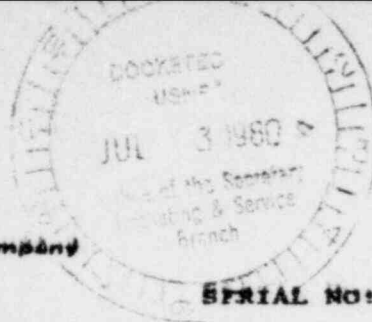


CP&L

Carolina Power & Light Company



1 of 8

FILES: NG-3514(B)
NG-3514(R)

June 30, 1980

SERIAL No: NO-80-1001

PLEASE DELIVER TO →

Secretary of the Commission
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Attention: Docketing and Service Branch

from Jim M. Queen
919-336-6687

10CFR50

**FIRE PROTECTION PROGRAM FOR NUCLEAR POWER PLANTS
OPERATING PRIOR TO JANUARY 1, 1979
NOTICE OF PROPOSED RULE**

DOCKET NUMBER: PP-50 (36)
PROPOSED RULE: 45-FR-36082

Gentlemen:

In response to your request for comments (45 Federal Register 36082, dated May 29, 1980) regarding proposed amendments to 10CFR50 to add paragraph 50.48 and Appendix R, Carolina Power & Light Company (CP&L) submits the following:

General Comments

1. Carolina Power & Light has worked closely with the NRC during the past several years to substantially upgrade the fire protection programs at our operating plants. During this time, we have made numerous modifications to equipment and procedures, and have made additional future commitments. However, the short implementation schedule for the proposed rule is, in our opinion, ill advised, and we concur with the opinion of Commissioners Hendrie and Kennedy that the implementation schedule is not reasonable. Where more than one modification is required in an area, the modifications may require sequencing for the sole purpose of providing continuous fire protection, hence prolonging the schedule. Also, with all operating plants seeking revised fire protection equipment, vendors may not be able to supply equipment within this short implementation schedule.
2. The statement in the proposed rule that all prior agreements with the NRC concerning fire protection that do not fully comply with Appendix R are null and void is neither reasonable, nor in the best interests of the public health and safety. As an example, our operating nuclear power plants have committed to fire protection upgrading programs which have significantly improved our fire protection capabilities. A considerable amount of time and money has been expended in these modifications which will be completed in the near future. Our Brunswick Steam Electric Plant (BSEP) has recently received a completed

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Safety Evaluation Report (SER) from the NRC for the fire protection program. Some of the SER modifications approved on June 11, 1980 by the NRC conflict with the May 29, 1980 proposed Appendix R. Although these modifications represent significant improvements, from a regulatory compliance standpoint, the efforts and expenditures would now appear to be fruitless. Thus, the inflexibility of the proposed rule penalizes those utilities which have made the greatest effort to expedite fire protection improvements, while tending to reward those who have avoided these changes which now are voided by Appendix R. This "bait and switch" tactic does little to enhance the cooperation between the NRC and the nuclear industry to upgrade safety considerations. Such tactics not only foster what has been referred to as "foot-dragging," but also divert often scarce technical talents and funds to satisfy whatever the "current" NRC draft position is. The NRC imposed expenditures of human and financial resources by licensees in good faith to meet current NRC positions, which would then be reversed by NRC would not be, in our opinion, the appropriate application of these resources. We strongly urge the NRC to examine in broad context its action in this rulemaking. It is important that the Commission consider issues such as this in the overall context of plant safety. It appears to us that the problem of "moving-target regulations" is becoming sufficiently large to cause concern regarding the diversion of manpower from resolution of identified safety issues. In this regard, the NRC must also explore the interaction of the proposed Appendix R with other NRC requirements and plant operations. This applies not only to design and operation, but also to administrative features, such as training and NRC imposed analyses. Fire protection, as well as other safety related issues, cannot be treated in rulemaking as an isolated issue, but must instead be evaluated in terms of integrated, synergistic impacts on available resources and physical ability to implement all safety-related improvements within a given time frame.

Specific Comments

1. The last point under the third paragraph of II.A states: "to arrange the structures, systems, and components important to safety so that a fire that starts in spite of the fire prevention activities and that is not promptly extinguished by the fixed automatic or manual fire suppression activities will not prevent the safe shutdown of the plant." As written, this statement establishes a rule for operating plants that could impose rebuilding or moving entire structures, systems, and components whose arrangement was previously reviewed and approved by NRC. Many such structures are fixed and cannot be changed without gross destruction and rebuilding of the plant.

2. Paragraph ii.A.2.a. This item needs to be clarified since it tends to imply that automatic fixed suppression systems are not acceptable. It is recommended that the wording be modified to say, "Manually actuated or automatically actuated fixed suppression systems capable of manual actuation shall be . . ."
3. Paragraph ii.A.2.a. This item appears to require automatic suppression for safe shutdown systems regardless of degree of redundancy or other mitigating factors and, as a result, seems to ignore the result of the fire hazards analysis. Also, the term "large fire hazards" is nebulous, since it could be based on any of a number of criteria such as (a) area affected, (b) heat generated, (c) degree of hazard to safety equipment, or (d) probability of fire occurring. No specific change in wording is suggested herein, since the intent of the item is not clear.
4. Paragraph ii.B states: "The adequacy of fire protection for any particular plant area shall be determined by analysis of the effects of postulated exposure fires involving both in situ and transient combustibles on the ability to safely shut down the reactor, or the ability to minimize and control the release of radioactivity to the environment. Separation of redundant systems and components by three-hour fire barriers or at least 50 feet both horizontal and vertical of clear air space shall be deemed adequate. Lesser ratings or distances shall be justified by analysis or test." The separation requirements of this paragraph would cause unmanageable problems for constructed plants. Some areas are not large enough to allow 50 feet of separation; thus, requiring a three-hour rated fire barrier in places such as the middle of the reactor auxiliary building. However, plant structures were not designed for this type of addition and previous NRC commitments to licensees should be honored.
5. Paragraph iii.A proposes two separate fresh water supplies, each with a two-hour supply which are capable of automatic connection to the fire protection system. For plants where NRC has approved different, but acceptable arrangements, the licensee would have had no reason to anticipate the need for procurement of a large additional tank, to meet the redundant two-hour supply proposal, and there is no way that a tank of necessary size could be procured, much less placed into operation by November 1, 1980. A number of utilities may be faced with this type of schedule problem. In this case, previous NRC commitments should be honored.

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dated 6-30-80, Serial: NO-80-1001

6. Paragraph III.C.2.e. The information provided in Table 1 is ambiguous with respect to the information provided in the last column (e.g., Fixed Suppression Systems Required), and should be clarified. The table apparently requires fixed suppression of all safe shutdown systems regardless of degree of redundancy and regardless of fire hazards analysis data with limited exceptions. This does not appear consistent with the lead paragraph of Section III.C. of item III.C.1. There appears to be a similar conflict between Section II.A.2.e. and the lead paragraph of Section III.C.

7. Paragraph III.H. The requirement for manning the fire brigade with a minimum of three Operations personnel or others with equivalent knowledge appears to be unnecessarily restrictive. The fire brigade, like a company in a municipal fire department, should be led by an individual knowledgeable of the hazards involved. In a nuclear power plant, this knowledge must extend to the potential impact of fire fighting operations on nuclear safety. Thus, it is imperative that the individual "calling the shots" be a licensed operator or have equivalent training. It is not necessary, however, for the people under his direction to have similar training. In actuality, the term "operator" is indicative of a job classification and not reflective of the individual's knowledge of nuclear safety concerns or lack thereof. The only real gauge of the operator's knowledge is by his license. Accordingly, the third sentence in the first paragraph should be deleted.

The use of a normal communication system for emergency communications has been standard in the industry. The criteria for a system to be utilized in a fire emergency should be based on its ability to function satisfactorily given any single fire. Accordingly, the first sentence of paragraph III.H.3. should be revised to read: "... and emergency communication capability throughout the plant that will function satisfactorily during any single fire event."

8. Paragraph III.I. - Fire Brigade Training. In general, this section of Appendix R seems to be rigid to the point of precluding better approaches for accomplishing the training objectives as well as the flexibility necessary to accommodate the differences which arise at individual plants due to organization, manning, facility design, and training variations. To allow the necessary flexibility and yet assure a satisfactory level of brigade training, it is recommended that this section be revised to specify training goals or objectives rather than detailing the quantity, frequency, location, and types of training sessions.

to illustrate the above concern and the means of resolving it, several examples are provided below:

The second line of the opening paragraph and line I.1.a. specify that all the topics listed under I.1.a. are to be included in the "initial classroom instruction." The important point is what information should be imparted to the fire brigade members. Thus, the word "classroom" should be deleted. This would allow those subjects which could best be presented "in the plant," such as item (4) to be so presented at the discretion of the instructor.

Paragraph III.1.3.a. specifies that drills shall be performed "in the plant." If suitable on-site facilities are available, a more realistic drill could be conducted in an environment embodying the high heat, low visibility and noxious atmosphere which could be expected in a severe in-plant fire. Accordingly, item 3.a. should be modified to allow such flexibility.

Paragraph III.1.1.e. should be modified to require repetition of only those items which the brigade member does not receive through other channels. For example, a classroom review of the access/egress routes for the various plant areas as required in item III.1.1.a.(4) is inappropriate for personnel who spend each day in the plant making rounds. Additionally, item I.1.e. should require repetition only of those items in which the member is deficient. Thus, an evaluation of the member's level of knowledge could eliminate hours of unnecessary classroom sessions and should be allowed.

A goal oriented approach to paragraph III.1. would allow the flexibility necessary to tailor a training program to the needs of the brigade with respect to the desired objectives while optimizing the number of manhours expended. CP&L personnel would be willing to work with the staff in developing an improved, goal oriented approach to paragraph III.1.

9. Paragraph III.1.2. proposes one practice session a year. The practice session is the most effective type of training and once a year is not enough. However, with the drill requirements of paragraph III.1.3., increasing the number of practice sessions would be almost impossible.
10. Paragraph III.1.3.d. requires the submittal of a written report to the NRC. To assure such reports are submitted to the office concerned, this item should identify the addressees (e.g., - NRR, I&E, etc.).

11. Paragraph iii.1.4. - Records. The last sentence deals with training requirements, NOT with record maintenance and retention. Since the topic of individual performance has been addressed in paragraph iii.1.3.c., this sentence should be deleted.
12. Paragraph iii.1.5. This item needs clarification with regard to the operability of the emergency lighting. A verbatim interpretation of the second sentence indicates that full operability of the emergency lighting system in the immediate fire area for the duration of any fire is required. It is unlikely that any installed system, including battery powered units, could meet such a criteria if a severe fire is postulated. Thus, it is recommended that the second sentence be reworded as follows: "The fire hazards analysis shows that it will remain operable in all required areas exclusive of the immediate fire area." Considering the nature of the combustibles normally encountered in a plant as well as the windowless type of construction, it is unlikely that the lighting system in the fire area would be of much value in any significant fire, and the above change is, therefore, justified.
13. Paragraph iii.R - Administrative Controls, would overwhelm plant staff in order to reorganize and rewrite their previously approved administrative controls. Even if qualified help could be obtained, the November 1, 1980 deadline would be impractical.
14. Paragraph iii.K.4. This item, although appearing valid on the surface, would not assure that adequate fire protection would be provided for transient fire loading. Its shortcoming is that the fire protection required is dependent on total transient fire load in the work area. That is, the fire protection required is a function of the cumulative fire load, not the individual load presented by a particular job. In the complex situations presented during outages, several different jobs with varying start dates and durations may be occurring in the same area. Additionally, the fire loading profile presented by any individual job is quite variable. In practice, reviewing the documents controlling various work activities is not an adequate means of assuring that a satisfactory degree of fire protection is maintained. Such protection can only be specified by the conduct of inspections in the field. The review of proposed work activity documents can realistically identify special hazards posed by the work (e.g., the use of flammable liquids, the need for welding operations, etc.) and specify appropriate measures to minimize the hazard. In view of the foregoing, the following version of item III.R.4. is recommended: "Define the program utilized to review proposed and in-progress work activities to identify potential transient fire hazards, and to specify required additional fire protection measures."

15. Paragraph III.R.5. This paragraph appears to be overly restrictive with regard to the time limit imposed on permits. Although the limit specified is, in most cases, reasonable, there are special cases where this limit should be removed. A case in point is where instrument calibration and repair (e.g., soldering) is conducted in an area within a safety-related structure in a room specifically designed for that purpose with adequate separation from safety-related equipment or systems. For such areas, an area flame permit of extended duration is appropriate. Accordingly, a new sentence, reading as follows, should be added to paragraph III.R.5.: "Special permits of extended duration may be utilized for control of hot work performed in areas specifically designed for the purpose and which have been shown by analysis to pose no threat to safety-related systems or equipment."
16. Paragraph III.R.9. states: "Govern actions to be taken by individual discovering the fire, such as notification of control room, attempt to extinguish fire, and actuation of local fire suppression system." The last part of this paragraph would require actuation of the local fire suppression system. This could be, in many cases, inappropriate. The local fire suppression system could be a gas flooding system which could endanger the person operating the system or not be required due to the size or nature of the fire. This proposed action would also conflict with the NRC stated program of having a trained fire brigade on hand.
17. Paragraph III.L.3., the fourth sentence reads: "They shall also be capable of being powered by both systems or by onsite power systems that are independent of the onsite and offsite electric power systems." This sentence is not clear and should be clarified.
18. Paragraph III.L.4. pertaining to cold shutdown appears to remove the concept of redundancy when it states any equipment and/or system necessary to achieve and maintain cold shutdown conditions will not be damaged by any fire. This should be clarified and reworded.
19. Paragraph III.M. This section, if implemented as written, would have two undesirable consequences. The third paragraph would exclude the use of elevators of standard construction (e.g., 1-1/2 hour, B-labeled doors) in shafts where a two-hour wall is required. The last paragraph would exclude the use of ventilation systems for fire and smoke venting. To resolve the last problem, the last paragraph should be revised by adding the phrase "unless specifically designed for fire and smoke venting purposes." To resolve the former problem, the second sentence of the third paragraph should be modified to allow elevators in two-hour shafts to have 1-1/2 hour B-label doors in accordance with current codes and standards.

- 20. Paragraph iii.N. This section concerns itself with the qualification of fire barrier penetration seals. In item 2 of this section, the term "penetration fire barrier" is used in lieu of the term "penetration seal." The term "penetration fire barrier" is also used in item 8.A. For consistency, the terms "fire barrier penetration seal" and "penetration seal" should be used throughout.
- 21. Paragraph iii.P. This section discusses reactor coolant pumps only. Since BWRs have recirculation pumps only, the question arises as to whether this section is intended to address recirculation pump installations or not. Considering that BWRs typically operate with an inerted containment (e.g., oxygen content less than 5%), that recirculation pump systems have a relatively small oil capacity, and that the oil system is not pressurized, this section should contain a paragraph stating that it does not apply to BWR recirculation pump installations unless operation without inerting is allowed.
- 22. Paragraph iii.Q. addresses associated circuits. Does this apply to nonsafety-related cables in the same cable tray with safety-related cables? If so, many older plants are not capable of meeting this requirement without major and expensive rewiring modifications. In these cases, previous NRC approvals and commitments to licensees should be honored. Only new circuitry should be required to conform to the new rule for plants not built to Regulatory Guide 1.75 position 4 and IEEE 384-1974 (Section 4.5).

Please contact our staff if you have any questions concerning these comments.

Yours very truly,

E. E. Utley
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 Executive Vice President
 Power Supply and
 Engineering & Construction