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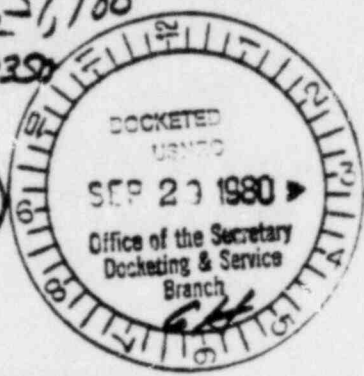
DOCKET NUMBER
PROPOSED RULE PR 50, 51, 100
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September 25, 1980

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

Attention: Docketing and Service Branch

Subject : Comments on the Proposed Changes to
10 CFR Parts 50, 51, and 100, Federal
Register Notice of July 29, 1980

Gentlemen:

The Federal Register dated July 29, 1980 contains the Advance Notice of Rulemaking on Reactor Siting Criteria. According to the notice the NRC is planning to revise its regulations concerning the siting of nuclear power plants. Bechtel Power Corporation wishes to take this opportunity to comment on the concepts and issues raised by the notice.

While siting is a factor affecting the overall public risk from the plant there are other related issues which the NRC is currently addressing and which have a significant impact on siting policy. These issues include Emergency Planning, Overall Safety Policy, and Degraded Core considerations. We feel that it would be more appropriate to address siting criteria after the above issues are resolved. The need for the proposed changes to the regulations is not evident in view of the trend toward sites with lower population densities. While some sites were selected during the late sixties which had higher population densities, more recent applications have been in the other direction. We, therefore, recommend that the NRC defer action on changing their siting policy until the above issues are resolved.

If the NRC feels that changes should be enacted at this time, we believe that the regulations adopted should continue to factor in the impact of plant design on the overall risk. Since plant safety features have a significant impact on the risk to the public, siting regulations should not preclude sites where a somewhat unfavorable characteristic could be offset by engineered safety features. Consideration of plant design features would provide maximum flexibility in dealing with site characteristics prior to the issuance of a construction permit and with changes in site characteristics after a plant is operating. If a population density is incorporated into the regulations, we recommend that the criteria

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Acknowledged by card. 9/29/80

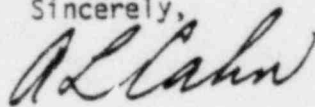
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given in NRC Regulatory Guide 4.7, "General Site Suitability Criteria for Nuclear Power Stations" be used.

Attached are our detailed comments on the issues raised by the Advance Notice of Rulemaking.

Sincerely,



A.L. Cahn
Manager of Engineering
Thermal Power Management

Att.

ALC:nt1

COMMENTS ON:

10 CFR Parts 50, 51 and 100

"Modification of the Policy and Regulatory Practice
Governing the Siting of Nuclear Power Reactors"

DISCUSSION:

Item A

The intent to re-emphasize site isolation as a factor in defense in depth independent of engineered safety features does not appear to accomplish the objective of reducing significantly the overall risk from nuclear power plants. Since plant design improvements have reduced the probability and consequences from design basis accidents, site isolation would only reduce the risk from the low probability-high consequence (Class 9) accidents. In general, site isolation reduces the consequences to the population from Class 9 accidents. However, the amount of reduction is uncertain and may be within the uncertainties of the models used to evaluate the risks and within the risk reduction achieved by effective evacuation. Therefore, the benefit from these changes is not large unless site isolation is carried to the extremes that the Task Force specifically mentioned they wish to avoid.

In order for more remote siting to achieve a benefit in public safety it should result in risk reduction. While new siting criteria may result in lower risk it is by no means obvious that similar reductions could not be achieved by modifications to the plant design and by NRC regulations such as 10CFR50, App. E. Further, the NRC's new Emergency Planning Regulations, when fully implemented, should provide adequate protection for individuals. Studies have shown evacuation to be very effective for individuals close to the site.

The present policy of permitting plant-specific design features to compensate for unfavorable site characteristics should be continued since the overall risk is not a function of siting alone but also of the plant design.

Considerations of acceptable risk to the public and the risk from other energy sources should be included in reactor siting decisions. The considerations of acceptable risk should be based on the risk to the maximally exposed individual and on the overall risk to the exposed population. However, when calculating the risk associated with population exposures it may be appropriate to eliminate the contribution from very small doses because of the uncertainty in predicting the effects of doses which are comparable to the given variations in background dose rates and because of the low probability of the events.

Since the risk to an individual can be mitigated by effective emergency plans, specific changes to the siting criteria on the basis of individual risk are not necessary.

The site acceptability criteria which apply to the individual risk should be nationally uniform. If it is decided that siting criteria must be developed independent of plant design, it would appear necessary to develop the criteria which apply to the population on a regional basis since the risks associated with alternative energy options would also vary in this manner. In this regard, we concur with the ACRS comment that an overall NRC safety philosophy is needed in order to provide a logical set of criteria. The setting of this philosophy should precede the establishment of firm siting criteria.

Item B

Alternative A

- 1) A minimum exclusion distance should not be fixed, but should be somewhat flexible based on site characteristics. A fixed EAB distance ignores the effects of meteorological conditions. Variations in meteorological parameters for different sites can have a larger impact on the risk to an individual than the assumed benefit provided by the proposed EAB distance. If the NRC feels that a minimum EAB distance is needed, then consideration should be given to the impact of engineered safety features (ESF).
- 2) We believe that a maximum distance for the Emergency Planning Zone should be established. A distance of 10 miles is conservative considering that the accident sequences which have the high consequences at larger distances are also the ones least affected by evacuation. The geographical and atmospheric conditions occurring at the site should be factored into the distance and shape of the emergency planning zone.
- 3) Specific population density and distribution limits outside of the exclusion area should not be set since the risk to the population is not dependent on population density alone. Risks to populations can vary greatly from site to site even with the same population density due to different atmospheric conditions. An acceptable level of risk should be defined, and population densities, atmospheric conditions and engineered safety features should all be considered when determining the risk from a nuclear plant at a particular site.

Item C

We believe that the establishment of minimum standoff distances for man-made hazards should consider the likelihood of occurrence of the hazard and the likelihood of an adverse impact on the plant. The adverse impact should be defined to be the impairment of the safe shutdown capability of the plant and should realistically reflect the nature of the impact on the plant with margin added for uncertainties in the event.

Applicants should be able to use smaller distances if an analysis shows that the safety goal is met when accounting for the real physical situation and any design features that may mitigate the hazard.

Rail lines which carry large quantities of toxic and explosive chemicals should be added to the list.

The ACRS comments on the suggested minimum distance from a capable fault is well taken. For instance, the distance from a major dam may be irrelevant if the dam is not in the same drainage as the site, or if the plant site is above any potential flooding.

Item D

This issue would be more appropriately addressed in the proposed rulemaking on degraded core considerations. Further, provisions for interdiction are strongly related to and should not be treated independent of the plant design.

Item F

Consideration of post licensing changes in offsite activities is not necessary in light of the NRC's upgraded emergency planning requirements now being implemented. Further, it is difficult to assess the impact on plant operation since compliance criteria are not provided.

Item G

Alternative A on unique and unusual design features is vague and ill defined. The present 10CFR100.10 regulation allowing compensating engineered features is a reasonable approach which could be improved by a better definition of the safety goals. The prohibition of unique and unusual design features will prevent the development of potentially better designs.

Alternative B allows compensating engineered features to offset undesirable site characteristics, but requires evaluation of alternative sites to find a site with the least unfavorable characteristics. We do not favor this approach because it could lead to the necessity of detailed site surveys for all sites, as opposed to the detailed investigation of the proposed sites and only reconnaissance level information on alternative sites.

Item H

The site approval at the time of issuance of the LWA or Construction Permit should be binding.

Item I

The approach indicated under Additional Question 1, we believe, is the most desirable approach. It would provide for greater flexibility in reaching a decision to terminate the review process. Licensing of a nuclear power plant is a long and complicated process which requires that an applicant obtain numerous permits from all levels of government. During this process decisions reached by various governmental agencies can be reversed by higher authorities and also the courts. The NRC's view of an application is the most critical to the schedule of the project.

While an applicant may receive an unfavorable decision from a state agency, the applicant should be allowed a reasonable length of time for a court appeal of the decision before the NRC review is terminated. This would minimize the schedule impact.