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PROPOSED RULE PR 50 (45 FR 36082)

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USNRC
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Office of the Secretary
Docketing & Service
Branch

Secretary
United States Nuclear Regulatory
Commission
Attn: Docketing and Service Branch
Washington, D.C. 20555

Re: NRC Proposed Rules - 10 CFR § 50.48 and Appendix R - Fire Protection Program

Gentlemen:

Alabama Power Company submits these comments with respect to the NRC's Proposed Rulemaking relating to 10 CFR § 50.48 and Appendix R to Part 50 entitled "Fire Protection Program for Nuclear Power Plants Operating Prior to January 1, 1979." Alabama Power Company owns and operates Unit 1 of the Joseph M. Farley Nuclear Plant, which began operations prior to January 1, 1979, and is vitally interested in the rules proposed by the Commission.

By way of background, we would note our grave concern over the vacilation by the Commission and staff which is reflected in the proposed regulation. Pursuant to the Guidelines promulgated by the Commission staff in 1976 relating to Fire Protection for Nuclear Power Plants (BTP 9.5-1), and its subsequent revisions, nuclear plant licensees, including Alabama Power Company, entered into good faith discussions with staff personnel to achieve fire protection plans which would be adequate and meaningful with respect to the specific plants in question. These discussions involved the expenditure of vast amounts of time and money for analysis and review of changes needed to provide for augmentation of fire protection to a higher degree than the levels originally designed into the plants. The results of the discussions was the commitment by licensees to tremendous capital investments for augmentation of the fire protection systems. The commitment of Alabama Power Company to this program for Farley Unit No. 1 involves approximately $10,000,000.00.

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Acknowledged by card 7-7-80

Having established, through lengthy joint discussions between licensees and the staff, plant specific fire protection programs, NRC is now proposing in this suggested rulemaking to shift the groundrules for fire protection requirements. In the main, the proposed rules represent a ratcheting of fire protection requirements, beyond those plant specific programs approved by the NRC staff, which will add little, if any, safety benefits over and above the plant specific programs if properly implemented. Such ratcheting appears to constitute a breach of faith by NRC with those licensees who cooperated in attempting to meet the original Guidelines. Such an experience is damaging to the more desirable approach in this and other areas of striving for cooperation between licensees and NRC staff, all seeking to achieve assurance of safety.

Our other general concern, assuming NRC is determined to pursue this rulemaking, is the time within which compliance would be allowed. We would concur and support the separate views of Commissioners Hendrie and Kennedy wherein they questioned the short implementation schedule proposed. Certainly, such criticism is valid where programs for fire protection have previously been approved by the NRC staff and are in the process of being implemented. It would be unfortunate for such programs to be disrupted at this stage in order to analyze and rework the programs. Such effort could not be accomplished within the time frame to be established in the proposed rules. We would therefore urge the Commission to consider the plight into which licensees would be thrown by the mandate contained in the rules proposed.

In addition to these general concerns, we have reviewed the specific requirements of the proposed rules and have attached hereto copies of our comments. The attached comments address particular paragraphs of proposed Appendix R to 10 CFR Part 50 and the number of the paragraph addressed is shown.

We appreciate the opportunity to comment on this proposed rulemaking and respectfully urge the Commission to thoughtfully reflect on the need for the proposed rules, as

well as the implementation schedule if such rules are deemed necessary.

Respectfully submitted,

ALABAMA POWER COMPANY

By R. P. McDonald

RPM/jw
Enclosures

cc: Mr. F. L. Clayton (w/attachment)
Mr. G. F. Trowbridge (w/attachment)
Mr. R. A. Thomas (w/attachment)

RESPONSE

Commenting Upon the Proposed Rule
Addition to 10 CFR Part 50

Fire Protection Program for Nuclear Power Plants
Operating Prior to January 1, 1979

GENERAL

1. The fixed deadline for completion of all modifications and administrative changes of November 1, 1980 is unreasonable. This deadline provides insufficient time to accommodate utility case-by-case exceptions/alternatives.

2. APCO has performed evaluation, review and has negotiated with the NRC over a period of 3 years and as a result has committed to an extensive upgrading of the fire protection systems and administrative controls related to fire. These negotiations with the NRC have been in good faith with an assumed compliance as required by BTP 9.5-1. Such commitment from APCO has required a budget of ten million dollars and significant amount of time of key APCO and AE personnel at all levels. This new requirement, in essence, states that additional provisions, negotiations, and commitments are now necessary. Such requirements seem precocious and punitive on the part of the NRC and in some cases are for commitments which may not be in the best interest of a safe and reliable nuclear power industry.

3. Below are comments to specific parts of proposed rule 10 CFR 50.48 and Appendix R. These comments are listed using the reference numbers associated with each topic in the subject literature. NOTE: A dash (-) shall denote our comment.

Technical Comments of Alabama Power Company
Concerning Proposed Appendix R — Fire Protection Program
For Nuclear Power Facilities Operating Prior
to January 1, 1979

II.A. Fire Protection Program

- The requirement to identify a person knowledgeable of fire protection and nuclear safety is not necessary since the design of the fire protection system includes applicable provisions for nuclear safety as initiated by design organizations who have considered nuclear safety and fire protection. The person knowledgeable of fire protection at an operating plant is responsible for implementation of the fire protection system which has already been accounted for in the plant design.
- The modification of the arrangement of structures, systems, and components important to safety so that a fire that starts and that is not proptly extinguished by the fixed automatic or manual fire suppression activities so as to not prevent the safe shutdown of the plant, are not applicable to plants which are already designed and constructed.

II.A.2.g

- Two ½ hour or one 1 hour barrier provide sufficient protection for redundant safe shutdown cabling and components in order to allow manual fire suppression support.

II.A.2.i

- Routine inspection of physical barriers (e.g. around cables) is not practical in all cases. Such inspection could be detrimental to the barriers integrity in some cases.

II.E Fire Hazard Analysis

- It is believed that the 50 foot separation is arbitrary and pro-

vided without technical basis. It has become accepted practice to utilize 20 foot separation criteria throughout the nuclear industry.

III.D. Manual Fire Suppression

- Manually operated hose systems should be capable of reaching locations where fires could affect equipment needed for safe shutdown.

III.I Fire Brigade Training

- Drills cannot be performed in all areas of the plant due to strict adherence to ALARA policies.

III.K Administrative Controls

General

- Although the probability of a fire is limited by proper design and administrative controls at Farley Nuclear Plant, the number of precise locations, sizes, and types of fires that could hypothetically occur at the plant are virtually unlimited. Developing a strategy for each of these potential fires would be a massive task that would develop such a maze of procedures that rapid access for use would prove impractical. Further, since a previous study* shows that most fires occur during construction, maintenance, or testing activities and since these activities tend to temporarily alter the accessibility of plant areas and the types and quantities of combustibles in the area, the strategies developed might well prove inappropriate for most actual fires. To attempt to develop strategies that accounted for all possible maintenance situations would be futile and if attempted would certainly result in so many procedures that timely access and use of the applicable preplanned strategy would be impossible. A prompt response to contain and extinguish fires should be most effective in minimizing the damage

caused and hazard created by fires occurring in nuclear plants.

Prompt, effective, and appropriate response can best be provided by a well trained fire brigade whose strategy for a specific fire is formulated by a knowledgeable fire brigade chief after promptly assessing location, size, and nature of the combustion. To implement this position the Unit Shift Foreman should be designed as the fire brigade chief. His knowledge of the plant layout, plant operation, and current maintenance activities is based on extensive senior reactor operator training and on day-to-day working experience in the plant. His knowledge of combustibles, extinguishing agents, fire fighting techniques, and fire fighting strategy are based on the extensive training program previously described. Taking time to locate and review a preplanned fire fighting procedure which might prove inappropriate because of temporary conditions would detract from providing prompt, effective, and appropriate plant response to a fire.

Any additional work performed to formally comply with the NRC's supplemental guidance on administrative controls should complement and not detract from this philosophy of fire control. Therefore, in the area of fire fighting strategies, a fire zone data sheet could be established, which will provide the fire brigade chief with the following data for each fire zone:

a. A fire zone floor plan designating normally locked doors, fire extinguishing equipment, and high radiation areas.
b. A list of "As Built" zone combustibles and flammables.
c. A list of normal radiological material and toxic hazards contained in the zone.

III.K.4 - The person responsible for reviewing work activities for potential fire hazard should be a position on each shift in lieu of a single staff member responsible for the on-site fire protection program as proposed in Appendix R.

III.K.5 - Limiting flame permits to 24 hours when it is known in advance that the work will take longer only adds to the paperwork burden of plant personnel and provides very little increase in real fire fire protection capability.

III.K.8 - Requiring combustible material to be attended during lunch breaks, shift changes and similar periods is inconsistent with ALARA program practices, will be costly due to overtime and lower productivity caused by staggered lunch breaks, etc., and is not justified from a hazard viewpoint and in no case shall apply to storage areas.

III.L Alternate Shutdown Capability

- The ability to bring a PWR plant to cold shutdown after any fire cannot practically be mandated within 72 hours. These plants should be designed to be brought automatically to hot standby until, in the judgement of operators and designers, it is safe to commence to cold shutdown after appropriate manipulation and repairs. An arbitrary time interval could require hasty review and decisions which may not be in the best interest of safety. The ability to make repairs, equipment necessary for repairs, and specific procedures dictating repairs should be in place at the plant within the scheduled implementation date. Specific procedures for implementing each repair cannot possibly be written due to the infinite number of possible repair combinations.

III.N Fire Barrier Penetration Seal Qualification

- Fire Barrier Pentration Seal Qualification - A test on a standard wall section incorporating several types of penetrations and penetration seals was conducted by Factory Mutual Research and a test report was issued on February 19, 1976. Section 4.3.3 of the FNP Fire Protection Report discusses these penetration barriers. The following discrepancies exist between the test conditions and results from Factory Mutual and the proposed NRC requirements:

1. Requirement N specifies, "cables penetrating the fire barrier shall extend at least 3 feet on the unexposed side and at least 1 foot on the exposed side (of the barrier)," for the purpose of testing. In the Factory Mutual test the cables and trays extended 16 inches on the unexposed side and 8 inches on the exposed side.

2. Part of the NRC acceptance criteria is a "cable penetration fire barrier that has withstood the fire endurance test without passage of flame..." In the published results of the Factory Mutual test it was noted that "small flames were coming from the joints of the aluminum jacket of the cable" on the unexposed side. "Flashes of flame were coming from the aluminum jacketed cable...". "The flaming continued intermittently for the duration of the test." It should be noted that flaming occurred only in cable housed in aluminum conduit sealed with silicone foam 6 inches into each end and surrounded by silicone foam on the outside.

3. While the fire barrier did not allow water to pass through in the hose stream portion of the Factory Mutual test it should be noted that the hose stream addressed the barrier at an angle

of 50 degrees from the normal. The NRC requirement specifies an angle no larger than 30 degrees from the normal.

4. In no instance in the Factory Mutual Report were the foam densities used noted. While the NRC requirements do not specify minimum foam densities to be used, it is expected that only foam densities qualified by test results will be implemented in the plant. There is no apparent record of the foam densities from the Factory Mutual test.
5. Fire barriers were tested without any pressure differential applied. Some barriers could see a differential if they serve as both air tight and fire boundaries.
6. Testing of fire barrier penetrations was performed only for a wall configuration.

Even though variances between this testing and that required by item N exist, it is felt that this testing provides adequate qualification of seals used at Farley Nuclear Plant.

III.O Fire Doors

- The administrative requirement of such inspections would be extremely time consuming and costly and difficult to enforce.

III.P Reactor Coolant Pump Lubrication System

- The requirement to seismically qualify the oil collection system, which is itself a passive fire defense mechanism, is not justified. Active fire systems such as sprinkers should be seismically qualified.

III.Q Associated Circuits

- This section states, "Associated circuits shall be electrically isolated from safety equipment so that hot shorts, open circuits, or shorts to ground in the associated circuit will not prevent opera-

tion of the safety equipment." It also states that, "If associated circuits are not known to be so electrically isolated, they shall be considered safe shutdown circuits." In the context of III.Q and III.G, only associated circuits which are related to achieving and maintaining safe shutdown conditions should be of concern. Just because an associated circuit may not be electrically isolated does not mean that it will affect safe shutdown. An associated circuit as defined in IEEE 384 is a non-Class IE circuit which shares power supplies, raceway or is not acceptably separated from a Class IE circuit. However, not all circuits which are defined as Class IE circuits are required for safe shutdown, and therefore, circuits which are associated with Class IE circuits which are not required for safe shutdown should not be of concern even if they are not electrically isolated.

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*See Consumers Power response to NRC regarding Fire Protection Technical Specifications dated December 15, 1977.