Level or Cooling	25
OPOP04-ZO-0001	Control Room Evacuation	33
OPOP10 Series	Various	Various

WORK AUTHORIZATION NUMBERS

390460	392457	399756
--------	--------	--------

**03.02 Assess the licensee's capability to mitigate station blackout conditions**

CONDITION REPORTS

10-1403	10-17753	11-4827	11-5560	11-6657
---------	----------	---------	---------	---------

PROCEDURE

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
OPGP03-ZV-0001	Severe Weather Plan	16
OPOP01-ZA-0001	Plant Operations Department Administrative Guidelines	34
OPOP04-AE-0001	First Response to Loss of Any or All 13.8 kV or 4.16 kV Bus	38
OPOP04-ZO-0002	Natural or Destructive Phenomena Guidelines	42
OPOP05-EO-EC00	Loss of All ac Power	20
OPSP03-DG-0001	Standby Diesel 11(21) Operability Test	40
OPSP03-DG-0002	Standby Diesel 12(22) Operability Test	39
OPSP03-DG-0003	Standby Diesel 13(23) Operability Test	41

WORK AUTHORIZATION NUMBERS

387294	390460	392457	399602	399756
400150	400190	400403	401096	

**03.03 Assess the licensee’s capability to mitigate internal and external flooding events required by station design**

CONDITION REPORTS

11-4827	11-5498	11-5256	11-5494	11-6011
11-6013	11-6027	11-6034	11-6161	

MISCELLANEOUS

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
5N209MB01035	Design Basis Document, External Environment	2
MEG-0101	Penetration Seals	1

**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**

CONDITION REPORTS

10-12895	10-25141	10-25912	11-4827	11-5735
11-6388	11-6504	11-6511	11-6657	
11-6996	11-7044			

MISCELLANEOUS

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
STI 364706	Specification for Geotechnical Instrumentation Monitoring and Inspection of Main Cooling Reservoir	6
VTD M903-0005	Installation Operation & Maintenance Instructions for Class 1A Watertight Doors	0

PROCEDURES

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
OPGP03-ZV-0001	Severe Weather Plan	16
OPGP03-ZV-0002	Hurricane Plan	5
OPOP01-ZA-0001	Plant Operations Department Administrative Guidelines	34
OPOP04-ZO-0002	Natural or Destructive Phenomena Guidelines	42

WORK AUTHORIZATION NUMBERS

307738	308070	312784	342840	347659
351376	352087	352487	356645	364187
367583	384328	390460	392457	399756