

NUCLEAR REGULATORY COMMISSION

[10 CFR Parts 50, 51 and 100]

MODIFICATION OF THE POLICY AND REGULATORY PRACTICE GOVERNING
THE SITING OF NUCLEAR POWER REACTORS

AGENCY: U.S. Nuclear Regulatory Commission

ACTION: Advance Notice of Rulemaking: Revision of Reactor Siting
Criteria

SUMMARY: The Nuclear Regulatory Commission is considering the adoption of modified or additional regulations concerning the siting of nuclear power reactors. The intent is to reflect the experience gained since the original regulations on siting were published in 1962. The Commission intends that this task be completed expeditiously.

In this Notice, the Commission requests comments on seven of the nine recommendations contained in the "Report of the Siting Policy Task Force," NUREG-0625, August 1979. The Commission is also considering certain alternative approaches, described in this notice. Commenters are invited to choose between the proposed alternatives or suggest their own approaches. Where appropriate, some of these recommendations are supplemented with comments from the Advisory Committee on Reactor Safeguards (ACRS) and with questions to focus comment in areas that will be particularly helpful in developing the rule.

DATES: While comments and suggestions are welcome at any time, in order to be considered for this version of the proposed rule changes they must be received no later than September 29, 1980.

ADDRESSES: Written comments should be submitted to the Secretary of the Commission, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, Attention: Docketing and Service Branch.

Copies of the complete text of the "Report of the Siting Policy Task Force," NUREG-0625, are being mailed, along with a copy of this Advance Notice, to a number of individuals, groups, and appropriate State officials who may have a particular interest in commenting. Those who do not receive this mailing may obtain single copies without charge by writing to the Director, Division of Technical Information and Document Control, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555.

FOR FURTHER INFORMATION: Contact Mr. Richard P. Grill, Office of Standards Development, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, (301) 443-5966.

SUPPLEMENTARY INFORMATION:

Background

The essential elements of nuclear power plant siting policy are derived from the Atomic Energy Act of 1954 and the National Environmental Policy Act of 1969 and are contained in 10 CFR Part 50, "Domestic Licensing of Production and Utilization Facilities," 10 CFR Part 51, "Licensing and Regulatory Policy and Procedures for Environmental Protection," and in 10 CFR Part 100, "Reactor Site Criteria." The regulations in Part 100 were promulgated by the Atomic Energy Commission in 1962 and have remained essentially unchanged since that time. The site suitability criteria utilized by the staff in performing licensing reviews have been based upon the principles embodied in Parts 50, 51 and 100 as modified by

experience gained over the years by both applicants and staff, contributions from the public during the public hearing process, decisions of Atomic Safety and Licensing Boards (ASLB) and Atomic Safety and Licensing Appeal Boards (ASLAB), consultations with the Advisory Committee on Reactor Safeguards (ACRS), petitions for rulemaking received by the Commission, research funded by NRC, interaction with other Federal and State agencies, new legislation such as the National Environmental Policy Act (NEPA), the Clean Air Act, and other environmental legislation, as well as consultation with the Congressional Committees to which NRC is responsible. All of these have been important factors contributing to the current license review practice.

In June 1975, the Commission directed the staff to draw the siting policy and practice that had been developed over the years into a single statement. As a result, the staff undertook major efforts in a number of areas to provide a basis for revising Commission siting policy. Also, during this period, petitions for rulemaking¹ were received on reactor siting matters which were factored into the general staff effort. As an outgrowth of these efforts, the Commission directed, in August of 1978, a task force of senior staff members to develop a general policy statement on nuclear power reactor siting. From this, a number of recommendations emerged which are contained in the "Report of the Siting Policy Task Force," NUREG-0625, which has been considered by the Commission in developing this Advance Notice. Events during the past year, including the events

¹Note: In particular, the rulemaking initiated by this Advance Notice will consider the detailed recommendations contained in a Petition for Rulemaking filed by the Public Interest Research Group, et al. (PRM-100-2, June 1, 1976) and in part 4 of a Petition for Rulemaking filed by Free Environment, Inc., et al. (PRM-50-20, April 28, 1977).

at the Three Mile Island Nuclear Station, have made the NRC, the Congress, and the public increasingly concerned that past siting practice may not afford sufficient protection to the public health and safety. Considering revision of NRC siting policy using the Task Force's recommendations is, therefore, particularly relevant at this time.

Parallel to this planned revision of the siting regulations, the Commission is embarked upon rulemaking to improve the protection of the public through upgrading emergency planning requirements for new and existing plants. The effort in emergency planning is presently at the stage of a proposed rule for which public comments have been solicited (44 FR 75167, December 19, 1979). Another rulemaking which is related to but separate from this Advance Notice is the proposed rule on the consideration of alternative sites under NEPA Alternate Site Reviews (45 FR 24168, April 9, 1980). While this particular advance notice is focused upon siting criteria, it should be recognized that the revised rules on emergency planning and the rule changes for consideration of alternative sites will be applied in the licensing of future plants and, thus, will become factors considered in developing criteria that will be used in the selection of sites for future plants.

This rulemaking is intended for application to facilities for which an application for a construction permit is filed after October 1, 1979. This is in compliance with Section 108 of the 1980 NRC Authorization Bill. Nevertheless, the question arises as to whether additional safety features and changed operating procedures should be required for plants licensed on sites that do not meet the new criteria. The question of licensed reactors and reactors under construction in areas of high population density is being considered in a separate series of proceedings, (Order of May 30, 1980

concerning Indian Point Station). In the meantime, Commission decisions on the continued operation of existing plants are being made on a case-by-case basis in light of site characteristics, upgraded emergency plans, improved operator training, additional safety feature requirements, and other related considerations.

The Commission has directed the staff to review existing sites in order to examine whether additional modifications in operating procedures, design, or equipment might be necessary. For plants that do not yet have a Limited Work Authorization (LWA) or Construction Permit (CP), this discussion would be included in the Safety Evaluation Report (SER) or in an addendum to the SER. For plants that have construction permits or operating licenses, this review would be in the form a report submitted to the Commission for its consideration in making case-by-case decisions.

It should be noted that the objectives of this proposed siting policy do not represent a radical departure from recent practice. A trend towards siting new plants away from highly populated areas and major industrial facilities has been underway for several years.

Because this rulemaking is directed at siting criteria and attempts to separate those criteria from engineered reactor safety systems, the intent of the Commission with regard to several issues should be stated here:

1. The original licensing policy for nuclear power plants permitted plant design features to compensate for unfavorable site characteristics and thus, over the years the net effect has been an increase in design safety features and a de-emphasis of site isolation (remote siting, as the concept was originally used). The Commission with these rules intends to re-emphasize the

- desirability of site isolation independent of engineered features which can compensate for unfavorable site characteristics.
2. Although the Commission is interested in establishing generic criteria for isolation which are independent of plant design, improved engineering design remains a valid, proven, and important way of reducing risk to the public from operation of a nuclear power plant. To retain the benefits of this well-developed technology, portions of the Commission's regulations will be revised to establish a minimum set of engineered safety features that will be required of all new plants. This action is now being initiated and will be separate from the rulemaking being supported by this Advance Notice but will be accomplished in parallel so that both rules can be implemented at approximately the same time.
 3. Dose assessment should not be used as the dominant measure of site suitability because this approach has tended to de-emphasize isolation as an independent safety feature and, accordingly, is counter to the Commission's intent to reassert the importance of isolation. In other areas of the Commission's review of license applications dose assessment will continue to play an important role. In establishing an impact assessment which is as complete as possible the Commission's staff will continue to make calculations of the potential radiological consequences of releases which are specific to the plant under review. In reviewing emergency plans these same release scenarios will be used to improve the planning basis for emergency protective actions.

4. The applicant for a plant with minimum safety features on a site which meets all proposed siting criteria is not guaranteed issuance of a Construction Permit. Although this is a necessary qualification of an acceptable site-plant combination, the Commission's rules implementing the National Environmental Policy Act of 1969 require that before a Construction Permit can be issued there must be a demonstration that, with regard to environmental considerations, there is no obviously superior alternative site. All final alternative sites are required to be potentially licensable from the safety standpoint according to available information (i.e., no safety siting criteria are violated). Under present practice, safety matters are only indirectly considered in the comparison of alternatives (except when population densities exceed 500 persons per square mile as discussed in Regulatory Guide 4.7) through plant cost estimates, but an alternate approach introduced later in this Advance Notice would change this practice.
5. The Commission recognizes that siting criteria, in general, are matters of national policy as well as national geography and population distribution and that other nations do not have the same flexibility in siting nuclear facilities as the United States. Thus, the Commission wishes to make clear that in emphasizing the use of isolated sites as part of U. S. nuclear siting policy, there is no implication that the siting policies and associated design requirements of other nations result in any less satisfactory protection of the public as judged in the respective national contexts.

In reference to Item #5 above, Commissioners Gilinsky and Bradford commented separately, as follows:

"We do not think that this reference to the adequacy or inadequacy of siting criteria employed by other countries should be included in this notice. Since the NRC has neither jurisdiction over foreign siting criteria nor any familiarity with foreign sites, these comments are purely gratuitous. Addressing this issue in the context of a rulemaking on domestic siting can only serve to raise questions about the Commission's willingness to temper its protection of the U. S. public so as to accommodate foreign nuclear programs."

The Commission is also considering certain identified alternative approaches to several of the Siting Policy Task Force's recommendations. In addition, the Advisory Committee on Reactor Safeguards has submitted comments on each of the Task Force's recommendations and on the goals which guided their development.² In order to present these matters clearly, the following format is utilized:

Item A, B, C, etc.:

Alternatives (Task Force Recommendation alone if no other alternative are presented):

ACRS Comment on Task Force Recommendations (if any):

Additional Questions (if any):

Additional questions have been prepared, where appropriate, to help focus comment along directions that the staff believes will be most useful. In particular, several questions focus on the substance of the ACRS comments.

Comments from all interested persons are requested on all of the entries under each item and will be considered on any aspect of improving the safety of nuclear power plant siting that the public perceives as important. Priority for this rulemaking, however, will be given to those

²Letter to Chairman John F. Ahearne from Milton S. Plesset, Chairman, Advisory Committee on Reactor Safeguards, dated February 14, 1980.

comments bearing on the goals established by the Task Force (Item "A"); seven of the nine Task Force recommendations, including alternative approaches and additional questions (Items "B" through "I", except "E").

Item A

The three conceptual goals developed and used by the Task Force in reaching their recommendations were (NUREG-0625, page iii);

- "1. To strengthen siting as a factor in defense in depth by establishing requirements for site approval that are independent of plant design consideration[s]. The present policy of permitting plant design features to compensate for unfavorable site characteristics has resulted in improved designs but has tended to de-emphasize site isolation.
2. To take into consideration in siting the risk associated with accidents beyond the design basis (Class 9) by establishing population density and distribution criteria. Plant design improvements have reduced the probability and consequences of design basis accidents, but there remains the residual risk from accidents not considered in the design basis. Although this risk cannot be completely reduced to zero, it can be significantly reduced by selective siting.
3. To require that sites selected will minimize the risk from energy generation. The selected sites should be among the best available in the region where new generating capacity is needed. Siting requirements should be stringent enough to limit the residual risk of reactor operation but not so stringent as to eliminate the nuclear option from large regions of the country. This is because energy generation from any source has its

associated risk, with risks from some energy sources being greater than that of the nuclear option."

ACRS comments on the Siting Policy Task Force goals.

"With regard to the [three Task Force] goals discussed above, the ACRS agrees that siting, as a factor in the defense in depth philosophy, should be strengthened. However, the ACRS believes that any minimum requirements for parameters such as the exclusion zone radius, surrounding population density, or distance from population centers should be established, if possible, within the framework of an overall Nuclear Regulatory Commission safety philosophy for future reactors.

Such a philosophy should be based on preestablished Commission objectives for acceptable risk both to individuals and society. This will, of necessity, include consideration of matters such as the potential effects of a broad spectrum of reactor accidents, the identification of an ALARA [(As Low as Reasonably Achievable)] criterion for the reduction of risk from accidents, and a general statement of policy concerning the objectives to be sought in reactor design with regard to the prevention and the mitigation of accidents.

The establishment of demographic-related site criteria will inevitably require a considerable amount of judgment. However, the choice will be less arbitrary if made within the framework of an overall NRC safety policy. The ACRS believes that an overall NRC safety philosophy is also needed in connection with the third objective of the Task Force, namely that of selecting sites to minimize the risk from the utilization of electricity generating sources.

The ACRS believes that well-founded nuclear power plant siting policy and practice are a national as well as a regional need. The Committee

suggests that as part of a broad approach to LWR [(Light Water Reactor)] siting, the NRC should explore the possible development of a nationwide program to identify a bank of near-optimal sites regionally distributed for various types of energy-generating plants. By combining considerations of acceptable risk, the risks from various energy sources, and the national needs for energy, together with other relevant factors, a better long-term basis for determining appropriate criteria for LWR siting should be possible. In the absence of such a broad approach, the ACRS recommends that changes to past siting policy be interim in nature and be designed primarily to provide an acceptable basis for near-term decision making."

Additional Questions Relative to Item A:

1. Should the present policy of permitting plant-specific design features to compensate for unfavorable site characteristics be continued, or should site approval be independent of plant design considerations?
2. Should considerations of acceptable risk to the public and the risks from other energy sources be included in reactor siting decisions? If considerations of acceptable risk are included, should they be based primarily on the risk to the maximally exposed individual or on the overall risk to the exposed population?
3. Should site acceptability criteria be nationally uniform or regionally varying? If regionally varying, how large should be the regions considered and what are the important regional variables (e.g., need for power, overall population, availability of remote sites? which should be considered?

Item BAlternative A:Task Force Recommendation 1 (NUREG-0625, pages 46-50 and 64-65)

"Revise Part 100 to change the way protection is provided for accidents by incorporating a fixed exclusion and protective action distance and population density and distribution criteria.

1. Specify a fixed minimum exclusion distance based on limiting the individual risk from design basis accidents.^[3] Furthermore, the regulations should clarify the required control by the utility over activities taking place in land and water portions of the exclusion area.
2. Specify a fixed minimum emergency planning distance of 10 miles. The physical characteristics of the emergency planning zone should provide reasonable assurance that evacuation of persons, including transients, would be feasible if needed to mitigate the consequences of accidents.
3. Incorporate specific population density and distribution limits outside the exclusion area that are dependent on the average population of the region.
4. Remove the requirement to calculate radiation doses as a means of establishing minimum exclusion distances and low population zones."

³Note: The Task Force Report also discusses accidents larger than "design basis" accidents (NUREG-0625, page 47) in regard to providing significant additional protection by increasing the exclusion distance.

Alternative B:

Consideration should be given to provision of two thresholds for each parameter. One would be the acceptance limit. Any site that does not meet that acceptance limit would be disapproved regardless of other considerations. The other would be an acceptance floor -- any site that did not exceed that floor would be approved with respect to that criterion. Between these extremes would be a middle ground where residual risks would be taken into account in deciding whether to approve a site. The thresholds would be nationwide, rather than varying with regions. (Commenters may refer to this alternative as the "three-tier" approach.)

The rationale of such a "three-tier" approach rests on the view that even when the population density is not prohibitively high in any absolute sense, one should try to do better. The alternative sites evaluation process is suited to determination of how well one can reasonably do in a particular area under consideration. The process would illuminate specific alternatives. A priori judgments on a regional basis would be avoided. In view of the inherent imprecision of the comparative evaluations, the comparative judgments would focus only on gross differences in the raw numbers (on population density and distribution, etc.): detailed dose calculations would not serve a useful purpose in this context and are not intended.

ACRS comment on Task Force Recommendation 1.

"Part 1. The ACRS believes that the specification of a minimum exclusion distance should include consideration of the risk from all accidents, not just design basis accidents. It should include consideration of the number of reactors at the site. Any long-term criterion concerning a minimum exclusion distance would best be established within the framework

of a general NRC policy on LWR safety. Interim guidance could be determined with the benefit of information developed from NRC Staff studies and information submitted during a proposed rulemaking on interim changes in the site criteria.

Part 2. The ACRS generally supports this recommendation with the understanding that appropriate attention would be given to potential problems at greater distances.

Part 3. The ACRS believes the wording of this recommendation is vague and it could be interpreted to be excessively restrictive or very permissive with regard to demographic requirements. Additional information is needed to establish interim criteria of this sort within the context of an NRC rule. Among the factors which require consideration are the following:

- (a) If some regions of the country are permitted to employ higher maximum population densities, should there be any additional requirements for such plants in design, operation, or emergency planning? If not, what basis will be provided for designating regionally dependent acceptable risks?
- (b) Should the NRC place a similar or a substantially greater emphasis on improbable, large accidents in its siting (and design) requirements than is utilized for other new societal activities posing hazards similar in magnitude and probability?
- (c) How should the effectiveness of emergency measures, such as evacuation, sheltering and decontamination, be ascertained and factored into a judgment concerning minimum exclusion and emergency planning distances?

(d) Should meteorology not be given consideration in regard to the development of siting criteria?

Part 4. The ACRS agrees with the Task Force that the approach used for the past two decades has not provided enough emphasis on site isolation. The Committee believes that the emphasis on engineered safety features to meet Part 100 for the postulated accident without direct consideration of other, more serious possibilities has led to a less-than-optimum approach to safety. However, if the recommendation of Part 4 is adopted, some alternative means of determining the need and adequacy of engineered safety features will be required.

In summary, although the ACRS agrees that the specification of minimum exclusion and emergency planning distances and population density and distribution limits is a commendable objective, and that interim criteria should be developed, the Committee believes that the adequacy of such parameters will depend on the safety related design and operational requirements and on the effectiveness of emergency measures. Also, the ACRS believes the establishment of such parameters involves the assumption of some accepted band of risk which should be specified. While the ACRS is not opposed to removal of the Part 100 requirement for calculation of radiation doses or to the specification of regionally dependent acceptable population densities, the Committee believes these matters need in-depth evaluation."

Additional Questions Relative to Item B:

1. Should a uniform, minimum exclusion distance, applicable to all reactors, be established? Whether uniform or plant-specific should the minimum exclusion distance be based on limiting the individual risk from design basis accidents? If not, on what should it be based?

2. Should there be a single population density/distribution limit set applicable to the entire country, or should such limits recognize different demographic characteristics of regions and be dependent upon those characteristics?
3. Should any criteria established to limit acceptable population densities or distributions be applied only to populations current at the time of site approval or should they also be applied to projected post-licensing populations (for example, to projected populations over the expected operating lifetime of the plant)? Should the same criteria be applied to projected populations as to populations current at the time of site approval? If not, how should the criteria for projected populations be related to those for populations current at the time of site approval?
4. Is the graduated approach with regionally differentiated population density and distribution limits (as recommended by the Task Force) or the alternative nation-wide "three-tier" approach a more reasonable way to proceed? Would a different approach be more appropriate? If so, what approach? If the regional approach is recommended, how should the region be defined?
5. NUREG-0625 gives examples of the following specific population density and distribution limits which would vary regionally: out to five miles from the plant, the greater of 100 persons per square mile or 1/2 the average population density of the region; from five to ten miles, the greater of 150 persons per square mile or three-quarters of the average population density of the region and no more than one-half of the allowed total in any single 22 1/2° sector. Would this graduated, regionally

dependent approach be desirable? What other sets of values would be a more reasonable expression of population density and distribution limits?

6. If a "three-tier" approach were utilized as set out in the alternative staff approach, what values should be utilized for the upper (exclusionary) and lower (de minimis) thresholds? (For example, the 100, 150 and 400 persons per square mile values could be considered de minimis thresholds. The corresponding exclusionary limit could be set--for example--at 250, 375 and 1000 persons per square mile. A more conservative approach might use 100, 150 and 400 as exclusionary limits and establish de minimis thresholds of 30, 50 and 100 persons per square mile.)

Item C

Alternative A:

Task Force Recommendation 2 (NUREG-0625, pages 51-52)

"Revise Part 100 to require consideration of the potential hazards posed by man-made activities and natural characteristics of sites by establishing minimum standoff distances for:

1. Major or commercial airports,
2. Liquified natural gas (LNG) terminals,
3. Large propane pipelines,
4. Large natural gas pipelines,
5. Large quantities of explosive or toxic materials,
6. Major dams
7. Capable faults.[⁴]
- [8. Liquified propane gas (LPG) terminals]⁵

[9. Navigable water ways which are used for the transportation of hazardous materials.]⁵

[10. Other nuclear power plants]⁵

Alternative B:

Consideration should be given to provision of two thresholds for each parameter. One would be the acceptance floor. Any site which does not meet the minimum acceptance floor for each factor would be disapproved regardless of other considerations. The other threshold would be a de minimis threshold -- any site that exceeded that threshold would be approved with respect to that criterion. Between these extremes would be a middle ground where residual risks could be taken into account in deciding whether to approve a site. (Commenters may refer to this alternative as the "three-tier" approach.)

ACRS comments on Task Force Recommendation 2.

"This recommendation proposes minimum standoff distances for potential hazards posed by man-made activities and natural characteristics. The Committee believes that such a recommendation is appropriate but the list is incomplete. For example, LNG terminals are included but not LPG. Similarly, hazardous cargo on rivers is not mentioned.⁶

⁴Note: Although comments are requested here with respect to standoff distances for capable faults and will be considered in a later action, the complexity of this topic and the commitment of the cognizant staff to other activities of pressing importance require that consideration of this topic be deferred for two to three years (see Item "E").

⁵Note: Added at the suggestion of the Advisory Committee on Reactor Safeguards.

⁶Note: Added to list in Task Force Recommendation 2. See footnote 5.

In addition, the proposed approach lacks an adequate rationale for specific numbers suggested. A distance of at least 12.5 miles from all capable faults, with no distinction as to fault size, is proposed, as is a specification that no reactor sites located on a flood plain should be closer than five miles downstream of a major dam. The reason why either of these two proposed numbers is suitable is not clear to the ACRS. For example, dams many miles away could be equally or more dangerous to a nuclear plant; on the other hand, small capable faults nearer than 12.5 miles might not pose significant design problems.

It is noted that the recommendation does not provide standoff distances between nuclear plants.^[6] The potential adverse influence of one plant on its neighbors in the event of a serious accident requires consideration in design."

Additional Questions Relative to Item C:

1. What would be an appropriate basis for specifying standoff distances:
 - a. A single minimum standoff distance applicable to all categories?
 - b. A separate minimum standoff distance for each category?
 - c. The "three-tier" approach with a separate set of thresholds for each category?
 - d. Some other basis (specify)?
2. What man-made activities or natural characteristics, other than those discussed above, might require that minimum standoff distances be established? Should other nuclear facilities be considered in setting criteria for standoff distances?

⁶Note: Added to list in Task Force Recommendation 2. See footnote 5.

2. What specific standoff distance or set of thresholds would be appropriate for each category?

Item D

Task Force Recommendation 3 (NUREG-0625, page 53)

"Revise Part 100 by requiring a reasonable assurance that interdiction measures are possible to limit groundwater contamination resulting from Class 9 accidents within the immediate vicinity of the site."

ACRS Comment on Task Force Recommendation 3

"The ACRS supports the recommendation. However, the Committee notes that the current wording is subject to a range of interpretations which could include, for example, the necessity for developing interdiction measures for particulate fallout or rainout that could result in groundwater contamination. The Committee recommends that the wording of the recommendation be made more explicit."

Item E

Task Force Recommendation 4 (Deferred; text is included for completeness.)

"Revise Appendix A to 10 CFR 100 to better reflect the evolving technology in assessing seismic hazards."

It is planned to implement this recommendation in a separate action in two or three years. Comments are not solicited at this time on the revision of Appendix A to Part 100. For additional information on this recommendation consult the Report of the Siting Policy Task Force (NUREG-0625, page 54).

Item FTask Force Recommendation 5 (NUREG-0625, pages 55-56)

"Revise Part 100 to include consideration of post-licensing changes in offsite activities:

1. The NRC staff shall inform local authorities (planning commission, county commissions, etc.) that control activities within the emergency planning zone (EPZ) of the basis for determining the acceptability of a site.
2. The NRC staff shall notify those Federal agencies as in Item 1 above that may reasonably initiate a future Federal action that may influence the nuclear power plant.
3. The NRC staff shall require applicants to monitor and report potentially adverse offsite developments.
4. If, in spite of the actions described in Items 1 through 3, there are offsite developments that have the potential for significantly increasing the risk to the public, the NRC staff will consider restrictions on a case-by-case basis.^[7]"

ACRS comments on Task Force Recommendation 5

"This recommendation relates to post-licensing changes in offsite activities but does not specify what population/time period would be used. For example, would it be the present population, that at the projected end of life of the plant, or an average over the time period during which the plant will be operated? This should be clarified. The recommendation also does not specify what is considered to be a "significant increase in risk." Another consideration that might be taken into account is the

⁷Note: The upgraded emergency planning requirements now being implemented should reveal information about such projects. If any such developments are noted by any means the Commission will take whatever action it deems appropriate including possible shutdown of the plant in question.

nature and use of the land surrounding a site. Whether neighboring land is used for residential or industrial purposes, and whether it is fertile land or a desert, could also be important."

Additional Questions Relative to Item F:

1. What, if any, legislative authority should or could be given to NRC in order to:
 - a. assure population densities or groupings around nuclear plants remain within acceptable criteria during the operational lifetime of the plant.
 - b. preclude installation of activities or facilities that might be hazardous to the plant during its lifetime?
2. What actions should be considered by the Commission, and under what circumstances should these actions be taken if, at some time after a licensed nuclear power plant begins operating, the surrounding population no longer satisfies established density or distribution criteria?
3. Under what circumstances should the Commission require changes in operating procedures (including plant shutdown) or engineered design changes to accommodate the construction of facilities (including other nuclear power plants) or changes in existing hazardous offsite activities, after a licensed nuclear power plant begins operating, which might compromise plant safety?

Item G

Alternative A:

Task Force Recommendation 6 (NUREG-0625, page 57-59)

"Continue the current approach relative to site selection from a safety viewpoint, but select sites so that there are no unfavorable

characteristics requiring unique or unusual design to compensate for site inadequacies."

Alternative B: In this alternative, marginal differences in safety aspects of a site would be considered in the NEPA alternative site analysis.

Under the recommendation of the Task Force (Alternative A), staff practice would change to preclude consideration of sites which have characteristics that do not meet safety criteria, even if they are amendable to unique or unusual compensating engineering design or feature which would offset the undesirable site characteristic. On the other hand, for sites that meet all of these criteria no further consideration of marginal differences in safety would be contemplated.

The alternative B approach would recognize the possibility that some compensating engineering designs or features may not be so unusual, unique, or involve uncertainties significant enough to be rejected on an absolute standard, but nevertheless should be accepted only if there is no otherwise comparably attractive alternative site without the characteristics requiring the compensatory engineering designs or features of concern. In such cases, the alternative site review under NEPA should permit consideration of these matters.

ACRS Comments on Recommendation 6

"The Committee suggests that the phrase, 'unfavorable characteristics requiring unique or unusual design,' be clarified. Many characteristics that are 'unfavorable' can be readily compensated for by design, including some of an 'unusual' nature. Design features to provide permanent site improvements should be permissible when suitably reliable. Perhaps these problems could be solved by deleting the word, 'unfavorable,' and substituting the word, 'unproven,' for 'unique or unusual'."

Additional Questions Relative to Item G:

1. If all the characteristics of a site meet the criteria upon which threshold acceptability have been established (such as the criteria discussed in Items B and C), should the site be considered acceptable from a safety standpoint, or should the possibility of compensating engineering features be considered in selecting between alternate sites?
2. Should site characteristics, the impact of which on the safety of plant operation can be assessed quantitatively only with great uncertainty, if at all, be considered in site approval decision? If so, on what basis should such characteristics be evaluated?
3. Of the two options described -- the Siting Policy Task Force's Recommendation 6 and Alternative B -- which is more appropriate?

Item H

Task Force Recommendation 7 (NUREG-0625, page 60)

"Revise Part 100 to specify that site approval be established at the earliest decision point in the review and to provide criteria that would have to be satisfied for this decision to be subsequently reopened in the licensing process."

Additional Questions Relative to Item H:

1. At what point in the licensing process should a binding site approval decision be made?
2. Once a site has been approved, when in the licensing process, under what conditions, and using what criteria, should the questions of site acceptability be allowed to be reopened?

Item I

Task Force Recommendation 8 (NUREG-0625, page 61-62)

"Revise Part 51 to provide that a final decision disapproving a proposed site by a state agency [acting within proper state authority]⁹ whose approval is fundamental to the project would be a sufficient basis for NRC to terminate review. Such termination of a review would then be reviewed by the Commission."

Additional Questions Relative to Item I

1. Should the Commission retain the flexibility to address site disapprovals by state agencies on a case-by-case basis instead of modifying the regulations?
2. Should this alternative be bounded so that only actions taken by specific state agencies or with specific reasons would be considered? If so, which ones?

Item J

Task Force Recommendation 9 (Deferred; text is included for completeness.)

"Develop common bases for comparing the risks for all external events."

This recommendation may be implemented by the NRC at a future time. No comments are solicited at this time, but any comments are welcome. For additional information on this recommendation consult the Report of the Siting Policy Task Force (NUREG-0625, page 63).

⁹Note: Language added to the recommendation of the Siting Policy Task Force on the advice of the NRC's Office of the General Council.

All comments received will be evaluated by the NRC staff. The staff will utilize the comments in preparation of recommendations and proposed rule changes for consideration by the Commission.

Dated at Washington, D.C., this ____ day of _____, 1980.

For the Nuclear Regulatory Commission.

Samuel J. Chilk
Secretary of the Commission

Report of the Siting Policy Task Force

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