

ENCLOSURE 2

U.S. NUCLEAR REGULATORY COMMISSION  
REGION IV

Docket No.: 50-382  
License No.: NPF-38  
Report No.: 50-382/98-14  
Licensee: Entergy Operations, Inc.  
Facility: Waterford Steam Electric Station, Unit 3  
Location: Hwy. 18  
Killona, Louisiana  
Dates: July 26 through September 5, 1998  
Inspectors: Thomas R. Farnholtz, Senior Resident Inspector  
Jack M. Keeton, Resident Inspector  
Approved By: P. H. Harrell, Chief, Project Branch D  
Attachment: Supplement Information

## EXECUTIVE SUMMARY

Waterford Steam Electric Station, Unit 3  
NRC Inspection Report 50-382/98-14

### Operations

- Operators took appropriate actions to resolve an issue related to required entry into the Technical Specifications for containment integrity when a containment spray pump was inoperable (Section O1.2).
- When presented with a condition requiring entry to a Technical Specification shutdown action statement, operators recognized the need for and took prompt corrective actions to restore the minimum number of essential chiller trains to satisfy the required conditions for exiting the Technical Specification (Section O1.3).
- A violation of Technical Specification 6.8.1 was identified for the failure to start and load the emergency diesel generators when a hurricane warning was issued. This was because of ambiguity in the guidance procedure regarding when a step was not required to be performed. Operator familiarity with the off-normal procedure for severe weather was poor and training on the use of the procedure appeared to be lacking. Also, operator understanding of the purpose of the steps in the procedure was not evident (Section O1.4).

### Maintenance

- A noncited violation of Technical Specification 6.8.1 was identified for the failure to establish adequate maintenance procedures to ensure that parts removed from safety-related components were controlled. The lack of such requirements resulted in a locking ring, removed from a control room ventilation system valve, being unaccounted for and not reinstalled during maintenance activities (Section M1.1).

### Engineering

- A violation of Technical Specification 6.8.1 was identified for the failure to develop maintenance procedures for maintaining the floor and equipment drain systems functional. After inspector identification of this issue, licensee engineers did not demonstrate a questioning attitude during development of the procedures and addressing the potential problems with the drain systems (Section E8.1).

### Plant Support

- A prejob briefing for the repair of a charging system valve was conducted in an effective manner. All aspects of radiological protection and personnel safety were addressed (Section R4.1).
- The licensee's hurricane preparedness efforts were well thought out and implemented. The procedures in place and the supplies on hand were adequate to provide for the immediate needs of the personnel remaining on site. Site preparation following the

issuance of a hurricane warning for an impending tropical storm/hurricane was timely and effective (Section P4.1).

- An unlocked vital area access and fire door was discovered by the inspectors. This is a violation of the Physical Security Plan. Corrective actions were promptly taken by the licensee (Section S1.1).

## Report Details

### Summary of Plant Status

During this inspection period, the plant operated at essentially 100 percent power.

### I. Operations

#### **O1 Conduct of Operations (71707)**

##### **O1.1 General Comments (71707)**

The inspectors performed frequent reviews of ongoing plant operations, control room panel walkdowns, and plant tours. Observed activities were performed in a manner consistent with safe operation of the facility. The inspectors also observed several shift turnovers and daily routine shift activities. The shift turnovers were conducted in an effective and thorough manner. The inspectors observed operators using self-checking and peer-checking techniques when manipulating equipment. Three-way communication was consistently used by operators in the control room and in external communications with equipment operators and maintenance personnel.

##### **O1.2 Technical Specification Application with Containment Spray (CS) Pump Out of Service**

###### **a. Inspection Scope (71707)**

The inspectors reviewed the licensee's activities and followup actions involving CS system isolation for routine maintenance.

###### **b. Observations and Findings**

On August 18, 1998, at 1:10 a.m., CS Pump B was removed from service for routine maintenance. TS 3.6.2 was appropriately entered for removal of CS Pump B from service. During shift change, a discussion arose questioning whether entry into TS 3.6.3, "Primary Containment," was also required and whether closure of an additional valve in the CS system was required to meet Technical Specification 3.6.3. The operators determined that entry into TS 3.6.3 and closure of Valves CS-117B and -118B were the appropriate actions pending further review. TS 3.6.3 requires that containment integrity be established within 4 hours or be in Hot Standby within the next 6 hours, a total 10-hour window to complete these actions. This action was completed at 8:35 a.m., 7 hours and 25 minutes after the CS pump was removed from service.

Condition Report (CR) 98-1098 was written to address the issue and an engineering evaluation requested. As an interim measure, Standing Instruction 98-03 was written to require entry into TS 3.6.3 and closure of the additional valves in the appropriate train anytime a CS pump became inoperable. A past operability review found that the 10-hour allowed outage time had not been exceeded in prior CS pump outages; however, TS 3.6.3 entry had been inconsistently applied. A revision to Operations

Procedure OP-100-014, "Technical Specification Compliance," was in progress to ensure the appropriate Technical Specification entry was made when a CS pump was inoperable. Estimated completion date for this revision was September 15, 1998.

c. Conclusions

Operators took appropriate actions to resolve an issue related to required entry into the Technical Specifications for containment integrity when a containment spray pump was inoperable.

O1.3 Failure of Essential Chiller B Causing Entry into a 6-Hour Technical Specification Shutdown Action Statement

a. Inspection Scope (71707)

The inspectors reviewed the sequence of events, interviewed operators, and reviewed followup corrective actions for the failure of Essential Chiller B, concurrent with planned maintenance on turbine-driven Emergency Feedwater (EFW) Pump A/B.

b. Observations and Findings

On August 20, 1998, turbine-driven EFW Pump A/B was taken out of service to repair a failed steam piping heating component. The heating circuit is required to maintain the steam line to the turbine at elevated temperatures to preclude water hammer if the turbine started. While EFW Pump A/B was inoperable, Essential Chiller B failed. Failure of the chiller resulted in all systems cooled by that train to be declared inoperable, including EFW Pump B. With two EFW pumps inoperable, TS 3.7.1.2, which required the plant to be placed in Hot Standby within 6 hours, was entered.

The operators responded by aligning Essential Chiller A/B to supply cooling to the Train B equipment. The realignment was completed in approximately 33 minutes. With Train B equipment, including EFW Pump B, operable, the shutdown action statement was exited.

c. Conclusion

When presented with a condition requiring entry to a Technical Specification shutdown action statement, operators recognized the need for and took prompt corrective actions to restore the minimum number of essential chiller trains to satisfy the required conditions for exiting the Technical Specification.

O1.4 Operations Staff Preparations for Tropical Storm Earl

a. Inspection Scope (71707)

The inspectors observed preparations by the operations staff for severe weather associated with Tropical Storm Earl and performed a post-event review and interviews with Operations management.

b. Observations and Findings

On August 31, 1998, at 5:55 p.m., the St. Charles Parish Emergency Operations Center notified the licensee that the National Weather Service predicted heavy rains because of Tropical Storm Earl and that the projected storm path included St. Charles Parish, where the plant is located. The licensee implemented Site Procedure W6.103, "Emergency Preparedness-Hurricane Preparation/Response Guidelines," Revision 3. Operations personnel assisted in identifying equipment that required sheltering or securing in preparation for a potential hurricane.

On September 1 at 4 p.m., the licensee was informed that St. Charles Parish was under a hurricane warning and the Emergency Operations Center had declared a general emergency. The operators declared an Unusual Event in accordance with Site Procedure W6.103 and entered Off-Normal Operating Procedure OP-901-521, "Severe Weather and Flooding," Section E4, "Hurricane Watch/Warning." The path of the tropical storm/hurricane was projected to be west of Waterford 3, which would concentrate the highest winds and rainfall in the vicinity of the site.

Operations personnel began working through the off-normal procedure to prepare the plant for high wind conditions. Progress in completing the procedure appeared to be slow in that all steps of the procedure had not been completed during the 12 hours before the hurricane warning was lifted. The inspectors found that it was not clear that the steps that should have been taken prior to initiating a plant shutdown could have been completed if the storm had not changed course. The inspectors also noted that operator familiarity with this off-normal procedure was poor and training on the use of this procedure appeared to be lacking. Operator understanding of the purpose of the steps in the procedure was not evident. The hurricane warning was canceled on September 2 at 8 a.m.

Although most of the steps in Off-Normal Operating Procedure OP-901-521 had been completed, the inspectors noted that the emergency diesel generators (EDG) had not been started during the 12-hour period that the storm had been projected to affect Waterford 3. The inspectors noted that starting the EDG early in the warning would allow time to make repairs if an EDG failed to start. During discussions with the Operations Superintendent, the inspectors identified that the operators decided not to start and load the EDG, as required by the procedure, because they did not want to use the fuel oil and they thought the storm would turn and miss them. In both of these instances, the inspectors found the logic to be flawed in that the amount of fuel required to perform a start would be insignificant and the decision regarding the storm

path was based on speculation and not on factual weather data from the National Weather Service. Guidance for the use of off-normal operating procedures was contained in Procedure OP-100-001, "Duties and Responsibilities of Operators on Duty," Revision 15. Section 5, Step 5.16.5 of the procedure specified, in part, that steps may be performed out of sequence: IF the step is not applicable to plant conditions. Since all steps in Procedure OP-901-521 had not been completed at the time the procedure was exited, the potential existed that the step requiring starting of the EDGs could be performed. However, since there was no plant conditions during the 12 hours that the hurricane warning was in effect that would prevent starting of the EDGs, the step should have been performed in sequence. The failure to start the EDGs in accordance with the procedure is a violation of Technical Specification 6.8.1 (50-382/9814-01).

The inspectors reviewed Procedure OP-901-521 and noted that some ambiguity existed regarding the directions of when a procedure step did not have to be performed. The Operations Superintendent agreed that Procedure OP-901-521 should be revised to more clearly define the steps that were required and also provide additional direction, keeping within the procedure.

c. Conclusions

A violation of Technical Specification 6.8.1 was identified for the failure to start and load the emergency diesel generators when a hurricane warning was issued. This was because of ambiguity in the guidance procedure regarding when a step was not required to be performed. Operator familiarity with the off-normal procedure for severe weather was poor and training on the use of the procedure appeared to be lacking. Also, operator understanding of the purpose of the steps in the procedure was not evident.

**O8 Miscellaneous Operations Issues (92901)**

O8.1 (Closed) Violation 50-382/9624-01: Failure to take prompt corrective actions.

This violation cited two examples of a failure to take prompt corrective action. The first example involved a failure to determine all potential sources for water usage from the condensate storage pool following a tornado. The second example was a failure to implement immediate corrective actions specified in a CR. Immediate corrective actions were taken in response to this violation and compliance was achieved.

Long-term corrective actions to prevent recurrence of this violation were completed. The actions taken by the licensee included: (1) researched documentation addressing tornado events, (2) developed design basis for component cooling water makeup following a design basis accident, (3) revised calculations related to component cooling water makeup, and (4) performed testing of the component cooling water makeup system. The inspectors considered these actions to be adequate.

O8.2 (Closed) Licensee Event Report (LER) 50-382/96-015-01 and -02: Failure to Isolate Containment Penetration 20

The licensee revised this licensee event report to document that the modification to ensure positive isolation of the temporary chiller units was an enhancement rather than a long-term corrective action to prevent recurrence. The inspectors identified that increased sensitivity by licensed operators to the requirements of the Technical Specifications provided sufficient corrective action to address the identified root causes. Further, Operations management emphasized the types of boundaries allowed to positively isolate containment and emphasized that check valves are not appropriate isolation boundaries. The inspectors found these corrective actions appropriate.

O8.3 (Closed) LER 95-002-01: Reactor Trip and Nonsafety-Related Switchgear Fire.

This LER updated the original LER to provide additional information regarding the modifications installed to ensure proper breaker functioning in the nonsafety-related electrical distribution system.

Since the additional information provided was basically administrative in nature, no further review of this issue will be conducted.

## II. Maintenance

### **M1 Conduct of Maintenance (61726, 62707)**

The inspectors observed all or portions of the following maintenance and surveillance activities, as specified by the referenced work authorization (WA) or surveillance procedure number:

- WA 01168464 EFW Pump A/B Governor Valve Manual Stroke Test
- WA 01171657 Change Lube Oil in Chilled Water Pump AB
- WA 01165831 Overhaul Chiller AB Compressor and Inspect Internal Components
- WA 01172230 Rework Damaged Section of #2 Ground Wire and Reconnect to Box B5MS-V716
- OP-903-068 EDG and Subgroup Relay Operability Verification

In general, the inspectors considered the conduct of the observed maintenance and surveillance activities to be acceptable. All activities observed were performed with the work packages and/or test procedures present and in use. The inspectors observed supervisors and managers monitoring the progress of jobs as appropriate. Quality control personnel were present whenever required by procedure.



M1.1 Control Room Ventilation System Outside Air Isolation Valve Maintenance

a. Inspection Scope (61726)

The inspectors reviewed the work performed on the control room ventilation system outside air isolation upstream valve (HVC-102). The purpose of the maintenance was to remove and replace the T-ring of the valve, which forms the sealing surface when closed.

b. Observations and Findings

On July 21, 1998, the licensee performed maintenance on Valve HVC-102 to adjust the T-ring to correct a leakage condition past the valve disk and seat. During this maintenance activity, the licensee identified that the T-ring was installed incorrectly. The decision was made to remove the valve from the system, take it to the shop, and replace the T-ring with a newly designed ring. The new ring included a chamfer that more clearly indicated the correct orientation during installation. As part of this maintenance, an outer locking ring was removed on the valve shaft. The locking ring was placed in a bucket along with assorted tools being used for this work. Upon reassembly of the valve, the locking ring was not reinstalled on the valve shaft as required.

The valve was reinstalled in the control room ventilation system without the locking ring in place. Upon completion, work commenced on the downstream control room ventilation system outside air isolation downstream valve (HVC-101). This valve was of a similar design and configuration and was located adjacent to Valve HVC-102. During work on Valve HVC-101, the technicians noted that the outer locking ring was not installed on Valve HVC-102. The locking ring was located in the bucket where it had been left and was reinstalled in its proper location on Valve HVC-102. The valve was subsequently tested and returned to operable status.

The inspectors considered the cause of this event to be a lack of control of parts removed from safety-related components. The locking ring, once removed from the shaft of Valve HVC-102, was not labeled or tracked in any way, which allowed the ring to become unaccounted for. During reassembly of the valve, the ring was left off because there was no process in place to ensure that it was reinstalled. The inspectors considered placing removed parts from a safety-related component in a bucket, along with tools, to be an unacceptable work practice.

The inspectors questioned the licensee as to where and how the requirements for control of removed parts was proceduralized. Administrative Procedure MD-001-014, "Conduct of Maintenance," Revision 4 was reviewed to determine if any guidance was provided to the technicians concerning control of parts during maintenance. No such guidance was provided in this or any other station procedure. The inspectors

considered Administrative Procedure MD-001-014 to be inadequate in that it did not provide sufficient requirements to ensure that parts removed from safety-related components were controlled and labeled such that they could be retrieved and reinstalled in their correct location.

The failure to establish an adequate maintenance procedure to ensure that parts removed from safety-related components are controlled is a violation of TS 6.8.1. This violation is considered to be noncited, consistent with the requirements of Section VII.B.1 of the NRC Enforcement Policy. Specifically, the violation was nonrepetitive, identified by the licensee, it was not willful, actions taken as a result of a previous violation should not have corrected this problem, and appropriate corrective actions were completed by the licensee (50-382/9814-02).

The licensee provided the inspectors with a procedure revision to Administrative Procedure MD-001-014 to include appropriate requirements for the control of components, subassemblies, and parts. This revision included requirements to label removed parts, maintain removed parts separate from tools and equipment, and protect mechanical interfaces from damage. In addition, these expectations will be reinforced during upcoming maintenance meetings. The inspectors considered these changes to be adequate.

c. Conclusions

A noncited violation of Technical Specification 6.8.1 was identified for the failure to establish adequate maintenance procedures to ensure that parts removed from safety-related components were controlled. The lack of such requirements resulted in a locking ring, removed from a control room ventilation system valve, being unaccounted for and not reinstalled during maintenance activities.

**M8 Miscellaneous Maintenance Issues (92902)**

**M8.1** (Closed) LER 50-382/97-010: Failure to Meet Shield Building Ventilation (SBV) Technical Specification Flow Criteria.

On March 5, 1997, Technical Specification Surveillance PE-005-003, "Shield Building Ventilation System Surveillance," was performed on SBV Train B. The results of the test were outside the band for acceptance criteria; however, system engineer and vendor representative erroneously accepted the test results as satisfactory. Immediate corrective actions were taken by the licensee to return the system to an operable status.

The inspectors reviewed the long-term corrective actions, which included: (1) enhancing the human factors aspects of Surveillance Procedure PE-005-003, (2) review of other Technical Specification surveillance procedures for human factors improvements,

(3) review other Technical Specification surveillance procedures to ensure adequate barriers existed to prevent recurrence, and (4) review all Technical Specification surveillance procedures that involved vendor participation to ensure proper vendor oversight was exercised.

- M8.2 (Closed) Violation 50-382/9704-02: Failure to recognize SBV Train B failed its Technical Specification surveillance.

This violation was addressed by LER 50-382/97-010 and Section M8.1 of this report. All corrective actions have been completed.

- M8.3 (Closed) Violation 50-382/9522-04: Failure to perform an integrated leak test

As described in NRC Inspection Report 50-382/96-12, Section E8.3, this item was previously closed because the licensee took appropriate corrective actions to ensure that the 25 percent extension allowed by TS 4.0.2 would not be applied to administrative tests required by Section 6 of the TS. Further, the corrective actions included requiring an integrated leak test at least once every 18 months.

During this inspection period, the licensee questioned whether "refueling cycle interval or less," as used in Technical Specification 6.8.4.a, correlated to the definition provided in Table 1.1 for "refueling," which states at least once per 18 months. The inspectors researched the requirements for performing the integrated leak rate determination for systems outside containment, and determined that "refueling cycle interval" does not imply at least once every 18 months, similar to the "refueling" surveillance interval provided in the Definitions section of the TS. The licensee performs the test in shutdown conditions during each refueling outage; therefore, as long as the test is completed during a refueling outage prior to startup, the licensee meets the intent of "refueling cycle intervals." This provides the intended flexibility for extended shutdowns or for an extended operating cycle.

- M8.4 (Closed) Unresolved Item (URI) 50-382/9704-03: Testing of non-ASME code safety class components.

This URI involved the classification of components as safety class versus code class for the determination if ASME Section XI testing was required.

This issue was discussed with the Office of Nuclear Reactor Regulation (NRR) and it was determined that the classification of components by a licensee does not affect the determination of whether ASME Section XI testing is required or not. Irregardless of the classification, the components must be tested if the requirements of the ASME Code apply.

This item is considered closed, as no violation was identified with the misclassification of components as safety class versus code class. With respect to the verification that all

appropriate components had been included in the testing program, the NRC has performed extensive reviews of the testing programs and all issues related to testing were dispositioned in the appropriate inspection reports.

### **III. Engineering**

#### **E8 Miscellaneous Engineering Issues (92903)**

##### **E8.1 (Closed) URI 50-382/9724-02: Dirt and debris in reactor auxiliary building drains.**

As reported in NRC Inspection Report 50-382/97-24, no record could be found that the floor drain systems had been maintained since the plant became operational in 1985. Procedures for performing routine and periodic preventive maintenance had not been developed, nor had the system been tested to verify that the systems would function as assumed in the design basis documents.

In response to the inspectors' findings, CR 97-2544 was written. The ensuing investigation resulted in an apparent cause and several specific corrective actions for closure of the CR on March 5, 1998. The apparent cause was attributed to a lack of a formal program for periodic cleaning of the drain traps. Corrective actions included: (1) a walkdown of all floor drains by system engineers; (2) verifying drains were not plugged by pouring water down the drains; (3) cleaning of sediment traps, included in general housekeeping instructions; (4) initiation of tasks to periodically verify all drains were functional; (5) completion of engineering evaluations to determine if some sediment traps could be eliminated or replaced with disposable socks; (6) development of a test procedure and test plan for safeguards equipment rooms; and (7) review of flooding calculations and Updated Final Safety Analysis Report impact.

After the initial cleanup of the visible debris in the drains, licensee engineers performed walkdowns and drain flow verifications, several drains were found to be partially plugged. These drains were cleaned to clear the debris. Drains were found to contain boron crystals, trash, and the remains of a posting ribbon. Other drains were boroscoped and dirt, trash, nuts, and bolts were found and removed. The sediment traps on the floor drains were also cleaned, except for those in locked high radiation areas.

The Station Information Management System database was updated to provide repetitive tasks for periodically cleaning the floor drain systems throughout the plant. Additional tasks were identified to initiate engineering reviews for removal of unnecessary sediment traps to minimize the potential for blockage.

Special Test Procedure STP-01168398, "Drain and Sump Pump Capacity Test," was developed for testing of the drains and pumps in the safeguards equipment rooms. The procedure had been approved, but had not been implemented at the end of this inspection period.

On August 31, 1998, the inspectors performed a walkdown of the accessible floor drain systems in the reactor auxiliary building with the responsible engineering manager. All aspects of the floor drain and equipment drain problems appeared to have been addressed or were in progress.

The initial cleanup of the floor drains had been conducted with no quantification nor identification of material removed from the drains. Also, those drains that were plugged had not been documented, and as a result, potentially valuable data was lost. Throughout the period of time since this issue was identified, the licensee was slow to respond to questions and concerns raised by the inspectors. A questioning attitude had not been consistently demonstrated by the engineering staff. Flooding calculations and verifications had not been completed at the end of this inspection period, but were in progress. Preliminary results of the calculations indicated that no unresolved safety issue existed. The failure to implement a procedure for periodic cleaning of floor drains is a violation of Technical Specification 6.8.1 (50-382/9814-03).

Since the licensee had taken or planned to take appropriate actions to address this issue, as discussed above, no response to this violation is required. The inspectors verified that the actions were fully implemented by the licensee; therefore, this violation is considered closed.

**E8.2** (Closed) Unresolved Item 50-382/9704-05: Inspection of ventilation system dampers.

This issue involved the inspection of isolation dampers internal to the ventilation system, and was identified as a result of a concern that the damper was providing an isolation function between volatile organic compounds and the charcoal filters.

Based on a review of regulatory standards and discussions with NRR, it has been determined that physical inspection of the dampers is not required. This issue is considered closed as no violation of NRC requirements was identified.

#### **IV. Plant Support**

**R1 Radiological Protection and Chemistry (RP&C) Controls**

During routine tours, the inspectors observed radiation survey measurements posted, as required by licensee procedures and NRC regulations. A sample of doors were found locked for the purpose of radiation protection. Licensee personnel in radiologically controlled areas were observed following applicable procedures for radiation protection.

**R4 Staff Knowledge and Performance in RP&C**

**R4.1 Prejob Briefing for Maintenance on Reactor Coolant System Loop 2A Isolation Valve CVC-218B**

a. Inspection Scope (71750)

The inspectors attended a prejob briefing conducted on August 11, 1998. The purpose of the briefing was to familiarize maintenance technicians with the expected working conditions during the repair of Valve CVC-218B (charging line to Reactor Coolant System Loop-2A Isolation valve).

b. Observations and Findings

The licensee conducted a prejob briefing prior to technicians entering the reactor building to perform maintenance on Valve CVC-218B. This valve failed to close on August 10, 1998, and is located in the regenerative heat exchanger room. The licensee estimated the dose area in this room to be 50-80 mrem/hr gamma and 10 mrem/hr neutron. A low dose standby area was identified just outside the room with dose rates estimated to be 5 mrem/hr gamma and 10 mrem/hr neutron. The total estimated dose for this job was 200 mrem. The use of up to three different crews was planned to complete the task due to stay times in the heat stress area of the heat exchanger room.

Health physics personnel were assigned to accompany the technicians during the entire time that work was in progress in the reactor building. Personnel safety issues were stressed during the briefing and safety conditions were discussed in detail. Expected heat stress and atmospheric conditions were described. Actions to be taken in the event of a medical emergency were covered.

The inspectors considered this prejob briefing to have been an effective and useful meeting for the participants of this task. All aspects of radiological protection and personnel safety were discussed and all questions and concerns of the participants were addressed. The actual total dose received during this job was 62 mrem.

c. Conclusions

A prejob briefing for the repair of a charging system valve was conducted in an effective manner. All aspects of radiological protection and personnel safety were addressed.

#### **P4 Staff Knowledge and Performance in EP**

##### **P4.1 Hurricane Preparations**

###### **a. Inspection Scope (71750)**

The inspectors reviewed the licensee's preparations for hurricane events and inspected the materials designated for use in such an event. In addition, the inspectors observed preparations in progress for Tropical Storm Earl, which threatened the site.

###### **b. Observations and Findings**

The inspectors reviewed Site Procedures W6.102, "Emergency Preparedness Hurricane Policy," Revision 1, and W6.103, "Emergency Preparedness-Hurricane Preparation/Response Guidelines," Revision 3, to determine the extent of preparations made for severe weather. The procedures included required actions when a hurricane watch or warning is issued. Emergency response personnel assignments and arrangements for long-term (2-3 days) stays on site during and immediately following the passage of a storm were detailed. In addition, extensive hurricane check lists were included in Site Procedure W6.103 to ensure staffing, grounds and buildings, tools and equipment, supplies and personnel safety, emergency response facilities, and recovery planning issues were appropriately addressed.

The inspectors, accompanied by the manager of emergency planning, inspected supplies stockpiled by the licensee for use during severe weather events. These supplies included sufficient food, drinking water, and cots and bedding for those personnel who would be expected to remain at the site during and immediately following the hurricane. The supplies were stored in climate controlled conditions in the warehouse area and would be moved into the power block area of the plant in the event of severe weather. The power block of the plant was designed to withstand the effects of the most severe hurricane and would not be damaged during such an event so personnel protection during a storm would be assured. The inspectors considered the procedures in place and the supplies on hand to be adequate to provide for the immediate needs of the personnel remaining on site during a hurricane. It was evident that emergency preparations for hurricanes and severe weather were well thought out and implemented.

During this inspection period, Tropical Storm Earl threatened the site and a hurricane warning was issued on September 1, 1998, at 4 p.m. The storm developed and behaved in such a way that a hurricane watch was not issued prior to the warning. This triggered the licensee's emergency preparedness procedures described above and a Notice of Unusual Event was entered. The inspectors observed the preparations made at the site to minimize the impact of the expected severe weather. All loose items were either removed to more sheltered areas or tied down such that high wind conditions would not impact them. The inspectors noted that the urgency of this action was effectively communicated to plant personnel involved in the effort. The plant site was

prepared for severe weather and plant personnel assignments were established. The inspectors considered the licensee's overall response to the hurricane warning to be very good with the site preparations to be timely and effective. The hurricane warning was canceled at 8:34 a.m. on September 2 and the Notification of Unusual Event was exited at 9:08 a.m. Tropical storm/hurricane conditions were not experienced on site during the warning period.

c. Conclusions

The licensee's hurricane preparedness efforts were well thought out and implemented. The procedures in place and the supplies on hand were adequate to provide for the immediate needs of the personnel remaining on site. Site preparation following the issuance of a hurricane warning for an impending tropical storm/hurricane was timely and effective.

**S1 Conduct of Security and Safeguards Activities**

S1.1 Security Locked and Alarmed Door Found Unsecured

a. Inspection Scope (71750)

The inspectors identified an unsecured security/fire door, notified appropriate licensee staff, and reviewed followup activities and corrective actions.

b. Observations and Findings

On July 21, 1998, the inspectors had been conducting a plant tour when they noted that Door 206 on the minus 35-foot level of Dry Cooling Tower A was not locked, but resting against the door latch plate. Door 206 was identified as an alarmed security door providing vital area access between the dry cooling tower and fuel handling building. The door was also posted as a fire door. The inspectors immediately notified the central alarm station and a security officer was dispatched to the door. Further inspection revealed that although the door was not completely closed, the alarm was not actuated. However, when the security officer further opened the door the alarm actuated. The door was closed to perform its fire protection function and a compensatory security officer was posted at the door until the alarm could be repaired.

CR 98-0976 was written to ensure that appropriate corrective actions would be taken. The alarm history for Door 206 was reviewed, which revealed that a fire watch had performed a fire door surveillance on that door approximately 1 hour before the door was discovered in the unsecured position. The failure to maintain a vital area door locked and alarmed is a violation of the Physical Security Plan (50-382/9814-04).

Corrective actions taken by the licensee included: (1) performing corrective maintenance on the door latch and door closure device, (2) relocating the alarm magnetic switch to ensure the alarm was received when the door unlatched, (3) all other



doors with the same type alarm devices were checked (three other alarm devices were found to require corrective maintenance), and (4) a special training session was given to fire watch personnel by security supervision. All identified corrective actions have been completed. The inspectors considered these actions to be adequate, and as a result, no response to this violation is required. The inspectors verified that these actions had been implemented by the licensee; therefore, this violation is closed.

c. Conclusions

An unlocked vital area access and fire door was discovered by the inspectors. This is a violation of the Physical Security Plan. Corrective actions were promptly taken by the licensee.

**V. Management Meetings**

**X1 Exit Meeting Summary**

The inspectors presented the inspection results to members of licensee management on September 15, 1998. The licensee acknowledged the findings presented.

The inspectors asked the licensee whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

ATTACHMENT

SUPPLEMENTAL INFORMATION

PARTIAL LIST OF PERSONS CONTACTED

Licensee

R. F. Burski, Director Site Support  
C. M. Dugger, Vice-President, Operations  
E. C. Ewing, Director, Nuclear Safety & Regulatory Affairs  
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T. J. Gaudet, Manager, Licensing  
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A. J. Wrape, Director, Design Engineering

NRC

K. M. Kennedy, Senior Resident Inspector, ANO

INSPECTION PROCEDURES USED

IP 37551: Onsite Engineering  
IP 61726: Surveillance Observations  
IP 62707: Maintenance Observations  
IP 71707: Plant Operations  
IP 71750: Plant Support Activities  
IP 92700: Onsite LER Review  
IP 92901: Followup-Plant Operations  
IP 92903: Followup-Engineering  
IP 92904: Followup-Plant Support

ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

50-382/9814-01	VIO	Failure to start EDGs as required by procedure (Section O1.4)
50-382/9814-02	NCV	Failure to establish an adequate maintenance procedure for control of removed parts (Section M1.1)
50-382/9814-03	VIO	Failure to provide a procedure for cleaning floor and equipment drain systems (Section E8.1)
50-382/9814-04	VIO	Vital door partially open and not in alarm (Section S1.1)

Closed

50-382/9624-01	VIO	Failure to take prompt corrective actions (Section O8.1).
50-382/9615-01, -02	LER	Failure to isolate a containment penetration (Section O8.2).
50-382/95-002-01	LER	Reactor trip and nonsafety-related switchgear fire (Section O8.3).
50-382/9814-02	NCV	Failure to establish an adequate maintenance procedure for control of removed parts (Section M1.1).
50-382/97-10	LER	Failure to meet SBV Technical Specification flow criteria (Section M8.1).
50-382/9704-02	VIO	Failure to recognize SBV Train B failed its Technical Specification surveillance (Section M8.2).
50-382/9522-04	VIO	Failure to perform integrated leak test (Section M8.3).
50-382/9704-03	URI	Testing of non-AMSE Code safety class components (Section M8.4).
50-382/9724-02	URI	Dirt and debris in reactor auxiliary building drains (Section E8.1).
50-382/9814-03	VIO	Failure to provide a procedure for cleaning floor and equipment drain systems (Section E8.1).
50-382/9704-05	URI	Inspection of ventilation system dampers (Section E8.2).
50-382/9814-04	VIO	Vital door partially open and not in alarm (Section S1.1).

LIST OF ACRONYMS USED

ASME	American Society of Mechanical Engineers
CR	condition report
CS	containment spray
EDG	emergency diesel generator
EFW	emergency feedwater
LER	licensee event report
mrem/hr	millirem/hour
NCV	noncited violation
NRC	Nuclear Regulatory Commission
NRR	Nuclear Reactor Regulation
NUREG	NRC technical report designation ( <u>Nuclear</u> <u>Regulatory</u> Commission)
PDR	Public Document Room
SBV	shield building ventilation
TS	Technical Specification
URI	unresolved item
VIO	violation
WA	work authorization