

Mailing Address

Alabama Power Company
600 North 18th Street
Post Office Box 2641
Birmingham, Alabama 35291
Telephone 205 783-6081

F. L. Clayton, Jr.
Senior Vice President
Flintridge Building

USNRC REGION II
ATLANTA, GEORGIA

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December 9, 1983



Alabama Power
the southern electric system

Docket Nos. 50-348
50-364

U. S. Nuclear Regulatory Commission
Region II, Suite 3100
Division of Project and Resident Programs
101 Marietta Street, N.W.
Atlanta, Ga. 30303

Attention: Mr. D. M. Verrelli, Chief - Project Branch 1

Inspection Report Nos. 50-348/83-21 and 50-364/83-19

Gentlemen:

Alabama Power Company submits the following in response to the items listed in Appendix A of the Notice of Violation which resulted from the inspection conducted by Mr. W. H. Miller at Farley Nuclear Plant on August 16-19, 1983 (Report Nos. 50-348/83-21 and 50-364/83-19).

NRC Violation

- A. Technical Specification Section 6.8.1.f requires written procedures to be established, implemented and maintained covering the fire protection program implementation.

Contrary to the above, procedures had not been established to implement the following portions of the fire protection program:

1. Surveillance inspection and test of the fire detection instruments for Unit 1 Communication Room 202, Switchgear Room 335 and Switchgear Room 343 as required by Technical Specification Section 4.3.3.9.1;
2. Surveillance valve cycle test of a number of fire protection system control and sectional valves as required by Technical Specification Section 4.7.11.1.1.e and 4.7.11.2.b; and,
3. Surveillance inspection and test of the carbon dioxide system hose reel units located in the auxiliary building as required by Technical Specification Section 4.7.11.3.2.b.

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APCo Response

- A. Alabama Power Company acknowledges the violation as stated above and concedes a procedural deficiency existed regarding the Farley Nuclear Plant Procedures in administering the cited sections of the Technical Specifications. Corrective action for each item is:
1. Alabama Power Company revised the Farley Nuclear Plant Procedure (FNP-1-STP-131.02) on August 18, 1983 to include the Technical Specification requirement (Section 4.3.3.9.1) for surveillance inspection and test of the fire detection instruments for Unit 1 Rooms 202, 335 and 343.
 2. Alabama Power Company revised the Farley Nuclear Plant Procedure (FNP-0-STP-56.0) on September 2, 1983 to include the Technical Specification requirements (Section 4.7.11.1.1.e and 4.7.11.2.b) for surveillance valve cycle test of fire protection system control and sectional valves.
 3. Alabama Power Company will revise the appropriate Farley Nuclear Plant Procedures by January 1, 1984 to include the Technical Specification requirement (Section 4.7.11.3.2.b) for surveillance inspection and test of the carbon dioxide system hose reel units located in the auxiliary building.

NRC Violation

- B. License Condition paragraph 2.c.(9) requires the licensee to maintain in effect and fully implement all provisions of the approved fire protection plan entitled "Farley Nuclear Plant Fire Protection Program Reevaluation" dated September 15, 1977 through Amendment 4 dated January 3, 1979. Section 4.4.4.3.5 of this reevaluation report states that vertical cable tray runs of more than 20 feet with no penetration seal will be provided with fire breaks consisting of a Marinite board sealed with a flame retardant coating.

Contrary to the above, vertical cable tray runs of over 20 feet are located in the Unit 2 auxiliary building and are not provided with fire breaks.

The violation is applicable only to Unit 2.

APCo Response

- B. Alabama Power Company acknowledges the violation as stated above. The Marinite fire breaks were deleted as a requirement in Unit 2 by a change notice (CN) dated November 20, 1980. The CN resulted from an engineering analysis of these fire breaks which concluded that such stops were not needed since credit was not taken for them in

the Fire Hazard Analysis of the Fire Protection Program Reevaluation (FPPR) or any other Unit 2 fire protection analysis. Amendment 5 to the FPPR also deleted Section 4.4.4.3.5 of Amendment 4 which required these fire breaks. Marinite or equivalent material fire breaks will be installed as required throughout Unit 2 by the end of the 3rd Unit 2 outage presently scheduled to begin in January 1985.

Based on conversations between the NRC Staff and Alabama Power Company held subsequent to the identification of the above violation with respect to fire breaks on vertical cable tray runs, Alabama Power Company conducted an exhaustive review of the Farley fire protection program. As a result of this review Alabama Power Company has:

1. Issued a management directive with written instructions that re-emphasizes that the FPPR shall be considered on the same basis as the Farley Final Safety Analysis Report (FSAR). Instructions to the designers have been issued to ensure that future design changes involving fire protection will not decrease the effectiveness of the program as defined by Amendment 5 to the FPPR subject to the clarifications contained in Attachment I to this letter (discussed in more detail in item 3 below).
2. Reviewed all CN's related to fire protection systems issued since the fuel load licensing dates of June 25, 1977 (Unit 1) and October 23, 1980 (Unit 2) and determined that the deletion of the marinite fire breaks was the only identified deviation from the approved design criteria in Amendment 4 which could have decreased the effectiveness of the FPPR as defined in Amendment 4. The corrective action for this item was discussed in the above violation.
3. Conducted an exhaustive comparison of FPPR Amendment 5 to Amendment 4. Amendment 4 is the last amendment referenced in the Farley Nuclear Plant operating licenses. Based on a review of this comparison, Alabama Power Company concluded that no change decreases the effectiveness of the Farley Fire Protection System as currently defined except the deletion of the marinite fire breaks. The remaining differences between the amendments were divided into two groups. The first group of differences consists of 30 items identified as changes to the fire protection program which did not decrease the effectiveness of the program. These changes were brought about by refinements in the program as detailed engineering review and analysis was completed. Attachment I describes these changes. The second group of differences are not considered to be changes to the fire protection program but were only made in order to:

- a) correct omissions and errors in the earlier revisions
- b) reflect the as-built status of both units
- c) clarify program requirements and commitments by issuing a more readable and useable document
- d) reflect the completion of certain commitments.

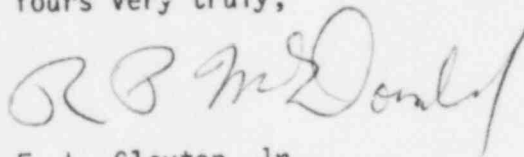
These administrative and editorial changes are described in Attachment II.

The changes shown in Attachments I and II are consistent with Amendment 11 to the Farley Nuclear Plant Unit 1 Operating License which states that "Alabama Power Company is authorized to make other changes to the program without prior Commission approval provided that such changes do not result in a decrease in the effectiveness of the program".

Based on the comparisons and reviews outlined above and subject to the clarifications discussed in Attachment I, Alabama Power Company has concluded that Amendment 5 of the FPPR constitutes the current fire protection program at Farley Nuclear Plant and intends to use it as the controlling document for the program. Consistent with the requirements of Amendment 11 to the Farley Nuclear Plant Unit 1 Operating License, Alabama Power Company will continue to obtain Commission approval prior to implementing any program changes which could result in a decrease in program effectiveness. Any changes which in the judgement of Alabama Power Company do not decrease the effectiveness of the program will be documented and included in the next amendment to the FPPR. Future amendments to the FPPR will be sent to the NRC.

If there are any questions or comments, please contact this office.

Yours very truly,


F. L. Clayton, Jr.

FLCJr/DRB:ddr-D33

Attachments

cc: Mr. R. A. Thomas
Mr. G. F. Trowbridge
Mr. J. P. O'Reilly
Mr. E. A. Reeves
Mr. W. H. Bradford

ATTACHMENT I
FPPR AMENDMENT #4/#5 COMPARISON

Page 1

| ITEM # | AMEND. #4 SEC/PARAGRAPH/ TABLE/FIGURE | AMEND. #4 PAGE NO./NOs. | AMEND. #5 PARAGRAPH/ TABLE/FIGURE | AMEND. #5 PAGE NO./NOs. | COMMENT |
|--------|--|---|--|----------------------------------|---|
| 1. | Amendment #3 | 13 | Section 6 | 6-254 | In response to Item 18a of Amendment #3, Alabama Power Company stated that portable smoke exhaust fans "can be powered off the normal ac outlets or off the outlets supplied from the emergency power sources." There are no permanent emergency power outlets installed; however, in the event of an emergency condition when smoke removal is essential and use of the gasoline powered equipment is ineffective or unavailable, temporary emergency power supplies can be provided to power this equipment. |
| 2. | Fire Area 1-1 (2-1) | 4-145 | Fire Area 1-1 (2-1) | 4-200 | Rooms 112, 169 and 196 of Unit 1 were added to the rooms exempt from smoke detection as proposed by Amendment #4. These rooms do not require detection since they are duct and pipe chases and tendon access rooms containing little or no flammable material and no safe shutdown trains. (Footnote "a", Page 4-8, Amendment #5). |
| 3. | Fire Area 1-1 (2-1) 1-4 (2-4) 1-5 (2-5) 1-34 (2-34) 1-35 (2-35) | 4-144 4-155 4-156 4-223 4-225 | Fire Area 1-1 (2-1) 1-4 (2-4) 1-5 (2-5) 1-34 (2-34) 1-35 (2-35) | 4-210 4-214 4-252 4-254 | Amendment #4 proposed a minimum half-hour fire rated blanket installed over the self-expanding cork for the portions of the area boundary along the containment wall which are also boundaries of other fire areas for each of the listed fire areas. Amendment #5 should have deleted all of these proposals since prior conversations with the NRC had determined that the elimination would not degrade the fire protection system. Even though the proposals were inadvertently left in Amendment #5, they are not considered a part of the fire protection system. |

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| <u>ITEM #</u> | <u>AMEND. #4 SEC/PARAGRAPH/ TABLE/FIGURE</u> | <u>AMEND. #4 PAGE NO./NOs.</u> | <u>AMEND. #5 PARAGRAPH/ TABLE/FIGURE</u> | <u>AMEND. #5 PAGE NO./NOs.</u> | <u>COMMENT</u> |
|---------------|--|------------------------------------|--|------------------------------------|--|
| 4. | Fire Area 1-4 (2-4) | 4-155 | Fire Area 1-4 (2-4) | 4-211 | Rooms 342, 424, 425, 426, 427, 448, 449, 450, 451 and 155 for both units and rooms 176, 328, 340, 306, 308, 329, 341 and 347 for Unit 1 were added to the rooms exempt from detection system coverage. These rooms do not require detection systems since they contain no or insignificant combustibles and contain no safe shutdown trains except one train in room 155. (Footnote "b", Page 4-9, Amendment #5) |
| 5. | Fire Area 1-4 (2-4) | 4-154 | Fire Area 1-4 (2-4) | 4-204 | Water suppression coverage has been provided in accordance with SER requirements except for rooms 2168 and 2222. Sprinkler system design for Room 2168 has been implemented and will be documented in the next amendment. Room 2222 does not require sprinkler coverage under the provisions of Section 4.2.5.1 since only one safe shutdown train is in this area. (Footnote "c", Page 4-9, Amendment #5, should have statement about Room 2222 added) |
| 6. | Fire Area 1-5 (2-5) | 4-23 & 4-157 | Fire Area 1-5 (2-5) | 4-2 & 4-214 | Amendment #4 proposed a sprinkler system for Room 172 and 174 while the SER only requires sprinkler coverage in Room 172. A fire originating in Room 174 would be contained within the room because of the quantity of combustible material and the barriers. Also the room contains only the hot shutdown cable associated with the pump in the room. Sprinkler coverage requirement has been eliminated for Room 174 in Amendment #5 and coverage is not provided. |

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| <u>ITEM #</u> | <u>AMEND. #4 SEC/PARAGRAPH/ TABLE/FIGURE</u> | <u>AMEND. #4 PAGE NO./NOs.</u> | <u>AMEND. #5 PARAGRAPH/ TABLE/FIGURE</u> | <u>AMEND. #5 PAGE NO./NOs.</u> | <u>COMMENT</u> |
|---------------|--|------------------------------------|--|------------------------------------|--|
| 7. | Fire Area 1-6 (2-6) | 4-162 | Fire Area 1-6 (2-6) | 4-219 | Amendment #4 proposed a detection system for the entire fire area except Room 195 which contains no flammable material. Amendment #5 adds rooms 236, 242 and 243 to the rooms exempt from a detection system. These rooms are duct or pipe chases containing no safe shutdown trains and little or no combustible material. (Footnote "d", Page 4-9, Amendment #5) |
| 8. | Fire Area 1-9 (2-9) | 4-168 | Fire Area 1-9 (2-9) | 4-9 | Amendment #4 states "appropriate barriers are proposed for electrical cable as required by Section 4.3.5.1." Amendment #5 deletes that statement since the area contains only one train of safe shutdown cabling. Amendment #4 erroneously reported two trains. (Footnote "e", Page 4-9, Amendment #5) |
| 9. | Fire Area 1-12 (2-12) | 4-176 & 4-177 | Fire Area 1-12 (2-12) | 4-226 | Amendment #4 proposed the relocation of one train of selector switches and the rerouting of the instrumentation cable to be independent of the Cable Spreading Room for Unit 1 and the relocation of one train of selector switches in Unit 2. Amendment #5 reflects the satisfactory completion of these proposals. The SER required the modification of "instrumentation to panel to make independent of Cable Spreading Room, |

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| <u>ITEM #</u> | <u>AMEND. #4 SEC/PARAGRAPH/ TABLE/FIGURE</u> | <u>AMEND. #4 PAGE NO./NOs.</u> | <u>AMEND. #5 PARAGRAPH/ TABLE/FIGURE</u> | <u>AMEND. #5 PAGE NO./NOs.</u> | <u>COMMENT</u> |
|---------------|--|------------------------------------|--|------------------------------------|---|
| 9. (cont) | Fire Area 1-12 (2-12) | 4-176 & 4-177 | Fire Area 1-12 (2-12) | 4-226 | Control Room and either cable chase". Independence from either cable chase is not required for hot shutdown and goes beyond the Amendment #4 commitment. If a fire were to destroy any cable chase, the plant could be brought to hot shutdown from the control room. Thus, independence of the instrumentation from the cable chase is not required. (Footnote "F", Page 4-9, Amendment #5) |
| 10. | Fire Area 1-16 (2-16) | 4-456 | Fire Area 1-16 (2-16) | 4-234 | Section 4.4.6.7, Station Battery Rooms in Amendment #4 contains a discussion which states the exhaust fans are normally started when heat detectors reach 110°F. Amendment #5 states that these exhaust fans run continuously which exceeds the commitment and provides an improved not a degraded degree of protection. |
| 11. | Fire Area 1-17 (2-17) | 4-456 | Fire Area 1-17 (2-17) | 4-235 | Section 4.4.6.7 Station Battery Rooms. (See Item 10 above) |

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| ITEM # | AMEND. #4 SEC/PARAGRAPH/ TABLE/FIGURE | AMEND. #4 PAGE NO./NOs. | AMEND. #5 PARAGRAPH/ TABLE/FIGURE | AMEND. #5 PAGE NO./NOs. | COMMENT |
|--------|---|----------------------------|---|----------------------------|---|
| 12. | Fire Area 1-20 (2-20) | 4-193 | Fire Area 1-20-(2-20) | 4-242 | Amendment #4 proposed water suppression system coverage for rooms in this fire area was expanded by the SER to include Rooms 210, 213, 228 and 234. Amendment #5 reports automatic water suppression systems for all of these except Unit 2, Room 2228. Implementation of Appendix R required modifications will exempt this room and will be documented in the next amendment. |
| 13. | Fire Area 1-21 (2-21) | 4-196 | Fire Area 1-20 (2-21) | 4-245 | Amendment #4 stated that a CO ₂ hose reel was available for use in this area from Room 244. Amendment #5 corrects this by stating that the CO ₂ hose reel available for this area is in Room 210. |
| 14. | Fire Area 1-21 (2-21) | 4-196 | Fire Area 1-21 (2-21) | 4-245 | Amendment #5 states that barriers required for electrical cabling have been installed in Unit 1 but due to the physical conditions of Unit 2 are not required by Section 4.3.5.1 of Amendment #4. A footnote should have been added to exempt Unit 2 on Page 4-9, Amendment #5. |
| 15. | Fire Area 1-34 (2-34) | 4-224 | Fire Area 1-34 (2-34) | 4-9 & 4-252 | Amendment #4 proposal to install appropriate barriers for electrical cables as required by Section 4.3.5.1 was deleted by Amendment #5. This area does not require installation of fire barriers due to the implementation of Appendix R modifications. Footnote "k", Page 4-9, Amendment #5, is in error and should have stated the above reason for deletion. |

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| <u>ITEM #</u> | <u>AMEND. #4 SEC/PARAGRAPH/ TABLE/FIGURE</u> | <u>AMEND. #4 PAGE NO./NOs.</u> | <u>AMEND. #5 PARAGRAPH/ TABLE/FIGURE</u> | <u>AMEND. #5 PAGE NO./NOs.</u> | <u>COMMENT</u> |
|---------------|--|------------------------------------|--|------------------------------------|--|
| 16. | Fire Area 1-35 (2-35) | 4-226 | Fire Area 1-35 (2-35) | 4-255 | Amendment #5 deleted the mention of "barriers" in the discussion of the consequence of a fire. There is only one safe shutdown train in the area and Section 4.2.5.1 does not require a barrier. |
| 17. | Fire Area 1-41 (2-41) | 4-238 | Fire Area 1-41 (2-41) | 4-261 | Amendment #5 deleted the proposal for appropriate barriers for electrical cables as required by Section 4.5.3.1 of Amendment #4. Barriers are not required since there is only one train of safe shutdown cabling in this area. Amendment #4 erroneously reported two trains in this area (footnote "1", page 4-9, Amendment #5). |
| 18. | Fire Area 1-42 (2-42) | 4-240 | Fire Area 1-42 (2-42) | 4-263 | Amendment #5 indicates that a water suppression system has been installed throughout this area except for the Unit 2 hatch area (Room 2345). This deletion of water suppression over the hatch area was made because no safe shutdown equipment is adjacent to the hatch. Alabama Power Company intends, on its own volition, to install this fire protection equipment over the access hatch area in Room 2345 to enhance the fire protection in this area by the end of the 3rd Unit 2 outage presently scheduled to begin in January 1985. This exception should have been noted as a footnote on page 4-9, Amendment #5. |
| 19. | Fire Area 1-51 (2-51) | 4-260 | Fire Area 1-51 (2-51) | 4-272 | Amendment #5 deleted the proposal to install a sprinkler system in Room 501 to protect DC power cables. This area does not contain safe shutdown equipment; therefore, a sprinkler system is not required. |

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| ITEM # | AMEND. #4 SEC/PARAGRAPH/ TABLE/FIGURE | AMEND. #4 PAGE NO./NOs. | AMEND. #5 PARAGRAPH/ TABLE/FIGURE | AMEND. #5 PAGE NO./NOs. | COMMENT |
|--------|---|----------------------------|---|----------------------------|---|
| 20. | Fire Area 1-51 (2-51) | 4-260 | Fire Area 1-51 (2-51) | 4-272 | Amendment #5 deleted the proposal to install appropriate electrical barriers for electrical cable as required by Section 4.3.5.1 in Amendment #4. Barriers are not required in this area since there is no safe shutdown equipment or cabling in the area. Amendment #4 erroneously reported the presence of two trains (footnote "m", page 4-9, Amendment #5). |
| 21. | Fire Area 72, Zone A | 4-306 | Fire Area 72, Zone A | 4-316 | Amendment #4 stated that all doors are U.L. Class "A" rated. Amendment #5 corrects this stating that all doors are nonrated since these doors separate zones within fire area 72 and do not have to be rated. This does not degrade the fire protection in the fire area. |
| 22. | Fire Area 72, Zone B | 4-308 | Fire Area 72, Zone B | 4-18 | Amendment #4 stated that all doors are U.L. Class "A" rated. Amendment #5 corrects this stating that all doors are nonrated since double doors to the exterior and open doorways separating zones within fire area 72 do not have to be rated. This does not degrade the fire protection in the fire area. |
| 23. | Fire Area 72, Zone C | 4-310 | Fire Area 72, Zone C | 4-320 | Amendment #4 stated that all doors are U.L. Class "A" rated. Amendment #5 corrects this stating that the door into the Battery Room is U.L. Class "A" rated while the door into the pump room and the open doorway do not have to be rated since they separate zones in the same fire area. This does not degrade the fire protection in the fire area. |

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| ITEM # | AMEND. #4 SEC/PARAGRAPH/ TABLE/FIGURE | AMEND. #4 PAGE NO./NOs. | AMEND. #5 PARAGRAPH/ TABLE/FIGURE | AMEND. #5 PAGE NO./NOs. | COMMENT |
|--------|---|----------------------------|---|--|--|
| 24. | Fire Area 72, Zone D | 4-312 | Fire Area 72, Zone D | 4-322 | See item 23 above. |
| 25. | Fire Area 72, Zone E | 4-314 | Fire Area 72, Zone E | 4-324 | See item 22 above. |
| 26. | Fire Area 88 Zones A through F | 4-336 | Fire Area 1-88 (2-88) Zones A through F | 4-350 | Amendment #4 states that backup fire suppression capability is available from nearby CO ₂ hose reels. Since there are no nearby CO ₂ hose reels, Amendment #5 corrects this by stating that backup capability is available from nearby water hose stations. |
| 27. | | | Introduction 1.5 | 1-3 | Amendment #5 states, "This reevaluation is to be updated annually coincident with the Final Safety Analysis Report (FSAR) Update" but Alabama Power Company does not anticipate fire protection changes sufficient for an annual update but does intend to update the FPPR on an "as needed" basis. |
| 28. | N/A | N/A | Fire Area 1-90 (2-90) 1-91 1-92 (2-92) 93 | 4-353 & 354 4-355 & 356 4-357 & 358 4-359 & 360 | These fire areas are new and established under the requirements for new combustible areas (PCR 81-1037) and were inadvertently shown as completed in Amendment #5. Not all of the fire protection features have been installed and these areas have not been utilized as permanent combustible storage areas pending completion. |
| 29. | Fire Area 1-4(2-4) | 4-154 & 155 | Fire Area 1-4(2-4) | 4-355 through 4-360 | These rooms were deleted from fire area 1-4 (2-4) and designated in one of the new fire areas with the same status as stated above in item 28. |

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| <u>ITEM #</u> | <u>AMEND. #4 SEC/PARAGRAPH/ TABLE/FIGURE</u> | <u>AMEND. #4 PAGE NO./NOs.</u> | <u>AMEND. #5 PARAGRAPH/ TABLE/FIGURE</u> | <u>AMEND. #5 PAGE NO./NOs.</u> | <u>COMMENT</u> |
|---------------|--|------------------------------------|--|------------------------------------|---|
| 30. | N/A | N/A | Water Suppression 4.2.4.1.10 | 4-180 | This Section of Amendment #5 contains a new paragraph which defines a "Special Hazard Philosophy" with respect to the installation of water suppression systems. APCo will follow NFPA Codes 13 and 15 to the maximum extent possible but conditions (particularly congestion in ceiling areas) may occasionally require deviation from strict code compliance. Such deviations will be permitted only if equal, superior, or the maximum practical protection will be realized and past commitments will not be adversely affected. This definition is in agreement with the statement in Amendment 11 to the Farley Operating License that "Alabama Power Company is authorized to make other changes to the program without prior Commission approval provided that such changes do not result in a decrease in the effectiveness of the program". |

Attachment II
FPPR AMEND. #4/#5 COMPARISON

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| <u>ITEM #</u> | <u>AMEND. #4 SEC/PARAGRAPH/ TABLE/FIGURE</u> | <u>AMEND. #4 PAGE NO./NOS.</u> | <u>AMEND. #5 PARAGRAPH/ TABLE/FIGURE</u> | <u>AMEND. #5 PAGE NO./NOS.</u> | <u>COMMENT</u> |
|---------------|--|------------------------------------|--|------------------------------------|--|
| 1 | Title Page (No Para. #) | Unnumbered | Title Page (No Para. #) | Unnumbered | No change. |
| 2 | - | - | Distribution List (No Para. #) | Unnumbered | Not in Amend. #4. |
| 3 | Record of Revision (No Para. #) | Unnumbered | Record of Revision (No Para. #) | Unnumbered | Amend. #5 added Amend. #5 issue and date info. |
| 4 | Abstract (No Para. #) | i & ii | Abstract (No Para. #) & Introduction 1.1 thru 1.5 | i & 1-1 thru 1-3 | The Amend. #4 abstract contained details which would have been more appropriately located in an introductory section. For this reason the majority of the material was relocated to the Amend. #5 "Introduction" (1.1 thru 1.5). See Item #8 for additional discussion. No substantive changes. |
| 5 | Table of Contents (No Para. #) | iii, iv & v | Table of Contents | iii | Editorial revision only. |
| 6 | List of Tables (No Para. #) | vi | List of Tables | x | Amend. #5 dropped Amend. #4 Table 4.2-1 "Proposed Modification Summary" from the list of tables; see Item #12 for rationale. It should be noted that the Amend. #4 "List of Tables" failed to include Tables 4.2-2 (PG 4-26i) and 4.2-2A (PG 4-26j). These latter two tables were also dropped in Amend. #5. |
| 7 | List of Figures (No Para. #) | vii, viii, ix & x | List of Figures (No Para. #) | iv, v, vi, vii, viii & ix | Editorial revision only. |

FPPR AMEND. #4/#5 COMPARISON

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| ITEM # | AMEND. #4 SEC/PARAGRAPH/ TABLE/FIGURE | AMEND. #4 PAGE NO./NOS. | AMEND. #5 PARAGRAPH/ TABLE/FIGURE | AMEND. #5 PAGE NO./NOS. | COMMENT |
|--------|--|----------------------------|---|----------------------------|---|
| 8 | 1.0 Introduction | 1-1 thru 1-3 | 1.1, 1.2, 1.3, 1.4 & 1.5 | 1-1 thru 1-3 | The Amend. #4 "Introduction" was limited to a description of the organizations and individuals involved in the preparation of the FPPR and a brief description of the Amend. #4 content. The Amend. #5 "Introduction" presents a brief description of the various iterations of NRC tasking which resulted in the publication of and amendments to the FPPR. It incorporates portions of Amend. #4 abstract (see Item #4) and updates the NRC tasking through the April 13, 1979, NRC Fire Protection Safety Evaluation Report (SER). It also describes the Amend. #5 content and editorial organization. |
| 9 | 2.0 (Eval. Criteria) | 2-1 & 2-2 | 2.0 (Eval. Criteria) | 2-1 & 2-2 | No change. |
| 10 | 3.0 (Definitions) | 3-1 & 3-2 | 3.0 (Definitions) | 3-1 & 3-2 | No change. |
| 11 | 4.1 & Table 4.1-1 (Compliance Summary) | 4-1 thru 4-20 | 4.1 & Table 4.1-1 (Mod. & Compliance Summary) | 4-1 thru 4-9 | <p>Amend. #4 (Table 4.1-1) provided a complete list of the generic "positions" of Appendix A to BTP APCSB 9.5-1 and the associated degree of APC compliance thereto. Amend. #5 deleted the Amend. #4 table and substituted another (Table 4.1-1) which lists the specified modifications required by the SER to reach full compliance with Appendix A, BTP 9.5-1; the table also documented the degree of compliance thereto. The Amend. #5 revisions were accomplished to reflect the latest NRC taskings which addressed specific rather than generic requirements. It should be noted that:</p> <ol style="list-style-type: none"> 1. The SER included, not overrode, continued BTP 9.5-1 compliance. 2. Section 6 of Amend. #5 continues to provide a discussion on BTP 9.5-1 compliance commitments. 3. Table 4.1-1, Amend. #4 was "only a capsule summary" of BTP 9.5-1 compliance which was contained elsewhere (Section 4.4 Amend. #4; Section 6, Amend. #5). 4. BTP 9.5-1 compliance has also been incorporated throughout the FPPR. |

FPPR AMEND. #4/#5 COMPARISON

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| ITEM # | AMEND. #4 SEC/PARAGRAPH/ TABLE/FIGURE | AMEND. #4 PAGE NO./NOS. | AMEND. #5 PARAGRAPH/ TABLE/FIGURE | AMEND. #5 PAGE NO./NOS. | COMMENT |
|--------|---|---|---|----------------------------|--|
| 12 | Sect. 4.2 & Table 4.2-1 (Proposed Mod. Summary) | 4-21 thru 4-26, 4-26a thru 4-26h | 4.1 & Table 4.1-1 (Mod. & Compliance Summary) | 4-1 thru 4-9 | Amend. #4 Table 4.2-1 listed proposed fire protection program modifications. Amend. #5 Table 4.1-1 lists these same proposed modifications and provides a status update for each. It should be noted that both of these tables, with minor exception, are identical to the modifications required by NRC in the SER. Amend. #5 Table 4.1-1 provides rationale where required modifications have not been completed. This rationale falls within the guidelines of current design criteria. |
| 13 | Table 4.2-2 (Proposed Mod. Implementation Dates) | 4.26i | N/A | N/A | Deleted in Amend. #5 - mods accomplished or not required. |
| 14 | Table 4.2-2A (Unit #1 Work Priorities) | 4-26j | N/A | N/A | Deleted in Amend. #5 - mods accomplished or not required. |
| 15 | Sect. 4.3.1 (Fire Hazard Anal. Descrip.) | 4.27, 4-28, 4-28a, 4-29 thru 4-31 | 4.2 | 4.11 thru 4-16 | No substantive changes; editorial only. |
| 16 | Fig. 4.3-1 (Fire Severity Curve) | 4-32 | Fig. 4.2.1 | 4-17 | No change. |
| 17 | Fig. 4.3.2 | 4-33 | Fig. 4.2-2 | 4-18 | Editorial change; no impact on commitments or analysis. Amend. #4 had "total heat potential" as "X" to 10 ⁵ power; it should have read 10 ⁸ power. |
| 18 | Sect. 4.3.2 (Fire Area Layout) | 4-34 | Sect. 4.2.2 (Fire Area Layout) | 4-19 | Amend. #5 repeats the content of Amend. #4 and adds a more comprehensive description of the features of the fire area layout figures (Amend. #5 Figs. 4.2-3 thru 4.2-70). Editorial changes only. |

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| <u>ITEM #</u> | <u>AMEND. #4 SEC/PARAGRAPH/ TABLE/FIGURE</u> | <u>AMEND. #4 PAGE NO./NOS.</u> | <u>AMEND. #5 PARAGRAPH/ TABLE/FIGURE</u> | <u>AMEND. #5 PAGE NO./NOS.</u> | <u>COMMENT</u> |
|---------------|---|------------------------------------|--|------------------------------------|---|
| 19 | Fig. 4.3-3 (Fire Main) | 4-35/36 | Fig. 4.2-3 (Fire Main) | 4-21/22 | The fire protection underground water main diagram was updated to reflect "as-built" conditions. Hose house to north of Diesel Gen. Bldg. shown as installed per commitment. |
| 20 | N/A | N/A | Fig. 4.2-4 (Fire Main) | 4-23/24 | This figure added portions of the fire protection underground water main which Amend. #4 failed to include or which were installed subsequent to Amend. #4 issuance. Hydrants installed in the vicinity of the service water structure as per commitment are shown. |
| 21 | N/A | N/A | Fig. 4.2-5 (Legend) | 4-25/26 | Amend. #5 added a separate "legend". An incomplete legend had previously been shown on Fig. 4.3-3, PG 4-35/36 of Amend. #4. Amend. #5 drops the symbology for individual sprinkler and smoke detector heads since this unnecessarily congests the fire area figures. Instead the figures show areas where water suppression and smoke detection is provided. |
| 22 | Fig. 4.3-4 thru Fig. 4.3-41 (Location of Fire Protection Equipment) | 4-37 thru 4-112 | Fig. 4.2-6 thru 4.2-70 (Location of Fire Protection Equipment) | 4-27 thru 4-156 | The Amend. #5 figures update the Amend. #4 figures in consonance with the revisions/additions to design and fire protection features discussed in the individual fire area hazard analyses. Since, as stated, the figures duplicate the material in the analyses they will not be addressed individually in this report. The Amend. #5 figures cover the same plant areas as Amend. #4 figures. However they were reformatted with the exception of the Turbine Buildings to fit on a 8½" x 11" page rather than an 8½" x 17" fold-out. Amend #5 added the fire protection annunciator list of both units and an associated legend (Figs. 4.2-35/36/37). It deleted Amend. #4 figure (4.3-25) on the Unit #1 Auxiliary Building Fire Protection Riser System. This figure required major revision but the FPPR due date did not permit enough time to accomplish this revision. |

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| ITEM # | AMEND. #4 SEC/PARAGRAPH/ TABLE/FIGURE | AMEND. #4 PAGE NO./NOS. | AMEND. #5 PARAGRAPH/ TABLE/FIGURE | AMEND. #5 PAGE NO./NOS. | COMMENT |
|--------|--|---|--|----------------------------|---|
| 23 | Sect. 4.3.3 (Safe Shutdown & Radioactivity Control) | 4-113, 4-114, 4-114a, 4-114b, 4-115 & 4-116 | Sect. 4.3.3 (Safe Shutdown & Radioactivity Control) | 4-157 thru 4-160 | In the Amend. #5 "Required Auxiliaries" para., PG 4-159, the containment air coolers were deleted from the list of systems required for the hot shutdown condition. A change bar for this change was inadvertently left off. In the Amend. #5 "4.2.3.1.3 Cold Shutdown Requirements" Para., PG 4-168, containment coolers, CCW pump room coolers & 600-V load center room coolers have been added to the list of systems and equipments to be used in reaching & maintaining the plant in a cold shutdown condition. |
| 24 | Table 4.3-1 | 4-117 thru 4-128 | Table 4.2-1 | 4-161 thru 4-169 | All Amend. #5 revisions were editorial except for deleting the containment coolers A, B, C & D, CCW pump room coolers A & B (PG 4-163) and the 600-V load center room coolers (PG 4-164) from the "Required for HS" column (see remarks in item above). A revision bar was inadvertently left off page 4-169 opposite examples 3 & 4. |
| 25 | Fig. 4.3-42 | 4-129/130 | Fig. 4.2-71 | 4-171/172 | No change. |
| 26 | Fig. 4.3-43 | 4-131/132 | Fig. 4.2-72 | 4-173/174 | No change. |
| 27 | Sect. 4.3.4 (Design Features) | 4-133, 4-133a, 4-133b, 4-134, 4-135 & 4-136 | Sect. 4.2.4 (Design Features) | 4-175 thru 1-192 | See Items #27 through #63. |
| 28 | Lead-In Para., 4.3.4 | 4-133 | Lead-In Para., 4.2.4.1 | 4-175 | Discussion expanded. Editorial only. |
| 29 | Structural | 4-133 | 4.2.4.1.1 (Structural) | 4-175 | No change. |
| 30 | Pumps | 4-133 | 4.2.4.1.2 (Pumps) | 4-175 | No change. |

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| ITEM # | AMEND. #4 SEC/PARAGRAPH/ TABLE/FIGURE | AMEND. #4 PAGE NO./NOS. | AMEND. #5 PARAGRAPH/ TABLE/FIGURE | AMEND. #5 PAGE NO./NOS. | COMMENT |
|--------|---|--|---|----------------------------|---|
| 31 | Electrical | 4-133, 4-133a, 4-133b, 4-134 & 4-135 | 4.2.4.1.3 (Electrical) | 4-176, 4-177 | One editorial revision changed "Modifications are proposed" to "Modifications have been made". |
| 32 | Fire Barrier Penetrations | 4-135, 4-136 | 4.2.4.1.4 (Fire Barrier Penetrations) | 4-177, 4-178 | Amend. #4 stated "all fire barrier penetrations used for electrical cables, except in conduit, are provided with either silicone foam or Nelson multicable transit system penetration seals." It went on to explain how both types of seals were 3-hour rated. Amend. #5 enters an exception to the preceding by stating that the penetrations between containments and electrical penetration rooms are sealed against pressure and are watertight but are not fire rated. |
| 33 | Doors | 4-136 | 4.2.4.1.5 (Doors) | 4-179 | Amend. #5 clarifies the discussion on rated door utilization in exterior walls and stairwells to bring the section in conformance with Amend. #2 commitment (see Amend. 5, PG 6-44; Amend. #4, PG 4-375). No substantive change is made. |
| 34 | Compressible Material | 4-136 | 4.2.4.1.6 (Compressible Material) | 4-179 | Editorial revision only - deleted "Proposal" sentence since proposals have been incorporated into individual fire area hazard analyses. This is error; see Item 68 (B). |
| 35 | N/A | N/A | 4.2.4.1.7 (Fire Prot. Water Supply) | 4-179 | New paragraph based on response to Request #27 Amend. #2 (Amend. #5, PG 6-191v & PG 6-88). No new or revised material. |
| 36 | N/A | N/A | 4.2.4.1.8 (Hydrant Houses) | 4-179 | New paragraph based on "discussion" on NRC position E.2(g) (Amend. #5, PG 6-89). No new or revised material. |
| 37 | N/A | N/A | 4.2.4.1.9 (Man. Water Hose Sta.) | 4-180 | New section describing manual hose station features. Compiled from various Amend. #4 paragraphs (PGS 4-425, 4-426, 4-427). No new material or impact on commitments. |

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| <u>ITEM #</u> | <u>AMEND. #4 SEC/PARAGRAPH/ TABLE/FIGURE</u> | <u>AMEND. #4 PAGE NO./NOS.</u> | <u>AMEND. #5 PARAGRAPH/ TABLE/FIGURE</u> | <u>AMEND. #5 PAGE NO./NOS.</u> | <u>COMMENT</u> |
|---------------|--|------------------------------------|--|------------------------------------|---|
| 38 | N/A | N/A | 4.2.4.1.10 (Water Suppression Systems) | 4-180 | New section describing overall design philosophy for water suppression systems. It departs from past response regarding compliance with NFPA 13 & 15. It defines a "special hazard" concept stating NFPA 13 & 15 will be followed to the maximum extent possible but due to plant conditions deviations may be required, particularly in head or detector placement. However it states these deviations are to be exercised only if equal or superior protection is afforded. No deviations of this type have been exercised to date. The third paragraph of this section should be changed to read "the fixed water fire protection systems protecting the safety related areas within the Auxiliary Buildings provide an effective discharge density of 0.30 GAL/MIN/FT ² of covered floor area. Also, the last paragraph should be revised to read --- can be manually activated or charged at their ---. |
| 39 | N/A | N/A | 4.2.4.1.11 (LP CO ₂ Systems) | 4-181 | New section compiled from numerous sections of Amend. #4 (PGS 4-431, 4-432, 4-433, 4-435, 4-436 & 4-398). To preclude any misunderstanding, this section should be revised in the next amendment to reflect that CO ₂ Systems are designed, tested and maintained in accordance with NFPA 12. Absence of this statement in Amend. #5 is in no manner intended to indicate less than full code compliance is acceptable. No substantive changes; editorial only. |
| 40 | N/A | N/A | 4.2.4.1.12 (HP CO ₂ Systems) | 4-182 | New section derived from Amend. #4 PGS 4-438/439. Editorial revisions only. |
| 41 | N/A | N/A | 4.2 (Halon Sys.) | 4-182 | New section derived from Amend. #4 PG 4-429/430 and "as-built" conditions. Editorial changes only. |
| 42 | N/A | N/A | 4.2.4.1.14 (Smoke Det. Sys.) | 4-183 | New section derived from Amend. #4, Amend. #2 section, Page 30. Editorial changes only. |
| 43 | N/A | N/A | 4.2.4.1.15 (Fire Prot. Annunciation) | 4-183 | New section derived basically from Amend. #4 PG 4-404 & Amend. #2 PG 43. Editorial changes only. |

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| <u>ITEM #</u> | <u>AMEND. #4 SEC/PARAGRAPH/ TABLE/FIGURE</u> | <u>AMEND. #4 PAGE NO./NOS.</u> | <u>AMEND. #5 PARAGRAPH/ TABLE/FIGURE</u> | <u>AMEND. #5 PAGE NO./NOS.</u> | <u>COMMENT</u> |
|---------------|--|------------------------------------|--|------------------------------------|--|
| 44 | N/A | N/A | 4.2.4.17 (Supervisory Systems) | 4-184 | New section derived principally from Amend. #4 PGS 4-403 & 4-408; Amend. #2, PGS 6, 31, 32, 33, 34 & 50 and Amend. #3, PG 62. Editorial changes only. |
| 45 | N/A | N/A | 4.2.4.1.18 (Communications) | 4-184 | New section derived from Amend. #4, PGS 4-401/402 and Amend. #2 PGS 28/29. Editorial changes only. |
| 46 | N/A | N/A | 4.2.4.1.19 (Emergency Lighting) | 4-185 | New section derived from Amend. #3 PG 15. Changed from 8 hour lights "will be" to "have been" installed. Other changes are editorial only. |
| 47 | N/A | N/A | 4.2.4.1.20 (Emer. Smoke Removal) | 4-185 | New section derived from Amend. #4 PGS 4-330, 329 & 396, Amend. #2, PGS 21 & 22 and Amend. #3 PG 13. Changed from portable smoke removal equipment "will be" to "is provided vided." NOTE: See Item 1 Attachment 1. |
| 48 | N/A | N/A | 4.2.4.1.21 (Floor Drains) | 4-186 | New section identical to Amend. #4 PG 4-373/474 except "and approved" added to last sentence which now reads "water drainage from areas which may contain radioactivity is collected in the liquid radwaste system and sampled and approved prior to discharge to the environment. |
| 49 | N/A | N/A | 4.2.4.2 (Fire Protection Systems) | 4-186 | New section. This is merely an introductory paragraph with no substantive content. Editorial only. |

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| <u>ITEM #</u> | <u>AMEND. #4 SEC/PARAGRAPH/ TABLE/FIGURE</u> | <u>AMEND. #4 PAGE NO./NOS.</u> | <u>AMEND. #5 PARAGRAPH/ TABLE/FIGURE</u> | <u>AMEND. #5 PAGE NO./NOS.</u> | <u>COMMENT</u> |
|---------------|--|------------------------------------|--|------------------------------------|---|
| 50 | N/A | N/A | 4.2.4.2.1 (Water Supply & Distribution) | 4-186/187 & 188 | New section; briefly describes water system from deep wells to fire protection water loop take-offs. It is derived from Amend. #4 PGS 4-409, 412, 413, 414 & 416, Amend. #2, PG 36 and Amend. #3, PG 16. Two revisions were incorporated: (1) In the discussion of pump house annunciation to the control room, the fire pumps were identified by a number but not by type, i.e., motor or engine-driven. The annunciation associated with each type varies. Amend. #5 identifies the pump prime-movers by type and clarifies the annunciation (editorial only); (2) Amend. #4 (PG 4-409) states fifty-five yard hydrants are installed. Amend. #5 corrects this to ready fifty-two, the number installed at the time of Amend. #5 issuance. This is a substantive revision. Rev. bar should have been added. |
| 51 | N/A | N/A | 4.2.4.2.2 (Yard Prot.) | 4-188 | New section. Derived from Amend. #4, PG 409 except the number of yard hydrants is corrected to read fifty-two. See comments in preceding item. |
| 52 | N/A | N/A | 4.2.4.2.3 (Aux. Bldgs.) | 4-188/189 | New section. Derived from Amend. #4, PGS 4-409, 418, 443 & 449, Amend. #2, PGS 42 & 52 and Amend. #3 PGS 17 & 18. No revisions to past material. Clarification of portable extinguisher locations philosophy and explanation of the fact smoke detection systems are both suppression-system related and non-suppression system related was added. All revisions of an editorial nature. |
| 53 | N/A | N/A | 4.2.2.2.4 (Containment) | 4-189 | New section. Derived from Amend. #4 PGS 4-446, 447, Amend. #2, PG 54 and Amend. #3, PGS 20 & 21. Editorial changes only. |
| 54 | N/A | N/A | 4.2.4.2.5 (Turbine Bldg.) | 4-189 | New section. Derived from Amend. #4, PGS 4-433, 434, 435, 457 & 458 and Amend. #3, PG 30. Editorial changes only. |
| 55 | N/A | N/A | 4.2.4.2.6 (Diesel Gen. Bldg.) | 4-190 | New section. Derived from Amend. #4, PGS 4-436, 437, 443 & 459. Editorial changes only. |

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| <u>ITEM #</u> | <u>AMEND. #4 SEC/PARAGRAPH/ TABLE/FIGURE</u> | <u>AMEND. #4 PAGE NO./NOS.</u> | <u>AMEND. #5 PARAGRAPH/ TABLE/FIGURE</u> | <u>AMEND. #5 PAGE NO./NOS.</u> | <u>COMMENT</u> |
|---------------|--|------------------------------------|---|------------------------------------|---|
| 56 | N/A | N/A | 4.2.4.2.7 (Diesel Gen. Cable Tunnels) | 4-190 | New section. Derived from Amend. #2, PG 78 and Amend. #3, PG 26. Editorial changes only. |
| 57 | N/A | N/A | 4.2.4.2.8 (Cooling Towers) | 4-190 | New section. Derived from Amend. #4, PGS 4-438, 439 & 466. Amend. #5 corrected Amend. #4 statement that each cooling tower has 5 cells. They have 14. |
| 58 | N/A | N/A | 4.2.4.2.9 (Utility Bldg.) | 4-191 | New section. Derived from Amend. #4, PG 4-470. Editorial change only. |
| 59 | N/A | N/A | 4.2.4.2.10 (River Water Int. Structure) | 4-191 | New section. Derived from Amend. #4, PG 4-468. Editorial changes only. |
| 60 | N/A | N/A | 4.2.4.2.11 (Service Bldg.) | 4-191 | New section. Derived from Amend. #4, PG 4-469. Editorial change only. |
| 61 | N/A | N/A | 4.2.4.2.12 (Service Water Intake Structure) | 4-191 | New section. Derived from Amend. #4, PGS 4-461 & 467. Editorial changes only. |
| 62 | N/A | N/A | 4.2.4.2.13 (Water Treatment Bldg.) | 4-192 | New section. New material based on "as-built" conditions. It briefly describes the fire protection equipment available to this building. |
| 63 | N/A | N/A | 4.2.4.2.14 (Low Volt. Trans.-Area) | 4-192 | New section. New material based on "as-built" conditions. It briefly describes the fire protection equipment available to this area. |
| 64 | N/A | N/A | Fig. 4.2-73 (Electrical Sources) | 4-193 | This figure is located in Amend. #2, PG 33. It has also been utilized in Amend. #5 without revision. |
| 65 | N/A | N/A | Fig. 4.2-74 (Electrical Sources) | 4-194 | This figure is located in Amend. #2, PG 34. It has also been utilized in Amend. #5 without revision. |

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| <u>ITEM #</u> | <u>AMEND. #4 SEC/PARAGRAPH/ TABLE/FIGURE</u> | <u>AMEND. #4 PAGE NO./NOS.</u> | <u>AMEND. #5 PARAGRAPH/ TABLE/FIGURE</u> | <u>AMEND. #5 PAGE NO./NOS.</u> | <u>COMMENT</u> |
|---------------|--|------------------------------------|--|------------------------------------|--|
| 66 | Sec. 4.3.5 (Fire Area Hazard Analysis) | 4-137 | 4.2.5 (Fire Area Hazard Analysis) | 4-195 | This introductory paragraph has been editorially revised only. |
| 67 | Sec. 4.3.5.1 (Proposed Modifications- Electrical) | 4-137/138 | 4.2.5.1 (Design Criteria- Electrical) | 4-195/196 | One substantive revision has been. Amend. #4 sub-paragraph 4.3.5.1, 5, c has been deleted from Amend. #5. It included a "special-case exception" to the criteria for the protection of safety-related cable. It stated no sprinkler or barrier protection was proposed for two service water structure cable trains even though they were within 8 feet of each other. This was deleted. Since Kaowool wrapping and sprinkler coverage has been provided per Appendix "R" and PCN 581-1078. These added fire protection features have been incorporated into the Area 72 Zone A, fire area hazard analysis (PG 4-316). Other revisions made to the section were of an editorial nature only. |
| 68 | Fire Area 1-1 (2-1) | 4-142 thru 4-145 | Fire Area 1-1 (2-1) | 4-197 thru 4-200 | In addition to editorial revisions, the following changes were entered: <div style="text-align: center;"><u>Tabular Data</u></div> (A) Deleted Rm 107. Reason - Rm 107 is now a separate fire area (90). See Amend. #5, PGS 4-353/354. <div style="text-align: center;"><u>Design Features - Construction</u></div> (B) NOTE: See Item 3 Attachment 1. |

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| <u>ITEM #</u> | <u>AMEND. #4 SEC/PARAGRAPH/ TABLE/FIGURE</u> | <u>AMEND. #4 PAGE NO./NOS.</u> | <u>AMEND. #5 PARAGRAPH/ TABLE/FIGURE</u> | <u>AMEND. #5 PAGE NO./NOS.</u> | <u>COMMENT</u> |
|---------------|--|------------------------------------|--|------------------------------------|---|
| 68 (Contd) | | | | | <u>Design Features - Doors</u> (C) Amend. #4 claimed airtight UL rated Class B doors between Rms 110, 115 and Stairwell #2. Amend. #5 corrects these to be non-airtight, Class B doors. (D) The proposed replacement (Amend. #4) of the door between Rms 184 and 162 with an airtight UL Class A door is reflected as completed in Amend. #5. <u>Design Features - Piping & Electrical Penetrations</u> (E) The Amend. #4 proposal to provide 3 HR rated dampers between Rms 169 and 163 is reflected as completed in Amend. #5. <u>Fire Protection</u> (F) NOTE: See Item 2 Attachment 1. <u>Consequence of a Fire</u> (G) Amend. #4 stated that there was only one hot shutdown train in the area contrary to the fact that the area analysis table lists both train A & B in Rm 223. Amend. #5 corrects this error and provides an appropriate discussion. |

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|---------------|--|---|--|------------------------------------|--|
| 69 | Fire Area 1-4 (2-4) | 4-152, 153, 154, 155, 155a, 155b, 155c, 155d, 155e, 155f, & 155g | Fire Area 1-4 (2-4) | 4-202 thru 4-212 | <p>In addition to editorial revisions, the following changes were entered:</p> <p style="text-align: center;"><u>Tabular Form</u></p> <p>(A) "C" shutdown train deleted from Rm 168 (2168).</p> <p>(B) "B" & "C" shutdown trains deleted from Rm 162 (2162).</p> <p>(C) "C" shutdown train deleted from Rm 163.</p> <p>(D) Revised name of Rm 179 to "Valve Room/Combustible Storage"; it now has a storage function per PCR 81-1037.</p> <p>(E) Deleted Rm 218 from fire area 1-4. It is now designated as Fire Area 1-91 per PCR 81-1037. NOTE: See Item 29 Attachment 1.</p> <p>(F) "B" shutdown train deleted from Rm 222 (2222).</p> <p>(G) Revised name of Rm 447 (2447) to "Cask Wash Storage Area/Combustible Storage" to reflect utilization as storage for combustible material.</p> <p>(H) Deleted Rms 601 (2601), 602 (2602), & 603 (2603). They are now designated as Fire Area 1-93 per PCR 81-1037.</p> |

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|---------------|--|------------------------------------|--|------------------------------------|---|
| 69 (Contd) | | | | | <p>(I) Revised rm location of shutdown train; deleted "B" train from Rm 2405.</p> <p>(J) Deleted Rms 420 (2420) & 421 (2421). They are now designated as fire area 1-92 (2-92) per PCR 81-1037. NOTE: See Item 29 Attachment 1.</p> <p>(K) Revised name of Rm 404 to reflect utilization for storage of combustible storage.</p> <p>(L) Revised "maximum fire severity" of Rm 2403 from < 1 hr to < 30 min. to correct previous error.</p> <p>(M) NOTE: <u>Design Features - Construction</u> See Item 3 Attachment 1.</p> <p>(N) <u>Design Features - Doors</u> Amend. #4, PG 155F stated that the doors between Rm 312 and Rm 323 and Room 312 and Rm 326 were UL Class "B" doors. They are in fact non-rated. Since they do not form a part of the fire area boundary, they are not required to be rated. Rated doors would however strengthen the "defense in depth" concept (see EPPR review). Amend. #4 also erroneously stated the door between Rms 309 & 327 was UL Class B; there is no door between these rms. It is believed that the door between Rm 309 & Stairwell #8 is the correct one. Amend. #5 accurately states that doors which are a part of the fire boundary are UL Class A except for Class B doors at stairwells and elevator shafts used for access and egress and unrated doors leading to the outside.</p> <p>(O) <u>Design Features - Piping & Electrical Penetrations</u> Amend. #5 reports proposed sealing of all boundary penetrations to 3 hr rating as completed.</p> |

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| <u>ITEM #</u> | <u>AMEND. #4 SEC/PARAGRAPH/ TABLE/FIGURE</u> | <u>AMEND. #4 PAGE NO./NOS.</u> | <u>AMEND. #5 PARAGRAPH/ TABLE/FIGURE</u> | <u>AMEND. #5 PAGE NO./NOS.</u> | <u>COMMENT</u> |
|---------------|--|------------------------------------|--|------------------------------------|---|
| 69 (Contd) | | | | | <u>Design Features - Ventilation</u> (P) Amend. #5 reports proposed installation of fire dampers/doors in ducts penetrating the boundary as completed. |
| | | | | | <u>Fire Protection</u> (Q) NOTE: See Item 4 Attachment 1. (R) NOTE: See Item 5 Attachment 1. (S) Amend. #5 corrects the "3 KV disconnect switches" to read "5 KV". (T) Amend. #5 reports the proposed hose station installation is completed. |

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| <u>ITEM #</u> | <u>AMEND. #4 SEC/PARAGRAPH/ TABLE/FIGURE</u> | <u>AMEND. #4 PAGE NO./NOS.</u> | <u>AMEND. #5 PARAGRAPH/ TABLE/FIGURE</u> | <u>AMEND. #5 PAGE NO./NOS.</u> | <u>COMMENT</u> |
|---------------|--|------------------------------------|--|------------------------------------|--|
| 69 (Contd) | | | | | (U) Amend. #5 reports the proposed barriers for electrical cable as required by Amend. #4 Section 4.3.5.1 (Amend. #5 Section 4.2.5.1) are provided. |
| | | | | | <u>Consequence of Fire</u> (V) Amend. #5 has been rewritten to reflect that the proposed items (smoke detection & smoke removal equipment) have been completed. |
| 70 | Fire Area 1-5 (2-5) | 4-156 thru 4-158 | Fire Area 1-5 (2-5) | 4-213 thru 4-216 | In addition to editorial revisions, the following changes were entered: <u>Tabular Data</u> (A) The title of Rm 171 (2171) was revised to identify it as a combustible storage area; Footnote a, PG 4-213 of Amend. #5 provides applying information. <u>Design Features - Construction</u> (B) NOTE: See Item 3 Attachment 1. <u>Design Features - Doors</u> (C) Amend. #5 reflects the replacement of a non-rated airtight door between Rms 161 & 172 with a rated door and the addition of a rated door between Rms 171 & 172. <u>Design Features - Ventilation</u> (D) Amend. #5 reflects the completion of the proposed installation of four Class A dampers in ventilation openings. <u>Fire Protection</u> (E) Amend. #5 reflects the completion of the proposed provision of a smoke detection system. (F) Amend. #4 states a manual hose station and CO ₂ hose reel are available in Rm 161 for use in Area 1-5 (2-5). Amend. #5 corrects this to reflect this equipment is available in Rms 161 & 162. |

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|---------------|--|------------------------------------|--|------------------------------------|--|
| 70 (Contd) | | | | | (G) NOTE: See Item 6 Attachment 1. |
| | | | | | (H) Amend. #4 proposed the installation of appropriate barriers as required by Section 4.3.5.1. Amend. #5 reports the satisfaction of this proposal. |
| | | | | | (I) Amend. #5 adds <u>Consequence of Fire</u> CVCS motor-operated valves and charging pump room air handling units to the list of safe shutdown equipment located in the area. |
| | | | | | (J) The only other Amend. #5 revisions concern changing "Proposed System" to "Installed Systems" and noting that Rm 171 is now surrounded by three hour barriers (PCR 81-1037). |
| 71 | Fire Area 1-6 (2-6) | 4-160 thru 4-162 | Fire Area 1-6 (2-6) | 4-217 thru 4-220 | In addition to editorial revisions, the following changes were entered: <u>Tabular Data</u> (A) The title of Rm 167 was revised to reflect its utilization as a combustible storage area. (B) Amend. #4 had shutdown train "A" in Rm 193 (2193). Amend. #5 revises this to train "C". |

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|---------------|--|------------------------------------|--|------------------------------------|--|
| 71 (Contd) | | | | | <p><u>Design Features - Construction</u></p> <p>(C) Amend. #5 adds the fact that there is a removable steel hatch between Rm 185 (Area 1-6) and Rm 234 (Area 1-20). Although this plate is non-rated, we did not claim rated boundaries in Amend. #4 which states "Floors and walls forming the area boundary are of reinforced concrete or open to the outside."</p> <p>(D) The SER requires the construction of a curb between the CCW pumps. This has been accomplished as noted in Amend. #5, Table 4.1-1, PG 4-2. This should have been noted in this section of the fire area hazard analysis and on the appropriate area figures.</p> <p><u>Design Features - Doors</u></p> <p>(E) Amend. #4 states the pressure-tight door between Rm 241 & Stairway No. 1 is non-rated. Amend. #5 corrects this to be a Class B rated door.</p> <p><u>Fire Protection</u></p> <p>(F) NOTE: See Item 7 Attachment 1.</p> <p>(G) The proposed hose cabinet for Rm 234 is reflected as installed by Amend. #5.</p> <p>(H) The Amend. #4 statement that "the hose located in Room 345 (Area 1-42) is available for use in this area" was inadvertently omitted from Amend. #5. However the hose remains available as committed.</p> |

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|---------------|--|------------------------------------|--|------------------------------------|---|
| 71 (Contd) | | | | | (I) Amend. #5 reflects that the proposed automatic water suppression systems*, appropriate barriers for electrical cable and safe shutdown cable rerouting has been completed. It should be noted that Amend. #4 proposed the rerouting of Train B; however Train B of Unit 1 & Train A of Unit 2 were rerouted. The design intent was met. |
| | | | | | <u>Consequence of Fire</u> |
| | | | | | (J) Amend. #5 added "various valves in the main steam and feedwater valve room" to the list of safe shutdown equipment in Area 1-6 (2-6). |
| 72 | Fire Area 1-8 (2-8) | 4-166 & 4-167 | Fire Area 1-8 (2-8) | 4-221 & 4-222 | In addition to editorial revisions, the following changes were entered: |
| | | | | | (A) Amend. #5 added a list of Rms which comprise this fire area in Unit #2. In Unit #1 the entire area is assigned only one Rm number; in Unit #2, because of a different room numbering system, the fire area is made up of 4 rooms. |
| | | | | | <u>Design Features - Doors</u> |
| | | | | | (B) Amend. #5 reflects the replacement of the steel plate between Rms 116 and 335 as proposed in Amend. #4. |
| | | | | | <u>Fire Protection</u> |
| | | | | | (C) Amend. #5 reflects the installation of the proposed smoke detection and water suppression systems. |
| | | | | | (D) Amend. #4 states a hose proposed for Rm 339 will be available for use as a backup in this fire area. A hose cabinet was installed in Rm 319, which is adjacent to Rm 339. This hose can also be utilized as backup in Area 1-8. Design intent was met. |

*Includes Rm 194 which was added by the SER; Amend. #4 proposed Rms 185, 189 & 190 only.

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|---------------|---|----------------------------|---|----------------------------|--|
| 72 (Contd) | | | | | <p><u>Consequence of Fire</u></p> <p>(E) The Amend. #4 statement that "fire stops are located every 20 feet along vertical cable trays" has been deleted from Amend. #5.</p> <p>(F) The location of a backup hose station was revised from Rm 339 to Rm 319; see (C) above.</p> <p>In addition to editorial revisions, the following changes were entered:</p> <p><u>Tabular Data</u></p> <p>(A) Amend. #5 added a list of Rms of Unit #2 which are in this fire area. The Unit 2 counterpart of Unit #1 Rm 246 is comprised of 5 different rooms due to a different room numbering system utilized in Unit #2.</p> <p>(B) Amend. #5 deleted Train "A" from Rm 246 (2246); it had been relocated as proposed in Amend. #4. Amend. #5, Table 4.1-1, Footnote "e", PG 4-9 is incorrect. The second sentence should be deleted.</p> <p><u>Fire Protection</u></p> <p>(C) Amend. #5 reflects that the proposed smoke detection and automatic water suppression systems have been provided.</p> <p>(D) Amend. #4 states that a hose cabinet proposed for installation in Rm 339 would be available for backup. Amend. #5 corrects the hose cabinet location to Rm 319. See Item #72(D).</p> <p>(E) NOTE: See Item 8 Attachment 1.</p> |
| 73 | Fire Area 1-9 (2-9) | 4-168 & 4-169 | Fire Area 1-9 (2-9) | 4-223 & 4-224 | |

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|---------------|--|------------------------------------|--|------------------------------------|--|
| 73 (Contd) | | | | | <p><u>Consequence of Fire</u></p> <p>(F) Amend. #4 states "fire stops are located every 20 feet along vertical cable trays." Amend. #5 deleted this statement.</p> <p>(G) Amend. #5 corrects the backup hose cabinet location from Rm 339 to 319; see Item #22 (D).</p> <p>(H) Amend. #5 reflects there is only one train of safe shutdown cable now in the area; see (B) above.</p> <p>In addition to editorial revisions, the following changes were entered:</p> <p><u>Design Features - Construction</u></p> <p>(A) Amend. #5 adds the statement that the area boundaries now have a 3-hr rating; this satisfies an Amend. #4 proposal.</p> <p><u>Design Features - Doors</u></p> <p>(B) Amend. #5 reflects that the proposed upgrading to Class A of the door between Rms 254 and 211 is completed.</p> <p><u>Design Features - Piping and Electrical Penetrations</u></p> <p>(C) Amend. #5 reflects that all wall penetrations are now 3-hour rated as proposed.</p> <p><u>Fire Protection</u></p> <p>(D) Amend. #5 reflects that proposed detection system has been provided.</p> <p><u>Consequence of Fire</u></p> <p>(E) NOTE: See Item 9 Attachment 1.</p> |
| 74 | Fire Area 1-12 (2-12) | 4-176 & 4-177 | Fire Area 1-12 (2-12) | 4-225 & 4-226 | |

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| 75 | Fire Area 1-13 (2-13) | 4-178 & 4-179 | Fire Area 1-13 (2-13) | 4-227 & 4-228 | <p>In addition to editorial revisions, the following changes were entered:</p> <p style="text-align: center;"><u>Tabular Data</u></p> <p>(A) Amend. #4 failed to include Rm 500 in this fire area. Amend. #5 added it specifying it contained shutdown Train A and Channels 2, 3 & 4. Amend. #5 also added Channels 2, 3 & 4 to Rm 300.</p> <p style="text-align: center;"><u>Design Features - Doors</u></p> <p>(B) Amend. #5 reflects the completion of all proposed door replacements.</p> <p style="text-align: center;"><u>Design Features - Piping and Electrical Penetrations</u></p> <p>(C) Amend. #4 proposed replacement of a non-rated steel plate leading to a cable chase leading to the Turbine Building with a Class A door. Amend. #5 states that the opening covered by the steel plate was instead sealed with a 3 hour rated concrete block wall and all penetrations were properly sealed. See Table 4.1-1, Footnote G, PG 4-9, Amend. #5. Design intent was met.</p> <p style="text-align: center;"><u>Design Features - Ventilation</u></p> <p>(D) This section was amended to state that dampers were installed in ducts wherever they penetrated the area boundary, not just in floor penetrations as stated in Amend. #4.</p> <p style="text-align: center;"><u>Fire Protection</u></p> <p>(E) Amend. #5 states that 2 each vice, 1 each water hose and portable CO₂ extinguishers are available in Rm 319 for utilization in Rm 300.</p> |

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|---------------|---|----------------------------|---|----------------------------|---|
| 75 (Contd) | | | | | <p>(F) Amend. #5 reflects the installation of the proposed water suppression system.</p> <p>(G) Amend. #5 reflects the completion of the proposed barriers for electrical cable as required by Sec. 4.2.6.1 (Amend. #5).</p> <p>In addition to editorial revisions, the following changes were entered:</p> <p style="text-align: center;"><u>Tabular Data</u></p> <p>(A) Because it contains shutdown trains and has combustible loadings which differ from Unit #1, the Unit #2 Computer Room (2201) was split out from the Unit #1 Computer Room (201) in the fire area hazard analysis table.</p> <p style="text-align: center;"><u>Consequence of Fire</u></p> <p>(B) The list of safe shutdown equipment in the area was revised for Unit #2 (See [A] above).</p> <p>(C) Amend. #5 deletes the statement of the proposed redesign of instrumentation cable. The proposed action is complete and is addressed under fire area 1-40 (2-40).</p> <p>In addition to editorial revisions, the following changes were entered:</p> <p style="text-align: center;"><u>Tabular Data</u></p> <p>(A) In the Amend. #5 fire area hazard analysis table, Room 2202 was listed separately since it differs significantly from its Unit #1 counterpart, Room 202. Room 2202 contains Trains A, B & C.</p> |
| 76 | Fire Area 1-14 (2-14) | 4-180 & 4-181 | Fire Area 1-14 (2-14) | 4-229 & 4-230 | |
| 77 | Fire Area 1-15 (2-15) | 4-182 & 4-183 | Fire Area 1-15 (2-15) | 4-231 & 4-232 | |

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| 77 (Contd) | | | | | <p><u>Design Features - Ventilation</u></p> <p>(B) Amend. #5 reflects that the proposed installation of fire dampers at the ceiling penetrations for the exhaust ducts from the battery room exhaust fans is complete.</p> <p><u>Consequence of Fire</u></p> <p>(C) Amend. #5 corrects the list of safe shutdown equipment located in Areas 1-15 and 2-15 (see [A] above). Future FPPR revision should discuss in detail the location of the hot shutdown panels noting the differences between Unit #1 & Unit #2.</p> <p>(D) Amend. #5 revises the final paragraph of this section concluding that "although there is safe shutdown electrical cable in the area relocation of selector switches for the hot shutdown panel and the addition of protective wrapping to cabling permits safe shutdown capability to be maintained since only one safe shutdown train would be affected by fire."</p> |
| 78 | Fire Area 1-16 (2-16) | 4-184 & 4-185 | Fire Area 1-16 (2-16) | 4-233 & 4-234 | <p>In addition to editorial revisions, the following changes were entered:</p> <p><u>Design Features - Doors</u></p> <p>(A) Amend. #5 corrects an Amend. #4 error; there is a UL Class A door located between Rms 212 and 213 not between 212 and 210.</p> <p><u>Design Features - Ventilation</u></p> <p>(B) A revision bar was incorrectly included opposite this section in Amend. #5.</p> |

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| 78 (Contd) | | | | | <u>Fire Protection</u> (C) NOTE: See Item 10 Attachment 1. |
| 79 | Fire Area 1-17 (2-17) | 4-186 & 4-187 | Fire Area 1-17 (2-17) | 4-235 & 4-236 | Except for (B), the comments on Area 1-16 (2-16 apply to this fire area. NOTE: See Item 11 Attachment 1. |
| 80 | Fire Area 1-18 (2-18) | 4-188 & 4-189 | Fire Area 1-18 (2-18) | 4-237 & 4-238 | In addition to editorial revisions, the following changes were entered: <u>Tabular Data</u> (A) Amend. #5 added Channel 2 to the safe shutdown cabling contained within this area. <u>Fire Protection</u> (B) Amend. #5 reflects that the proposed relocation of a CO ₂ extinguisher from Room 225 to 225 has been completed. (C) Amend. #5 reflects that additional CO ₂ extinguishers are available for backup. |

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|--------|---|----------------------------|---|----------------------------|--|
| 81 | Fire Area 1-19 (2-19) | 4-190 & 4-191 | Fire Area 1-19 (2-19) | 4-239 & 4-240 | <p>In addition to editorial revisions, the following changes were entered:</p> <p style="text-align: center;"><u>Tabular Data</u></p> <p>(A) Amend. #5 added Channels 3 and 4 to the safe shutdown cabling contained within this area.</p> <p style="text-align: center;"><u>Fire Protection</u></p> <p>(B) Amend. #5 reflects that the proposed relocation of a CO₂ extinguisher has been completed.</p> |
| 82 | Fire Area 1-20 (2-20) | 4-192, 4-193 & 4-194 | Fire Area 1-20 (2-20) | 4-241, 4-242 & 4-243 | <p>In addition to editorial revisions, the following changes were entered:</p> <p style="text-align: center;"><u>Tabular Data</u></p> <p>(A) Amend. #5 added Channel 3 to Room 211 and deleted Channel 2 from and added Train C to Room 225 in the list of safe shutdown trains in this area.</p> <p style="text-align: center;"><u>Design Features - Construction</u></p> <p>(B) Amend. #5 noted that there were two steel hatches in Rm 234 instead of one as reported in Amend. #4. The revision bar was inadvertently left off of this revision.</p> <p style="text-align: center;"><u>Design Features - Doors</u></p> <p>(C) Amend. #5 reflects the proposed replacement of the door between Rms 210 and 254 with a Class A door has been completed.</p> <p style="text-align: center;"><u>Design Features - Piping and Electrical Penetrations</u></p> <p>(D) Amend. #5 reflects the proposed sealing of penetrations through the area boundary has been completed. The Amend. #5 revision bar was inadvertently left off.</p> |

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|---------------|---|------------------------------------|--|------------------------------------|--|
| 82 (Contd) | | | | | <u>Fire Protection</u> (E) Amend. #5 reflects completion of the proposed installation of a smoke detection system throughout the area. (F) Amend. #5 reflects completion of the proposed water hose cabinet in Rm 234. (G) NOTE: See Item 12 Attachment 1. (H) Amend. #5 reflects completion of the proposed installation of appropriate barriers as required by Para. 4.2.5.1 (Amend. #5). <u>Consequence of Fire</u> (I) Amend. #5 states that safe shutdown equipment located in the area consists of electrical cable of both shutdown trains as well as the Swing Charger Room air handler unit, Battery Room air handling unit, swing charger and disconnect switches. The Amend. #4 listing was incomplete. |

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| 83 | Fire Area 1-21 (2-21) | 4-195 & 4-196 | Fire Area 1-21 (2-21) | 4-244 & 245 | <p>In addition to editorial revisions, the following changes were entered:</p> <p style="text-align: center;"><u>Tabular Data</u></p> <p>(A) Amend. #5 deletes shutdown Train "C" from Rooms 229 & 233.</p> <p style="text-align: center;"><u>Fire Protection</u></p> <p>(B) Amend. #5 reflects the completion of the proposed installation of an area-wide smoke detection system.</p> <p>(C) Amend. #5 reflects the completion of the proposed installation of a water hose cabinet in Rm 234.</p> <p>(D) NOTE: See Item 13 Attachment 1.</p> <p>(E) NOTE: See Item 14 Attachment 1.</p> <p style="text-align: center;"><u>Consequence of Fire</u></p> <p>(F) Amend. #5 added safe shutdown trains, local control panels, bus sequencer and 125 V-DC distribution panel to the list of safe shutdown equipment in the area. Amend. #4 list was incomplete.</p> <p>(G) Amend. #5 corrects the location of the backup CO₂ hose reel; see (D) above.</p> |

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|---------------|--|------------------------------------|--|------------------------------------|---|
| 84 | Fire Area 1-23 (2-23) | 4-199 & 4-200 | Fire Area 1-23 (2-23) | 4-246 & 4-247 | <p>In addition to editorial revisions, the following changes were entered:</p> <p style="text-align: center;"><u>Design Features - Doors</u></p> <p>(A) Amend. #5 reflects the completion of the proposed replacement of a steel plate with a Class "A" door between Rooms 235 and 249. It also states a Class "A" door is installed between Rooms 235 and 250 which was overlooked in Amend. #4.</p> <p style="text-align: center;"><u>Fire Protection</u></p> <p>(B) Amend. #5 reflects the completion of a proposal to install a water hose cabinet in Rm 234 for use as backup in this area.</p> <p>(C) Amend. #5 corrects the type of installed suppression system from CO₂ to Halon.</p> |
| 85 | Fire Area 1-30 (2-30) | 4-213 & 4-214 | Fire Area 1-30 (2-30) | 4-248 & 4-249 | <p>In addition to editorial revisions, the following changes were entered:</p> <p style="text-align: center;"><u>Tabular Data</u></p> <p>(A) Amend. #5 contains a typographical error. It states Room 252 contains 4,172 pounds of cable insulation rather than 5,172 pounds. This error has no impact on the remainder of the fire area analysis.</p> <p style="text-align: center;"><u>Design Features - Doors</u></p> <p>(B) Amend. #5 reflects that the steel access plate between Rooms 249 and 235 has been replaced with a Class "A" door as proposed. It should be noted that the SER required the replacement of a steel access plate between Rooms 249 and 346. There is no access between these rooms. This fact is point out in Footnote (i) to Table 4.1-1, PG 4-9, Amend. #5.</p> |

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| 85 (Contd) | | | | | <p><u>Fire Protection</u></p> <p>(C) Amend. #5 reflects completion of the proposed installation of automatic water suppression and smoke detection systems and a manual water hose station.</p> <p><u>Consequence of Fire</u></p> <p>(D) The Amend. #4 statement that "fire stops are located every 20 feet along vertical cable trays" has been deleted in Amend. #5.</p> <p>In addition to editorial revisions, the following changes were entered:</p> <p><u>Design Features - Doors</u></p> <p>(A) Amend. #5 reflects the replacement of an air-tight steel access plate between Rooms 250 and 235 with an air-tight Class A door as proposed. The statement that this replacement door is air-tight is in error. However the SER required only a UL Class A rated door; air tightness was not a requirement.</p> <p>(B) The SER required replacement of a steel access plate between Rooms 250 and 346. There is no access between these rooms. Footnote "J" to Table 4.1-1 of Amend. #5 (PG 4-4) points this out.</p> <p><u>Fire Protection</u></p> <p>(C) Amend. #5 reflects completion of the proposed installation of automatic smoke detection and water suppression systems and a manual hose station in Room 234.</p> <p><u>Consequence of Fire</u></p> <p>(D) The Amend. #4 statement that "fire stops are located every 20 feet along vertical cable trays" has been deleted in Amend. #5.</p> |
| 86 | Fire Area 1-31 (2-31) | 4-215 & 4-216 | Fire Area 1-31 (2-31) | 4-250 & 4-251 | |

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| 87 | Fire Area 1-34 (2-34) | 4-223 & 4-224 | Fire Area 2-34 (2-34) | 4-252 & 4-253 | <p>In addition to editorial revisions, the following changes were entered:</p> <p><u>Design Features - Construction</u></p> <p>(A) NOTE: See Item 3 Attachment 1.</p> <p><u>Design Features - Doors</u></p> <p>(B) Amend. #5 reflects the completion of the proposed replacement of a non-rated door between Room 317 and 322 with a Class A rated door. Amend. #5 however contains an error. It reports a UL Class B door exists between Room 334 and the stairwell. It should have stated a UL Class A door exists between Rooms 334 and 322.</p> <p><u>Design Features - Pipe and Electrical Requirements</u></p> <p>(C) Amend. #5 reflects completion of the proposed sealing to a 3 hour rating of all penetrations in Room 317. However Amend. #5 corrects the Amend. #4 statement that all Room 334 boundary penetrations are sealed with silicone foam. Those into containment are sealed to be watertight only; they are not fire rated.</p> <p><u>Design Features - Ventilation</u></p> <p>(D) Amend. #5 reflects completion of the proposed installation of 3 hour rated dampers in area duct penetrations.</p> <p><u>Fire Protection</u></p> <p>(E) Amend. #5 reflects completion of the proposal to install smoke detection in Room 317.</p> <p>(F) Amend. #5 reflects completion of the proposal to install water suppression around the tender access openings in Room 334.</p> |

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|---------------|--|------------------------------------|--|------------------------------------|---|
| 87 (Contd) | | | | | (G) NOTE: See Item 15 Amendment 1. |
| | | | | | <u>Consequence of Fire</u> (H) Amend. #5 revised the statement on the location of safe shutdown equipment in that area to include that in Room 317 (Train "A" cable). Amend. #4 had omitted this information. |
| | | | | | (I) Amend. #5 deleted mention of "barriers" in the analysis of the consequences of a fire. See (G) above. |
| 88 | Fire Area 1-35 (2-35) | 4-225 & 4-226 | Fire Area 1-35 (2-35) | 4-254 & 4-255 | In addition to editorial revisions, the following changes were entered: <u>Design Features - Construction</u> (A) NOTE: See Item 3 Attachment 1. |
| | | | | | <u>Design Features - Doors</u> (B) Amend. #5 identifies a UL Class "A" door between Rooms 333 and 347. |
| | | | | | <u>Consequence of Fire</u> (C) NOTE: See Item 16 Attachment 1. |
| 89 | Fire Area 1-39 (2-39) | 4-233 & 4-234 | Fire Area 1-39 (2-39) | 4-256 & 4-257 | In addition to editorial revisions, the following changes were entered: <u>Design Features - Doors</u> (A) Amend. #5 corrected an Amend. #4 statement concerning the location of a removable concrete hatch. It is between Rooms 349 and 240. |

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|---------------|--|------------------------------------|--|------------------------------------|--|
| 89 (Contd) | | | | | <p><u>Design Features - Ventilation</u></p> <p>(B) Amend. #5 points out that the area exhaust ducts are routed to the atmosphere through the roof.</p> <p><u>Fire Protection</u></p> <p>(C) Amend. #5 reflects completion of the proposed installation of a detection system and a portable extinguisher.</p> <p><u>Consequence of Fire</u></p> <p>(D) Amend. #5 clarifies that a non-rated door in the area boundary leads to the outside. Exterior door are not required to be rated.</p> <p>In addition to editorial revisions, the following changes were entered:</p> <p><u>Fire Protection</u></p> <p>(A) Amend. #5 reflects completion of the proposed installation of an automatic sprinkler system.</p> <p>(B) Amend. #5 reflects satisfaction of the proposed installation of a water hose. According to the proposal, installation was to have taken place in Room 339. However the hose was actually installed in Room 319. Room 339 and 319 are adjacent. Location of the hose in Room 319 offers equal or better back-up support for fighting a fire in the Cable Spreading Room. The intent of our commitment is satisfied.</p> <p>(C) Amend. #5 inadvertently left off a statement that the termination cabinets are protected from sprinkler system water damage as was proposed in Amend. #4. The cabinets have been sealed on their tops. Completion of this requirement is reported as complete in Table 4.1-1, PG 4-5, Amend. #5.</p> |
| 90 | Fire Area 1-40 (2-40) | 4-235 & 4-236 | Fire Area 1-40 (2-40) | 4-258 & 4-259 | |

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|---------------|--|------------------------------------|--|------------------------------------|--|
| 90 (Contd) | | | | | <u>Consequence of Fire</u> (D) Amend. #5 reflects that the proposed rerouting of instrumentation cable to the hot shutdown panel to be independent of the Cable Spreading Room has been completed. |
| 91 | Fire Area 1-41 (2-41) | 4-237 & 4-238 | Fire Area 1-41 (2-41) | 4-260 & 4-261 | In addition to editorial revisions, the following changes were entered: <u>Tabular Data</u> (A) Train "C" was deleted from the list of shutdown equipment in Rm 335 (2335). <u>Design Features - Doors</u> (B) Amend. #5 notes that 2 of the 4 Class "A" doors listed in Amend. #4 are double doors. (C) Amend. #5 deletes all reference to the Amend. #4 proposal to replace the steel plates between Room 346 and Rooms 249 and 250; there is no access between these rooms. <u>Fire Protection</u> (D) Amend. #5 reflects the installation of a hose cabinet in Room 319 for backup in this area. Also see item #90 (B) for additional background. (E) Both Amend. #4 and #5 state "heat detectors will actuate a total flooding system in ---". This system should have been described as a "In-Cabinet CO ₂ Flooding System". Future FPPR amendments should correct this. (F) NOTE: See Item 17 Attachment 1. |

| ITEM # | AMEND. #4 SEC/PARAGRAPH/ TABLE/FIGURE | AMEND. #4 PAGE NO./NOS. | AMEND. #5 PARAGRAPH/ TABLE/FIGURE | AMEND. #5 PAGE NO./NOS. | COMMENT |
|---------------|---|----------------------------|---|----------------------------|---|
| 91 (Contd) | | | | | <p><u>Consequence of Fire</u></p> <p>(G) Amend. #5 states that safe shutdown equipment located in the area is of one train. Amend. #4 stated two were in the area.</p> <p>(H) Reference to barriers has been deleted from this section; see "F" above.</p> <p>In addition to editorial revisions, the following changes were entered:</p> <p><u>Tabular Data</u></p> <p>(A) Amend. #5 adds Channel "2" to the shutdown train in Room 319 (2319).</p> <p>(B) Amend. #5 deletes Train "C" from Room 239 (2339).</p> <p><u>Design Features - Construction</u></p> <p>(C) Amend. #5 corrects Amend. #4 by identifying 2, not 1, hatches in the floor and ceiling of Room 345.</p> <p><u>Design Features - Doors</u></p> <p>(D) Amend. #5 reflects the completion of the proposed replacement of a non-rated door between Rooms 319 and 300 with a Class "A" door.</p> <p><u>Design Features - Pipe and Electrical Penetrations</u></p> <p>(E) Amend. #5 reflects completion of a proposal to seal all penetrations in the area to a three hour resistance rating.</p> <p><u>Fire Protection</u></p> <p>(F) Amend. #5 states that the entire area, not just Room 319, is provided with smoke detection.</p> <p>(G) Amend. #5 states that three portable CO₂ and one portable dry chemical extinguishers are located in Rooms 319 and 339. Amend. #4 had stated that all of these extinguishers were</p> |
| 92 | Fire Area 1-42 (2-42) | 4-239 & 4-240 | Fire Area 1-42 (2-42) | 4-262 & 4-263 | |

| <u>ITEM #</u> | <u>AMEND. #4 SEC/PARAGRAPH/ TABLE/FIGURE</u> | <u>AMEND. #4 PAGE NO./NOS.</u> | <u>AMEND. #5 PARAGRAPH/ TABLE/FIGURE</u> | <u>AMEND. #5 PAGE NO./NOS.</u> | <u>COMMENT</u> |
|---------------|--|------------------------------------|--|------------------------------------|--|
| 92 (Contd) | | | | | located in Room 319. Rooms 319 and 339 are adjacent and all of the extinguishers are located so as to be readily available to support this and adjacent fire areas, design intent is met. |
| | | | | | (H) NOTE: See Item 18 Attachment 1. |
| | | | | | <u>Consequence of Fire</u> (I) Amend. #5 states that electrical cable of 2 shutdown trains is located in the area; Amend. #4 failed to clarify this fact. |
| 93 | Fire Area 1-43 (2-43) | 4-241 & 4-242 | Fire Area 1-43 (2-43) | 4-264 & 4-265 | Note: Amend. #4 addressed fire areas 1-43 and 2-43 within the same fire area hazard analysis (PGS 4-241, 4-242). In fact the internal room configurations and the contents of the two fire areas differ significantly. For this reason, Amend. #5 devotes a separate fire area hazard analysis to each. In addition to editorial revisions, the following changes were entered in the Area 1-43 analysis: |

| <u>ITEM #</u> | <u>AMEND. #4 SEC/PARAGRAPH/ TABLE/FIGURE</u> | <u>AMEND. #4 PAGE NO./NOS.</u> | <u>AMEND. #5 PARAGRAPH/ TABLE/FIGURE</u> | <u>AMEND. #5 PAGE NO./NOS.</u> | <u>COMMENT</u> |
|---------------|--|------------------------------------|--|------------------------------------|---|
| 93 (Contd) | | | | | <u>Tabular Data</u> (A) Amend. #5 added shutdown train Channels 2, 3 & 4 to the contents of Room 453. (B) Amend. #5 deleted shutdown train Channels 2, 3 & 4 from Room 452. (C) Amend. #5 added shutdown train Channels 2, 3 & 4 to the contents of Room 444. (D) Amend. #5 deleted Room 2432 from the list of rooms in Area i-43. <u>Fire Protection</u> (E) Amend. #5 reflects completion of the proposed hose cabinet installation and adds that an additional water hose and CO ₂ hose reel are available for backup. <u>Consequence of Fire</u> (F) Amend. #4 stated the area contained no safe shutdown equipment. Amend. #5 corrects that stating that safe shutdown equipment consists of cabling of the "A" train and three redundant instrumentation channels. It adds that this safe shutdown cabling has been protected in accordance with the requirements of Section 4.2.5.1. (G) The last paragraph of this section has been revised to reflect the existence of safe shutdown cabling in the area (see above). It concludes that in the event of a fire safe shutdown capability would be maintained since only one train of electrical cable would be effected. The revision bar was inadvertently left off. |

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| ITEM # | AMEND. #4 SEC/PARAGRAPH/ TABLE/FIGURE | AMEND. #4 PAGE NO./NOS. | AMEND. #5 PARAGRAPH/ TABLE/FIGURE | AMEND. #5 PAGE NO./NOS. | COMMENT |
|--------|---|----------------------------|---|----------------------------|--|
| 94 | N/A | N/A | Fire Area 2-43 | 4-266 & 4-267 | <p>(See Note to Item 93)</p> <p>This is an entirely new section. All design criteria and commitments are satisfied.</p> <p><u>Consequence of Fire</u></p> <p>(A) The narrative states that safe shutdown equipment in this area consists of electrical cable of one train. It should have included "3 redundant instrument channels" in order to have been consistent with the tabular data. This cable has been wrapped in Kaowool in accordance with Section 4.2.5.1.</p> <p>The unit # designation has been deleted from the name of this fire area since it is common to Units #1 and #2. In addition to this and other editorial revisions, the following changes were entered:</p> <p><u>Tabular Data</u></p> <p>(A) Amend. #5 updates the rooms which comprise this area. Room 476, coat closet, is deleted. Rooms 471, 2453, 2454, 2455 and 2456 are added. Shutdown train content and combustible loading is also updated.</p> <p><u>Design Features - Construction</u></p> <p>(B) Amend. #5 notes that all floors and walls forming the area boundary are of reinforced concrete with the exception of the west (exterior) wall of Room 475 which is of concrete block construction. Since it is an exterior wall it does not have to be fire rated.</p> <p><u>Design Features - Doors</u></p> <p>(C) Amend. #4 claimed a UL Class "A" door between Rooms 416 and 415. Amend. #5 corrects this. The door is a pressure-tight bullet-resistant non-rated door. Alabama Power has been unable to obtain a UL Class "A" door which is pressure-tight and also bullet-resistant.</p> |
| 95 | Fire Area 1-44 (2-44) | 4-243, 244 & 245 | Fire Area 44 | 4-268, 269 & 270 | |

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| <u>ITEM #</u> | <u>AMEND. #4 SEC/PARAGRAPH/ TABLE/FIGURE</u> | <u>AMEND. #4 PAGE NO./NOS.</u> | <u>AMEND. #5 PARAGRAPH/ TABLE/FIGURE</u> | <u>AMEND. #5 PAGE NO./NOS.</u> | <u>COMMENT</u> |
|---------------|--|------------------------------------|--|------------------------------------|---|
| 95 (Contd) | | | | | <p>(D) Amend. #4 stated a certification of UL Class A construction would be obtained for the door between Room 474 and the outside. Amend. #5 deleted this proposal inasmuch as the access between Room 474 and the outside has been blocked up; see (C) above.</p> <p style="text-align: center;"><u>Fire Protection</u></p> <p>(E) Amend. #5 reflects completion of the proposed installations of water hose cabinets in Rooms 415 and 2452, an additional portable water extinguisher in the control room, two additional portable Class C extinguishers in adjacent areas, the enclosure of the kitchen, supply room and kitchen closet to a one-hour rating and the extension of the smoke detection systems to the space above the Control Room and the office and kitchen areas. All proposals were completed.</p> <p style="text-align: center;"><u>Consequence of Fire</u></p> <p>(F) NOTE: See Item 19 Attachment 1.</p> <p>(G) Amend. #5 discussed the fact that the area boundary has one door without a 3-hour rating (see [C] above) but highlights the fact that is is located adjacent to the constantly manned "primary access point".</p> <p>The Unit # designation has been deleted from the name of this fire area since it is common to Units #1 and #2. In addition to this and other editorial revisions, the following changes were entered:</p> <p style="text-align: center;"><u>Tabular Data</u></p> <p>(A) Amend. #5 deleted shutdown Trains "A" and "B" from the list of safe shutdown equipment in this area.</p> |
| 96 | Fire Area 1-51 (2-51) | 4-260 & 4-261 | Fire Area 51 | 4-271 & 4-272 | |

| <u>ITEM #</u> | <u>AMEND. #4 SEC/PARAGRAPH/ TABLE/FIGURE</u> | <u>AMEND. #4 PAGE NO./NOS.</u> | <u>AMEND. #5 PARAGRAPH/ TABLE/FIGURE</u> | <u>AMEND. #5 PAGE NO./NOS.</u> | <u>COMMENT</u> |
|---------------|--|------------------------------------|--|------------------------------------|---|
| 96 (Contd) | | | | | <p><u>Design Features - Doors</u></p> <p>(B) Amend. #4 claimed a pressure tight non-rated double door between Rooms 501 and 2501. Amend. #5 corrects to a non-pressure tight, non-rated door. Since this door does not lead to the exterior, it need not be pressure tight.</p> <p><u>Design Features - Ventilation</u></p> <p>(C) Amend. #5 reflects completion of the proposal to relocate fire dampers to where the duct penetrates the area boundary.</p> <p><u>Fire Protection</u></p> <p>(D) Amend. #5 reflects the installation of the proposed smoke detection system.</p> <p>(E) Amend. #4 stated one water hose was located in the area but proposed to relocate it closer to the entrance doorway. This hose was relocated in the Unit #1 side. The Unit #2 side does not have a hose cabinet in the area and does not require one. Since a hose cabinet is located immediately outside of the door in the adjacent room (2502). This area has one hose cabinet in it and another in an adjacent room. Design intent is met.</p> <p>(F) Amend. #4 proposed installation of a sprinkler system in Room 501 to protect DC power cables. This area does not contain safe shutdown equipment hence no sprinkler system is required.</p> <p>(G) NOTE: See Item 20 Attachment 1.</p> |

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| ITEM # | AMEND. #4 SEC/PARAGRAPH/ TABLE/FIGURE | AMEND. #4 PAGE NO./NOS. | AMEND. #5 PARAGRAPH/ TABLE/FIGURE | AMEND. #5 PAGE NO./NOS. | COMMENT |
|---------------|---|----------------------------|---|----------------------------|---|
| 96 (Contd) | | | | | <p><u>Consequence of Fire</u></p> <p>(H) Amend. #5 states no safe shutdown equipment or cabling is located in this area. Amend. #4 had noted the existence of two trains.</p> <p>(I) The concluding paragraph of this section was revised to reflect the absence of safe shutdown equipment or cabling. See (A) above.</p> |
| 97 | Fire Area 1-53 (2-53) | 4-264 & 4-265 | Fire Area 1-53 | 4-273 & 4-274 | <p>This area is applicable only to Unit #1. There is no area 2-53. In addition to this and other editorial revisions, the following changes were entered:</p> <p><u>Tabular Data</u></p> <p>(A) Room 2502 was deleted; it does not exist.</p> |
| 98 | Fire Area 1-54 (2-54) | 4-266 & 4-267 | Fire Area 1-54 (2-54) | 4-275 & 4-276 | <p>In addition to editorial revisions, the following changes were entered:</p> <p><u>Design Features - Doors</u></p> <p>(A) Amend. #5 states that the doors in each elevation of the elevator shaft are UL Class "B" pressure tight. Amend. #4 had them noted as UL Class "B" only.</p> |
| 99 | Fire Area 1-55 (2-55) | 4-268 & 4-269 | Fire Area 1-55 (2-55) | 4-277, 278 & 279 | <p>In addition to editorial revisions, the following changes were entered:</p> <p><u>Tabular Data</u></p> <p>(A) Amend. #5 deleted Channels 2, 3 and 4 and added Train "C" and Channel "N" to the list of safe shutdown cabling in this area.</p> <p><u>Design Features - Construction</u></p> <p>(B) Amend. #5 stated that all penetration openings are watertight. Amend. #4 had erroneously stated that they were watertight and "fire rated".</p> |

| ITEM # | AMEND. #4 SEC/PARAGRAPH/ TABLE/FIGURE | AMEND. #4 PAGE NO./NOS. | AMEND. #5 PARAGRAPH/ TABLE/FIGURE | AMEND. #5 PAGE NO./NOS. | COMMENT |
|---------------|---|----------------------------|---|----------------------------|--|
| 99 (Contd) | | | | | <p><u>Design Features - Piping and Electrical Penetrations</u></p> <p>(C) Amend. #4 had erroneously claimed that all boundary penetrations were sealed with silicone foam or Nelson fittings. Amend. #5 corrects this stating they are "sealed and watertight".</p> <p><u>Fire Protection</u></p> <p>(D) Amend. #5 notes that Unit #2 has two ionization smoke detectors per steam generator; Unit #1 has one each steam generator.</p> <p>(E) Amend. #5 reflects completion of proposed installations of a standpipe system and an oil collection system for the reactor coolant pups.</p> <p><u>Consequence of Fire</u></p> <p>(F) Amend. #5 notes that this area contains safe shutdown equipment of both trains. Amend. #4 had failed to identify this presence.</p> |
| 100 | Fire Area 56, Zone A | 4-270 & 4-271 | Fire Area 56, Zone A | 4-280 & 4-281 | <p>In addition to editorial revisions, the following changes were entered:</p> <p><u>Design Features - Doors</u></p> <p>(A) Amend. #5 reflects the completion of the proposed installation of a Class "A" door between Fire Areas 56A and 56B.</p> <p><u>Fire Protection</u></p> <p>(B) Amend. #5 reflects the completion of the proposed installations of a detection system and a yard hydrant to the north of the Diesel Generator Building.</p> <p><u>Consequence of Fire</u></p> <p>(C) Amend. #5 reflects completion of the proposed installation of a detection system. See "B" above.</p> |

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| <u>ITEM #</u> | <u>AMEND. #4 SEC/PARAGRAPH/ TABLE/FIGURE</u> | <u>AMEND. #4 PAGE NO./NOS.</u> | <u>AMEND. #5 PARAGRAPH/ TABLE/FIGURE</u> | <u>AMEND. #5 PAGE NO./NOS.</u> | <u>COMMENT</u> |
|---------------|--|------------------------------------|--|------------------------------------|--|
| 101 | Fire Area 56, Zone B | 4-272 & 4-273 | Fire Area 56, Zone B | 4-282 & 4-283 | <p>In addition to editorial revisions, the following changes were entered:</p> <p style="text-align: center;"><u>Design Features - Doors</u></p> <p>(A) Amend. #5 reflects the completion of the proposed installation of a Class "A" door between Zones 56B and 56A.</p> <p>(B) Amend. #5 notes that a nonrated double and a nonrated single door lead to the exterior.</p> <p style="text-align: center;"><u>Fire Protection</u></p> <p>(C) Amend. #5 reflects completion of the proposed smoke detection system and hydrant installations.</p> <p style="text-align: center;"><u>Consequence of Fire</u></p> <p>(D) Amend. #5 reflects completion of the proposed smoke detection system installation. See (C) above.</p> |
| 102 | Fire Area 56, Zone C | 4-274 & 4-275 | Fire Area 56, Zone C | 4-284 & 4-285 | <p>In addition to editorial revisions, the following changes were entered:</p> <p style="text-align: center;"><u>Fire Protection</u></p> <p>(A) Amend. #5 reflects completion of the proposed smoke detection system and hydrant installations.</p> <p style="text-align: center;"><u>Consequence of Fire</u></p> <p>(B) Amend. #5 reflects completion of the proposed smoke detection system. See above.</p> |

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| <u>ITEM #</u> | <u>AMEND. #4 SEC/PARAGRAPH/ TABLE/FIGURE</u> | <u>AMEND. #4 PAGE NO./NOS.</u> | <u>AMEND. #5 PARAGRAPH/ TABLE/FIGURE</u> | <u>AMEND. #5 PAGE NO./NOS.</u> | <u>COMMENT</u> |
|---------------|--|------------------------------------|--|------------------------------------|---|
| 103 | Fire Area 57 | 4-276 & 4-277 | Fire Area 57 | 4-286 & 4-287 | In addition to editorial revisions, the following changes were entered: <u>Fire Protection</u> (A) Amend. #5 indicates that dry chemical and CO ₂ extinguishers are available as backup for this area. Amend. #4 listed only dry chemical extinguishers. (B) Amend. #5 reflects completion of the proposed installation of a hydrant to the north of the Diesel Generator Building. |
| 104 | Fire Area 58 | 4-278 & 4-279 | Fire Area 58 | 4-288 & 4-289 | Comments on this area are identical to those on Area 57. |
| 105 | Fire Area 59 | 4-280 & 4-281 | Fire Area 59 | 4-290 & 4-291 | Comments on this area are identical to those on Area 57. |
| 106 | Fire Area 60 | 4-282 & 4-283 | Fire Area 60 | 4-292 & 4-293 | Comments on this area are identical to those on Area 57. |
| 107 | Fire Area 61 | 4-284 & 4-285 | Fire Area 61 | 4-294 & 4-295 | Comments on this area are identical to those on Area 57. |
| 108 | Fire Area 62 | 4-286 & 4-287 | Fire Area 62 | 4-296 & 4-297 | In addition to editorial revisions, the following changes were entered: <u>Fire Protection</u> (A) Amend. #5 reflects completion of the proposed installation of a hydrant to the north of the Diesel Generator Building. |

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| <u>ITEM #</u> | <u>AMEND. #4 SEC/PARAGRAPH/ TABLE/FIGURE</u> | <u>AMEND. #4 PAGE NO./NOS.</u> | <u>AMEND. #5 PARAGRAPH/ TABLE/FIGURE</u> | <u>AMEND. #5 PAGE NO./NOS.</u> | <u>COMMENT</u> |
|---------------|--|------------------------------------|--|------------------------------------|--|
| 109 | Fire Area 63 | 4-288 & 4-289 | Fire Area 63 | 4-298 & 4-299 | In addition to editorial revisions, the following changes were entered: <u>Tabular Data</u> (A) The quantity of diesel fuel in the day tank was revised to 1325 gallons and the fire loading was adjusted accordingly. Maximum fire severity remains at > 9 hours. <u>Fire Protection</u> (B) Amend. #5 reflects completion of the proposed installation of a hydrant to the north of the Diesel Generator Building. |
| 110 | Fire Area 64 | 4-290 & 4-291 | Fire Area 64 | 4-300 & 4-301 | Comments on this area are identical to those on Area 63. |
| 111 | Fire Area 65 | 4-292 & 4-293 | Fire Area 65 | 4-302 & 4-303 | Comments on this area are identical to those on Area 62. |
| 112 | Fire Area 66 | 4-294 & 4-295 | Fire Area 66 | 4-304 & 4-305 | Comments on this area are identical to those on Area 63. |
| 113 | Fire Area 67 | 4-296 & 4-297 | Fire Area 67 | 4-306 & 4-307 | In addition to editorial revisions, the following changes were entered: <u>Design Features - Doors</u> (A) Amend. #5 corrects the Amend. #4 statement that all doors are UL Class A rated; doors leading to the exterior are nonrated and are not required to be so. <u>Fire Protection</u> (B) Amend. #5 notes that this area has been provided with a smoke detection system. |

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| <u>ITEM #</u> | <u>AMEND. #4 SEC/PARAGRAPH/ TABLE/FIGURE</u> | <u>AMEND. #4 PAGE NO./NOS.</u> | <u>AMEND. #5 PARAGRAPH/ TABLE/FIGURE</u> | <u>AMEND. #5 PAGE NO./NOS.</u> | <u>COMMENT</u> |
|---------------|--|------------------------------------|--|------------------------------------|---|
| 114 | Fire Area 68 | 4-298 & 4-299 | Fire Area 68 | 4-308 & 4-309 | Comments on this area are identical to those on Area 67. |
| 115 | Fire Area 69 | 4-300 & 4-301 | Fire Area 69 | 4-310 & 4-311 | Except for editorial revisions, Amend. #4 and Amend. #5 are the same for this fire area. |
| 116 | Fire Area 70 | 4-302 & 4-303 | Fire Area 70 | 4-312 & 4-313 | Except for editorial revisions, Amend. #4 and Amend. #5 are the same for this fire area. |
| 117 | Fire Area 71 | 4-304 & 4-305 | Fire Area 71 | 4-314 & 4-315 | In addition to editorial revisions, the following changes were entered: <div data-bbox="1513 850 1685 880" data-label="Section-Header"><u>Tabular Data</u></div> <div data-bbox="1270 872 1993 932" data-label="List-Group"> <p>(A) Amend. #4 listed no safe shutdown train in the area. Amend. #5 stated Train "A" is located in this area.</p> </div> <div data-bbox="1513 950 1723 979" data-label="Section-Header"><u>Fire Protection</u></div> <div data-bbox="1270 969 2072 1053" data-label="List-Group"> <p>(B) Amend. #5 reflects completion of the proposed installation of a smoke detection system and of a hydrant to the north of the Diesel Generator Building.</p> </div> <div data-bbox="1513 1071 1774 1101" data-label="Section-Header"><u>Consequence of Fire</u></div> <div data-bbox="1270 1091 2013 1396" data-label="List-Group"> <p>(C) Amend. #4 stated this area contained electrical cable of both safe shutdown trains. Amend. #5 revised this to electrical cable of a single safe shutdown train.</p> <p>(D) Amend. #5 reflects installation of a smoke detection system. See (B) above.</p> <p>(E) Amend. #5 concludes that "safe shutdown capability is maintained in the event of a fire because of a single safe shutdown train is located in this area". Amend. #4 had stated "no safe shutdown equipment is located in this area".</p> </div> |

| ITEM # | AMEND. #4 SEC/PARAGRAPH/ TABLE/FIGURE | AMEND. #4 PAGE NO./NOS. | AMEND. #5 PARAGRAPH/ TABLE/FIGURE | AMEND. #5 PAGE NO./NOS. | COMMENT |
|--------|---|----------------------------|---|----------------------------|---|
| 118 | Fire Area 72, Zone A | 4-306 & 4-307 | Fire Area 72, Zone A | 4-316 & 4-317 | <p>In addition to editorial revisions, the following changes were entered:</p> <p style="text-align: center;"><u>Design Features - Doors</u></p> <p>(A) NOTE: See Item 21 Attachment 1.</p> <p style="text-align: center;"><u>Fire Protection</u></p> <p>(B) Amend. #5 reflects the installation of the proposed smoke detection system, the proposed fire barriers between redundant service water pumps, the two proposed yard fire hydrants and the proposed preaction sprinkler system for the area immediately around the pumps. It also noted that two additional preaction sprinkler systems had been provided for coverage of the entire pump deck, the area in the strainer pit below the pump deck and to safety related cabling in the upper north-eastern corner of the Pump Room.</p> <p style="text-align: center;"><u>Consequence of Fire</u></p> <p>(C) Completion of all proposed fire protection enhancements and their impact on minimizing the consequences of a fire are noted in Amend. #5.</p> <p>In addition to editorial revisions, the following changes were entered:</p> <p style="text-align: center;"><u>Design Features - Doors</u></p> <p>(A) NOTE: See Item 22 Attachment 1.</p> |
| 119 | Fire Area 72, Zone B | 4-308 & 4-309 | Fire Area 72, Zone B | 4-318 & 4-319 | <p>In addition to editorial revisions, the following changes were entered:</p> <p style="text-align: center;"><u>Design Features - Doors</u></p> <p>(A) NOTE: See Item 22 Attachment 1.</p> |

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| <u>ITEM #</u> | <u>AMEND. #4 SEC/PARAGRAPH/ TABLE/FIGURE</u> | <u>AMEND. #4 PAGE NO./NOS.</u> | <u>AMEND. #5 PARAGRAPH/ TABLE/FIGURE</u> | <u>AMEND. #5 PAGE NO./NOS.</u> | <u>COMMENT</u> |
|----------------|--|------------------------------------|--|------------------------------------|---|
| 119 (Contd) | | | | | <p><u>Fire Protection</u></p> <p>(B) Amend. #5 reflects completion of the proposed installation of two yard hydrants within the security fence.</p> <p><u>Consequence of Fire</u></p> <p>(C) Amend. #4 states this zone is separated from other zones by reinforced concrete. Amend. #5 corrects this statement by noting the open doorway between this zone and Zone 72C.</p> <p>(D) Amend. #5 pointed out that upon receipt of warning by the detection system fire hydrants and portable extinguishers must be utilized for fires not inside the switchgear cabinets. Amend. #4 had addressed only fires inside the cabinets.</p> <p>In addition to editorial revisions, the following changes were entered:</p> <p><u>Tabular Data</u></p> <p>(A) Amend. #4 identified the disconnect switchgear as being "4 KV". Amend. #5 corrects this to be "5 KV".</p> <p><u>Design Features - Doors</u></p> <p>(B) NOTE: See Item 23 Attachment 1.</p> <p><u>Fire Protection</u></p> <p>(C) Amend. #5 reflects installation of the proposed smoke detection system and yard hydrants.</p> |
| 120 | Fire Area 72, Zone C | 4-310 & 4-311 | Fire Area 72, Zone C | 4-320 & 4-321 | |

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| <u>ITEM #</u> | <u>AMEND. #4 SEC/PARAGRAPH/ TABLE/FIGURE</u> | <u>AMEND. #4 PAGE NO./NOS.</u> | <u>AMEND. #5 PARAGRAPH/ TABLE/FIGURE</u> | <u>AMEND. #5 PAGE NO./NOS.</u> | <u>COMMENT</u> |
|----------------|--|------------------------------------|--|------------------------------------|--|
| 120 (Contd) | | | | | <u>Consequence of Fire</u> (D) Amend. #5 notes the different fire fighting requirements within the zone; see Item 119 (D) above. |
| 121 | Fire Area 72, Zone D | 4-312 & 4-313 | Fire Area 72, Zone D | 4-322 & 4-323 | In addition to editorial revisions, the following changes were entered: <u>Tabular Data</u> (A) See Item 120 (A) above. <u>Design Features - Doors</u> (B) NOTE: See Item 24 Attachment I. <u>Fire Protection</u> (C) Amend. #5 reflects installation of the proposed smoke detection system and yard hydrants. <u>Consequence of Fire</u> (D) Amend. #5 failed to revise the disconnect switch rating from 4 to 5-KV. This is an administrative error. See Item 120 (A) above. (E) Amend. #5 notes the differing fire fighting requirements within the zone; see Item 119 (D) above. |
| 122 | Fire Area 72, Zone E | 4-134 & 4-135 | Fire Area 72, Zone E | 4-324 & 4-325 | In addition to editorial revisions, the following changes were entered: <u>Design Features - Doors</u> (A) NOTE: See Item 25 Attachment I. |

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| <u>ITEM #</u> | <u>AMEND. #4 SEC/PARAGRAPH/ TABLE/FIGURE</u> | <u>AMEND. #4 PAGE NO./NOS.</u> | <u>AMEND. #5 PARAGRAPH/ TABLE/FIGURE</u> | <u>AMEND. #5 PAGE NO./NOS.</u> | <u>COMMENT</u> |
|----------------|--|------------------------------------|--|------------------------------------|---|
| 122 (Contd) | | | | | <p><u>Fire Protection</u></p> <p>(B) Amend. #5 reflects installation of the proposed yard hydrants.</p> <p><u>Consequence of Fire</u></p> <p>(C) Amend. #5 notes the differing fire fighting requirements within the zone; see Item 119 (D) above.</p> |
| 123 | Fire Area 73 | 4-316 & 4-317 | Fire Area 73 | 4-326 & 4-327 | <p>In addition to editorial revisions, the following changes were entered:</p> <p><u>Fire Protection</u></p> <p>(A) Amend. #5 reflects that the proposed installation of the two yard hydrants has been completed. It also notes that this area is provided with a smoke detection system.</p> <p><u>Consequence of Fire</u></p> <p>(B) Completion of the above proposed fire protection enhancements and their impact on minimizing the consequences of a fire are noted in Amend. #5.</p> |
| 124 | Fire Area 74 | 4-318 & 4-319 | Fire Area 74 | 4-328 & 4-329 | Comments on this area are identical to those on Area 73. |
| 125 | Fire Area 1-75 (2-75) | 4-320 & 4-321 | Fire Area 1-75 (2-75) | 4-330 & 4-331 | <p>In addition to editorial revisions, the following changes were entered:</p> <p><u>Design Features - Doors</u></p> <p>(A) Amend. #5 reflects the completion of the proposed application of fire resistant coating to the watertight door and bulkhead leading into the Auxiliary Building.</p> <p><u>Design Features - Floor Drains</u></p> <p>(B) Amend. #5 notes that a sump and sump pump are located within the cable tunnel.</p> |

| <u>ITEM #</u> | <u>AMEND. #4 SEC/PARAGRAPH/ TABLE/FIGURE</u> | <u>AMEND. #4 PAGE NO./NOS.</u> | <u>AMEND. #5 PARAGRAPH/ TABLE/FIGURE</u> | <u>AMEND. #5 PAGE NO./NOS.</u> | <u>COMMENT</u> |
|----------------|--|------------------------------------|--|------------------------------------|--|
| 125 (Contd) | | | | | <p><u>Fire Protection</u></p> <p>(C) Amend. #5 notes that the proposed installation of an automatic sprinkler system is complete. Amend. #5 should have noted that hose cabinets have been installed in the Unit #2 cable tunnel.</p> <p><u>Consequence of Fire</u></p> <p>(D) Completion of the above proposed fire protection enhancements and their impact on minimizing the consequences of a fire are noted in Amend. #5. The availability of hose cabinets in the Unit #2 tunnel should have been included; see (C) above.</p> |
| 126 | Fire Area 1-76 | 4-322 & 4-323 | Fire Area 1-76 (2-76) | 4-332 & 4-333 | Comments on this area are identical to those on Area 1-75 (2-75). |
| 127 | Fire Area 77 | 4-324 | Fire Area 1-77 (2-77) | 4-334 | Editorial changes only. |
| 128 | Fire Area 78 | 4-325 | Fire Area 1-78 (2-78) | 4-335 | Editorial changes only. |
| 129 | Fire Area 79 | 4-326 | Fire Area 1-79 (2-79) | 4-336 | Editorial changes only. |
| 130 | Fire Area 80, Zones A thru H | 4-327 | Fire Area 1-80 (2-80), Zones A thru H | 4-337 & 4-338 | Editorial changes only. |
| 131 | Fire Area 81 | 4-328 | Fire Area 1-81 (2-81) | 4-339 & 4-340 | <p>In addition to editorial revisions, the following change was entered:</p> <p><u>Design Features - Construction</u></p> <p>(A) Amend. #5 notes that portions of the area boundary are of 3 hour rated concrete block construction. Amend. #4 had stated the boundaries were entirely reinforced concrete.</p> |

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| ITEM # | AMEND. #4 SEC/PARAGRAPH/ TABLE/FIGURE | AMEND. #4 PAGE NO./NOS. | AMEND. #5 PARAGRAPH/ TABLE/FIGURE | AMEND. #5 PAGE NO./NOS. | COMMENT |
|--------|---|----------------------------|--|----------------------------|--|
| 132 | Fire Area 82 | 4-329 | Fire Area 1-82 | 4-341 & 4-342 | Comments on this area are identical to those on Area 1-81. |
| 133 | Fire Area 83 | 4-330 | Fire Area 1-83 | 4-343 & 4-344 | Comments on this area are identical to those on Area 1-81. |
| 134 | Fire Area 84, Zones A thru E | 4-331 | Fire Area 1-84 (2-84) Zones A thru E | 4-345 | Editorial changes only. |
| 135 | Fire Area 85, Zones A & B | 4-332 | Fire Area 1-85 (2-85) Zones A & B | 4-346 | Editorial changes only. |
| 136 | Fire Area 86 | 4-333 & 4-334 | Fire Area 1-86 | 4-347 & 4-348 | Editorial changes only. |
| 137 | Fire Area 87, Zone C A thru I | 4-335 | Fire Area 1-87 (2-87) | 4-349 | In addition to editorial revisions, the following changes were entered: |
| | | | | | <u>Tabular Data</u> |
| | | | | | (A) Amend. #4 erroneously identified Zones "H" and "I" as being associated with the feedwater pump turbine bearings. Amend. #4 also erroneously identified this fire area hazard analysis as addressing Zone: "A" through "I". Actually the zones in this area are "A" through "J" with "I" and "J" being associated with the feedwater pump turbine bearings. Amend. #5 corrected these errors. |
| | | | | | <u>Fire Protection</u> |
| | | | | | (B) Zones "A" through "H" are now provided with closed head, manually actuated spray systems. At the time of issuance of Amend. #4, open head systems were installed. Amend. #5 notes the current status. Design intent is met. |

FPPR AMEND. #4/#5 COMPARISON

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| <u>ITEM #</u> | <u>AMEND. #4 SEC/PARAGRAPH/ TABLE/FIGURE</u> | <u>AMEND. #4 PAGE NO./NOS.</u> | <u>AMEND. #5 PARAGRAPH/ TABLE/FIGURE</u> | <u>AMEND. #5 PAGE NO./NOS.</u> | <u>COMMENT</u> |
|---------------|--|------------------------------------|--|------------------------------------|---|
| 138 | Fire Area 88, Zones A thru F | 4-336 | Fire Area 1-88 (2-88), Zones A thru F | 4-350 | In addition to editorial provisions, the following changes were entered: <u>Fire Protection</u> (A) NOTE: See Item 26 Attachment 1. |
| 139 | Fire Area 2-89 | 4-337 & 4-338 | Fire Area 2-89 | 4-351 & 4-352 | In addition to editorial revisions, the following changes were entered: <u>Design Features - Construction</u> (A) Amend. #5 added the information that a 6 inch sill is provided at the room entrance to contain oil spills. <u>Design Features - Ventilation</u> (B) Amend. #5 added the information that fire dampers are provided at duct penetrations. The revision bar was inadvertently left off. <u>Fire Protection</u> (C) Amend. #5 reflects that a temperature sensor now activates the automatic fire suppression system rather than an ionization smoke detector. |
| 140 | N/A | N/A | Fire Area 1-90 (2-90) | 4-353 & 4-354 | This is a new area established under the requirements of PCR 81-1037, new combustible storage areas. NOTE: See Item 28 Attachment 1. |

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| <u>ITEM #</u> | <u>AMEND. #4 SEC/PARAGRAPH/ TABLE/FIGURE</u> | <u>AMEND. #4 PAGE NO./NOS.</u> | <u>AMEND. #5 PARAGRAPH/ TABLE/FIGURE</u> | <u>AMEND. #5 PAGE NO./NOS.</u> | <u>COMMENT</u> |
|---------------|--|------------------------------------|--|------------------------------------|---|
| 141 | N/A | N/A | Fire Area 1-91 | 4-355 & 4-356 | This is a new area established under the requirements of PCR 81-1037, new combustible storage areas. NOTE: See Item 28 Attachment 1. |
| 142 | N/A | N/A | Fire Area 1-92 (2-92) | 4-357 & 4-358 | The comments on this section are identical to those for Area 1-91, Item 141. |
| 143 | N/A | N/A | Fire Area 93 | 4-359 & 4-360 | This is a new area established under the requirements of PCR 81-1037, new combustible storage areas. NOTE: See Item 28 Attachment 1. |
| 144 | N/A | N/A | Sample Tech. Specs. 5-1 thru 5-44 | | This is a new section which is intended to acquaint a reader of the FPPR with the general scope of the technical specifications under which the Farley Fire Protection Program is conducted. The introduction to this section cautions readers to the fact the sample technical specifications are included for background information only and do not represent currently approved specifications. |
| 145 | Section 4.4 Appendix A Compliance Review | 4-339 thru (?) | Section 6.0 Appendix A Position/Responses | 6-1 thru 6-301 | Amend. #5 Section 6 is a verbatim transcript of Section 4.4 of Amend. #4. Only pagination has been effected and the content and sequence of content is unchanged. |