



**UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
611 RYAN PLAZA DRIVE, SUITE 400
ARLINGTON, TEXAS 76011-8064**

November 29, 2000

Charles M. Dugger, Vice President
Operations - Waterford 3
Entergy Operations, Inc.
17265 River Road
Killona, Louisiana 70066-0751

**SUBJECT: WATERFORD STEAM ELECTRIC STATION, UNIT 3 - NRC INSPECTION
REPORT NO. 50-382/00-07**

Dear Mr. Dugger:

On October 26, 2000, the NRC completed a fire protection inspection at your Waterford Steam Electric Station, Unit 3, facility. The enclosed report documents the inspection findings, which were discussed on October 26, 2000, with you and other members of your staff.

This inspection was an examination of activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. Within these areas, the inspection consisted of selected examination of procedures and representative records, observations of activities, and interviews with personnel.

Based on the results of this inspection, the NRC identified issues that were evaluated under the risk significance determination process as having very low safety significance (green). The NRC has determined that three violations are associated with these issues. These violations are being treated as Non-Cited Violations, consistent with Section VI.A of the NRC Enforcement Policy. The Non-Cited Violations are described in the subject inspection report. If you contest these violations or significance of the Non-Cited Violations, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington DC 20555-0001; with copies to the Regional Administrator, U.S. Nuclear Regulatory Commission, Region IV, 611 Ryan Plaza Drive, Suite 400, Arlington, Texas 76011, and the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-0001, and the NRC Resident Inspectors at the Waterford Steam Electric Station, Unit 3, facility.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and enclosure will be 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). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/NRC/ADAMS/index.html> (the Public Electronic Reading Room).

Sincerely,

/RA/

Jeffrey L. Shackelford, Chief
Engineering and Maintenance Branch
Division of Reactor Safety

Docket No.: 50-382
License No.: NPF-38

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NRC Inspection Report No.
50-382/00-07

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ENCLOSURE

U.S. NUCLEAR REGULATORY COMMISSION
REGION IV

Docket No.: 50-382
License No.: NPF-38
Report No.: 50-382/00-07
Licensee: Entergy Operations, Inc.
Facility: Waterford Steam Electric Station, Unit 3
Location: Hwy. 18
Killona, Louisiana
Dates: September 25 - 29, and October 26, 2000
Team Leader: R. P. Mullikin, Senior Reactor Inspector
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P. A. Goldberg, Reactor Inspector
Engineering and Maintenance Branch
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Accompanying Personnel: D. Frumkin, Fire Protection Engineer
Office of Nuclear Reactor Regulation
P. Qualls, Fire Protection Engineer
Office of Nuclear Reactor Regulation
Approved By: Jeffrey L. Shackelford, Chief
Engineering and Maintenance Branch
Division of Reactor Safety

ATTACHMENTS:

Attachment 1: Supplemental Information
Attachment 2: NRC's Revised Reactor Oversight Process

SUMMARY OF FINDINGS

Waterford Steam Electric Station, Unit 3
NRC Inspection Report No. 50-382/00-07

IR 05000382-00-07; on 09/25-29/2000 and 10/26/2000; Entergy Operations, Inc.; Waterford Steam Electric Station, Unit 3; Fire Protection Report; Fire Protection

This report covers a 1-week onsite inspection by a team of five Region IV inspectors, and two Office of Nuclear Reactor Regulation observers during September 25-29, 2000. Additional inspection was performed by one Region IV inspector on October 26, 2000. The inspectors used NRC Inspection Procedure 71111.05 to evaluate the licensee's implementation of their NRC-approved fire protection program. However, certain associated circuits issues which are the subject of an ongoing, voluntary industry initiative, were not reviewed in this inspection. This portion of the inspection procedure was not performed in order to permit the industry to develop an approach and methodology to resolving the associated circuits issues that the NRC can endorse and to provide for licensees to implement the resolution methodology once approved.

Three issues identified during the inspection are discussed in the report. The significance of the issues is indicated by their color (green, white, yellow, red) and was determined through the use of the Significance Determination Process as described in NRC Inspection Manual Chapter 0609.

Cornerstone: Mitigating Systems

- Green. In Fire Area RAB-2 (heating and ventilation mechanical room), it was determined that equipment required for safe shutdown of the plant following a fire were not separated by 1-hour fire barriers. Specifically, several cables for the redundant Train A/B of the chilled water system had either missing or damaged 1-hour fire wrap. This was identified as a violation of Operating License Condition 2.C.9, and is being treated as a Non-Cited Violation consistent with Section VI.A of the NRC Enforcement Policy. The licensee entered this finding into their corrective action program as Condition Report CR-WF3-2000-1088, and the licensee implemented compensatory measures in the affected fire area in accordance with their fire protection program.

This finding was of very low safety significance because the ignition frequency was relatively low, fire suppression and detection systems were not degraded, and actions were available to ensure a safe shutdown path in Fire Area RAB-2 (Section 1R05.4).

Cornerstone: Mitigating Systems

- Green. The licensee failed to ensure through testing or evaluation that the configurations of Penetration Seals IIIA0204 and IIIA0251 were 3-hour fire rated. These penetration seals separated fire areas containing equipment required for safe shutdown. This was identified as a violation of License Condition 2.C.9, with two examples, and is

being treated as a Non-Cited Violation consistent with Section VI.A.1 of the NRC Enforcement Policy. The licensee entered this finding into their corrective action program as Condition Report CR-WF3-2000-1153, and the licensee implemented compensatory measures in the affected fire area in accordance with their fire protection program.

This finding was of very low safety significance because the ignition frequencies were relatively low, and fire detection and suppression systems were not degraded. The licensee subsequently performed a Generic Letter 86-10 evaluation which qualified these penetration seals (Section 1R05.4).

Cornerstone: Mitigating Systems

- Green. The licensee failed to initiate corrective action reports to document and evaluate failures of emergency lighting batteries to pass the 8-hour discharge tests. The team determined that five maintenance action items documented emergency lighting batteries that failed their 8-hour discharge tests. However, the failures were not entered into the licensee's corrective action program, as required by procedure. This was identified as a violation of Technical Specification 6.8.1.f. This violation is being treated as a Non-Cited Violation, consistent with Section VI.A of the NRC Enforcement Policy. The licensee entered this finding into their corrective action program as Condition Report CR-WF3-2000-1141

This finding was of very low safety significance because the batteries would have provided lighting for a certain amount of time and handheld lights would be available, if required (Section 1R05.8).

Report Details

1. REACTOR SAFETY

Cornerstones: Initiating Events and Mitigating Systems

1R05 Fire Protection

The purpose of this inspection was to review the Waterford Steam Electric Station, Unit 3, fire protection program for selected risk significant fire areas, with emphasis on verification that the post-fire safe shutdown capability and the fire protection features provided for ensuring that at least one post-fire safe shutdown success path is maintained free of fire damage. The inspection was performed in accordance with the new NRC regulatory oversight process using a risk-informed approach for selecting the fire areas and attributes to be inspected. The team leader and a Region IV senior reactor analyst used the Waterford Steam Electric Station, Unit 3, individual plant examination of external events to choose several risk-significant areas for detailed inspection and review. The fire areas chosen for review during this inspection were:

- Fire Area RAB-2 (heating and ventilation mechanical room, elevation +46 feet)
- Fire Area RAB-6 (electrical penetration area "A", elevation +35 feet)
- Fire Area RAB-8 (switchgear envelope, elevation +21 feet)

For each of these fire areas, the team focused their inspection on the fire protection features and on the systems and equipment necessary for the licensee to achieve and maintain safe shutdown conditions.

.1 Systems Required to Achieve and Maintain Post-Fire Safe Shutdown

a. Inspection Scope

The team reviewed the licensee's piping and instrumentation diagrams and the list of safe shutdown equipment documented in Table 9.5.1-4 of the Final Safety Analysis Report, to verify whether the licensee's shutdown methodology had properly identified the components and systems necessary to achieve and maintain safe shutdown conditions for equipment in the fire areas selected for review. The team focused on the following functions that must be ensured to achieve and maintain post-fire safe shutdown conditions: (1) reactivity control capable of achieving and maintaining cold shutdown reactivity conditions, (2) reactor coolant makeup capable of maintaining the reactor coolant level within the level indication in the pressurizer, (3) reactor heat removal capable of achieving and maintaining decay heat removal, and (4) supporting system capable of providing all other services necessary to permit extended operation of equipment necessary to achieving and maintaining hot shutdown conditions.

A review was also conducted to ensure that all required electrical components in the selected systems were included in the licensee's safe shutdown analysis. The team identified the systems required for each of the primary safety functions necessary to shut down the reactor. These systems were then evaluated to identify the systems that interfaced with the fire areas inspected and were the most risk significant for reaching both hot and cold shutdown. The following systems were selected for review:

- Emergency Feedwater System
- Main Steam System
- Chemical and Volume Control System

b. Findings

No findings were identified.

.2 Fire Safe Shutdown Analysis

a. Inspection Scope

For each of the fire areas, the team reviewed the licensee's safe shutdown analysis documented in the Waterford Final Safety Analysis Report to ensure that at least one post-fire safe shutdown success path was available in the event of a fire. This included a review of manual actions required to achieve and maintain hot shutdown conditions and to make necessary repairs to reach cold shutdown within 72 hours.

b. Findings

No findings were identified.

.3 Post-fire Safe Shutdown Circuit Analysis

a. Inspection Scope

The team, on a sample basis, verified that safety-related and nonsafety-related cables for equipment in the three selected fire areas had been analyzed to show that they would not prevent safe shutdown because of hot shorts, open circuits, or shorts to ground. Additionally, the team verified, on a sample basis, that circuit breaker coordination and fuse protection were acceptable as a means of protecting the power sources of the designated alternate safe shutdown equipment.

b. Findings

No findings were identified.

.4 Fire Protection of Safe Shutdown Equipment

a. Inspection Scope

For the selected fire areas, the team evaluated the adequacy of fire suppression and detection systems, fire area barriers, penetration seals, and fire doors to ensure that at least one train of safe shutdown equipment was free of fire damage. To do this, the team observed the material condition and configuration of the installed fire detection and suppression systems, fire barriers, and construction details and supporting fire tests for the installed fire barriers. In addition, the team reviewed the license documentation, such as exemptions and National Fire Protection Association code deviations to verify that the fire barrier installations met license commitments.

b. Findings

The findings are discussed below by fire area.

Fire Area RAB-2, Heating and Ventilation Room, Elevation + 46 feet

- During the information gathering trip to the site on September 13-14, 2000, the team requested information regarding safe shutdown circuits that are physically located within the selected fire areas. This information was to be obtained and provided to the team prior to the onsite inspection. The licensee determined, while obtaining the team's requested information, that six conduits containing safe-shutdown circuits in Fire Area RAB-2 were not provided with a 1-hour fire barrier. Specifically, the Heymc 1-hour fire barrier wrap was either missing or was damaged. The licensee documented the finding as Condition Report CR-WF3-2000-1088 and initiated an hourly fire watch in Fire Area RAB-2.

Fire Area RAB-2 contains Trains A, B, and A/B of the chilled water system. Section 9.5.1.3.2 of the Final Safety Analysis Report states that safe shutdown in Fire Area RAB-2 can be accomplished by using the redundant Train A/B chilled water system components. The chilled water system provides cooling to rooms containing safety-related equipment, including the control room. The team postulated that a fire could disable all three trains of the chilled water system. The Waterford Steam Electric Plant, Unit 3, Operating Plant License, License Condition 2.C.9, states, in part, that the licensee shall implement and maintain in effect all provisions of the approved fire protection program as described in the Final Safety Analysis Report for the facility through Amendment 36, and as approved in the Safety Evaluation Report through Supplement 9. Section 9.5.1.4(1) of the Waterford Safety Evaluation Report states that the licensee committed to provide 1-hour fire rated barriers to protect one division of shutdown-related cables in cable trays and conduits in certain fire areas. In addition, fire detectors and an automatic suppression system shall be installed in the fire area. The team determined that all three trains of the chilled water system could be damaged by a fire in Fire Area RAB-2 due to the lack of 1-hour fire rated barriers. This violation is being treated as a Non-Cited Violation in accordance with Section VI.A of the NRC Enforcement Policy (50-382/0007-01).

This violation was evaluated using the significance determination process, which indicated that the violation had very low safety significance. This was because the ignition frequency was relatively low, fire detection and suppression systems were not degraded, and operator actions were available to ensure a safe shutdown path in Fire Area RAB-2.

- The team reviewed the licensee's fire test report of the Heymc fire wrap material used as a 1-hour fire rated barrier to separate safe shutdown functions within the same fire area. The review included the evaluation of the application of the material as a fire barrier system for the protection of safe shutdown functions, and the fire endurance testing, which substantiated the fire barrier system's construction and installation attributes and its ability to perform as a 1-hour barrier. The review of the fire test report indicated that the testing of Heymc-wrapped conduits was performed on a 4-inch diameter conduit only. The team could not determine whether this testing was adequate to qualify Heymc fire wrap as a 1-hour fire-rated barrier for conduits less than 4-inches in diameter. The team noted two conduits (a 1-inch and a 2-inch diameter conduit) located in Fire Area RAB-2 containing safe-shutdown cables. This issue will be referred to the Office of Nuclear Reactor Regulation for review. This issue is considered an unresolved item (50-382/0007-02) until the completion of the NRC review.

Fire Area RAB-6, Electrical Penetration Area "A", Elevation +35 feet and Fire Area RAB-8, Switchgear Envelope, Elevation + 21 feet

During a walkdown of the selected fire areas and subsequent review of the penetration test data, the team noted that Penetration Seals IIIA0204 and IIIA0251 were larger than the tested configurations. Both of these penetration seals were floor penetrations and were installed in 3-hour fire-rated barriers. Penetration Seal IIIA0204 was installed in the 3-hour fire barrier between Fire Areas RAB-6 and RAB-8A. Penetration IIIA0251 was installed in the 3-hour fire-rated barrier between Fire Areas RAB-8B and RAB-27. Because these penetration seals were not bounded by the test configurations, the team considered their fire ratings to be indeterminate.

The Waterford Steam Electric Plant, Unit 3 Operating Plant License, License Condition 2.C.9, states, in part, that the licensee shall implement and maintain in effect all provisions of the approved fire protection program as described in the Final Safety Analysis Report for the facility through Amendment 36, and as approved in the Safety Evaluation Report through Supplement 9. Section 9.5.1.3(1) of the Waterford Safety Evaluation Report states that the licensee committed to provide 3-hour fire-rated penetration seals at all penetrations of fire-rated barriers. The failures to validate through testing or evaluation that the configurations of Penetration Seals IIIA0204 and IIIA0251 were 3-hour fire rated were considered to be two examples of a violation of License Condition 2.C.9 (50-382/0007-03). In response to the team's finding, the licensee initiated Condition Report CR-WF3-2000-1153 and implemented compensatory measures in the affected fire areas in accordance with their fire protection program.

Each example of this violation was evaluated using the significance determination process, which indicated that for each of the fire areas involved, the violation had very low safety significance. This was because the ignition frequencies were relatively low, and fire detection and suppression systems were not degraded. The licensee subsequently performed a Generic Letter 86-10 evaluation which qualified these penetration seals.

.5 Alternative Safe Shutdown Capability

a. Inspection Scope

The team performed a review to determine if the licensee had appropriate procedures in place and had identified the plant components and systems required to achieve and maintain safe shutdown conditions. The team reviewed the capability of the identified systems and components and the adequacy of the procedures that were identified as required to achieve alternative safe shutdown. The team then reviewed procedures and system operating capabilities to verify they were adequate to perform plant cooldown to hot and cold shutdown conditions from outside of the control room. The team's methodology was to focus on the overall adequacy of the identified systems, components, and use of procedures to perform actions necessary to increase core shutdown margin, control reactor pressure, provide reactor coolant makeup, and remove core decay heat. The team also reviewed the adequacy of process monitoring and needed support system functions.

The team reviewed, on a sample basis, the transfer of control from the control room to the alternative location to determine if it could be affected by fire-induced circuit faults (e.g., by the provision of separate fuses and power supplies for alternative shutdown control circuits).

b. Findings

The team noted that the majority of equipment credited by the licensee for safe shutdown during a control room fire was not electrically independent from the control room. The licensee's design for alternate shutdown capability during a control room fire and evacuation included switches located outside the control room, which removed power and indication from the control room and transferred this power and indication to alternative shutdown panels. However, for most safe shutdown equipment, one of two wires providing electrical power to indication circuits was not included in the switching arrangement. This design resulted in permanently tying together the control room, the alternative shutdown panels, and the associated power supply via one wire of the two wires from the power supply. A review of the design drawings for safe shutdown equipment indicated that this permanent connection was made for equipment, which was supplied power from 120V ac ungrounded supplies, 120V ac grounded supplies, and 125V dc ungrounded supplies. Typical circuit arrangements were shown in Drawings LOU-1564, B-424, Sheet 1646, "Control Wiring Diagram SG No. 1 Emergency F.W. Feedwater Isolation Valve 2FW-V848A," Revision 16 and LOU-1564, B-424, Sheet 795, "Control Wiring Diagram Dry Tower B Fan No. 15," Revision 12.

The team discussed the control room fire isolation circuit design with the licensee. The licensee provided the team with a copy of Condition Report CR-WF3-97-0477, which was written in response to Information Notice 97-01, "Improper Electrical Grounding Results in Simultaneous Fires in the Control Room and the Safe-Shutdown Equipment Room." The licensee recognized that the Waterford design included a neutral wire that was not isolated from the control room during transfer to the alternative shutdown panels. The licensee reviewed the design and concluded that the existing design did not create any conditions adverse to safe shutdown. 10 CFR Part 50, Appendix R, Section III.L.3, states that alternate shutdown capability shall be independent from the specific fire area, in this case the control room. The team reviewed Waterford's licensing basis and did not identify any approved exemptions related to this requirement.

The team noted that the licensee's review of Condition Report CR-WF3-97-0477 was based on methods for determining electrical shorts, grounds, and multiple faults, which are currently under industry and NRC review. Therefore, the team did not review the details of this analysis at this time. However, the team did review sample circuits in sufficient detail to conclude that a single fire induced fault in the control room would not affect safe shutdown capability for the circuits with a common power supply wire.

Although the team considered that the licensee's circuit design did not meet the requirements of 10 CFR Part 50, Appendix R, the team concluded that the results of current industry and NRC initiative covering fire induced electrical faults could affect the final decision on the acceptability of the design. This issue is considered an unresolved item (50-382/0007-04) pending completion of the NRC and industry initiative concerning fire-induced electrical faults.

The issue that the current design did not meet the 10 CFR Part 50, Appendix R, Section III.L.3, requirement for electrical independence and that Condition Report CR-WF3-97-0477 did not address this issue, was brought to the licensee's attention. The licensee issued Condition Report CR-WF3-2000-1170 to address the compliance aspects of this observation.

.6 Operational Implementation of Alternative Shutdown Capability

a. Inspection Scope

The team performed a walkdown of the actions defined in Operating Procedure OP-901-502, "Evacuation of Control Room and Subsequent Plant Shutdown, " Revision 6. This procedure documented the method for performing an alternative shutdown of the plant from the remote shutdown panel and by manipulating certain equipment locally in the plant. The team reviewed the ability of operators to perform the procedural actions within applicable plant shutdown time requirements and that equipment labeling was consistent with the procedure.

The team reviewed the training program for licensed and nonlicensed personnel to verify it included training on the alternative safe shutdown capability. Classroom lecture plans and a simulator scenario covering control room evacuation and subsequent plant shutdown were evaluated for adequacy. Additionally, the team arbitrarily selected Operations Crew D and reviewed each licensed operator's training record to ensure that they had taken the most recent requalification training on alternative shutdown.

The team reviewed Operating Procedure OP-903-126, "Functional Testing of LCP-43," Revision 0, and selected the March 18, 1999, performance data package for review. Additionally, the team reviewed Operating Procedure OP-904-015, "EFW System Test from LCP-43," Revision 1, and the associated data package from the most recent performance. These reviews were performed to verify that: (1) the licensee conducted periodic operational surveillance tests of the plant alternative shutdown transfer capability, instrumentation, and control functions; and (2) the surveillances performed were adequate to show that, if called upon, the plant alternative shutdown capability would be functional upon transfer to it. The team's reviews of communications and emergency lighting associated with these procedures are documented in Sections .7 and .8 of this report.

b. Findings

No findings were identified.

.7 Communications

a. Inspection Scope

The team reviewed the adequacy of the communication system to support plant personnel in the performance of alternative safe shutdown functions and fire department duties. The licensee credited the plant radio and the sound powered telephone system for post-fire safe shutdown actions that require prompt control room operator response.

The team reviewed a sample of preventative maintenance tasks and procedures to verify whether radios and telephones were available and operational for emergency use by operators and fire department members. The team also reviewed a sample of repetitive task work orders to determine whether routine preventive maintenance was being done to assure that the radios were being maintained in an operable condition.

b. Findings

No findings were identified.

.8 Emergency Lighting

a. Inspection Scope

The team reviewed the emergency lighting system required for safe shutdown activities in the selected fire areas to verify it would provide for adequate access to perform

manual actions required to achieve and maintain hot shutdown conditions. The team also reviewed the adequacy of emergency lighting for performing actions required in Procedure OP-901-502, "Evacuation of Control Room and Subsequent Plant Shutdown," Revision 6, which included access and egress routes. The team reviewed test procedures and test data to verify that the individual battery operated units were able to supply light for the required 8-hour period. The team reviewed vendor and licensee data, which determined the maximum temperatures at which the battery-powered lighting units would operate for 8 hours, in order to verify operability under maximum ambient temperatures. The team reviewed vendor documentation to verify that the battery power supplies were rated with at least an 8-hour capacity. The team also verified whether routine preventive maintenance was being performed to assure that the 8-hour battery powered lights were being maintained in an operable manner.

b. Findings

The team reviewed the 8-hour test results of the emergency lighting batteries as documented in maintenance action items. The team determined that there were numerous failures of the batteries to meet the 8-hour minimum time requirement and that the licensee had not written condition reports for many of the failures. The team reviewed nine maintenance action items conducted in August and September 2000. Eight of the maintenance action items listed emergency batteries that failed their 8-hour discharge tests. The licensee had prepared condition reports for three of the maintenance action items. The five maintenance action items, which had battery failures and no condition reports, were Maintenance Action Items 418708, 418340, 419097, 419201, and 416664. Technical Specification 6.8.1.f, "Fire Protection Program Implementation," requires that written procedures be established, implemented, and maintained covering the implementation of the fire protection program. Procedure LI-102, "Corrective Action Process," Revision 0. Attachment 9.2 contained examples of adverse conditions, which should be documented on a condition report. Section 11 of Attachment 9.2, "Fire Protection," listed emergency lighting. Section 3.0, "Definitions," defined adverse conditions, which included nonconformances and gave examples of nonconformances that included test failures. The failure to write condition reports for emergency lighting battery test failures was considered to be a violation of Technical Specification 6.8.1.f (50-382/0007-05). This violation is being treated as a Non-Cited Violation, consistent with Section VI.A of the NRC Enforcement Policy. In response to the team's finding, the licensee initiated Condition Report CR-WF3-2000-1141.

.9 Cold Shutdown Repairs

a. Inspection Scope

The team reviewed licensee procedures to determine which repairs were required to achieve cold shutdown and whether repair material was available onsite.

b. Findings

No findings were identified.

.10 Compensatory Measures

a. Inspection Scope

The team reviewed a sample of the fire impairments in place during the inspection to verify that the compensatory measures for those impairments were appropriate.

b. Findings

No findings were identified.

.11 Identification and Resolution of Problems

a. Inspection Scope

The team reviewed a sample of condition reports to verify that the licensee was identifying fire protection-related issues at an appropriate threshold and entering those issues into the corrective action program.

b. Findings

The team determined that the licensee was identifying fire protection-related issues. However, the failure to initiate condition reports for emergency lighting battery failures is discussed in Section 8.

4. OTHER ACTIVITIES

40A6 Management Meetings

Exit Meeting Summary

On September 29, 2000, at the conclusion of the team's onsite inspection, the team debriefed Mr. O. Pipkins, and other licensee staff members on the preliminary inspection findings.

On October 26, 2000, an onsite exit meeting was held with Mr. C. Dugger, Vice President Operations, and other licensee staff members, during which the team leader characterized the results of the inspection. The licensee's management acknowledged the findings presented.

The team reviewed some proprietary information during the inspection. This information was either securely disposed of or returned to the licensee.

ATTACHMENT 1

Supplemental Information

PARTIAL LIST OF PERSONS CONTACTED

Licensee

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C. DiMarco, Specialist IV, Quality Assurance
C. Dugger, Vice President, Operations
P. Gropp, Manager, Design Engineering
A. Holder, Programs Engineer, Fire Protection
S. Hymel, Technical Specialist
R. Killian, Supervisor, Quality Assurance
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J. O'Hearn, Manager, Training and Emergency Preparedness
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T. Schreckengast, Shift Manager, Operations/Licensing

NRC

C. Clark, Reactor Inspector
T. Farnholtz, Senior Resident Inspector, Waterford Steam Electric Station, Unit 3
J. Shackelford, Chief, Engineering and Maintenance Branch

ITEMS OPENED, CLOSED AND DISCUSSED

Items Opened and Closed

50-382/0007-01	NCV	Failure to provide 1-hour barriers for redundant safe shutdown equipment in Fire Area RAB-2 (Section 1R05.4).
50-382/0007-03	NCV	Failure to demonstrate the rating of 3-hour fire barriers between Fire Areas RAB-6, RAB-8, and RAB-27 (Section 1R05.4).
50-382/0007-05	NCV	Failure to initiate condition reports for test failures of emergency lighting batteries (Section 1R05.8).

Items Opened

50-382/0007-02	URI	Determination as to the qualification of Heymc fire wrap as a rated 1-hour fire barrier (Section 1R05.4).
50-382/0007-04	URI	Resolution of the issue on spurious actuations (Section 1R05.5).

LIST OF DOCUMENTS REVIEWED

Condition Reports

CR-WF3-1996-1903	CR-WF3-1999-0819	CR-WF3-2000-0979
CR-WF3-1997-0477	CR-WF3-1999-0882	CR-WF3-2000-1026
CR-WF3-1997-0988	CR-WF3-1999-0945	CR-WF3-2000-1027
CR-WF3-1998-1416	CR-WF3-1999-0961	CR-WF3-2000-1028
CR-WF3-1999-0063	CR-WF3-1999-0981	CR-WF3-2000-1029
CR-WF3-1999-0064	CR-WF3-1999-1055	CR-WF3-2000-1030
CR-WF3-1999-0131	CR-WF3-1999-1228	CR-WF3-2000-1071
CR-WF3-1999-0174	CR-WF3-1999-1267	CR-WF3-2100-1088
CR-WF3-1999-0191	CR-WF3-2000-0007	CR-WF3-2000-1126
CR-WF3-1999-0218	CR-WF3-2000-0401	CR-WF3-2000-1136
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Drawings

<u>Drawing Number</u>	<u>Title</u>	<u>Revision</u>
5817-5407	Sys FP-M18 Cable Penetration Area	5
5817-6337	RAB Multi Cycle Sprinkler Sys. FP-M30A	7
5817-6382	RAB Sprinkler Sys FP-M25B & M30A Swgr Area B	8
5817-6385	RAB Sprinkler Sys FP-M25B (FP-39) Swgr. Area B	7
5817-6529	RAB Preaction Sys FP-M26	7
5817-6530	RAB Preaction Sys FP-M26	8
G-859 S01	HVAC - Reactor Auxiliary Building Plan +EI 21'-0"	20

<u>Drawing Number</u>	<u>Title</u>	<u>Revision</u>
G-872 S02	HVAC - Reactor Auxiliary Building Sections El +21'-0", +35'-0"	11
G-FP-0021	Fire detection System - Raceway & Equipment Layout - Reactor Auxiliary Building El. +21.00'	0
G-FP-0022	Fire detection System - Raceway & Equipment Layout - Reactor Auxiliary Building El. +21.00'	0
G-FP-0023	Fire detection System - Raceway & Equipment Layout - Reactor Auxiliary Building El. +35.00'	1
G-FP-0025	Fire detection System - Raceway & Equipment Layout - Reactor Auxiliary Building El. +46.00'	0
LOU-1564, B-424, Sheets 350S & E350	Control Wiring Diagram - Boric Acid Pump B	3 & 13
LOU-1564, B-424 Sheet 795	Control Wiring Diagram Dry Tower B Fan No. 15	12
LOU-1564, B-424 Sheet 1540	Control Wiring Diagram Emergency FWPT (Feedwater Pump Turbine) Stop Valve	17
LOU-1564, B-424 Sheet 1646	Control Wiring Diagram SG No. 1 Emergency F.W. - Feedwater Isolation Valve 2FW-V848A	16
SK-A-E-0053	Fire Barrier Details DCP-3134	

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409714	413819	418042	418941	419523
409773	414425	418098	418943	419524
410060	414684	418302	419040	419525
410068	415336	418336	419097	419969
410080	415991	418340	419201	419972
411197	416664	418708	419522	419973
				421043

Procedures

<u>Procedure Number</u>	<u>Title</u>	<u>Revision</u>
EPP-428	Emergency Facilities and Equipment Readiness	1
FP-001-019	Fire Brigade Equipment	10
FP-001-022	Fire Protection Safe Shutdown Review	8
LI-102	Corrective Action Process	0
MD-001-040	Maintenance Action Item Performance and Documentation	1
ME-004-445	Self Contained Battery Powered Emergency Lighting Units	12
ME-004-463	Paging System	9
OI-003-000	Emergency Communications Routine Testing	7
OP-901-502	Evacuation of Control Room and Subsequent Plant Shutdown	6
OP-903-126	Functional Testing of LCP-43	0
PLG-009-009	Maintenance Action Item Planning	1
R-TYPE T1.06	Communications System Description	2
UNT-005-013	Fire Protection Program	8
UNT-005-034	Communications Affecting Plant Operation	2
W2.501	Corrective Action	8

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ATTACHMENT 2

NRC's REVISED REACTOR OVERSIGHT PROCESS

The federal Nuclear Regulatory Commission (NRC) recently revamped its inspection, assessment, and enforcement programs for commercial nuclear power plants. The new process takes into account improvements in the performance of the nuclear industry over the past 25 years and improved approaches of inspecting and assessing safety performance at NRC licensed plants.

The new process monitors licensee performance in three broad areas (called strategic performance areas): reactor safety (avoiding accidents and reducing the consequences of accidents if they occur), radiation safety (protecting plant employees and the public during routine operations), and safeguards (protecting the plant against sabotage or other security threats). The process focuses on licensee performance within each of seven cornerstones of safety in the three areas:

Reactor Safety

- Initiating Events
- Mitigating Systems
- Barrier Integrity
- Emergency Preparedness

Radiation Safety

- Occupational
- Public

Safeguards

- Physical Protection

To monitor these seven cornerstones of safety, the NRC uses two processes that generate information about the safety significance of plant operations: inspections and performance indicators. Inspection Findings will be evaluated according to their potential significance for safety, using the Significance Determination Process, and assigned colors of GREEN, WHITE, YELLOW or RED. GREEN Findings are indicative of issues that, while they may not be desirable, represent very low safety significance. WHITE Findings indicate issues that are of low to moderate safety significance. YELLOW Findings are issues that are of substantial safety significance. RED Findings represent issues that are of high safety significance with a significant reduction in safety margin.

Performance indicator data will be compared to established criteria for measuring licensee performance in terms of potential safety. Based on prescribed thresholds, the indicators will be classified by color representing varying levels of performance and incremental degradation in safety: GREEN, WHITE, YELLOW, and RED. GREEN indicators represent performance at a level requiring no additional NRC oversight beyond the baseline inspections. WHITE corresponds to performance that may result in increased NRC oversight. YELLOW represents performance that minimally reduces safety margin and requires even more NRC oversight. And RED indicates performance that represents a significant reduction in safety margin, but still provides adequate protection to public health and safety.

The assessment process integrates performance indicators and inspection so the agency can reach objective conclusions regarding overall plant performance. The agency will use an Action Matrix to determine in a systematic, predictable manner, which regulatory actions should be taken based on a licensee's performance. The NRC's actions in response to the significance (as represented by the color) of issues will be the same for performance indicators as for inspection findings. As a licensee's safety performance degrades, the NRC will take more and increasingly significant action, which can include shutting down a plant, as described in the Action Matrix.

More information can be found at: <http://www.nrc.gov/NRR/OVERSIGHT/index.html>.