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DOCKET NUMBER PROPOSED RULE PR-50 (24)
(45 FR 36082)

Secretary of the Commission
Att Docketing and Service Branch
US Nuclear Regulatory Commission
Washington, DC 20555

FIRE PROTECTION PROGRAM FOR NUCLEAR POWER PLANTS
OPERATING PRIOR TO JANUARY 1, 1979 - PROPOSED
CHANGE TO 10 CFR 50: COMMENTS CONCERNING

On May 29, 1980, the NRC published in the Federal Register (45 FR 36082) a proposed change to 10 CFR Part 50. The proposed change would add a requirement for a fire protection plan at each facility and would add to 10 CFR 50 a new Appendix R specifying certain elements of this required plan. The requirements of Appendix R would apply to nuclear power plants operating prior to January 1, 1979. Consumers Power Company operates two nuclear power plants, Big Rock Point and Palisades, which would be subject to these new requirements. In addition, members of the NRC staff have informed us that the requirements of Appendix R would form a starting point for review of fire protection at Midland, currently under construction. Accordingly, Consumers Power Company would be directly affected by the proposed rule.

Consumers Power Company is a member of a group of utilities combining efforts to ensure a satisfactory resolution of the fire protection issue. This group has engaged KMC, Inc as a consultant. In this capacity, KMC, Inc will be submitting comments on the proposed fire protection rule. Consumers Power Company has participated in preparing the comments to be so submitted and endorses them fully. In recognition of the importance of this proposed action, however, Consumers Power Company hereby submits additional detailed comments which may have a slightly different perspective from those developed by the utility group.

Notwithstanding the detailed comments herein or to be submitted by KMC, Inc regarding the form and content of the proposed rule, Consumers Power Company questions the appropriateness of any rule in this area. In discussing the proposed rule, the Commission notes that detailed reviews of fire protection have been conducted at all operating nuclear power plants. The Commission states, "Most of the licensees have accepted most of the staff positions and interpretations.... However, 17 generic issues exist...where agreement has not been reached between the staff and some licensees.... Because of the above-mentioned differences between the staff and licensees in the

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interpretation of the staff's guidelines, it is timely and necessary for the Commission to state what the minimum fire protection requirements will be in each of these contested areas of concern" (45 FR 36083). The proposed Appendix R provides these requirements; areas important to fire protection where the staff and all licensees have reached agreement are not addressed. Other, and better, means exist for the Commission to close out this long-standing debate. For example, individual orders could be issued to each licensee in disagreement. Such an approach would have the advantage of ending the current debate while not reopening issues accepted in good faith and considered closed by "most of the licensees."

If a rule is determined necessary, the rule should not reopen issues which have been previously resolved. Fire protection is not an exact science. In many instances, differing means of addressing fire protection concerns can be used which are each technically defensible. Resolution of issues during the aforementioned site specific reviews to the mutual satisfaction of the licensee and the staff indicates such a technically defensible solution has been reached. Reopening such issues is unnecessary. In those instances where changes to plant systems are required to meet the rule requirements, such changes and their expense are totally without justification. Accordingly, any rule concerning fire protection should specifically exempt those issues which have been successfully resolved at each plant as indicated by NRC Safety Evaluation Reports issued before the effective date of the rule.

Proposed Appendix R contains detailed requirements specifying the precise means to be used to address issues of concern. The degree of specificity contained therein is unprecedented in the Commission's regulations. Regulations generally specify the degree of protection to be provided and leave to the staff and licensees the detailed methods to be used to provide such protection. The issue of fire protection is no more important than issues of nuclear safety addressed elsewhere in the Commission's regulations and does not justify treatment in a manner far more prescriptive than used for other issues. The detailed comments attached identify the most glaring instances of overspecificity; however, it should be recognized that a predilection to a specific method of providing the desired protection pervades all of Appendix R.

The proposed rule specifies that most of the proposed requirements be implemented by November 1, 1980. The apparent impetus for this date is commitments made by the Commission after the Browns Ferry fire. Specifying a date five years in the future for accomplishing major upgrading was appropriate; however, it was not envisioned at that time that the vast majority of the intervening period would be taken up in agreeing on the changes to be implemented. In view of the unresolved issues remaining at this late date, attempting to adhere to an arbitrary implementation deadline only four months after the earliest possible effective date of the rule is inappropriate. In this regard, Consumers Power Company supports the separate comments of Commissioners Hendrie and Kennedy.

Detailed comments on the proposed rule are provided in the attachment. Consumers Power Company appreciates the opportunity to provide such comments;

however, as previously mentioned, it is our conclusion that closure of this long-standing debate can best be served by promulgating no rule at all.

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DETAILED COMMENTS CONCERNING PROPOSED RULE ON FIRE PROTECTION

GENERAL COMMENTS

1. The proposed rule incorporates Appendix A to Branch Technical Position (BTP) 9.5-1 by footnote reference. Branch Technical Positions are not prepared with the same degree of attention and public involvement as regulations. It is, therefore, inappropriate to give them the weight of a regulation by referencing them therein. If specific areas within BTP 9.5-1 are appropriate for inclusion in the regulations, they should be separately identified, included in the proposed regulation and subjected to public scrutiny and comment in the same manner as other parts of the regulation. The footnote reference in the proposed rule should be deleted.

2. The proposed rule states, at various places, that requirements are applicable to components and systems important to safety. This represents a large escalation over previous fire protection requirements. Heretofore, the simultaneous occurrence of a fire and a plant accident was judged to be sufficiently improbable as to not require consideration; previous staff reviews concentrated instead on equipment important to assure safe shutdown. No new evidence has been presented which would indicate a need to expand consideration to simultaneous improbable events. The proposed rule should be limited in applicability to equipment, systems and components important to ensure safe shutdown.

3. The proposed rule appears to incorporate consideration of multiple failures in fire detection and suppression equipment. This departure from the single failure criterion as applied to plant safety systems is not justified by the probable consequences of a fire or by any other evidence. The proposed rule should be revised to delete all requirements which result from an arbitrary assumption of multiple, independent failures.

4. The proposed rule contains large numbers of ambiguous and undefined terms. Terms such as approved, visually indicating, transient fire, alternate or dedicated shutdown system, exposure fire, good and poor are used throughout. Use of such terms leaves room for countless varying interpretations of the requirements which is counter to the stated intention of ending debate on this issue. The proposed rule should be carefully reviewed to eliminate ambiguity and to precisely define terms unique to fire protection.

SPECIFIC COMMENTS ON APPENDIX R

1. Section II.A specifies that the fire protection program be under the direction of a person knowledgeable in both fire protection and nuclear safety. Such a combination of expertise is unnecessary. Facility design, as specified during staff reviews of each operating plant, ensures that no fire can prevent safe shutdown. The fire protection

program, thus, must address considerations of fire only; the person responsible for this program does not need a detailed knowledge of nuclear safety. In fact, specifying expertise in both areas is likely to reduce the quality of fire protection by eliminating fire protection experts who are not experienced in nuclear safety.

2. Section II.A specifies that structures, systems and components be arranged to facilitate fire protection. This appendix applies only to operating plants. The arrangement of structures, systems and components is fixed in these units and would require very expensive efforts to change (where change is even practicable). Such is the case even for units in the latter stages of construction. Accordingly, this appendix should recognize the existent nature of the facilities it affects; wording related to basic facility design requirements should be deleted.

3. Section II.A.2.h requires that fire detection and suppression systems shall be designed, installed and maintained by personnel properly qualified by experience and training in fire protection systems. The standards by which such qualification is to be judged are not specified. While it may be necessary that detailed fire protection knowledge be applied in the design of such systems, such knowledge is not necessary for installation of the system as designed. Furthermore, pumps, valves and other components used in fire protection systems are no different than similar components used in other plant applications; these components can be maintained by personnel not knowledgeable of the systems in which the components are utilized. Since system design is reviewed by NRC as a result of other regulations and that review evaluates the appropriate application of fire protection knowledge in the design phase, Section II.A.2.h is unnecessary and should be deleted.

4. Section II.[illegible] specifies that physical separation of redundant systems must be by fire barriers or 50 feet both horizontal and vertical of clear air space. The requirement for 50-feet separation is arbitrary and without technical basis. This requirement, in effect, eliminates use of physical separation as a tool in fire protection since such open spaces do not exist in nuclear power plants. This could actually reduce fire safety by discouraging use of physical separation which is realistically achievable. IEEE Standard 384 should be used as the basis for evaluating separation.

5. Section III.A includes a requirement that plants using a large body of fresh water as their source of fire water have separate, redundant suctions for this purpose. This implies consideration of an accident affecting one suction concurrent with a fire. Such consideration is not within the current design basis and is not justified by the probability of such simultaneous occurrences. In addition, the entire section is far too specific with its delineation of numbers and types of tanks, pumps and delivery systems. The section should be deleted and replaced with a requirement that a reliable water source be provided capable of supplying maximum expected water demands for a specified period.

6. Section III.E requires that hoses be hydrostatically tested at 50 psi above maximum service pressure. This is inconsistent with NFPA 198. Testing requirements should be limited to 50 psi above actual operating pressure. In addition, frequencies for hose testing need not be specified in this section, but should be left to the discretion of the person responsible for the fire protection program who can evaluate past experience and unique circumstances in establishing an appropriate frequency.

7. Section III.G specifies considerations to be used in the design of protection features. This section is far too specific. In addition, it is totally inappropriate for inclusion in this regulation. Each of these considerations has already been addressed in a specific fire hazards analysis for each facility to which this appendix will apply. Inclusion of this level of detail serves no purpose other than to bring into question completed fire hazards analyses at all operating plants. Table 1 of this section in particular is very specific; this table is also extremely confusing and ambiguous.

8. Section III.H specifies that the fire brigade leader and at least two brigade members be Operations personnel and that the Shift Supervisor not be a member of the brigade. This requirement is overly specific. There is no reason why persons from plant departments other than Operations cannot adequatly fill all fire brigade positions. With respect to the requirement affecting the Shift Supervisor, it should be noted that this title is not defined in the regulations and does not have the universally accepted definition implied. For example, the person responsible for overall plant operations at our Midland Plant will be the Plant Supervisor; the Shift Supervisor will, in fact, serve as the brigade leader.

9. Section III.I specifies in great detail the training which must be given to fire brigade members. This section is far too specific and is wholly inappropriate for inclusion in the regulations. Instructional content should be left to the discretion of licensees. NRC should evaluate training by observing whether fire brigade members can adequately perform their duties. Such observation of the end product is far more appropriate and can be readily accomplished by the resident inspectors assigned to each operating plant.

10. Section III.J specifies that battery powered emergency lighting have an eight-hour power supply. This requirement is without basis. While provision of emergency lighting is appropriate, it will not be needed for such a lengthy period. Within a short time of the outbreak of a fire, large numbers of support personnel will be available on site. These personnel can take actions to restore/provide lighting to areas not otherwise affected by the fire. The emergency lighting, thus, is only needed for the period before such backup assistance might be available. A two-hour power supply should be more than sufficient. In addition, the emergency lighting requirements of Section III.H.3 are redundant with III.J and should be deleted.

11. Section III.K specifies administrative controls to be imposed to reduce fire hazards. The requirements of this section are far too specific. For example, III.K.5 specifies that a flame permit system be used and specifies how that system is to work. It should be sufficient to specify merely that operations which use ignition sources be administratively controlled. In addition, the requirement of III.K.8 that combustible material not be left unattended during lunch breaks, shift changes or similar periods is unnecessarily burdensome; personal attendance of such materials is merely a backup to installed fire detection equipment and operations likely to cause a fire are also highly likely to be curtailed during such periods.

12. Section III.K.12 specifies that detailed strategies be defined for fighting fires in all safety-related areas. Because of the many potential types of fires in each area, many different strategies would have to be developed. The large quantity of paperwork so generated could not be easily memorized or referenced during a fire. General fire fighting strategies and thorough training of fire brigade members is a far more manageable and effective means of addressing the concern.

13. Section III.M specifies that penetrations for ventilation systems be protected by a "fire door damper." The correct terminology should be "fire damper."

14. Section III.O includes requirements applicable to fire doors. It is not clear whether each fire door in a given facility must be provided with the same specified protection or if each door individually must meet one of the four options.

15. Section III.N specifies detailed testing requirements for fire barrier penetration seal qualifications. The detail included in this section is inappropriate. Testing of all possible penetration seal designs to the proposed requirements would be cost prohibitive and would require several years of testing.

16. Section III.P specifies design requirements for reactor coolant pump lubrication system protection. With respect to an oil collection system, these requirements are unnecessarily restrictive. For example, reactor coolant pumps cannot be operated with a significant loss of lubricating oil. Pump systems are designed to prevent such loss and to alarm in the event it should occur. Accordingly, it is inappropriate to specify that the oil collection system be capable of containing the entire lube oil system inventory. In addition, while it may be appropriate to specify that the collection container withstand a safe shutdown earthquake, it should not be required that all components of the oil collection system be fully functional following such an event.

17. Section III.Q specifies requirements applicable to "associated circuits." These requirements are inappropriate for this regulation for several reasons. First, this appendix is applicable to operating plants; the concept of associated circuits was not considered in the design of most of these plants. Determining which are associated circuits would be a

very expensive project with little benefit. Second, the requirements regarding associated circuits have no effect on fire prevention, detection and suppression. Third, the concerns behind these requirements are largely addressed by other requirements for alternate or dedicated shutdown systems.