ENCLOSURE 1

BEFORE THE
UNITED STATES NUCLEAR REGULATORY COMMISSION

LICENSE NO. NPF-47

DOCKET NO. 50-458

IN THE MATTER OF
ENTERGY GULF STATES, INC.
CAJUN ELECTRIC POWER COOPERATIVE AND
ENTERGY OPERATIONS, INC.

AFFIRMATION

I, John R. McGaha, state that I am Vice President-Operations of Entergy Operations, Inc., at River Bend Station; that on behalf of Entergy Operations, Inc., I am authorized by Entergy Operations, Inc. to sign and file with the Nuclear Regulatory Commission, this License Amendment Request 96-048 for the River Bend Station; that I signed this License Amendment Request as Vice President - Operations at River Bend Station of Entergy Operations, Inc.; and that the statements made and the matters set forth therein are true and correct to the best of my knowledge, information, and belief.

John R. McGaha

STATE OF LOUISIANA
WEST FELICIANA PARISH

SUBSCRIBED AND SWORN TO before me, a Notary Public, in and for the Parish and State above named, this 6th day of November, 1996.

(SEAL)

Claudia F. Hurst
Notary Public

My commission expires: with life

ENTERGY OPERATIONS INCORPORATED
RIVER BEND STATION
DOCKET 50-458/LICENSE NO. NPF-47

LAR 96-048
(FIRE AREA C-16)

Document Involved: Attachment 4, "Fire Protection Program," to RBS Operating License NFP-47

Item: Post-fire Safe Shutdown Compliance for Fire Area C-16

Reason for Request

For Fire Area C-16, the original River Bend Station (RBS) Post-Fire Safe Shutdown Analysis (SSA) credited shutdown Method 2 to achieve post fire safe shutdown. Method 2 consisted of the Automatic Depressurization System (ADS) to reduce reactor vessel pressure, Residual Heat Removal (RHR) Train C in the Low Pressure Coolant Injection (LPCI) Mode to maintain reactor vessel level, Train B RHR to support suppression pool cooling and alternate shutdown cooling, and Division II powered support systems. Revision 2 to the River Bend Safe Shutdown Analysis, Criterion 240.201A, removed the Method 2 designation, but credits the same Division II powered systems to achieve post fire safe shutdown. Since Fire Area C-16 contains both Division I and Division II powered cables, it is necessary to protect the required Division II cables to meet the separation requirements of 10 CFR 50, Appendix R, Section III.G.2. The options were to install a 3-hour barrier or a 1-hour barrier with automatic suppression and detection in the area. The option selected is a 1-hour Thermo-Lag enclosure, qualified by testing, with automatic detection and a partial area automatic suppression system.

A brief review of the RBS licensing basis for fire protection is useful in understanding the reason for this License Amendment Request (LAR). The RBS construction permit application was docketed on September 24, 1973. As a result, the applicable regulatory guidance for fire protection at RBS is Appendix A to Branch Technical Position (BTP) Auxiliary Power Conversion Systems Branch (APCSB) 9.5-1, "Guidelines for Fire Protection for Nuclear Power Plants Docketed Prior to July 1, 1976." RBS compliance with Appendix A to BTP APCSB 9.5-1 is documented in Appendix 9A to the RBS Updated Safety Analysis Report (USAR).

Appendix R was published on November 19, 1980, and applies to plants licensed to operate before January 1979. RBS received its operating license on August 29, 1985. A letter from the NRC to Gulf States Utilities Company, dated October 20, 1981, requested a comparison of the RBS fire protection program to Appendix R requirements. This comparison is documented in Appendix 9B to the USAR. The NRC reviewed the RBS fire protection program and summarized its findings in the RBS Safety Evaluation Report (SER), NUREG-0989, dated May 1984.

During a special announced NRC inspection on April 1-4, 1985, implementation of the fire protection program and compliance with the requirements of 10 CFR 50, Appendix R (post-fire safe shutdown) per USAR commitments and the SER evaluation were reviewed at RBS. The results are summarized in NRC SSER 3 dated August 1985 as follows:

> On the basis of its evaluation the staff finds that the applicant's fire protection program with approved deviations is in conformance with the guidelines of BTP CMEB 9.5-1, sections III.G, III.J, and III.O of Appendix R to 10 CFR 50, and GDC 3, and is, therefore, acceptable.

10 CFR 50, Appendix R, Section III.G.2, requires, in part, that where cables or equipment of redundant trains of systems necessary to achieve and maintain hot shutdown conditions are located within the same fire area outside of primary containment, one of the following means of ensuring that one of the redundant trains is free of fire damage shall be provided:

a. Separation of cables and equipment of redundant trains by a fire barrier having a 3-hour rating.

b. Separation of cables and equipment of redundant trains by a horizontal distance of more than 20 feet with no intervening combustibles or fire hazards. In addition, fire detectors and an automatic fire suppression system shall be installed in the fire area.

c. Enclosure of cables and equipment of one redundant train in a fire barrier having a 1-hour rating. In addition, fire detectors and an automatic fire suppression system shall be installed in the fire area.

The Division II cables required to achieve post fire safe shutdown will be enclosed in a 1-hour fire barrier in Fire Area C-16. Automatic smoke detection is already provided in the area. However, since only a partial area suppression system will be installed above and below the protected trays, Fire Area C-16 will deviate from the requirements of 10 CFR 50, Appendix R, Section III.G.2.c.

Attachment 4, "Fire Protection Program Requirements," to RBS Operating License NPF-47 states, in part:

1. EOI 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 22 and as approved in the SER dated May 1984 and Supplement 3 dated August 1985 subject to provisions 2 and 3 below.

2. EOI may make no change to the approved fire protection program which would significantly decrease the level of fire protection in the plant without prior approval of the commission. To make such a change EOI must submit an application for license amendment pursuant to 10 CFR 50.90.

3. EOI may make changes to features of the approved fire protection program which do not significantly decrease the level of fire protection without prior commission approval provided (a) such changes do not otherwise involve a change in a license condition or technical specification or result in an unreviewed safety question (see 10 CFR 50.59), and (b) such changes do not result in failure to complete the fire protection program approved by the commission prior to license issuance. EOI shall maintain, in an auditable form, a current record of all such changes, including an analysis of the effects of the change on the fire protection program, and shall make such records available to NRC inspectors upon request. All changes to the approved program shall be reported to the Director of the Office of Nuclear Reactor Regulation, along with the FSAR revisions required by 10 CFR 50.71(e).

Although use of a partial area suppression system in conjunction with an approved 1-hour fire barrier in Fire Area C-16 provides an acceptable level of protection to assure that there will be no adverse impact on the ability to achieve and maintain post fire safe shutdown, it requires a deviation from the requirements of 10 CFR 50, Appendix R, Section III.G.2.c. Therefore, pursuant to 10 CFR 50.90, this LAR is submitted to request a deviation from 10 CFR 50, Appendix R, Section III.G.2.c with respect to the requirement for an area wide automatic fire suppression system in Fire Area C-16, which utilizes a 1-hour fire barrier to separate redundant trains of post fire safe shutdown equipment within the fire area. If granted, this deviation will be reflected in the RBS Safety Analysis Report and Fire Hazards Analysis.

Discussion

Cables for redundant divisions of several post fire safe shutdown systems and sub-systems are routed through Fire Area C-16. These include Standby Service Water, Control Building Chilled Water, Control Room HVAC, Standby Switchgear and Battery Room HVAC, Diesel Generator Room HVAC, Containment Monitoring (Suppression Pool Temperature), and Electrical Distribution. Because the impact of a postulated fire on Division II powered systems, including Electrical Distribution, was considered to be less severe than the impact on the redundant Division I powered systems, Division II components and systems were chosen to be protected in order to achieve post fire safe shutdown. Division II is the designated post fire safe shutdown division in Fire Area C-16.

To ensure the required Division II cables are available, several alternative options were considered, including circuit modifications, local operator actions, cable reroutes, installation of a 3-hour fire barrier around the required cables, and installation of a 1-hour barrier around the cables in conjunction with detection and an automatic suppression system.

The required Division II cables are routed through cable trays within an existing Thermo-Lag fire barrier. Originally, the installed design was credited as a three hour fire barrier, so an automatic suppression system was not required. However, subsequent testing indicated that the installed configuration provided less than one hour of protection when exposed to an ASTM E-119 test fire. NRC Information Notice 91-47 delineates this failure, and specifically concerned Thermo-Lag barriers installed on 30" aluminum cable trays at the River Bend Station. Further failures of

Thermo-Lag barriers are discussed in NRC Bulletin 92-01, Supplement 1 to Bulletin 92-01, and Generic Letter 92-08. In SECY-94-127, the NRC provided several options to restore Thermo-Lag barriers to operability. These included upgrading existing 3-hour configurations to provide a full 1-hour rating and installing automatic suppression and detection systems in the areas of concern; replacing the existing barrier with a qualified 3-hour configuration; requesting limited, plant specific exemptions to the fire barrier regulation; or a combination of these. Various options were explored, as discussed below.

One option considered was installation of a qualified 3-hour Thermo-Lag configuration on the cable trays in question. This option was rejected for several reasons, including its adverse impact on cable ampacity. Alternative barrier materials, such as Darmatt and 3M Fire Wrap, were evaluated, but were not optimal. Ultimately, a 1-hour Thermo-Lag fire barrier, in conjunction with a partial area, automatic suppression system and the pre-existing automatic detection system, was deemed to be the best option for the fire hazards of the area. These hazards are discussed below.

Per RBS Calculation G13.18.12.2-22, "River Bend Station Combustible Loading," the fire loading in Fire Area C-16 is 116,194,000 British Thermal Units (BTUs). This equates to a worst case theoretical fire duration of 31 minutes. ((116,194,000 BTU/2811 ft^2) X (1 hr. duration/80,000 BTU/ft^2) X (60 min./hr.) = 31 min.) Thermo-Lag in the area accounts for 37,695,000 BTUs, or 10 minutes fire duration. Of the remaining combustibles, 11,951,000 BTUs is derived from the conservative factor added to each area to account for unidentified combustibles. The remaining identified combustibles total 66,548,000 BTUs, and consist of unprotected cables in cable trays, electrical panels, fan motors, fiberglass ladders and trash cans. These items result in a theoretical fire duration of 18 minutes. This low residual loading does not justify the expense, nor require the protection, of a full area wide suppression system. Manual fire fighting equipment in the area consists of two hose racks and three portable CO_2 extinguishers. A hose rack is also located in Fire Area C-13E on the 98' elevation of the Control Building. Additional portable extinguishers are also available in the northwest stairwell and in the Diesel Generator Building at the 98' level. Local and Main Control Room alarms will ensure prompt notification of the fire brigade. Therefore, a partial area, automatic suppression system installed in the vicinity of the Thermo-Lag protected cable trays was selected and, in conjunction with the other fire protection features, determined to provide adequate defense-in-depth for the hazards of the area.

Regulatory Basis

10 CFR 50, Appendix R, Section III.G.2 specifies several means by which at least one of the redundant trains of systems necessary to achieve and maintain hot shutdown conditions can be ensured to remain free of fire damage. Specifically, Section III.G.2.c requires enclosure of cables, equipment, and associated non-safety circuits of one redundant train in a fire barrier having a 1-hour rating, and that fire detectors and an automatic fire suppression system be installed in the area. In lieu of an area wide automatic suppression system, Fire Area C-16 will have a partial area system installed above and below the cable trays enclosed in the 1-hour fire rated barrier. Fire suppression systems are generally used to limit fire spread, once the heat of the fire opens thermally sensitive sprinklers. The low fire loading and minimal concentration of exposed

combustible material in Fire Area C-16 would limit fire spread. Thus, the low fire loading, minimal amount of exposed combustibles, and the partial area, automatic suppression system compensate for the lack of an automatic area wide fire suppression system. The use of a partial area, automatic fire suppression system would not result in a significant decrease in the level of protection. Therefore, a deviation from 10 CFR 50, Appendix R, Section III.G.2.c with respect to the requirement for an automatic fire suppression system in Fire Area C-16 is appropriate.

Fire Hazards Analysis

NRC Fire Protection Requirements and Guidance that Apply:

NRC SSER 3 dated August 1985 states, in part:

> On the basis of its evaluation the staff finds that the applicant's fire protection program with approved deviations is in conformance with the guidelines of BTP CMEB 9.5-1, sections III.G, III.J, and III.O of Appendix R to 10 CFR 50, and GDC 3, and is, therefore, acceptable.

10 CFR 50, Appendix R, Section III.G.2 specifies the means by which at least one redundant train of systems necessary to achieve and maintain hot shutdown conditions can be ensured to remain free of fire damage. Section III.G.2.c requires enclosure of cables, equipment, and associated non-safety circuits of one redundant train in a fire barrier having a 1-hour rating, and that fire detectors and an automatic fire suppression system be installed in the area. Adequate fire protection exists in Fire Area C-16 by a partial area system installed above and below the cable trays enclosed in the 1-hour fire rated barrier. Since Fire Area C-16 does not have an area wide automatic suppression system, protection of one train of post fire safe shutdown equipment in a 1-hour fire barrier deviates from the requirements of 10 CFR 50, Appendix R, Section III.G.2.c.

Amounts, Types, Configurations, and Locations of Cable Insulation and Other Combustible Materials:

- Power and control cables routed through cable trays (240 linear feet)
- Nine instrumentation and control panels
  Note: The Remote Shutdown Panels are separated from the general area by a non-rated, gypsum wallboard enclosure. The enclosure is constructed using four (4), half inch (1/2") thick gypsum panels per side, for the walls and ceiling, and 3-hour fire rated doors
- Three electrical cabinets
- Five fans with motors (7.5 HP each)
- Thermo-Lag (5385 lb., 25 linear feet, 880 square feet)

- Trash cans (60 lb.)
- Two hose reels
- Fiberglass ladders (200 lb.)

Fire Loading and Calculated Fire Severities:

Total combustible loading = 116,194,000 BTU
Total area loading per ft^2 = 41,335 BTU/ft^2
Equivalent fire severity = 0.52 hr. (approximately 31 minutes)

The fire loading in Fire Area C-16 is 116,194,000 BTUs. Cable insulation accounts for 60,480,000 BTUs of the total fire load. The Thermo-Lag fire wrap material in the area accounts for 37,695,000 BTUs of the total fire loading. The remaining fire loading from electrical motors, electrical cabinets, ladders, trash cans and a factor for unidentified combustibles amounts to 18,019,000 BTUs. When added to the loading for the cable insulation of 60,480,000 BTUs, this results in 78,499,000 BTUs, or 27,926 BTUs per square foot, or a 21 minute fire. About 15% of this remaining fire loading (11,951,000 BTUs) is a factor added to each area to account for unidentified combustibles. The storage of transient combustibles at RBS is administratively controlled.

In-situ Fire Hazards:

Motors, instrumentation and control panels, and cable insulation.

Automatic Fire Detection and Suppression Capability:

Area wide zone detection is provided by six ionization detectors and three photo-electric detectors located in the fire area and arranged to alarm locally and in the Main Control Room. A partial area, automatic fire suppression system will be installed above and below the Thermo-Lag protected raceways.

Layout and Configurations of Safety Trains:

The redundant Division I and Division II raceways are physically located in the same room, and, with one exception, run parallel to each other about 20' apart. The only significant combustible between the Division I and Division II trays are the Division I cables which run from the Division I Standby Switchgear Room (Fire Area C-15) into the Remote Shutdown (RSS) Room, located within Fire Area C-16. The cables are routed through cable tray 1TC088R / 1TC089R, and pass underneath and perpendicular to the protected trays. See the Figure on page 14 of 14 of this Enclosure for a layout of safety trains and other equipment.

Reliance On and Qualifications of Fire Barriers, Including Fire Test Results, the Quality of Materials and System, and the Quality of the Installation:

A 1-hour Thermo-Lag 330-1 fire barrier protects the Division II cables routed through Fire Area C-16 that are required to achieve post fire safe shutdown. Details of the barrier are discussed in RBS Report 6240.201-795-007A, "Thermo-Lag Assessment Report for Entergy Operations, Inc., River Bend Station." Each facet of construction of the fire barrier has been evaluated and compared with successfully tested configurations. Specific test reports are referenced within the report. The five trays protected are 1TC047B, 1TC048B, 1TK001B, 1TK002B, and 1TL012B. The pre-existing enclosure will be removed in its entirety prior to installation of the new 1-hour fire barrier.

Fire Area Construction (walls, floor, ceiling, dimensions, volume, ventilation, and congestion):

- Poured concrete construction with three hour fire rating. Removable slabs, as well as all penetrations in the floor, ceiling and walls are sealed with qualified fire/water seals.

- Access to and from the area, as well as within the area, is unobstructed. Minor congestion exists in the area where the tray entering the Remote Shutdown Room passes underneath the protected trays (about 8' to 12' above the floor). The partial area, automatic suppression system will cover this area.

- All area ventilation is lost as a result of fire damage. All ducts entering and exiting the fire area contain fire dampers at the point where they penetrate a fire barrier.

- The room is approximately 2811 ft^2 and 17 ft. high with a volume of approximately 48,000 cubic feet.

Location and Type of Manual Fire Fighting Equipment and Accessibility for Manual Fire Fighting:

- Hose reel in Fire Area C-16 just inside southwest door

- Hose reel in Fire Area C-16 just outside the Division II Standby Switchgear Room, against the Remote Shutdown Room west wall

- Hose reel outside of Fire Area C-16 in Fire Area C-13E

- Fourteen doors into area

- Three carbon dioxide extinguishers inside the room (one outside the stairwell leading down to the 70' elevation at the extreme south wall, one outside the Division I Standby Switchgear Room, and one just north of the Remote Shutdown Room on the east side of the room)

Potential Disabling Effects of Fire Suppression Systems on Shutdown Capability:

- No general area suppression provided

- The partial area, automatic suppression system installed above and below the protected trays will not adversely affect the Thermo-Lag barrier, and actuation of the system will not adversely affect post fire safe shutdown.

- Calculation G13.18.4.7-02, Rev 1, has determined that the available quantity of water at the base of the new sprinkler branch line is 218.5 gpm. Since the new system has closed, fusible heads, only one head is assumed to open during the inadvertent sprinkler actuation analysis. With one head open, the maximum flow rate would be 21.8 gpm. With the assumed time of ten (10) minutes, the total water released from the head would be 218 gallons. As a conservative assumption, the water was allowed to spread over an area equal to 1166 ft^2 in the vicinity of the partial area suppression system, verses the entire 2811 ft^2 constituting Fire Area C-16. The corresponding height of water due to this flow is 0.3 inches. The entrances to the Division I and II Standby Switchgear Rooms have six (6) inch high ramps leading to the doors. These ramps would prevent the intrusion of water into these areas due to the spurious sprinkler operation. The removable floor plug located in the middle of the area is sealed to preclude the flow of water to the areas below. The fan motors, lighting transformers and instrument racks are located above the floor and will remain above the estimated water level. Similarly, this postulated water level will not cause damage to the Remote Shutdown panels located within this area since all switches, relays, etc. installed in the panels are greater than three (3) inches above the floor elevation.

Availability of oxygen (for example, inerted containment):

Normal air

Control of ventilation and location of fire dampers is discussed above.

Alternative or Dedicated Shutdown Capability:

Alternative shutdown capability is not credited, as the Remote Shutdown System control panels are contained within Fire Area C-16.

Compliance with Current Requirements

Since Fire Area C-16 does not have an installed area wide automatic suppression system, a qualified 3-hour fire barrier installed around the Division II cable trays of concern would be required to prevent the potential loss of Division II components required to achieve post fire safe shutdown. As a result of extensive testing performed by RBS, it was determined that the pre-existing Thermo-Lag barrier installed on these trays was deficient. Therefore, pursuant to RBS Technical Requirement 3.7.9.6, "Fire-Rated Assemblies," Fire Area C-16 has an inoperable fire barrier. As required by the Technical Requirement REQUIRED ACTION statement, an hourly

fire watch has been maintained for Fire Area C-16. The fire watch provides compensatory measures for the lack of adequate fire barrier separation of the redundant post fire safe shutdown components located in the fire area. The fire watch will remain in place until final resolution of this issue, which will include installation of a qualified 1-hour fire barrier, a partial area, automatic suppression system installed above and below the protected trays, and approval of this deviation request.

No Significant Hazards Consideration

1) The request does not involve an increase in the probability or consequences of an accident previously evaluated.

The event of concern is a fire in Fire Area C-16. The low fire loading and minimal concentration of exposed combustible material in Fire Area C-16 would limit fire spread. However, for this scenario, all unprotected equipment in Fire Area C-16 will be assumed lost. Fire Area C-16 contains cables for both Division I and Division II components required for post fire safe shutdown. The loss of both divisions of cables could preclude the ability of the plant to achieve post fire safe shutdown. Protection of the required Division II cables in a 1-hour fire barrier in conjunction with a partial area, automatic suppression system installed above and below the protected trays will ensure that post fire safe shutdown can be achieved.

In summary, the probability of a fire occurring in Fire Area C-16 is not affected. However, if a fire were to occur in Fire Area C-16 which caused the loss of Division I powered components, Division II powered components, by virtue of the 1-hour fire barrier and partial area, automatic suppression system, would remain available. The low fire loading and minimal concentration of exposed combustible material in Fire Area C-16 would limit fire spread. The proposed fire protection scheme provides a level of protection commensurate with the original design. Therefore, this request does not involve a significant increase in the probability or consequences of an accident previously evaluated.

2) The request does not create the possibility of occurrence of a new or different kind of accident from any accident previously evaluated.

Fire Area C-16 will be protected by a partial area, automatic suppression system installed above and below the protected cable trays. Fire suppression systems are generally used to limit fire spread, once the heat of the fire opens thermally sensitive sprinklers. The low fire loading and minimal concentration of exposed combustible material in Fire Area C-16 would aid in limiting fire spread, and would also limit the severity of any plausible fire. The previous analysis assumed all Division I components and cables in the area would be lost, and that the installed fire barrier would adequately protect the Division II cables routed through C-16. The required Division II cables will be enclosed in a 1-hour fire barrier with a partial area, automatic suppression system. These features provide a level of protection

commensurate with that of the previous design. In addition, the total combustible loading in the area results in a maximum theoretical worst case fire duration of less than 1-hour.

In summary, if a fire were to occur in Fire Area C-16 which caused the loss of Division I powered components, post fire safe shutdown could still be achieved using Division II. Therefore, this request does not create the possibility of occurrence of a new or different kind of accident from any accident previously evaluated.

3) The request does not involve a significant reduction in a margin of safety.

In this case, the margin of safety is implicit rather than being explicitly expressed as a numerical value. An implicit margin of safety involves conditions for NRC acceptance. Since the RBS Technical Specification Bases do not specifically address a margin of safety for fire protection, the SAR, the NRC's Safety Evaluation Report (SER), and appropriate other licensing basis documents were reviewed to determine if the proposed change would result in a reduction in a margin of safety. As stated, in part, in Attachment 4 to NPF-47:

> EOI 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 22 and as approved in the SER dated May 1984 and Supplement 3 dated August 1985 subject to provisions 2 and 3 ....

As discussed in the Reason for Request, SSER 3 dated August 1985 states, in part:

> On the basis of its evaluation the staff finds that the applicant's fire protection program with approved deviations is in conformance with the guidelines of BTP CMEB 9.5-1, sections III.G, III.J, and III.O of Appendix R to 10 CFR 50, and GDC 3, and is, therefore, acceptable.

Thus, the margin of safety in this case can be defined as conformance with the specified fire protection guidelines. 10 CFR 50, Appendix R, Section III.G.2, requires, in part, that redundant trains of post fire safe shutdown equipment located in the same fire area be separated by a 1-hour fire barrier and, in addition, that fire detection and an automatic fire suppression system be installed in the area under consideration. Since Fire Area C-16 will have a partial area, automatic suppression system, this fire area would deviate from the requirements of 10 CFR 50, Appendix R, Section III.G.2.c. However, as discussed previously, the installed partial area, automatic suppression system, the low fire loading and minimal amount of exposed combustibles compensate for the lack of a total, area wide, automatic fire suppression system. There is no adverse impact on the ability to achieve and maintain post fire safe shutdown. Therefore, this request does not involve a significant reduction in a margin of safety.

The RBS fire protection program extends the concept of defense-in-depth to fire protection in fire areas important to safety, with the following objectives:

To prevent fires from starting;

To detect rapidly, control, and extinguish promptly those fires that do occur; and

To provide protection for structures, systems, and components important to safety so that a fire that is not promptly extinguished by the fire suppression activities will not prevent the post fire safe shutdown of the plant.

The proposed deviation from 10 CFR 50, Appendix R, Section III.G.2.c with respect to the requirement for an automatic fire suppression system in Fire Area C-16 will allow the RBS fire protection program to meet these objectives.

Conclusion

The probability of a fire occurring in Fire Area C-16 is not increased by this request. However, if a fire were to occur in Fire Area C-16 which caused the loss of all Division I cables and components in the area, post fire safe shutdown could still be achieved utilizing Division II powered equipment. The low fire loading and minimal concentration of exposed combustible material in Fire Area C-16 would limit fire spread. The qualified 1-hour fire barrier and the planned partial area, automatic suppression system to be installed above and below the 1-hour enclosure will adequately protect the Division II cables routed through Fire Area C-16 that are required for the plant to achieve post fire safe shutdown. Therefore, this request does not involve a significant increase in the probability or consequences of an accident previously evaluated. Since, for the purpose of event analysis, all Division I equipment in Fire Area C-16 is assumed lost, and Division II equipment is adequately protected, a fire in Fire Area C-16 is bounded by the previous analysis in terms of equipment availability. Therefore, this request does not create the possibility of occurrence of a new or different kind of accident from any accident previously evaluated. Use of a partial area, automatic suppression system in conjunction with a qualified 1-hour fire barrier installed around the required cables in Fire Area C-16 provides an acceptable level of protection. There is no adverse impact on the ability to achieve and maintain post fire safe shutdown. Therefore, this request does not involve a significant reduction in a margin of safety. Thus, this request involves no significant hazards.

Environmental Impact Consideration

RBS has reviewed this request against the criteria of 10 CFR 51.22 for environmental considerations. This regulation allows for a categorical exclusion provided that (i) the amendment involves no significant hazards consideration, (ii) there is no significant change in the amounts of any effluents that may be released offsite, and (iii) there is no significant increase in individual or commutative occupational radiation exposure.

As discussed above, the request is for a deviation from 10 CFR 50, Appendix R, Section III.G.2.c with respect to the requirement for an area wide automatic fire suppression system in order to credit the protection of the credited redundant train of post fire safe shutdown equipment in a 1-hour fire barrier. As explained in the No Significant Hazards Consideration, this request involves no significant hazards.

This request would not impact normal plant operation, and thus, effluents unless a fire was to occur in Fire Area C-16. Use of Division II powered components to achieve post fire safe shutdown has been previously evaluated. There would be no significant change in the amounts or types of effluents that may be released offsite as a result of this event.

In the event of a fire in Fire Area C-16, the lack of an area wide automatic suppression system may require that an individual in the area or the fire brigade extinguish the fire, depending upon its location. Typically, the control building contains no radioactive material. Therefore, extinguishing efforts would not impact individual or commutative occupational radiation exposure.

Therefore, RBS concludes that the proposed change meets the criteria given in 10 CFR 51.22(c)(9) for a categorical exclusion from the requirement for an environmental impact statement.

Schedule for Implementation

Implementation of the modifications required to support this request will be completed by the end of Refueling Outage #7, currently scheduled for commencement in September of 1997. If granted, this deviation will be reflected in the RBS Fire Hazards Analysis.

References

10 CFR 50, Appendix R, "Fire Protection for Nuclear Power Facilities Operating Prior to January 1, 1979"

Branch Technical Position CMEB 9.5-1, "Guidelines for Fire Protection for Nuclear Power Plants"

Appendix A to BTP APCSB 9.5-1, "Guidelines for Fire Protection for Nuclear Power Plants Docketed Prior to July 1, 1976"

GL 86-10, "Implementation of Fire Protection Requirements"

Current RBS Operating License, NPF-47

USAR Chapter 9, Appendix 9A, "Fire Protection Program Evaluation Report (FPPER)"

USAR Chapter 9, Appendix 9B, "Fire Protection Program Comparison With Appendix R to 10 CFR 50"

USAR Chapter 15, Appendix 15A, "Plant Nuclear Safety Operational Analysis (NSOA)"

RBS Calculation G13.18.12.2-22, "Combustible Loading"

NRC Notice 91-47 "Failure of Thermo-Lag Fire Barrier Material to Pass Fire Endurance Test", August 6, 1991

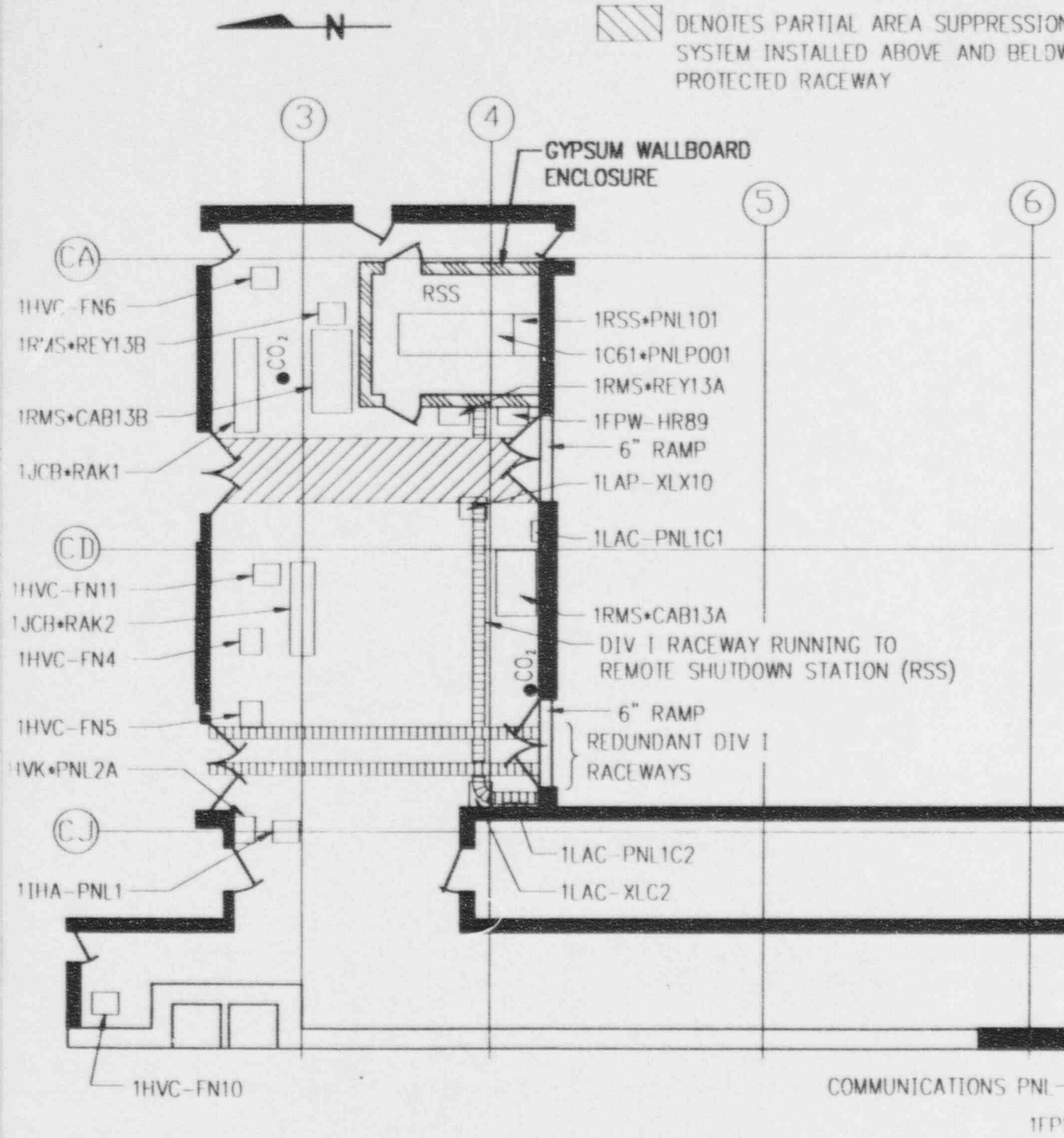
Thermo-Lag Assessment Report for Entergy Operations, Inc., River Bend Station, EOI File No. 6240.201-795.007A

SECY-94-127, "Options for Resolving the Thermo-Lag Fire Barrier Issues", May 12, 1994

Fire Protection Handbook, National Fire Protection Association, 16th Edition

Thermo-Lag Walkdowns, EOI File No. 6240.201-795-004A

NRC Follow-up to the Request for Additional Information (RAI) Regarding Generic Letter 92-08 Issued Pursuant to 10CFR50.54(f) on December 22, 1993, Dated September 23, 1994



Entergy Operations, Inc.				
RIVER BEND STATION – UNIT 1				
	REMOTE SHUTDOWN ROOM FIRE AREA C-16			
	ATTACHMENT A	1	X	0

EQPT IDENT No.	NAME OF EQUIPMENT
1C61*PNLP001	DIV I REMOTE SHUTDOWN PANEL
1FPW-HR90	FIRE PROTECTION WATER STANDPIPE & HOSE REEL
1FPW-HR89	FIRE PROTECTION WATER STANDPIPE & HOSE REEL
1HVC-FN4	TOILET EXHAUST FAN
1HVC-FN5	CONT RM KITCHEN EXHAUST FAN
1HVC-FN6	CHILLER EQPT RM FAN
1HVC-FN10	CONTROL BLDG SMOKE REMOVAL FAN
1HVC-FN11	CHILLER EQPT RM FAN
1JCB*RAK1	INSTRUMENTATION RACK
1JCB*RAK2	INSTRUMENTATION RACK
1RMS*CAB13A	RADIATION MONITOR CABINET
1RMS*CAB13B	RADIATION MONITOR CABINET
1RSS*PNL101	DIV I REMOTE SHUTDOWN PANEL
1LAC-PNL1C1	LIGHTING PANEL 240/120 VAC
1LAC-PNL1C2	LIGHTING PANEL 240/120 VAC
1LAC-XLC2	LIGHTING TRANSFORMER
1LAP-XLX10	LIGHTING TRANSFORMER
1HVK*PNL2A	HVK ELECTRICAL ISOLATION PANEL
1RMS*REY13A	C.B. RAD MON. RADIOACTIVITY ELEMENT
1RMS*REY13B	C.B. RAD MON. RADIOACTIVITY ELEMENT
1IHA-PNL1	C.B. DATA ACQUISITION SYSTEM PANEL

ENCLOSURE 2
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