UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
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March 29, 2004

Paul D. Hinnenkamp
Vice President - Operations
Entergy Operations, Inc.
River Bend Station
5485 US Highway 61N
St. Francisville, LA 70775

SUBJECT: RIVER BEND STATION - NRC TRIENNIAL FIRE PROTECTION INSPECTION REPORT 05000458/2004007

Dear Mr. Hinnenkamp:

On February 13, 2004, the Nuclear Regulatory Commission (NRC) completed an inspection at your River Bend Station. The enclosed inspection report documents the inspection findings, which were discussed on February 13, 2004, with yourself and other members of your staff.

This triennial fire protection inspection examined 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. The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel.

This report documents two findings, which were evaluated under the risk significance determination process as having very low safety significance (green). The NRC has also determined that a violation is associated with one of these findings. This violation is being treated as a noncited violation (NCV), consistent with Section VI.A of the Enforcement Policy. This NCV is described in the subject inspection report. If you contest the violation or significance of this NCV, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the U.S. 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; the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001; and the NRC Resident Inspector at the River Bend Station facility.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter and its 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/reading-rm/adams.html (the Public Electronic Reading Room).

Sincerely,

//RA//

Linda Joy Smith, Chief
Plant Engineering Branch
Division of Reactor Safety

Docket: 50-458
License: NPF-47

Enclosures: Inspection Report 05000458/2004007
w/Attachment: Supplemental Information

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U.S. NUCLEAR REGULATORY COMMISSION
REGION IV

Docket(s):	50-458
License(s):	NPF-47
Report No.:	05000458/2004007
Licensee:	Entergy Operations, Inc.
Facility:	River Bend Station
Location:	5485 U.S. Highway 61N St. Francisville, Louisiana
Dates:	January 26 to February 13, 2004
Inspectors:	N. O'Keefe, Senior Reactor Inspector, Plant Engineering Branch P. Goldberg, Reactor Inspector, Plant Engineering Branch T. McConnell, Reactor Inspector, Plant Engineering Branch J. Taylor, Reactor Inspector, Plant Engineering Branch
Contractor:	K. Sullivan, Brookhaven National Laboratory
Approved By:	Linda Joy Smith, Chief Plant Engineering Branch

Enclosure

SUMMARY OF FINDINGS

IR 05000458/2004007; 01/26/2004 - 02/13/2004; River Bend Station: Triennial Fire Protection Inspection, Problem Identification and Resolution.

The report covered an announced inspection by four region-based engineering inspectors and one contractor. One Green non-cited violation and one green finding were identified. The significance of most findings is indicated by its color (Green, White, Yellow, Red) using Inspection Manual Chapter (IMC) 0609, "Significance Determination Process" (SDP). Findings for which the SDP does not apply may be green or be assigned a severity level after NRC management review. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 3, dated July 2000.

A. NRC-Identified and Self Revealing Findings

Cornerstone: Mitigating Systems

- Green. The inspectors identified a non-cited violation of License Condition 2.C(10) and by reference the fire protection program and Appendix R to 10 CFR 50, Section III.K.12.h. The non-cited violation was identified related to fire response procedures and pre-fire strategies that did not contain adequate procedure steps for controlling the ventilation system alignment in order to both remove smoke and assure adequate cooling to remaining safe shutdown equipment. The team identified that the licensee did not account for fire dampers with heat-activated fusible links throughout the system, which could reasonably be expected to close when hot smoke was passed through the dampers. The licensee made a prompt change to FPP-0010, "Fire Fighting Procedure," to make operators aware of the condition as a compensatory measure. This issue was entered into the licensee's corrective action program under Condition Report 2004-000276.

  This finding was greater than minor because it affected the Mitigating Systems Cornerstone objective of equipment reliability, in that loss of cooling or exposure to smoke and hot gases could cause failure of safe shutdown equipment that was supposed to remain unaffected by a particular fire. This finding screened as having very low safety significance because it affects a fire protection feature that was not a defense in depth element. (Section 1R05.9.b.1)

- Green. The licensee relied on compensatory measures for seven years instead of correcting a fire protection coating deficiency in three areas important to safe shutdown. In 1997, the licensee identified that the fire protective coatings on most structural steel beams in safety-related buildings did not meet the required thickness for a 3-hour fire rating. The deficient condition typically existed over one-fourth of each beam. While the majority of the deficiencies were repaired by building up the thickness, three fire areas remain degraded and had been subject to hourly fire watches since 1997. The team concluded that the planned corrective actions to restore the fire protection feature to its required condition for

the remaining degraded areas were not timely.

This finding was greater than minor because it was similar to example 2.e in Appendix E of Manual Chapter 0609 and the finding is associated with degradation of a fire protection feature. This finding screened as having very low safety significance because the compensatory fire watches were in place as required and the remaining defense in depth elements remained unaffected. (Section 4OA2)

B. Licensee-Identified Findings

None.

REPORT DETAILS

1 REACTOR SAFETY

1R05 Fire Protection

The purpose of this inspection was to review the River Bend Station fire protection program for selected risk-significant fire areas. Emphasis was placed on verification of the licensee's post-fire safe shutdown capability. The inspection was performed in accordance with the 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 River Bend Station Individual Plant Examination for External Events to choose several risk-significant areas for detailed inspection and review. Inspection Procedure 71111.05 requires selecting three to five fire areas for review. The four fire areas reviewed during this inspection were:

- AB-4, Residual Heat Removal Pump C, Reactor Core Isolation Cooling pump, and Reactor Water Cleanup Pump Area
- DG-6, Division 1 Emergency Diesel Generator Room
- C-4, Air Conditioning Unit West Room
- PT-1, Tunnels E, F, & G

For each of these fire areas, the inspection was focused on the fire protection features, the systems and equipment necessary to achieve and maintain safe shutdown conditions, determination of license commitments, and changes to the fire protection program.

In accordance with NRC Inspection Procedure 71111.05, dated 3/06/03, the evaluation did not include a comprehensive review of the potential impact of fire-induced failures in associated circuits of concern to post-fire safe shutdown. In response to a March 2001 voluntary industry initiative, the scope of Inspection Module 71111.05 has been temporarily reduced pending the resolution of specific review criteria for fire-induced circuit failures of associated circuits.

Documents reviewed by the team are listed in the attachment.

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

a. Inspection Scope

The team reviewed the functional requirements identified by the licensee as necessary for achieving and maintaining hot shutdown conditions to ensure that at least one post-fire safe shutdown success path was available in the event of a fire in each of the selected areas. The team reviewed piping and instrumentation diagrams of systems credited in accomplishing safe shutdown functions to independently verify whether the

licensee's shutdown methodology had properly identified the required components. The team focused on the following functions that must be available to achieve and maintain post-fire safe shutdown conditions:

- Reactivity control capable of achieving and maintaining cold shutdown reactivity conditions,
- Reactor coolant makeup capable of maintaining the reactor coolant inventory,
- Reactor heat removal capable of achieving and maintaining decay heat removal, and
- Supporting systems capable of providing all other services necessary to permit extended operation of equipment necessary to achieve and maintain hot shutdown conditions.
- Verify that a safe shutdown can be achieved and maintained without off-site power, when it can be confirmed that a postulated fire in any of the selected fire areas could cause the loss of off-site power.

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 systems required for reaching both hot and cold shutdown conditions.

b. Findings

Introduction. The team identified that the Safe Shutdown Analysis credited only manual operation of systems on the Safe Shutdown Equipment List, but procedures used to implement safe shutdown during a fire did not implement steps to block automatic operations that might have undesired impacts. An Unresolved Item was opened to review whether automatic actuations that result from expected plant conditions during fire scenarios could have a significant negative impact on achieving and maintaining a safe shutdown condition.

Description. The team noted that the Safe Shutdown Analysis credited only manual operation of equipment needed to achieve and maintain a safe shutdown condition. However, no discussion was included on how automatic actuations would be blocked. The team was concerned that automatic actuation of ESF equipment could invalidate the Safe Shutdown Analysis by significantly changing the plant conditions from those assumed. This could potentially result in being unable to meet the acceptance criteria of 10 CFR 50, Appendix R.

During some scenarios, plant conditions could be expected to reach the setpoints of

some actuations. For example, station procedures call for a manual reactor trip and control room evacuation during a control room fire. AOP-0031 states that reactor core isolation cooling system (RCIC) and high pressure core spray system (HPCS) should not be started until after reaching the remote shutdown panel, but the time required to do so could allow reactor water level to lower enough to start RCIC and HPCS under some conditions. It was not clear whether the automatic start, prior to the time assumed in the analysis, of either or both of these systems would have a detrimental impact on the results of the analysis.

This issue is related to expected plant conditions as analyzed in the Safe Shutdown Analysis. It is not related to potential spurious actuations or other fire-induced damage that may be postulated.

The licensee acknowledged that the Safe Shutdown Analysis inherently assumed that no automatic actuations would occur, since it did not assess whether any automatic actuations would be acceptable.

Analysis. The team was not able to identify any specific fire scenarios where expected automatic actuations could challenge the conclusions of the Safe Shutdown Analysis. Therefore, this issue was placed into the licensee's Corrective Action Program under Condition Report 2004-00455 to determine whether any negative impacts exist, the extent of the condition, and whether there is a safety impact.

Enforcement. As discussed above, information is required from the licensee to be able to determine whether there is a violation of NRC requirements. This item is being tracked as an Unresolved Item, URI 05000458/2004007-01, "Potential Impact of Automatic Actuations on Safe Shutdown Analysis Conclusions."

.2 Fire Protection of Safe Shutdown Capability and Post-fire Safe Shutdown Circuit Analysis

a. Inspection Scope

For each of the selected fire areas, the team reviewed licensee documentation to verify that at least one train of equipment needed to achieve and maintain hot shutdown conditions was free of fire damage in the event of a fire in the selected fire areas. Specifically, the team examined the separation of safe shutdown cables, equipment, and components within the same fire areas. On a sample basis the team also reviewed the adequacy of electrical protective device (e.g., circuit breakers, fuses, relays), coordination, and the adequacy of electrical protection provided for nonessential cables, which share a common enclosure (e.g., cable trays) with cables of equipment required to achieve and maintain safe shutdown conditions. The evaluation included a review of cable routing data depicting the location of power and control cables associated with selected components of the shutdown systems. Additionally, the team reviewed the protection of diagnostic instrumentation required for safe shutdown for fires in the selected areas. The team reviewed the licensee's methodology for meeting the

requirements of 10 CFR 50.48, and the bases for the NRC's acceptance of this methodology as documented in NRC safety evaluation reports. In addition, the team reviewed license documentation, such as, the Updated Final Safety Evaluation Report, submittals made to the NRC by the licensee in support of the NRC's review of their fire protection program, and deviations from NRC regulations to verify that the licensee met license commitments.

b. Findings

No findings of significance were identified.

.3 Alternative Safe Shutdown Capability

a. Inspection Scope

The team reviewed the licensee's alternative shutdown methodology to determine if the licensee properly identified the components and systems necessary to achieve and maintain safe shutdown conditions from the remote shutdown panel and alternative shutdown locations for a fire in the unit's control room. The team focused on the adequacy of the systems selected for reactivity control, reactor coolant makeup, reactor heat removal, process monitoring and support system functions. The team verified that hot and cold shutdown from outside the control room can be achieved and maintained with off-site power available or not available. The team verified that the transfer of control from the control room to the alternative locations has been demonstrated and not affected by fire-induced circuit faults by reviewing the provision of separate fuses for alternative shutdown control circuits. The team also reviewed plant Technical Specifications and applicable surveillance procedures to verify incorporation of operability testing of alternative shutdown instrumentation and transfer of control functions.

b. Findings

No findings of significance were identified.

.4 Operational Implementation of Alternate Shutdown Capability

a. Inspection Scope

The team performed walkdowns of the actions defined in Procedure AOP-0031, "Shutdown From Outside the Main Control Room," Revision 19, with licensed and non-licensed operators. Procedure AOP-0031 provided instructions for performing an alternative shutdown from the remote shutdown panel and for manipulating equipment locally in the plant. The team verified that time-critical actions specified in the Safe Shutdown Analysis and related thermal-hydraulic analysis could be completed within the specified times. The team verified that the minimum number of available operators, exclusive of those required for the fire brigade, could reasonably be expected to perform

the procedure actions within the applicable plant shutdown time requirements, and that equipment labeling was consistent with the procedure. Also, the team verified that the licensee had adequate tools and equipment to successfully perform the procedure as intended. The team also reviewed records for training conducted on this procedure.

b. Findings

No findings of significance were identified.

.5 Communications

a. Inspection Scope

The team reviewed the communication systems required to implement fire fighting and operations to achieve and maintain a safe shutdown condition. The team reviewed the fixed plant communications systems (Gaitronics and telephones) for use during safe shutdown, as credited in the Safe Shutdown Analysis. The team also reviewed the use of the portable radio system for use during fire fighting activities. Both fixed and portable communication systems were reviewed for the impact of any damage which could results from fires in the selected fire areas on the functions they systems were intended to support, and to ensure that the design of the systems was adequate to support operator and fire brigade actions, as applicable.

b. Findings

No findings of significance were identified.

.6 Emergency Lighting

a. Inspection Scope

The team reviewed the adequacy of emergency lighting for performing actions required in Procedure AOP-0031, “Shutdown From Outside the Main Control Room,” Revision 19, 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 also reviewed emergency light drawings. The following specific documents were reviewed:

CG125, "Emergency Lighting Equipment," dated November 14,1996

EG359, "Batteries for Emergency Lights," dated January 7, 1999

ER-98-0296, "Appendix R Emergency Light Batteries," dated may 19, 1998

b. Findings

No findings of significance were identified.

.7 Cold Shutdown Repairs

a. Inspection Scope

The team reviewed the Safe Shutdown Analysis and plant procedures for responding to fires and implementing safe shutdown activities in order to determine if any repairs were required in order to achieve cold shutdown. The licensee had designated one system (a residual heat removal shutdown cooling suction valve) potentially requiring repair, in the form of an electrical jumper, in order to reach cold shutdown based on the safe shutdown methodology implemented. The team verified that the jumper was available and the procedure to install it would work. The team also evaluated whether cold shutdown could be achieved within the required time using the licensee's procedures and repair methods.

b. Findings

No findings of significance were identified.

.8 Compensatory Measures

a. Inspection Scope

The team verified, by sampling, that adequate compensatory measures were put in place by the licensee for out-of-service, degraded, or inoperable fire protection features and post-fire safe shutdown equipment, and systems. The team reviewed the items on the fire impairment list in effect at the time of the inspection and compared them to the fire areas receiving hourly fire watch rounds. The compensatory measures implemented where then compared to those specified in the Technical Requirements Manual and FPP-0070, "Duties of Fire Watch", Revision 9.

The team selected two fire impairments for a detailed review to determine whether the licensee was acting to promptly restore impaired or degraded fire barriers. The first involved structural steel fire proofing deficiencies documented in Condition Report 1997-00595. The second involved the residual heat removal heat exchanger return valve, E12*MOVF068B, which had fire wrap removed to facilitate some short-duration maintenance but was not restored to its fire-wrapped condition for 2 months. The team reviewed the technical issues, scheduling issues, and appropriateness of the compensatory measures, and discussed them with cognizant licensee managers.

b. Findings

The cross-cutting aspects of problem identification and resolution associated with inadequate structure steel fire coatings are discussed in Section 40A2.

No additional findings of significance were identified.

.9 Fire Protection Systems, Features and Equipment

a. Inspection Scope

For the selected fire areas, the team evaluated the adequacy of fire protection features, such as fire suppression and detection systems, fire area barriers, penetration seals, and fire doors. 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 license documentation, such as NRC safety evaluation reports and deviations from NRC regulations and the National Fire Protection Association codes to verify that fire protection features met license commitments.

The team reviewed the technical basis for the licensee's practice of installing smoke detectors on the bottom of structural beams, rather than on the ceiling. The team reviewed National Fire Protection Association codes 72D (1979) and 72E (1983), as well as Condition Reports 1996-0996 and 1998-0803 and Calculation G13.18.12.2-127, Revision 0.

b. Findings

Introduction. The team identified a Green non-cited violation for inadequate procedures for controlling ventilation systems while responding to a fire. The system operating procedures for ventilation systems and the pre-fire strategy procedures were inadequate to accomplish smoke removal, in some circumstances.

Description. The team attempted to evaluate whether the pre-fire strategies could be implemented as intended.

The team noted that the Safe Shutdown Analysis did not evaluate smoke containment or removal. Neither did the licensee have a smoke removal study to evaluate the effectiveness of their smoke removal strategies. The team reviewed the pre-fire strategy procedures for the selected fire areas (listed in the document list in the attachment). On the topic of smoke removal, the pre-fire strategies relied on either using the installed ventilation system, or using portable fans to move smoke from the affected room to an adjacent area, then use the installed ventilation system to remove the smoke from the building. In the Control Building, an installed Smoke Removal System which was diverse from the normal ventilation systems was specified for use for this purpose.

The team reviewed drawings and system operating procedures for the ventilation systems supporting the selected fire areas and noted that the systems appropriately contained fire dampers where the ducts passed through rated fire walls. These fire dampers had fusible links designed to melt and allow the dampers to close when hot

gases (typically at 160ºF) are present. However, the pre-fire strategy procedures and the system operating procedures did not account for the possible actuation of ventilation duct fire dampers. If operators attempted to remove hot smoke (or failed to secure the ventilation system when hot smoke was present), one or more of the fire dampers would close. This would not be readily apparent since these dampers were not provided with position indication, and could not be corrected without opening the affected smoke-filled ducts to replace the fusible links. The team interviewed the ventilation system engineer and several plant operators, and concluded that it was not apparent that station personnel were aware that the normal ventilation system might not be capable of removing hot smoke.

Similarly, the team was concerned that closing fire dampers in the normal ventilation system could preclude adequate cooling to other rooms with required safe shutdown equipment that were being relied upon for the fire scenario.

The team also noted that the pre-fire strategy procedures did not include steps to sample the atmosphere near a fire in a radiological area to determine the airborne contamination present. This type of information should be considered in decisions about smoke removal, since the smoke will eventually be discharged outside.

In discussions with the training instructor for the fire brigade, the team determined that training does not appear to cover the subject in sufficient detail to make this knowledge skill-of-the-craft. In attempting to identify how a fire brigade would respond if the installed ventilation system was not working to effectively remove smoke, problems with possible alternatives were also identified. For example, it was suggested that opening doors high in a building might be used to vent the building. However, this would provide an unmonitored radiological release (see concern above). Also, in the case of the auxiliary building, the building was maintained at a negative pressure relative to outside. Opening outside doors would result in letting air into the building, rather than letting smoke out.

Based on the above, the team concluded that the system operating procedures for ventilation systems and the pre-fire strategy procedures were inadequate to accomplish smoke removal. In response to this issue, the licensee wrote Condition Report 2004-00276 and made a prompt change to FPP-0010, "Fire Fighting Procedure," to make operators aware of the condition as a compensatory measure.

Analysis. The potential significance of this finding is related to the impact of closing fire dampers that could remove room cooling to safety-related equipment in rooms that were not supposed to be affected by the fire.

The buildings of concern for fire safe shutdown considerations were the Auxiliary Building, the Diesel Building, and the Control Building. The Auxiliary Building ventilation system maintained cooling through recirculating and cooling in area cooling units. The area cooling units generally cool one to three rooms, and were segregated appropriately by train, so loss of cooling flow from one unit would not affect the diverse train. The

Diesel Building cooling was similarly separated by trains. However, the Control Building cooling was provided by two systems that were not mechanically separate. The control room had a two-train ventilation system that both trains used the same ducts, except where split for fans, filters and cooling units. Similarly, the switchgear cooling system had two trains sharing most duct work. Because of this design, a fire in the Control Building could affect ventilation and room cooling to multiple areas and possibly diverse trains of safe shutdown equipment.

The licensee stated that procedure AOP-0036, "Loss of Control Building Ventilation," Revision 3, would be implemented if some or all of the ventilation were lost in the Control Building. This procedure implemented steps such as opening electrical cabinet doors and room doors to improve cooling. Many of the actions were specified to be performed within 30 minutes. The team reviewed the manual actions for fires in the Control Building, and concluded that the AOP-36 actions could reasonably be performed with the people available.

Based on the above, this finding was greater than minor because it affected the Mitigating Systems Cornerstone objective of equipment reliability, in that loss of cooling or exposure to smoke and hot gases could cause failure of safe shutdown equipment that was supposed to remain unaffected by a particular fire. The finding screened as having very low safety significance (Green) in Phase 1 of Appendix F of Manual Chapter 0609, because the finding affected a fire protection feature which was not a defense in depth element.

Enforcement. License condition 2.C(10)requires that Entergy Operations, Inc. shall comply with the requirements of the fire protection program as specified in Attachment 4. Attachment 4 requires 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. The Updated Safety Evaluation Report, Section 9.5.1.2, states that the licensee committed to follow Appendix R, Section III.K. Appendix R to 10 CFR 50, Section III.K.12.h requires that the licensee define strategies for fighting fires in all safety-related areas and areas presenting a hazard to safety-related equipment. These strategies shall designate ventilation system operation that ensures desired plant air distribution when the ventilation is modified for fire containment or smoke clearing operations. This requirement was implemented, in part, in multiple pre-fire strategy procedures, such as CB-070-110, "Pre-Fire Strategy HVAC Room 1A Fire Zone C-4 Room CB-070-110," Revision 2, as well as in various ventilation system operating procedures, such as SOP-0058, "Control Building HVAC System," Revision 17.

Contrary to the above requirement, the pre-fire strategy procedures and the ventilation system operating procedures were inadequate because these procedures did not ensure that the necessary ventilation system lineup would be achieved when fire or hot smoke was present. These procedures relied upon using the installed ventilation systems for smoke removal and equipment cooling, but failed to account for possible actuation of fire dampers actuated by temperature-sensitive fusible links installed in the ducts.

These procedures have been this way since initial plant licensing, and were identified as being inadequate during this inspection. There were not actual or potential safety consequences, because the licensee corrected the procedures during the course of this inspection. This is a violation of License Condition 2.C.(5)(c). Because this violation was of very low safety significance and has been entered into the corrective action program (Condition Report 2004-00276), this violation is being treated as a non-cited violation, consistent with Section VI.A of the NRC Enforcement Policy: NCV 05000458/2004007-02,"Inadequate Procedures for Responding to/Controlling Smoke."

4. OTHER ACTIVITIES (OA)

4OA2 Identification and Resolution of Problems (71152)

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. The team also reviewed the licensee self-assessment of the fire protection program performed in November, 2003. The team evaluated the effectiveness of the corrective actions for the identified issues.

The following specific issues were evaluated for timeliness and effectiveness of problem identification and resolution:

- Fire pump pressure sensing line blockage affecting the automatic starting function of each of the fire pumps between October 2003 and February 2004

- Continuing deficiencies in structural steel fire coatings in multiple safety related structures, documented in condition Report 1997-00595, but existing since original construction.

b. Findings

Introduction. The licensee has relied on compensatory measures for seven years instead of correcting a fire protection coating deficiency in three fire areas important to safe shutdown. Corrective actions to restore the final three areas were not timely.

Description. Between 1992 and 1995, the licensee identified that since construction, the fire protective coatings on most structural steel beams in safety-related buildings did not meet the required thickness for a 3-hour fire rating. This condition is summarized in Condition Report 1997-0595. The deficient condition typically existed over one-fourth of each beam. While the majority of the deficiencies were repaired by building up the thickness, three fire areas remained degraded and had been subject to hourly fire watches since 1997. The licensee planned to repair these last three areas in 2005.

The licensee's fire protection program requires prompt corrective actions. Generic

Letter 91-18, "Information To Licensees Regarding NRC Inspection Manual Section On Resolution Of Degraded And Nonconforming Conditions," notes that NRC expects time frames longer than the next refueling outage following identification of the nonconformance to be explicitly justified by the licensee as a part of the deficiency documentation. The licensee stated that part of the delay was attributed to the fact that the three remaining areas were high radiation areas. After reviewing the licensee's justification, the team concluded that the planned corrective actions to restore the fire protection feature to its required condition for the remaining degraded areas, were not timely. The licensee wrote Condition Report 2004-000771 to address the untimely corrective actions issue.

Analysis. This finding was greater than minor because it was similar to example 2.e in Appendix E of Manual Chapter 0609. This finding screened as having very low safety significance because the compensatory fire watches were in place as required and the remaining defense in depth elements remained unaffected.

Enforcement. This corrective action deficiency was not considered a violation of the licensee's fire protection program, which requires prompt corrective actions, because the required fire watches were in place. This finding, FIN 05000458/2004007-03, is of very low safety significance and has been entered into the corrective action program under Condition Report 2004-000771.

4OA6 Exit Meeting

On February 13, 2004, the team presented the inspection results to Mr. P. Hinnenkamp and other members of his staff who acknowledged the findings. The team confirmed that proprietary information was not provided or examined during the inspection.

ATTACHMENT: SUPPLEMENTAL INFORMATION

ATTACHMENT

SUPPLEMENTAL INFORMATION

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B. Ellis, Senior Engineer, Fire Protection
A. James, Superintendent - Plant Security
A. Johnson, Senior Operations Instructor, Training
J. Heckenberger, Manager, Planning and Scheduling/Outage
P. Hinnenkamp, Vice President - Operations
K. Huffstatler, Technical Specialist, Licensing
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J. Malara, Manager, Design Engineering
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W. McDougald, Senior Engineer, System Engineering
J. McGhee, Manager, Plant Maintenance
T. Trepanier, General Manager - Plant Operations
W. Trudell, Manager, Corrective Actions and Assessment

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

05000458/2004007-01	URI	Potential Impact of Automatic Actuations on Safe Shutdown Analysis Conclusions (Section 1R05.1)

Opened and Closed

05000458/2004007-02	NCV	Inadequate Procedure for Controlling Smoke (Section 1R05.9.b.1)
05000458/2004007-03	FIN	Failure to Promptly Correct a Fire Coatings Deficiency (Section 4OA2)

Discussed

None.

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