

February 19, 1981



SECY-81-114

## RULEMAKING ISSUE

For: The Commissioner (Affirmation)  
From: Executive Director for Operations  
Subject: FIRE PROTECTION RULE FOR FUTURE PLANTS

Discussion: SECY-80-546 was developed in response to the Commission's request for staff discussion on the "development of requirements and the level of detail to be included in the Rule for Future Plants" (see memorandum from Chilk to Dircks, dated November 3, 1980). The staff recommended in SECY-80-546 that the Commission adopt Alternative 3 which would 1) result in a fire protection rule containing well defined requirements in those areas which are generic and applicable to most plants, while leaving plant dependent features to staff evaluation under more general requirements, and 2) direct the staff to issue such a fire protection rule for public comment by July 1, 1982.

Enclosure 2 to SECY-80-546 contained a sample rule typifying the option recommended. The sample rule stated that it would be applicable to nuclear power electric generating stations whose construction permit applications were docketed after January 1, 1982. Left silent in the sample rule and in the staff written and oral discussion with the Commission was the treatment of plants between Appendix R to 10 CFR Part 50 and the new rule, since in previous discussions with the Commission the staff had indicated it would apply the BTP and Appendix R to such plants, starting with the NTOL's.

A differing professional opinion relating to the development, timing, and application of the new fire protection rule was received by memoranda dated January 5 and January 26, 1981. This matter, handled in accordance with the Commission procedure for differing professional opinions, has been resolved in a manner which requires amendment of SECY-80-546. Correspondence related to this resolution is included as Enclosure 1. The elements of the resolution, which include a partial reiteration of the staff position in SECY-80-546, are as follows:

1. The staff will require licensees to identify and describe differences between the BTP and Appendix R and the design and procedural methods proposed for the plant for those OL's scheduled to be issued after September 30, 1981.

Contact: R. Vollmer  
X27207

SECY NOTE: This paper supplements SECY-80-546. Inasmuch as it contains an amendment to the original recommendation, Commissioners who have previously voted are requested to submit new response sheets.

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PDR

2. The staff will take the necessary time to develop a new rule which would implement both generic and plant-specific fire protection requirements as discussed SECY-80-546, with a target date of July 1982.
3. The new rule will be applied to both future CP's and OL's on a reasonable schedule, and consideration be given to backfitting some or all of the new rule on all plants when its provisions are developed.

As a result, the following should be added to the staff recommendation on page 5 of SECY-80-546:

"In the interim, licensees will be required to identify and describe differences between the BTP and Appendix R and the design and procedural methods proposed for the plant for those OL's scheduled to be issued after September 30, 1981. The new rule will be applied to CP's and OL's on a reasonable schedule, and consideration will be given to backfitting some or all its provisions on all plants."

In addition, the first page of Enclosure 2 of SECY-80-546 should be replaced by Enclosure 2.

DISTRIBUTION

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William J. Dircks  
Executive Director  
for Operations

Enclosures:

1. Memo to H. Denton from R. Vollmer, dated February 12, 1981
2. Sample Rule on Fire Protection for Future Plants

Commissioners' comments or consent should be provided directly to the Office of the Secretary by c.o.b. Friday, March 6, 1981.

Commission Staff Office comments, if any, should be submitted to the Commissioners NLT February 27, 1981, with an information copy to the Office of the Secretary. If the paper is of such a nature that it requires additional time for analytical review and comment, the Commissioners and the Secretariat should be apprised of when comments may be expected.

This paper is tentatively scheduled for affirmation at an Open Meeting during the Week of March 16, 1981. Please refer to the appropriate Weekly Commission Schedule, when published, for a specific date and time.

Enclosure 1

Encl 1



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D. C. 20555

FEB 12 1981

MEMORANDUM FOR: Harold R. Denton, Director  
Office of Nuclear Reactor Regulation

FROM: Richard H. Vollmer, Director  
Division of Engineering

SUBJECT: RECOMMENDED RESOLUTION OF DIFFERING PROFESSIONAL OPINION ON  
FIRE PROTECTION RULE

- Reference:
- 1) Memorandum to V. Benaroya, Chief, Chemical Engineering Branch, DE from Robert L. Ferguson, Section Leader, Chemical Engineering Branch dtd January 5, 1981
  - 2) Memorandum to V. Benaroya, Chief, Chemical Engineering Branch, DE from R. Ferguson, Chemical Engineering Branch, DE dated January 26, 1981
  - 3) Memorandum to R. Ferguson, Chemical Engineering Branch, DE from V. Benaroya, Chief, Chemical Engineering Branch, DE dated January 26, 1981
  - 4) Memorandum to R. H. Vollmer, Director, Division of Engineering from Vincent S. Noonan, Assistant Director, Materials & Qualifications Engineering, DE dated February 2, 1981
  - 5) Memorandum to R. Ferguson, Chemical Engineering Branch, DE from Richard H. Vollmer, Director, Division of Engineering dated February 4, 1981
  - 6) Memorandum to Richard Vollmer, Director, Division of Engineering from R. Ferguson, Chemical Engineering Branch, DE dated February 6, 1981

Robert L. Ferguson, Section Leader of the Fire Protection Section, Division of Engineering tendered a differing professional opinion by his memoranda of January 5 and 26, 1981 (references 1 and 2). These memoranda were answered by memoranda from the Branch Chief, Assistant Director, and Director in Mr. Ferguson's immediate chain of command dated January 26, February 2, and February 4, 1981 respectively (references 3, 4, and 5). Finally, by a memorandum dated February 6, 1981, Mr. Ferguson restated his proposed course of action.

I have completed my evaluation of this differing professional opinion and the purpose of this memo is to give you my recommendation for resolution. The differing opinion is not of a technical nature. It concerns policy, specifically, the development,

FEB 12 1981

Harold R. Denton

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timing, and application of a new fire protection rule which would contain the elements of the Branch Technical Position (BTP) and Appendix R to 10 CFR Part 50 (Appendix R).

During its consideration of Appendix R, the Commission decided not to apply Appendix R to future plants pending development of a new fire protection rule and requested the staff's timely proposal of a fire protection rule for future plants. The staff responded with SECY 80-546. The staff recommended alternative in this Commission paper concerning the technical content was prepared and strongly endorsed by Mr. Ferguson throughout its development. Mr. Ferguson did not participate in preparing the recommended schedule for development and implementation of the proposed rule however.

In the course of the Commission's consideration of Appendix R, the staff informed the Commission that current and future OL's would meet the backfit items contained in Appendix R. This, along with the previous practice of conducting the staff review in accordance with the BTP criteria, assures that the OL review is already in accordance with the recently published rule. The staff has been implementing this commitment on current OL's.

Mr. Ferguson would, based on his latest memo:

1. Require all plants licensed to operate after January 1, 1979, to meet Appendix R on the same basis as those licensed before that date.
2. Require all plants licensed to operate to meet a new rule which would be issued for public comment on or about July 1981. This would be applied to new CP applications and OL applications on a reasonable schedule. The new rule would consist of the present BTP and Appendix R criteria.
3. Add other requirements to the new rule annually or as they are developed, whichever is longer.

In attempting to resolve this differing opinion, I have considered the objectives of the fire protection review, the criteria currently being applied, and available staff resources. I also had a discussion with Mr. Ferguson on this matter. As a result, I proposed in reference 5 that:

1. The staff require licensees to identify and describe differences from the BTP and Appendix R for those OL's scheduled to be issued beyond September 30, 1981.
2. The staff take the necessary time to develop a new rule which would implement both generic and plant-specific fire protection requirements as discussed in SECY 80-546 with a target date of July 1982.



FEB 12 1981

Harold R. Denton

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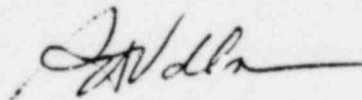
3. The new rule be applied to future CP's and OL's on a reasonable schedule and consideration be given to backfitting on all plants.

I believe that this would assure that no oversight of important deviations from staff fire protection criteria would occur for future OL's and that appropriate backfitting consideration would be given to any new important features of a new fire protection rule. It would also allow that deliberate consideration be given to the development of a new rule. Based on the current level of, and criteria for, the staff's fire protection review on OL's, I do not believe that it would be productive or an enhancement of plant safety to alter the methods of conducting our review except as identified in item 1 immediately above.

Therefore, I recommend that the steps 1-3 above be adopted as a suitable resolution of the differing professional opinion. If you concur with this resolution, we need to so inform Mr. Ferguson. In addition, I will prepare an addendum to SECY 80-546 to inform the Commission of our intent to apply the forthcoming rule to OL applications on a reasonable schedule in addition to all CP applications and that consideration will be given to backfitting selected issues on all plants.

I will also forward Mr. Ferguson's dissent and resolution thereof to the Commission for their information.

If you wish additional information or discussion on this matter, I would be happy to set up a meeting between you and any or all of the participants.



Richard H. Vollmer, Director  
Division of Engineering

Enclosures:

1. Memo to V. Benaroya  
fr R. Ferguson dtd 1/5/81
2. Memo to V. Benaroya  
from R. Ferguson dtd 1/26/81
3. Memo to R. Ferguson  
fr V. Benaroya dtd 1/26/81
4. Memo to R. Vollmer  
fr V. Noonan dtd 2/2/81
5. Memo to R. Ferguson  
fr R. Vollmer dtd 2/4/81
6. Memo to R. Vollmer  
fr R. Ferguson dtd 2/6/81

cc: E. Case  
V. Noonan  
V. Benaroya  
R. Ferguson

UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D. C. 20545

JAN 05 1981

MEMORANDUM FOR: Victor Benaroya, Chief  
Chemical Engineering Branch  
Division of Engineering

FROM: Robert L. Ferguson, Section Leader  
Fire Protection Section  
Chemical Engineering Branch  
Division of Engineering

SUBJECT: DIFFERING PROFESSIONAL OPINION - FIRE PROTECTION RULE

1. Present Management Position

Fire protection requirements for plants licensed to operate after January 1, 1979 should not be specified by regulation other than Criterion 3 of Appendix A to 10 CFR Part 50. Guidelines for the implementation of Criterion 3 are provided in other staff documents.

2. Originator's Opinion

Fire protection requirements for plants licensed to operate after January 1, 1979 should be specified by regulation.

This position differs from the present management position in that it places most of the burden of providing an adequate fire protection program on the licensee rather than on the staff reviewer.

At present, the licensee describes his fire protection program to meet NRC guidelines, and the staff reviewer reviews this description and visits the plant to determine whether NRC guidelines will be met and whether the features provided to meet the guidelines provide an adequate fire protection program. Our site visit is after the plant is 80-90% complete so that the actual configurations of protection can be examined. Usually our multi-discipline review teams find that the licensees have not established adequate programs in spite of all the guidance given in Branch Technical Positions, Regulatory Guides and Staff Positions forwarded by letter. In those instances if the staff reviewer is not thorough and persuasive, the fire protection for systems important to safety may not meet NRC requirements.

The fire protection features that protect public health and safety, and the safety margin in such protection, are determined by NRC policy decisions. These decisions determine the systems important to safety that must survive a fire and the fire protection features are necessary to assure that such

systems survive. These features include post-fire capability for reactor coolant injection, reactivity and inventory control, decay heat removal, and process monitoring as well as the fire barriers or physical separation which assures this post-fire capability. These features will not be determined by the designers using general criteria. Regulations are required to assure that appropriate design features are installed to assure post-fire shutdown capability in a timely manner.

The requirements which implement NRC policy on fire protection must be stated in the Regulations so that the designers and operators are aware of the requirements early in the design and throughout the life of the plant. If new information dictates a change in requirements, such a change could be implemented at all operating plants in a timely, efficient manner by an amendment to the Regulations. All concerned parties: Licensees, Applicants, Designers, Reviewers, Inspectors and the public would have a clear understanding of our requirements. It is important to have an efficient method for determining if modifications are necessary in operating plants and, if so, to implement them within a reasonable time.

The statement of the requirement in the Regulations must be specific enough to preclude inadequate fire protection without restricting the range of acceptable alternatives.

For example, the level of specification such as "It shall be possible to safely shutdown the reactor" does not assure that adequate reactor coolant makeup capability survives fire. One licensee may provide only 20 gpm to accommodate normal leakage, another may provide 150 gpm to accommodate leakage of a power operated relief valve that fails to reclose completely, and another may provide a complete train of high and low pressure injection to accommodate open relief valves. Obviously, the margin of protection to the public afforded by these alternatives are very different. One or more of these alternatives may not be acceptable to the Commission; and must be precluded by specific language of the requirement.

This opinion does not take issue with NRC technical requirements. It only recommends that such requirements cover all plants licensed to operate after January 1, 1979, be specified by Regulations, and be made effective as soon as possible after the SRP Section 9.5-1 is revised.

### 3. Originators Assessment of Non-Adoption

Fire protection programs in operating plants will vary significantly because of the strong dependence on the staff review and the audit nature of such review.

Plant modifications will continue to be required late in the licensing process. Such modifications will provide acceptable configurations but will



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not have the same margin of safety of designs which have 3 hour fire barrier separation between all safety systems in all areas of the plant.

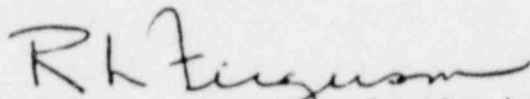
Considerable industry and staff resources will be wasted on repetitive discussions of generic issues that should be resolved by NRC policy decisions. Considerable industry and staff resources will be consumed in developing criteria which do not define NRC fire protection policy sufficiently to improve the licensing process.

The NRC policy for fire protection programs will not be defined by an appropriate level of specification to assure adequate fire protection programs in operating plants.

The ultimate consequence of an inadequate fire protection in an operating plant could be sufficient fire induced damage to systems important to safety such that significant core damage occurs and fission products are released from the containment.

#### 4. Status of Related Efforts

At present the Commission is considering: (1) the need for a fire protection rule, (2) the plants to be covered by the rule, (3) the level of specification in the rule, and (4) the schedule for completing such a rule.



Robert L. Ferguson, Section Leader  
Fire Protection Section  
Chemical Engineering Branch  
Division of Engineering

JAN 26 1981

MEMORANDUM FOR: V. Benaroya, Chief  
Chemical Engineering Branch  
Division of Engineering

FROM: R. Ferguson, Section Leader  
Fire Protection Section  
Chemical Engineering Branch  
Division of Engineering

SUBJECT: DIFFERING PROFESSIONAL OPINION - FIRE PROTECTION  
RULE SUPPLEMENT 1

This memorandum is in response to the request of V. Noonan on January 19, 1981 that I indicate how the EDO's recommendations stated in SECY-80-546 dated December 23, 1980 affect the subject differing professional opinion. Two recommendations are contained in SECY-80-546. My comments on them are as follows:

EDO Recommendation #1:

A fire protection rule, with well defined requirements for generic items applicable to most plants, and general requirements for plant dependent features, should be issued for public comment by July 1, 1982.

Originator's Opinion

I agree with the EDO recommendations regarding technical content and level of specification (as reflected by Enclosure 2 to SECY-80-546); however I do not agree with the schedule for implementation. Because SD has assisted me in drafting a revision to SRP 9.5-1 in the format of a proposed appendix to 10 CFR Part 50, I believe SD could have a proposed rule issued for public comment within 2 - 4 months if the Commission directed the issuance of the proposed rule on such a schedule.

At the present time, we are evaluating several OL applications per year. The prompt issuance of a proposed rule which states current comprehensive requirements will be helpful to both the applicants and the staff in completing these evaluations expeditiously and with a minimum of backfit problems.

EDO Recommendation #2:

The fire protection rule for future plants should apply to nuclear power electric generating stations whose construction permits were docketed after January 1, 1982. (See Enclosure 2 SECY-80-546).

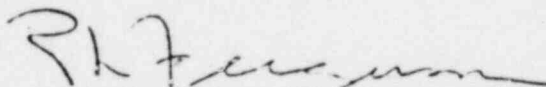
Originator's Opinion

The fire protection rule should apply to plants licensed to operate after January 1, 1979. These plants are of present concern to the staff, industry and public. The present Appendix R to 10 CFR Part 50 applies to plants licensed to operate prior to January 1, 1979. The EDO's recommendation would have an Appendix to 10 CFR Part 50 for plants licensed to operate after January 1992 (assuming a 10 year construction schedule). Therefore, the many plants to be licensed to operate between 1979 and 1992 would not be covered by the regulations. This gap would probably give rise to a host of backfit problems. Such problems can be avoided by having all plants covered by the regulation from January 1, 1979.

SECY-80-546 states that:

The main purpose of issuing a fire protection rule for new plants at this time is to amplify in the regulations those fire protection features necessary for plant safety and to codify the NRC policy for the level of fire protection. Further, such a rule would standardize the requirements, aid applicants early in the design stage, improve the efficiency of regulatory review and maintain consistency. These factors would likely enhance that level of safety provided by fire protection features.

This purpose is best accomplished by promptly issuing a fire protection rule that applies to plants licensed to operate after January 1, 1979.



R. L. Ferguson, Section Leader  
Fire Protection Section  
Chemical Engineering Branch  
Division of Engineering

**POOR ORIGINAL**

ENCLOSURE  
UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D. C. 20545

JAN 26 1981

MEMORANDUM FOR: Robert Ferguson, Section Leader  
Fire Protection Section  
Chemical Engineering Branch  
Division of Engineering

FROM: Victor Benaroya, Chief  
Chemical Engineering Branch  
Division of Engineering

SUBJECT: DIFFERING PROFESSIONAL OPINION - FIRE PROTECTION RULE

By memorandum from you to me of January 5, 1981, you commented on a) you disagreed with the management position on the amount of detail a rule for fire protection requirements for plants licensed to operate after January 1, 1979 should contain; and b) the specified regulations be made effective as soon as possible after the SRP Section 9.5-1 is revised.

The present management recommendation on the new rule is enunciated in SECY-80-546, "Fire Protection Rule for Future Plants" dated December 23, 1980. In my opinion, the position you recommend on the amount of detail and the one in SECY-80-546 are consistent, therefore, it should not be considered a differing professional opinion.

As to the date the fire protection rule should be made applicable, I cannot agree that the revised SRP Section 9.5-1 will not require considerable work before it can be issued as a new rule. Let me quote from SECY-80-546:

Recommendation: It is recommended that the Commission adopt Alternative 3 and direct the staff to issue a fire protection rule for public comment by July 1, 1982. This date is consistent with the available staff resources, considering that the limited staff fire protection expertise can be better used in expeditiously upgrading existing facilities. It should be noted that new applications are not expected to be numerous in the near future.

As you well know, the Commissioners have not acted on the rule on fire protection for new plants. The Commissioners have been informed that there are differing staff opinions. You will be informed on the decisions taken by the Commissioners.

For the record, I received your memo on January 19, 1981.

*PR Matthews*  
for Victor Benaroya, Chief  
Chemical Engineering Branch  
Division of Engineering

cc: Next page

Robert Ferguson

-2-

JAN 2 1961

cc: H. Denton  
R. Vollmer  
V. Noonan





UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D. C. 20555

FEB 2 1981

MEMORANDUM FOR: Richard H. Vollmer, Director  
Division of Engineering

FROM: Vincent S. Noonan, Assistant Director  
Materials & Qualifications Engineering

SUBJECT: DIFFERING PROFESSIONAL OPINION ON FIRE PROTECTION RULE

By this memorandum I am forwarding to you three enclosures on the above subject. Enclosures 1 and 2, dated January 5 and January 26, are Robert Ferguson's differing professional opinion on fire protection rule and Enclosure 3, dated January 26, is Victor Benaroya's response to Mr. Ferguson as required by the NRC policy on differing professional opinions. Mr. Benaroya is Mr. Ferguson's immediate supervisor.

I personally met with Mr. Ferguson and Mr. Benaroya on this subject to help me better understand the exact nature of Mr. Ferguson's concerns and to offer a proposal addressing his concerns which I felt would satisfy his objections.

At the present time all safety evaluations on fire protection are requiring the licensee to be in full compliance with the General Criterion 3 of Appendix A to 10 CFR Part 50, the Branch Technical Position (BTP) and Appendix R. In addition, I would also propose that we request from the licensee, in writing, any deviations from the BTP and Appendix R for their particular plant. This list of deviations could also be made as a condition that, prior to full power operation, the licensee would state that no deviations exist or submit to the staff the list of deviations for the staff's review and concurrence.

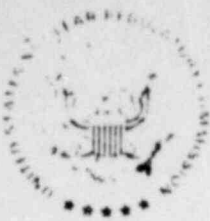
In summary, I do not believe Mr. Ferguson or myself are really in disagreement but we probably do not fully agree on the method of implementation of the new fire protection rule which is scheduled for completion July 1, 1982. Until the rule is drafted and published I believe my proposal on handling the plants that we license prior to issuance of the rule would give the staff reasonable assurance regarding the licensee's compliance to the fire protection issue.

A handwritten signature in dark ink, appearing to read "Vincent S. Noonan".

Vincent S. Noonan, Assistant Director  
Materials & Qualifications Engineering  
Division of Engineering

Enclosures:  
As stated

cc: H. Denton  
E. Case  
V. Benaroya  
R. Ferguson



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D. C. 20555

Enclosure 1

February 4, 1981

MEMORANDUM FOR: Robert Ferguson, Section Leader  
Fire Protection Section  
Chemical Engineering Branch, MQE, DE

FROM: Richard H. Vollmer, Director  
Division of Engineering

SUBJECT: DIFFERING PROFESSIONAL OPINION ON FIRE PROTECTION RULE

As a result of our recent meeting and a review of your January 5th and January 26th memoranda on the same subject, and Mr. Benaroya's response also dated January 26, I would like to propose a resolution of your differing professional opinion. This resolution is based on my belief that we are all trying to accomplish the same objectives but our approaches, although somewhat different, are sufficiently close to allow compromise. Where differences currently exist they appear to be on the level or amount of required staff review, the time required to get a new fire protection rule out for public comment, and the effective date for application of that rule to OLs and CPs.

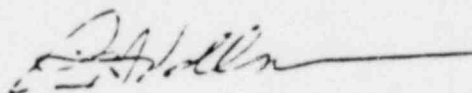
Speaking first to the level of staff review required, our regulatory practice is one of audit rather than detailed analysis of all aspects of the licensee design. As such, you point out that a burden is put on the staff of knowing whether or not the licensee intends to meet all aspects of the Branch Technical Position and Appendix R and to what extent. You also state that if these "requirements" were part of a regulation that their impact on the licensee and his response to them would be different than if these "requirements" are only regulatory guidance. While it could be argued that both of these methods of approach should result in the same end product, I suggest that we could accomplish the same objectives if the licensees were requested to identify in writing deviations from the BTP and Appendix R for those plants currently being licensed. The staff could then review these deviations and make judgments on their acceptability. You will recall that the Commission plans to implement a similar procedure some time in the future such that all licensees will be required to address deviations from current Standard Review Plans. However, as an interim position for fire protection, I would recommend that this identification be required for all OLs scheduled to be issued beyond September 30, 1981. I do not believe that it is necessary or an effective use of NRR resources to re-review fire protection for plants currently being licensed as long as the staff can conclude that the BTP and Appendix R are met.

Concerning the amount of time needed for getting the fire protection rule out for comment, you have stated that SD could have a proposed rule issued within 2-4 months if the Commission so directed. In our discussions, wherein I stated

my belief that the new rule should not just be an assemblage of current practices but one where the staff thinks in more detail about both the generic and plant-specific items to be considered in the rule, we agreed that a much longer time would be required to develop such a rule. In fact, I think we agreed that July of '82 was not unreasonable. I feel this is indeed appropriate and in consideration of the total context of this memorandum would request you concur in this view.

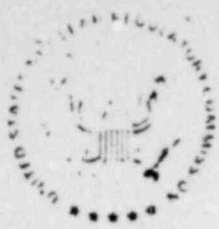
Lastly, you believe that the implementation of the new rule should include those plants licensed for operation after January 1st, 1979. This is based on your belief that there may have been the protection requirements included in the new rule which could significantly affect plants which fit between the implementation dates of Appendix R and the new rule. I concur with this possibility and point out that perhaps plants licensed prior to January 1st, 1979, might also be in this position. Therefore, I propose that when the new rule is issued for comment that specific consideration be given to backfitting for all plants. Further, I propose that this new rule not only be applicable to future construction permits but also be applied to licensing actions on OLs on a reasonable schedule yet to be determined.

In summary, I propose that we require licensees to identify deviations from the BTP and Appendix R for staff review for those OLs scheduled to be issued beyond September 30, 1981. In addition, I propose we take the necessary time to develop a new rule which will implement the generic and plant-specific fire protection requirements as discussed in SECY-80-546 with a target date of July 1982. Finally, I propose that when the new rule is developed it be applied not only to future plants and future OLs on a reasonable schedule and consideration be given to backfitting on all plants. I would appreciate your concurrence or further discussion of these proposals by February 5th.



Richard H. Vollmer, Director  
Division of Engineering

cc: H. Denton  
E. Case  
V. Noonan



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D. C. 20545

Enclosure 5

FEB 06 1981

MEMORANDUM FOR: Richard H. Vollmer, Director  
Division of Engineering

FROM: Robert Ferguson, Section Leader  
Fire Protection Section  
Chemical Engineering Branch  
Division Engineering

SUBJECT: DIFFERING PROFESSIONAL OPINION - FIRE PROTECTION RULE  
SUPPLEMENT 2

Your memorandum to me, dated February 4, 1981, on this subject requested my concurrence or comments on the following proposals:

1. All plants now scheduled to be licensed to operate after September 30, 1981 would be required to identify deviations from NRC fire protection acceptance criteria. Such deviations would be specifically evaluated in the staff SER prior to licensing.
2. All plants licensed to operate between January 1, 1979 and September 30, 1981 would not be required to identify such deviations as long as the staff can conclude that the acceptance criteria have been met.
3. All plants licensed to operate would be required to meet a new rule which we plan to issue for comment on or about July 1982. This rule would contain the assemblage of present acceptance criteria in the form of requirements. The requirements would be applied to new CP applications and to OL applications on a reasonable schedule. Consideration would be given to backfitting on all operating plants.

To identify the issues, I propose a course of action to achieve the same goal, i.e., a rule which states NRC fire protection requirements for all operating plants, as follows:

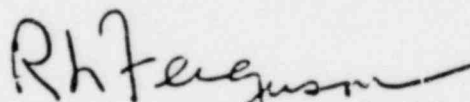
- A. All plants licensed to operate after January 1, 1979 would be required to meet the requirements of Appendix R to 10 CFR Part 50 on the same basis as those licensed before that date.
- B. All plants licensed to operate would be required to meet a new rule (Appendix R') which we plan to issue for comment on or about July 1981. This rule would contain the assemblage of present acceptance criteria in the form of requirements. The requirements would be applied to new CP applications and to OL applications on a reasonable schedule. Further backfitting would not be necessary because it has already been accomplished under A above.



- C. If the NRC determines that other requirements are necessary, they would be added to Appendix R<sup>1</sup> to 10 CFR 50 annually or as they are developed, whichever is longer.

From the above, it appears that there is concurrence on the end goal. The issue concerns the method used to achieve the goal. I recommend my method because:

- . All licensees and applicants are given early notice of our requirements with a minimum of staff effort.
- . This early notice allows applicants to meet the requirements with a minimum of effort because they know the requirements early in the design. By providing better separation at this time, they can reduce the need for some automatic suppression systems and extra barriers and also assure the survival of more shutdown systems for any fire.
- . Fewer modifications will be required late in construction when they are more costly and usually do not provide as much margin as original design features.
- . The burden of providing adequate fire protection is placed on the licensees and can be readily checked and assured by the NRC inspectors with a minimum of effort.
- . It is easier for the staff to accomplish since we still have the personnel that are familiar with our fire protection requirements and the rulemaking procedures. If we wait until July 1982, we may have new personnel. Using new personnel with little or no experience in dealing with the problems encountered over the past several years, I doubt that the proposed schedule of July 1982 could be met.



Robert L. Ferguson, Section Leader  
Fire Protection Section  
Chemical Engineering Branch  
Division of Engineering

cc: H. Denton  
E. Case  
V. Noonan ✓  
V. Benaroya



Enclosure 2

ENCLOSURE 2

SAMPLE RULE ON FIRE PROTECTION FOR FUTURE PLANTS ( )

I. INTRODUCTION AND SCOPE

all CP and OL applications for  
This Appendix applies to nuclear power electric generating stations on a schedule yet to be determined.

With respect to certain generic issues for such facilities, it sets forth fire protection features required to satisfy Criterion 3 of Appendix A to this part.

Criterion 3 of Appendix A to this part specifies that "Structures, systems, and components important to safety shall be designed and located to minimize, consistent with other safety requirements, the probability and effect of fires and explosions."

When considering the effects of fire, those systems associated with achieving and maintaining safe shutdown conditions assume major importance to safety because damage to them can lead to core damage resulting from loss of coolant through boiloff.

The phrases "important to safety," or "safety-related," will be used throughout this Appendix R as applying to all safety functions. The phrase "safe shutdown" will be used throughout this Appendix R as applying to both hot and cold shutdown functions.