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PROPOSED RULE

PR 350 (34)

June 27, 1980
 E&L- 2534

(45 FR 36082)



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

Attention: Docketing and Service Branch

Dear Gentlemen:

SUBJECT: Comments on Proposed Rulemaking
 Appendix R to 10 CFR 50
 Fire Protection for Nuclear Power Plants
Operating Prior to January 1, 1979

Re: Federal Register/Volume 45, No. 105/Thursday,
 May 29, 1980/Proposed Rules

In response to the above referenced notice in the Federal Register, General Public Utilities' comments on proposed rules are detailed in Enclosure 1. These comments list general as well as specific comments about nuclear power plants within the GPU System.

If you have any questions regarding these comments, please feel free to contact me.

Very truly yours,

J. R. Thorpe
 Director - Environment,
 Health and Safety

JRT:MI:bjc
 Enclosure

Acknowledged by card: 7-3-80 wch

ENCLOSURE 1

The following are the comments on proposed rule, Appendix R to 10 CFR 50, on Fire Protection:

1. Reference, Page 36083, Left Column:

"There are, however, a few instances where the staff has accepted certain fire protection alternatives that would not satisfy some of the requirements of this proposed rule. The minimum requirements contained in this rule were developed over a three year period and, in each of these instances, the staff accepted a proposed alternative before these minimum requirements were established. All licensees will be expected to meet the requirements of this rule, in its effective form, including whatever changes result from public comments."

Comment:

It appears that the staff is withdrawing their approval for alternatives previously approved. If the SER is not valid, the staff should state their basis for withdrawing their approval of an alternative proposal. The alternate proposals were based upon sound fire protection engineering judgement following reviews made by qualified personnel with the licensee, the architect-engineer involved and with the staff. This is consistent with the objectives of a fire protection program as outlined by the staff.

The staff should continue to accept those alternatives which have been previously proposed and accepted by the staff where qualified fire protection engineering has been applied.

2. Reference, Page 36083, Center Column:

"All modifications (except for alternate or dedicated shutdown capability) would be required to be implemented by November 1, 1980, unless for good cause shown the Commission approves an extension. - - - -No plant would be allowed to continue operating after November 1, 1980 or beyond an extended date approved by the Commission, unless all modifications (except for alternate or dedicated shutdown capability) have been implemented.

Comment:

Will "good cause show" include the modification of an alternate proposal, previously approved, in order to comply with

2. Comment: (Cont'd.)

this rule. The utility has incurred great expense in implementing fire protection features and now the staff is proposing to change the ground rules; however, the utility is still expected to meet the implementation date. This type of regulation is extremely expensive and inefficient.

3. Reference, Page 36083, Center Column:

"For alternate or dedicated shutdown capability, the proposed rule specifies implementation deadlines which depend on which kind of capability is to be implemented and whether the plant is under review in the Systematic Evaluation Program (SEP).

Comment:

Please define the terms "Alternate Shutdown Capability" and "Dedicated Shutdown Capability."

The basis for deferring the alternate shutdown capability until completion of the SEP was to allow further modification of this system should other SEP concerns require it. The staff proposes to dictate implementation of this capability on completion of the SEP review of fire protection. This negates the positive aspects of allowing for modification of this capability in response to SEP concerns other than fire protection.

4. Reference Page 36083, Right Column:

"Separate Comments of Commissioners Hendrie and Kennedy"

Comment:

The Commissioners are correct that the implementation schedule proposed by the rule may make it impossible for licensees to complete these measures together with the large workload imposed by the Three Mile Island requirements.

We firmly agree with the Commissioners' comments that in light of the improvements made to date, the short implementation schedule imposed by the rule should not be enforced nor should it require a plant shutdown order because of inability to complete the requirements since the fire protection posture is not that seriously affected.

5. Reference Page 36084, Middle Column:

"III. Specific Requirements - A. Fire Water Distribution System

A separate fire water distribution system would be required at each plant to ensure the necessary water supply with adequate pressure and volume for any combination of automatic and manual fire suppression demands."

Comment:

This section should also make allowance for those licensees with separate fire service water distribution systems which serve more than one plant at one site.

6. Reference Page 36085, Left Column:

"II. Fire Brigade -- This item specifies the minimum shift fire brigade size necessary to give reasonable assurance of effective manual firefighting capability. It requires that at least five persons be assigned to the fire brigade on each shift. . ."

Comment:

The NRC interim guidance states that "minimum fire brigade shift size should be justified by an analysis of the plant specific factors..." This philosophy is reasonable and should be maintained in the proposed rule, rather than using a specific number such as five.

7. Reference Page 36085, Left Column:

"It further requires that the brigade leader and at least two brigade members be operations personnel, and that the brigade leader be competent to assess potential safety consequences of a fire and advise control room personnel."

Reference Page 36087, Item H - Right Column states:

"The brigade leader and at least two brigade members shall be operations personnel or have equivalent knowledge of plant safety systems."

It further states:

"The brigade leader shall be competent to assess the potential safety consequences of a fire and advise control room personnel. Such competence by the brigade leader may be evidenced by possession of an operator's license or equivalent knowledge of plant safety systems."

7. Comment:

This requirement is too restrictive for licensees who are attempting to reorganize their fire brigades utilizing personnel with speciality backgrounds in firefighting and fire protection. We agree with the requirement for the brigade leader to be capable of assessing safety related consequences of fire and beyond the requirements we feel that all members of the fire brigade should receive plant systems training to familiarize them with system operations that may be necessary during a fire. The brigade's responsibility is still solely to fight fire with system operation the responsibility of Operations Department personnel. The demonstration of possession of knowledge equivalent to that required to hold an operator's license for the fire brigade leader and for personnel other than operations personnel to demonstrate possession of equivalent knowledge of plant safety system is not supportive of the requirement to "have no other duties than to solely fight the fire." Nuclear safety will not be jeopardized with a concentration of training in firefighting and fire protection in this case, since licensed personnel will still be responsible for plant operation and plant safety during a fire emergency. A modification of these requirements is highly desirable and would allow licensees to implement programs using a more professionally trained fire brigade members without affecting Operation's manpower or imposing severe training requirement limitations.

8. Reference Page 36086 - Left Column:

"Item I. Introduction and Scope. The proposed rule states "This appendix does not recind any requirements set forth in any Safety Evaluation Report for any nuclear power facility."

Comment:

This position by the staff is contrary to comment number one concerning Safety Evaluation Report (SER) compliance either verbatim or by accepted alternatives. This statement would be acceptable if revised to allow accepted alternatives to SER items and to allow deletion of SER items which require redefinition based on the rulemaking.

9. Reference Page 36086, Left Column:

"II. General Requirements -- A. Fire Protection Program - A fire protection program shall be established at each plant. The program shall establish the fire protection policy for the protection of structures, systems, and components important to safety at each plant and the procedures, equipment, and personnel required to implement the program at the plant site."

9. Comment:

This position should be modified to make clear that station programs, plans, and policy are acceptable if adequately developed and implemented for multiple plant sites.

10. Reference Page 36086, Middle Column:

Item II.A.2.C states:

"c. Manually actuated fixed suppression systems shall be installed where fire hazards of grouped electrical cables are large or access for the fire brigade is restricted."

Comment:

This statement should be modified to clearly address safety related redundant cables or large quantities of non-safety related electrical cables which offer an exposure hazard in safety related plant areas. Independent laboratory testing has shown that IEEE-383 cable will not ignite with exposure fires of the size expected as a result of the transient fire loads in nuclear utility plant safety related areas. Such testing used on a case-by-case basis shall be the basis for requiring manual suppression systems.

11. Reference Page 36086, Middle Column:

Item II.A.2.C states:

"e. Automatic suppression systems shall be provided to control large fire hazards or to protect redundant systems or components important to safe shutdown."

Comment:

This section should be revised to refer to Table 1 of Section III.G to allow consideration of alternate shutdown capabilities as an alternative to automatic suppression. Consideration should be allowed for installation of or credit for passive fire barriers used to reduce the exposure hazard by referring to Item II.A.2.F as an alternative.

12. Reference Page 36086, Middle Column:

Item II.A.2.g states:

"g. Fire barriers surrounding each fire area shall have a 3-hour fire rating unless the fire hazard analysis demonstrates that a lesser rating exceeds the duration of the in-situ fire load by at least one-half hour."

12. Comment:

The fire hazard analysis performed by licensees contain sufficient detail to project the total fire loading for an area based on the in-situ fire load and the loading contributed by transient combustibles controlled by an administrative program.

This section should be revised to consider the research and controls established over transients to require that ratings be equivalent or greater than the rating required to sustain a fire based on the fire loading (in-situ and administrative transient limit) rather than an arbitrary one-half hour greater than the in-situ load alone.

13. Reference Page 36086, Middle Column:

Item II.A.2.h states:

"h. Fire detection and suppression systems shall be designed, installed, maintained and tested by personnel properly qualified by experience and training in fire protection systems."

Comment:

This section should be modified to state that it is acceptable to use maintenance and operations personnel utilizing procedures prepared by those with experience and training in fire protection systems and under their supervision and control.

14. Reference Page 36086, Middle Column:

Item II.A.2.i states:

"i. Surveillance procedures shall be established to ensure that fire barriers and automatic and manual fire suppression systems and components are operable."

Comment:

This section should be revised to include fire detection systems and to specifically reference applicability to those fire protection systems and components protecting safety related areas and components only.

15. Reference Page 36086, Right Column:

Section II.A.3 states:

"3. Alternate Shutdown Capability--Alternate shutdown capability shall be provided when safe shutdown cannot be ensured by barriers and detection and suppression systems, because of the exposure of redundant safe shutdown equipment, cabling, or components in a single fire area to an exposure fire, fire suppression activities, or rupture or inadvertent operation of fire suppression systems."

15. Comment:

This section should be modified to allow licensees to address fire zones of influence from expected in-situ and transient combustible fires rather than by fire area as stated. The use of analysis by fire area is too broad in this respect, since a fire area may include an entire plant elevation in one or more buildings, and in such a configuration, a fire or inadvertent operation of fire suppression systems would not incapacitate all or even most redundant safe shutdown equipment in the "fire area."

16. Reference Page 36087, Middle Column:

Item G states in part: "G. Protection of Safe Shutdown Capability - 1-i That all organic cable insulation and jacket material is combustible. . .

. . .2. The following minimum fire protective features shall be provided:

- a. An early warning fire detection system.
- b. Fixed fire suppression systems and alternative shutdown capability as shown in Table 1."

Comment:

The staff has not given any credit to the fire resistant qualities of cable insulation and jacket material used in nuclear power plants. These fire resistant qualities are demonstrated by testing conducted in accordance with IEEE-383. The testing, consideration for usage, extent of usage, and resultant quality obtained warrants more than is represented by Section G.i.

In Section G.2.a, we do not understand the origin of the requirement for an "early warning detection system other than in the literature of some detection system components manufacturer. We recommend that the statement be revised to refer to a "fire detection system" which would meet the requirements of NFPA.

17. Reference Page 36088, Right Column:

Item K.5 states:

"5. Govern the use of ignition sources by means of a flame permit system that controls welding, flame cutting, brazing, or soldering operations. A separate permit shall be issued for each area where work is to be done, and if work continues over more than one shift, the permit shall be valid for not more than 24 hours."

17. Comment:

Soldering with open flame devices should be controlled with a flame permit system, but we do not feel that this requirement should be extended to soldering guns or soldering devices which do not employ a flame.

18. Reference Page 36089, Right Column:

Item H. Fire Barriers states in part:

"Penetrations for ventilation systems shall be protected by a standard "fire door damper."

Comment:

This statement should be revised to require the use of fire dampers rather than the seldom used terminology "fire door damper."

19. Reference Page 36089, Right Column:

Item N. Fire Barrier Penetration Seal Qualification

This section states in part that:

". . .5. The fire barrier shall be tested with a pressure differential across it (higher pressure on the exposed side) that is equivalent to the maximum pressure differential a fire barrier in the plant is expected to experience unless such pressure differentials are shown to have no effect on the performance of the penetration seal.

6. The temperature levels of the cable insulation, cable conductor, cable tray, conduit, and fire stop material shall be recorded for the unexposed side of the fire barrier.."

Comment:

Since current testing to qualify fire barrier penetration seals have largely been performed without pressure differentials being applied during the testing, licensees should be allowed to support this requirement by evidence drawn from analysis and comparison with conclusions of testing performed where a differential pressure was applied.

Not all of the temperature measurements required by Item 6 have been made during fire barrier penetration seal qualification testing. These temperature readings have been taken where required by ASTM E-119. Allowing Licensees the prerogative of analysis and comparison to satisfy these missing readings should be considered.