

ATTACHMENT II

Power Authority of the State of New York

J. A. FitzPatrick Nuclear Power Station

ACTION PLAN FOR THE IMPLEMENTATION OF SECTION III.G.
"FIRE PROTECTION OF SAFE SHUTDOWN CAPABILITY"
OF APPENDIX R TO 10CFR50.

June 22, 1981

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INTRODUCTION

On February 17, 1981, Section 10CFR50.48 and Appendix R to 10CFR50 became effective. Section 10CFR50.48 requires that all operating reactors licensed to operate prior to January 1, 1979 meet the requirements of Section III.G, III.J and III.O of Appendix R. This section also requires that plans and schedules and/or exemption requests for meeting the fire protection requirements in these sections be submitted not later than March 19, 1981.

Section III.O applies to plants which do not have an inerted containment. Therefore, this Section is not applicable to the FitzPatrick facility since its containment is inerted. In the Authority's consideration, Section 10CFR50.48 did not allow sufficient time to perform the appropriate evaluation and prepare plans and schedules to implement the requirements of Section III.G and III.J. Accordingly, additional time was requested to submit this information on December 28, 1981 and June 22, 1981, respectively. In addition, the Authority committed to prepare and submit to the NRC, on June 22, 1981, an action plan which would show the systematic evaluation required for the preparation of plans and schedules in order to meet the requirements of Section III.G. This action plan is presented below. Plans and schedule for Section III.J are provided in a separate report entitled "Appendix I to Safe Shutdown Analysis Response to 10CFR50 Appendix R Fire Protection Section III.J, "Emergency Lighting".

PURPOSE

The purpose of the action plan is to provide a method to systematically evaluate the requirements of Section III.G. Appendix R to 10CFR50 as applicable to the FitzPatrick Facility and identify the required plant modifications or actions. This action plan provides a means to utilize the resources available in an optimum manner to implement these fire protection requirements in a timely fashion.* This action plan identifies and provides a detailed schedule for each of the aspects associated with meeting the requirements of Section III.G.

ACTION PLAN

Prior to determining which of the options provided in Section III.G will be satisfactory for the FitzPatrick facility, a comprehensive analysis must be performed for safety-related circuits and associated non-safety related circuits of each fire zone. This analysis will identify the critical circuits, equipment, and fire zones and will assess the potentially adverse impact the loss of each may have on the plant's ability to achieve and maintain safe shutdown conforming to the criteria of Section III.G.

*It should be noted that the Authority is concurrently engaged in the implementation of various other major modifications, e.g., TMI; Mark I, CRD System, RPS System, IEB 79-01B, etc.

The Authority has completed an extensive review of the safety related circuits; a similar review of non-safety related associated circuits is currently underway. Additionally, a reexamination of the safety related cables in accordance with the Appendix R requirements and the staff's feedback on the Authority's previous submittals is also being performed. These efforts are detailed in the attached figure. Each step in the figure relating to Section III.G is further explained below.

IV. 1. Review of All Non-Safety Cables

Section III.G requires in part that cables including non-safety associated circuits that could prevent operation or cause maloperation due to hot shorts, open circuits or short to ground of the alternative train which is used to, or redundant trains of systems necessary to achieve and maintain hot shutdown conditions are located within the same fire area outside the primary containment be provided with one of the methods outlined in paragraphs III.G.2.a, III.G.2.b or III.G.2.c. Thus, cables including non-safety cables which fall under the above criteria need to be identified. This tedious effort requires that each and every cable in the Plant be reviewed and numerous computer runs be performed in order to single out the subject cables. This effort requires approximately 23 weeks to be completed.

IV. 2. Engineering Evaluation

As the affected cables are identified, the following criteria of Section III.G. are applied:

- a) Separation by a fire barrier having a 3-hour rating;
- b) Separation by a horizontal distance of 20 feet;
- c) Enclosure in a fire barrier having a 1-hour rating along with fire detection and automatic suppression equipment.

Additionally, those cables or systems which do not comply with the above criteria must be further evaluated to determine and demonstrate equivalent protection. For those cases in which equivalent protection can be demonstrated, appropriate safety evaluations and documentation must be prepared in order to support future exemption requests. This effort requires input from 1. above. However, this effort was started as soon as practicable and is being performed parallel to Step 1. This effort requires approximately 23 weeks for completion and is constrained by the completion of 1. above.

IV. 3. Review Impact on Systems

As efforts 1. and 2. above are completed, those cases which do not comply with Appendix R are identified for each fire zone. This requires additional analyses to determine the impact on the alternative or redundant safe shutdown equipment in the event of a postulated fire. Should this analysis indicate that the cable or system is important to safe shutdown, further analysis performed to determine alternate means for safe shutdown or a plant modification is identified. This effort requires approximately 19 weeks for completion and is constrained by 1. and 2. above. Since a good portion of items 1. and 2. needs to be completed, this effort was started later.

IV. 4. Determination of the Modifications or Exemptions

Upon completion of efforts 1. through 3. above, those areas which may require a modification to comply with Appendix R requirements are identified. Once again, for these areas, the criteria of paragraph III.G.2.a., b., and c. are applied. An evaluation is performed to demonstrate which is the optimum method of compliance and either exemptions or modifications are determined. This analysis takes into consideration, such aspects as safety significance of the modification and installation requirements, e.g., outage requirements and length and practicality of installations. This effort requires approximately 13 weeks to be completed and is constrained by efforts 1. through 3. above. This effort could not be started until a good portion of the data from the previous efforts was available.

IV. 5. Report Preparation

An additional 14 weeks are necessary for the preparation of a report in order to fully document the result of the reexamination. This time is necessary for the preparation of the report, in-house reviews, and publication. Also, additional effort is required to determine the schedule for the plant modification identified.

IV. 6. Reevaluation of Safety Cables

The Authority has previously submitted a safe shutdown analysis and a fire hazard analysis in accordance with BTP APCS 9.5-1. Those documents ensured that a shutdown capability with respect to safety systems is provided. However, a re-analysis in this area is necessary based on Appendix R requirements and the interim report received from the NRC staff (NRC letter, T. P. Ippolito to G.T. Berry dated April 21, 1981). Much work has been performed in this subject; however, efforts similar to 1. through 5. above are necessary for those areas of concern.

Section III.G requirements are applicable to cables for systems necessary to achieve and maintain hot shutdown. Nevertheless, rather than demonstrate that the cold shutdown system can be repaired within 72 hours at this time, the Authority has decided to perform the evaluation of all cables including those required to achieve and maintain cold shutdown. Thus, the number of cables to be evaluated was greatly increased.

SCHEDULE FOR 10 CFR 50.48 AND APPENDIX R. REQUIREMENTS

