Enclosure 2

SUMMARY AND ANALYSIS OF NON-SEISMIC PUBLIC COMMENTS

Overview: Almost all of the public comments received relating to this proposed rulemaking showed an overwhelming sentiment against the proposed rulemaking and urged that it not be issued in final form.

Comments from the public agreed with ones from law firms representing utilities, and comments from state or federal organizations agreed with Foreign utilities and governments. Almost all reached the same conclusions (i.e., that the proposed rule should not be issued in final form) even though their arguments and logic differed significantly. For example, no one that commented on the exclusion area distance or the population density agreed with the numerical criteria in the proposed regulations. Representatives of environmental groups and the public felt that the exclusion area should be larger, while the utilities and international community felt that the exclusion area could be smaller or need not be specified in the regulation at all. Similarly, the proposed population density criteria was considered too high by the public and environmental groups and too low or too restrictive by the utilities and the international community.

No commentors liked the proposed rule - the public and environmental groups felt that the Commission was relaxing siting requirements while the nuclear industry felt that the proposed requirements were too restrictive, prescriptive and unwarranted.

Summary of Public Comments on Major Issues

The NRC staff appreciates the extensive public comments on this important rulemaking proceeding. The NRC received 82 public comment letters on the proposed rule change. A number of these letters represented the concerns of more than one individual or an organization. From the nuclear industry, the Nuclear Management and Resources Council (NUMARC) provided extensive comments which were endorsed by 12 U.S. utilities. Many foreign organizations and governments showed great interest in this rulemaking and provided significant comments. A letter was received which provided the comments and concerns of 9 Japanese nuclear electric utilities, while a law firm (Newman and Holtzinger) also submitted comments on behalf of the concerns of 13 foreign utilities (collectively known as the International Siting Group, ISG).

Comments were also received from environmental organizations representing a number of members. These included the Sierra Club (New Jersey Chapter), San Luis Obispo Mothers for Peace, Toledo Coalition for Safe Energy, Alliance for Survival, Seacoast Anti-Pollution League, Ad Hoc Committee to Replace Indian Point, Ecology Center of Southern California, Ohio Citizens for Responsible Energy, and Public Citizen.

A complete listing of each of the commentors is provided in Attachment A. The following is a listing and discussion of the major issues that were raised by public comments.

Issue 1: Should reactor siting requirements be decoupled from plant design?

Discussion: Twenty comment letters addressed this issue. 16 letters originated from representatives of the nuclear industry, both domestic as well as foreign. Four letters from environmental groups addressed this issue. Virtually all of the commentors opposed the concept of decoupling reactor siting requirements from plant design. The utility groups and foreign commentors were emphatically against this proposal. Most felt strongly that the present practice, as embodied over the last thirty years, of coupling reactor siting and plant design in the determination of the exclusion area and low population zone radius via the use of a postulated accidental release of fission products into the containment (source term) and calculated doses to hypothetical individuals had worked well and had resulted not only in improved reactor designs but also in selection of reactor sites that were safe. A comment from the nuclear industry, as represented by NUMARC, typified this view by stating:

> "The industry recommends that the radiological dose consequence evaluation factors contained in the current 10 CFR Part 100 be retained as the key determinants of site suitability. ...We believe that criteria contained in the current Part 100, successfully used to safely site all licensed power reactors in the United States, have the prerequisite technical basis, provide for adequate protection of public health and safety, and are appropriate for the determination of exclusion area distance, low population zone, and population center distance of future nuclear power plant sites."

A comment from a private individual (J.Martin) was in a similar vein and stated:

> "As a benchmark, it is well to state initially that the current rules and practices have worked well for thirty years. They provide for the basic safety objectives (unstated in the proposed rules):
>
> - o robust, tight containments,
> - o moderate standoff distances to populations, and
> - o a modicum of flexibility in design and siting.
>
> These objectives have been achieved under the current rules and practices... As a general overview, the proposed rule should be withdrawn."

Comments received from foreign organizations questioned the rationale for taking this action. A comment from a representative of the government of Italy (ENEA-DISP) in regard to decoupling reactor siting from design noted that:

> "This is clearly the case of the problems connected to the definition of the exclusion area. On this matter our opinion is that both the Exclusion Area and Emergency Planning should be correlated to reactor design and related safety features."

A similar combined comment from representatives of the governments of France and Germany noted as follows:

> "US-NRC intends to clearly decouple siting criteria from plant design features. In our meaning, the basis for demographic criteria is essentially the possibility to implement efficient emergency measures in case of an accidental situation (evacuation, sheltering, foodstuffs consumption control,...); accordingly, we think that a link must be maintained between demographic criteria and plant design features. Criteria defined for the present generation of nuclear power plants must not be renewed for the next generation of plants without considerations on the type, nominal power and containment characteristics of such plants."

Another comment from a utility in the United Kingdom (Nuclear Electric), foresaw possible negative impacts resulting from decoupling being used to relax plant design requirements, and stated that:

> "The existing US regulation defines the exclusion area based on dose limits at the boundary of this area. To decouple these aspects by setting a very restrictive exclusion area could allow a relaxation in reactor safety to be accepted and place the emphasis on the site itself rather than on the reactor design."

In view of the strong opposition to decoupling voiced by representatives of the nuclear industry as well as foreign organizations, is noteworthy that virtually all of the environmental groups and members of the public who commented on this issue also were opposed to this proposal.

A major concern voiced was that its implementation would eliminate explicit consideration of public accident risk in reactor siting requirements. Environmental groups commenting on this issue believed that eliminating explicit consideration of accidents in reactor siting was undesirable because it could lead to undue easing of future reactor siting requirements. As stated by one commentor (Public Citizen):

> "The Nuclear Regulatory Commission should not allow the removal of source term considerations from regulation. In fact, in the absence of a coherent safety goal policy, the site dose calculations provide a benchmark against which to measure the appropriateness of a reactor site.
>
> The NRC's desire to rid regulation of accident dose considerations is quite understandable. The NRC and the nuclear industry could not justify nuclear power plant operation if the source term were updated rather than eliminated."

Another environmental group (Nuclear Information and Resource Service, NIRS) stated similar views on this as follows:

> "Source term and dose calculations regulations were intended to help mitigate the consequences to the public and environment from a nuclear

reactor accident. Source term information provides the essential link in estimating what the impact on a particular geographical area around the plant after any given initiating event (such as a pipe break or an ECCS actuation signal failure.) Geographic location and associated demographic therefore remain important factors associated with the type and design of power station being proposed. It is illogical for NRC to assume that increasing the number of nuclear power plants is any reason to move towards less conservative regulations for siting.

NIRS objects to NRC assistance to a nuclear industry public relations campaign to sell the public on 'inherently safe reactor designs' for what must be vigilantly recognized as an inherently dangerous technology. Decoupling source term from reactor siting is, in fact, tantamount to abandoning concern for public health and safety to accommodate early site regulations."

One environmental group, Ohio Citizens for Responsible Energy, OCRE, did recommend setting a minimum exclusion area distance independently of source term and dose calculations, and proposed that the minimum exclusion area distance be 1.0 mile. Their comments are discussed as part of Issue 2, below.

Issue 2: Codification of a minimum distance to the exclusion area boundary (EAB) of 0.4 miles (640 meters).

Discussion: Twenty-two comment letters addressed this issue, and all were opposed to codification of the 0.4 mile exclusion area distance. Ten letters were from utilities, organizations representing utilities, foreign utilities and foreign governments. The overall thrust of this group of respondents was that the value of 0.4 miles for the exclusion area distance was not technically well justified and should not be codified but should be left in a regulatory guide. The commentors in this group also felt that the existing source term and dose evaluation methodology provided a technically superior methodology for determining the size of the exclusion area. In commenting on this proposal as well as on the question of the variation of exclusion area distance with reactor power level, NUMARC stated as follows:

"The exclusion area distance should be determined based on criteria contained in the current 10 CFR Part 100, since power level is not the sole determinant of risk....

The nuclear industry recommends that a suggested minimum exclusion area distance of 0.25 miles (400 meters) be adopted in Regulatory Guide 4.7 in place of the current 0.4 miles. Based on MELCOR Accident Consequence Code System (MAACS) calculations for prompt fatality consequences of postulated severe accidents, an exclusion area distance of 0.25 miles (400 meters) has been found to meet the quantitative health objective of the NRC Safety Goal Policy.... Therefore, future nuclear power plants will be guided to a minimum 0.25 mile exclusion area distance, but regulated to the current 10 CFR Part 100 requirements."

A comment from the Department of Energy (DOE) stated that it would be inconsistent to require improved future reactor designs to have larger exclusion areas than those for present plants, and noted that:

> "The selected value for the exclusion area distance would exclude a number of existing sites, if future plants were to be sited on them. In light of the expectation that future plants most likely will be Advanced Light Water Reactors (ALWRs), and that ALWRs have improved safety characteristics as well as severe accident risk profiles an order of magnitude lower than existing plants, this EAB criterion sends an incorrect and confusing signal to the public. Plants with improved safety characteristics should not require greater exclusion areas than operating plants, which have been found safe by the NRC. We recommend that the value selected as the minimum EAB distance be selected to be compatible with the minimum EAB found to be adequate by NRC for operating plants."

The same commentor went on to suggest that

> "... we recommend that the criteria for future site selections not be any more restrictive than the current criteria. We suggest that this can be accomplished by selecting a minimum exclusion area boundary of 0.25 miles, and keeping the concept of a LPZ, as presently defined in Part 100."

A number of foreign governments and utilities felt strongly against this proposal and indicated potentially severe consequences in the siting of future plants within their individual countries. One commentor from Taiwan noted:

> "...the proposed rule change will impose a very big impact, which we think is not absolutely necessary from the safety point of view, on the development of our nuclear applications. We would therefore suggest that, instead of requiring a minimum exclusion area distance, NRC place this distance as a recommended value in the Regulatory Guide."

Twelve letters that commented on this issue were from the public or environmental groups who generally felt the proposed 0.4 mile exclusion area distance to be too small. Most of the respondents in this group provided little technical basis for this opinion. However, one environmental group, OCRE, proposed a minimum exclusion area distance of 1.0 miles, and provided its basis as follows:

> "For the minimum EAB radius, OCRE would propose a distance of 1.0 mile. The basis for this distance is twofold: first, to minimize early fatalities, and second, to expand the zone of control by the licensee to exclude potential terrorist attackers. NUREG/CR-2239 [so-called Sandia Siting Study] notes that, for source term SST1 reduced tenfold, on the average fatalities would be confined to 1 mile. For the SST2 source term, early fatalities would be confined to 0.5 miles. It is concluded that for releases substantially than SST1, a 1 mile EAB can have a substantial impact even without an emergency response. NUREG-0625 [Report of the Siting Policy Task Force] also noted that increasing the

EAB to one mile would "provide significant additional protection against Class 9 accidents (p. 47).

OCRE believes that the EAB should serve not only to protect the public from the reactor, but also to protect the reactor from malevolent persons in society. A minimum EAB radius of 1.0 mile, within which the licensee has total control of all activities through ownership of property and the application of appropriate security measures, could help minimize the threat of terrorist acts of radiological sabotage."

This proposal that the exclusion area size should be determined so as to assure a high degree of mitigation for severe accidents (formerly referred to as Class 9 accidents), including those involving containment failure, was also echoed in a comment from another environmental group (Public Citizen), who stated:

"Nuclear industry efforts in the 1970's and 1980's concentrated on reducing the source term in order to persuade the public that nuclear power was perfectly benign. The NRC's risk studies rather than assuaging the public's fear of nuclear power has actually fanned it. NUREG-1150 completely undermines the assumptions necessary for the source term calculation. Basically, it explodes the myth that during a severe accident the reactor containment will hold. In its original form NUREG-1150 concluded that early containment failure could not be ruled out in a severe accident for any of the containments studied. (Reactor Risk Reference Document, NUREG-1150, February 1987, p. ES-14). If we were to create exclusion zones and low population zones based upon the reality of early containment failure, the public would be too alarmed to ever allow another nuclear reactor to be constructed."

Issue 3: Should existing reactor sites having an exclusion area distance of less than 0.4 miles be grandfathered for the possible placement of future nuclear power plants?

Discussion: Twenty three comment letters addressed this issue. Fourteen letters were from the public or environmental groups who were strongly opposed to grandfathering existing reactor sites having an exclusion area distance less than 0.4 miles for the possible placement of additional nuclear power units. The general sentiment in this regard was that safety standards, including siting regulations, should be applicable to all reactors, operating as well as proposed. Typical sentiments of the environmental groups on this aspect can be summarized by a quote from one of them (Public Citizen), as follows:

"As noted in the regulatory analysis accompanying the proposed rule, the effect of these requirements is to set both individual, and, to some extent, societal limits on dose (and implicitly risk)...'. This being the case, the grandfathering of existing reactors which violate the .4 mile exclusion zone would deprive certain individuals of equal protection under NRC regulations. The NRC should not grandfather those reactor sites which violate the .4 mile exclusion zone requirement. Ideally, the NRC should look to phase out those reactors which over time

have come to present a greater risk to the public health and safety. Since an NRC required phase-out is unlikely, the NRC should compensate by requiring enhanced emergency planning procedures for those closest the reactor."

A similar comment was received from NIRS who stated:

"NIRS objects to the 'grandfathering' of the 23 existing sites that could not meet the proposed standardized exclusionary zone. NRC continues to portray the operation of nuclear power plants as a benign technology, as if we are being asked to consider grandfathering an outhouse within city limits. If NRC is going to formulate standards, the basis for said standard should have solid foundations and it is then expected that NRC enforce the regulations at the substandard sites. 'Grandfathering' of aging and increasingly decrepit nuclear power plants underscores the NIRS' concern that the proposed standard represents 'old wine in a new skin.'

For the same reasons, NIRS objects to the siting of new reactors at 'grandfathered' sites. The public trust is further damaged by NRC formulating willynilly standards supposedly based on a public health and safety objective. New reactors should never be built where the sites are considered to be substandard."

A comment from a member of the public (B. Campbell) was shorter, but equally pointed:

"If a site has operating reactors that do not meet regulations, these should be shut down and certainly no more should be allowed to be built in the area."

Finally, another comment from an environmental group (Sierra Club-NJ Chapter) felt that grandfathering was unethical and stated that:

"Grandfathering of sites by the NRC is unethical. If plants can't meet inadequate existing safety standards, they shouldn't be operated at all, and new reactors should never be built on existing sites that already don't meet regulations."

One individual as well as several utilities or organizations representing utilities favored grandfathering. A comment from one utility (Yankee Electric) noted:

"Currently operating plant sites have demonstrated acceptable safety for current reactor designs. Once approved the site should never be challenged based upon later interpretation of minor aspects of the rule. The placement of additional units of advanced design on these sites should be determined on the basis that safety is maintained as a result of operating all the licensed units on a site. Expected dose is the measure that has been used very effectively to date. That same basis should be utilized for determining acceptability of unit placement on a site not occupied by an existing unit."

A comment from the Nuclear Power Plant Standards Committee (Nuppsco) of the American Nuclear Society (ANS), in response to the question whether sites with exclusion area distances less than 0.4 miles should be grandfathered, replied as follows:

> "Yes. The numerical limit provides guidance at the time a site is considered; but once approved, a site should never be challenged ex post facto based on later interpretation of minor technical aspects of a rule."

Another individual (J. Martin), in response to the same question stated:

> "Yes. But then why have the rule change? Since siting is such a political and emotional issue, rather than a technical one, the Commission should not tie its own hands in this regard. There is no need for a contorted generational set of rules. The proposed rule(s) should be withdrawn."

While representatives of some utilities favored grandfathering, not all utilities or utility representatives did. One letter from NUMARC, whose comments were endorsed by 12 utilities, stated as follows:

> "Grandfathering, which is necessary if a new approach to siting is required, would be unnecessary if the existing siting requirements were maintained. Siting requirements for future power reactors should achieve a level of acceptable safety that is consistent with requirements for currently licensed plants. Currently licensed plants have demonstrated acceptable safety for their reactor designs. The placement of additional units of advanced designs on a site should be determined on the basis that safety is maintained as a result of operating all the licensed units on that site. This same basis should be utilized for determining acceptability of unit placement on a site not occupied by an existing unit. The nuclear power industry believes that radiological dose consequence evaluation factors in the current 10 CFR Part 100 are the key and appropriate determinants for site suitability to host additional reactors on a site and that these determinants should be maintained in the rule."

Another nuclear utility (Entergy) indicated that grandfathering introduced the concept of dual siting standards which the commentor stated were inappropriate and that the problem lay with the proposed rule. This comment noted that:

> "The fact that existing sites have been evaluated for suitability from safety consideration apart from the proposed exclusion area and found acceptable is indicative of the problem with this proposed rule. The proposed basis for determining site suitability restricts NRC flexibility unnecessarily with no appreciable increase in health and safety. The key factors for determining site suitability for additional units at an existing site or evaluating new sites are the radiological dose consequence evaluation factors in the current 10 CFR 100. Dual siting safety standards are inappropriate and should be discouraged."

Issue 4: Codification of a population density not to exceed 500 people per square mile out to 30 miles at site approval and 1000 people per square mile 40 years thereafter.

Discussion: Twenty eight comment letters addressed this issue. Twelve letters were from the nuclear industry. These included letters from NUMARC, whose comments were endorsed by 12 U.S. utilities, as well as one representing the concerns of 9 Asian nuclear electric utilities. 16 letters were from members of the public and environmental groups. Virtually all commentors were opposed to this proposal; nonetheless their rationale was diametrically different. One environmental group (Sierra Club-NJ Chapter) did not provide its thinking as to whether population density criteria should be codified, but it felt strongly that the proposed distance of 30 miles was inadequate, since it stated:

> "The NRC's proposal to allow 1,000,000 people to reside about 30 miles from the plant, just because it represents present shoddy practice, for which many reactors have been granted grandfather siting rights (because they were built before the latest regulations were adopted) represents dereliction of responsibility by the NRC. 30 miles is a tiny distance. The poisons from Chernobyl traveled hundreds and even thousands of miles."

An environmental group (Public Citizen) that did favor specifying population density criteria in the regulation stated as follows:

> "The NRC should include numerical values for population density in the regulation. To place the values in a regulatory guide would essentially remove the teeth of the regulation. If its in the regulations it is, at least hypothetically, enforceable."

In regard to the proposed population density value of 500 persons per square mile out to a distance of 30 miles, this same commentor noted as follows:

> "As a public policy consideration, it would seem the NRC would want to site reactors as far from population centers as possible. One way to accomplish this would be to decrease the allowable population density. While Public Citizen has no specific values it would like to see codified, the values adopted by NRC should reflect certain realities. The values should acknowledge the reality of the Chernobyl accident and the fact that early containment failure can not be rule[d] out with high confidence for any of the plants studied in the Reactor Risk Reference Document, NUREG-1150.
>
> The population density criteria should be specified out to a distance of at least 30 miles. A case could be made to extend this distance based upon the experience of Chernobyl and the likelihood of early containment failure in the event of a severe accident."

Another environmental group, NIRS, also argued for reduced population density criteria as well as for larger distances, by stating:

> "NIRS is opposed to proposed NRC rule changes on population density and the NRC failure to consider population restrictions beyond a 30 mile radius. NIRS takes the position that population density for reactor siting criteria should not be increased; it should be decreased.
>
> The 1979 Siting Task Force held that from the exclusion zone to 5 miles the maximum population density should be at most 100 people per square mile; from 5-10 miles, 150 people per square mile; and from 10-20 miles, 400 people per square mile.
>
> NRC justifications for increased population density figures in the low population zone are based in the Commission's Policy Statement on Safety Goals quantitative health objective in regard to estimates for latent cancer fatalities and land contamination.
>
> NRC analyses that 'population density restrictions out to 40 miles could make it difficult to obtain suitable reactor sites in some regions of the country' is an outrageous admission on the part of NRC that easing of reactor siting criteria is more a priority than public health and safety. It can be construed that in this case 'suitable reactor sites' has more to do with marketability of electricity than with public safety. In light of far-reaching consequences demonstrated in the Chernobyl accident, the public is likely to be unwilling to believe that radiation contamination can be limited to arbitrarily drawn political lines, such as the 10 mile Emergency Planning Zone. While NIRS and the public are willing to distinguish technical design differences between the RBMK reactor and US models, both operational and new design, it is now broadly recognized that the release of any fission reactor's radioactive inventory once borne on the weather knows no arbitrary established boundary.
>
> NIRS objects to NRC basing any of it's regulations on the marketability of nuclear power and reasserts that protecting the public health and safety is the NRC primary responsibility in regulating nuclear power.
>
> NIRS takes the position that population restriction zones should be extended out to the currently established accident interdiction limits outlined in the 50 mile ingestion pathway zone (IPZ)."

Comments received from industry and foreign organizations did not focus on the specific proposed numerical criteria as such, but rather with the placement of numerical values of population density in a rule. The industry also believed that there was no strong technical basis for the population density values proposed and clearly preferred that any population criteria remain in a regulatory guide. The comments offered by NUMARC echoed this thought by noting:

> "Population density numeric limits should not be codified in regulation because such criteria provide essentially no contribution to the

protection of public health and safety regarding offsite radiological dose risk beyond the immediate area adjacent to the power plant. The NRC has determined that there are no measurable health and safety impacts to the public from normal operation of a nuclear power plant. NUREG-0880 states, 'For all plants licensed to operate, NRC has found that there will be no measurable radiological impact on any member of the public from routine operation of the plant. (Reference: NRC staff calculations of radiological impacts on humans contained in Final Environmental Statements for specific nuclear power plants, e.g., NUREG-0779, NUREG-0812, and NUREG-0854).' The remaining consideration for siting a nuclear power plant is the risk regarding offsite radiological dose from postulated fission product releases. Therefore, the appropriate determinants for site suitability should remain the radiological dose consequence evaluation factors contained in the current 10 CFR Part 100. Regulatory Guide 4.7 and other NRC guidance documents should be revised to provide guidance consistent with the latest accepted knowledge regarding postulated severe accident consequences and reflect the benefits afforded by the 10 CFR Part 52 process, standardization of future advanced nuclear plant designs, and conclusions of studies that have been performed by the NRC and the industry....

In addition, as stated in the Federal Register, these criteria should not be considered as an upper limit of acceptability. Much higher population density values have been determined as providing no undue risk to public protection and safety. Codification of requirements to forecast population density values forty years into the future and then compare them to an arbitrary numeric criteria (1000 person per square mile) for site suitability determinant is inappropriate since such requirements serve no useful purpose in determining risk to the public from radiological doses consequences."

One utility (General Atomic) stated simply that:

"It is our judgement that numerical values of population density should not appear in the regulation but be provided as general guidance in a regulatory guide."

A comment from the Department of Energy suggested retention of the concept of the low population zone (LPZ) as follows:

"... we conclude that the existing concept of a LPZ, as defined in Part 100, provides a better approach for factoring nearby population centers into siting decisions, and avoiding sites in proximity to high population densities... We recommend, therefore, that the population density criteria in the proposed revisions be deleted, and that the requirements for defining a LPZ surrounding the plant be retained in Part 100."

A large number of comments were from foreign governments, foreign utilities and organizations representing foreign interests. They were greatly concerned that codification of these numerical population density criteria would impact their countries and organizations since almost all European and Asian

countries would not be able to meet the proposed population density criteria. This concern could be characterized by the following quote from a law firm (Newman and Holtzinger, representing the International Siting Group, ISG) representing 13 foreign utilities:

> "... they are inconsistent with the internationally accepted principle of establishing site safety standards which permit (and recognize the necessity to have) flexibility in balancing the various factors important to the safe siting of nuclear power plants. If adopted, the regulation could unnecessarily force review of the presently accepted site safety principles and raise questions about whether presently operating nuclear power plants provide adequate protection of the public and environment when the plants were located in more densely populated areas or have smaller exclusion areas then the revised criteria would permit. Moreover, should these proposed revisions become the norm, they would preclude the siting of nuclear power plants in many areas of Western Europe and Asia and result in a dependence on energy alternatives with less favorable environmental impact."

Another comment from representatives of two foreign governments (France and Germany) commented on the need for flexibility and the distance of 30 miles by stating:

> "We agree that special attention has to be paid to the distances from the plants to cities and/or densely populated areas (and to the evolutions of the demographic characteristics of the sites during the operating life of the plants), as one among the various parameters concerning the preparation of emergency measures. But technically speaking, this problem cannot be dealt with by the means of a single population density limit of 500 persons per square mile up to a distance of 30 miles. Furthermore, the value of 30 miles seems high and not justified."

A nuclear utility located in Korea (Korea Electric Power Co.) also felt that numerical criteria in the regulation was not needed as well as potentially detrimental, since:

> "The numerical demographic criteria will lead to questions concerning the safety of current nuclear power sites which do not meet the proposed population density criteria, not only in the United States, but in other countries as well.
>
> There is no current need for codifying demographic criteria because the present Regulatory Guide 4.7 works sufficiently for regulatory purposes."

Still another comment from a utility in the U.K. noted:

> "We agree that current plant designs can and are being shown worldwide to have acceptable risks at sites that have significantly higher population densities than those being proposed in the regulation.

Hence if the proposed new criteria are to be used purely to determine whether alternative sites with lower population densities should be considered, this will lead to confusion, particularly outside the nuclear industry and in other countries. If this is the case then we recommend that these values remain in the Regulatory Guide alone as already suggested as an appropriate alternative."

Issue 5: Periodic Reporting of Offsite Hazards.

Discussion: This issue did not generate the strong views produced by the previous issues; nonetheless 9 comment letters addressed this issue. Four comment letters were in favor of periodically reporting changes in potential offsite hazards (new dams in local rivers, new airports, etc.). The 5 opposing letters were largely from utilities. One of these letters, from NUMARC, felt that such a requirement was inappropriate as well as redundant since they noted that:

"A new requirement for periodic reporting of offsite hazards is inappropriate. Such a requirement is redundant to current requirements (10 CFR 50.71(e)) for operating licenses (OL) to report potential offsite hazards impact on the plant, as the impact affects public health and safety, through the licensee's update and report to the NRC of its Final Safety Analysis Report (FSAR). During the term of the early site permits (ESP) or construction permits (CP) there is no regulatory purpose for periodically reporting changes in potential offsite hazards. Before a plant with a CP or ESP can begin operation the NRC must grant an OL or combined license (COL) (10 CFR 52.79(b)). The proceedings to obtain an OL or COL require consideration of any significant new information not previously considered in the ESP or CP, including changes in offsite hazards. Therefore, at the point where there is a regulatory purpose to have ESP or CP holders consider potential offsite hazards and make NRC aware of those with significant impact, there already exists an effective regulatory requirement. An added reporting requirement would be redundant and inappropriate."

One organization representing government and utility interests in Belgium (AIB-Vincotte Nuclear) was in favor of this proposal and stated that

"We also consider that a periodic update of the impact of conditions around a site should be performed. We recommend that this be done every 10 years rather than 5 years. This is consistent with the Belgian Special Review of the total plant."

Issue 6: Should recommendations of the Siting Policy Task Force report (NUREG-0625) be reconsidered if not already adopted by the Commission?

Discussion: Twenty one comment letters addressed this issue. Fifteen letters, all from environmental groups and members of the public, were in favor of this proposal and focussed on the concept of adopting minimum permissible standoff distances from man-made and natural hazards such as airports, liquid natural gas terminals, geologic faults, etc. Typical comments from representatives favoring adoption of minimum standoff distances for man-related potential

hazards were those given by the Nuclear Information and Resource Service (NIRS), as follows:

> " NIRS concurs with the 1979 Siting Task Force recommendations to establish minimum standoff distances for all nuclear power plant sites from major airports and military bases, Liquid Natural Gas terminals, large propane and natural gas pipelines, explosive and toxic material industrial sites, major dams, and capable faults. NRC is deferring its duty to protect public health and safety by failing to incorporate tough minimum standoff distance limits in the siting criteria."

The remaining 6 letters were from utility organizations. One of these letters was from NUMARC whose comments were additionally endorsed by 12 utilities. They focussed on the fact that the Commission is under no obligation to accept only Task Force recommendations. NUMARC comments on this issue stated:

> "There are no additional recommendations contained in the report of the Siting Policy Task Force (NUREG-0625), dated August 1979, that should be reconsidered for adoption. NUREG-0625 contains policy recommendations that may no longer be appropriate because the assumptions underlying those recommendations were based on information that predate the large amount of accepted knowledge about postulated severe accident phenomena, probability and consequences gained since 1979."

Issue 7: Should states have a veto over the siting of future nuclear power plants?

Discussion: Comments on this issue were not specifically requested by the Commission in the Federal Register notice. Nevertheless, 13 comment letters, all from members of the public or environmental groups, raised this issue. All strongly stated that states should have veto powers over the siting of nuclear power plants. Typical of the sentiment expressed for this issue is a quote from one group (NIRS) as follows:

> "NIRS argues that States should and do have the right to deny site permits. State governments are asked to assume many responsibilities with regard to nuclear power plants ranging from 'low-level' radioactive waste management to emergency planning. States therefore have the right to evaluate their resources and balance them with utility interests. NIRS argues that States have the right to exercise a more significant role in determining energy resource management in nonconventional fuel sources and energy efficiency and conservation programs for meeting energy needs."

Another environmental group (Alliance for Survival) expressed a similar reaction by stating:

> "States should have the right to deny sites for nuclear power plants--as well as hazardous waste incinerators and other projects which are a danger to public health and safety."

Issue 8: Will this rulemaking (if codified) have a positive or negative effect on the siting of future nuclear power plants?

Discussion: 10 comment letters discussed this proposal, all of these from utilities and foreign utilities and/or governmental entities. One of these letters was from a law firm (Newman and Holtzinger, representing the International Siting Group, ISG) representing the concerns of 13 foreign utilities and one was from NUMARC whose comments were endorsed by 12 utilities. All commentors felt that this rulemaking, if codified would have a significant negative effect on current operating nuclear power plants and disastrous effects on the siting of future plants. A comment from NUMARC stated:

> "This NRC action has the potential for significant unintended impacts to both currently licensed and future plants without providing any identifiable improvement to public health and safety. The proposed criteria could inappropriately disqualify a significant number of licensed nuclear power plant sites and otherwise acceptable new sites from availability to host a new nuclear power plant in the future. Furthermore, adoption of the proposed criteria may adversely affect public perception regarding the acceptable safety of existing plant sites during their operating term and during plant license renewal proceedings."

A particular point raised in this regard was the possible impact of the proposed rule upon foreign utilities. A law firm (Newman and Holtzinger) representing several foreign utilities (ISG) stated as follows:

> "Although foreign utilities are not legally bound by the proposed rule, their national nuclear standards are consistent with the nuclear safety standards of the International Atomic Energy Agency (IAEA), which were strongly influenced by the NRC's siting standards. If the proposed revisions to the siting regulations in 10 CFR Part 100 are adopted, the process for selecting new nuclear power plant sites would fundamentally change, thereby forcing reconsideration of IAEA and national nuclear safety siting standards and raising questions about the adequacy of present and future nuclear power plant sites to ensure adequate protection of the public health and safety in foreign countries."

A foreign utility in Taiwan noted that:

> "It is believed that the proposed rule change on 10 CFR 100 will impose a great impact to our local nuclear development yet have no significant safety enhancement. Therefore, serious reconsideration before any further action is strongly recommended."

This same utility also commented regarding the impact of the proposed rule on utilities in Taiwan, stating:

> "Last but not the least, the licensability in the country of origin for reactor design and siting is set forth as a minimum requirement in Taiwan. Once the proposed rule becomes effective, TPC (Taiwan Power

Company) may be forced to purchase reactors from countries other than the USA simply due to the problem associated with the rule compliance in siting."

Finally, a comment received from 9 Japanese utilities stated:

"Although it is true that nuclear safety regulation within a particular country remains the national responsibility of that country, it is also true that many countries made reference to the US rule when establishing their rules for LWR safety regulation and the US will continue be very influential in the arena of international safety standards. The proposed revisions, if adopted, will seriously impact the U.S. nuclear industry, as well as the nuclear industry in other countries.

In the earliest days of nuclear reactor siting, the exclusion area was set in relation to core thermal power. Later, however, with the incorporation of engineered safeguards into the design, U.S. siting standards were revised to take these design features into consideration. Many countries with commercial nuclear power plants adopted the U.S. approach. We are confident that this siting approach, together with the other codes, standards and practices to ensure safety, has been sufficient to ensure adequate protection of the health and safety of the public from any undue risk that may arise from the operation of nuclear power plants.

By setting certain predetermined numbers for population density and exclusion area, the proposed revisions, if adopted, would reverse this history of ensuring safety through the incorporation of safety technology into the design and would unnecessarily create confusion among the countries using nuclear power."

Issue 9: Was sufficient technical justification provided in the proposed rulemaking package to warrant codification?

Discussion: Eight comment letters focused on this question, all were from utilities and foreign utilities and/or governmental entities. One of these letters was from a law firm representing the concerns of 13 foreign utilities; and one was from NUMARC whose comments were endorsed by 12 utilities. All commentors felt that there did not exist sufficient technical justification to warrant codification of this proposed rulemaking. The following comment from NUMARC illustrates this view:

"Codifying in regulation the guidance contained in Regulatory Guide 4.7 (RG-4.7), numeric criteria for minimum exclusion area distance and population density is inappropriate. This guidance has no demonstrated technical basis and does not reflect the accumulated experience of operating reactors and studies performed by the NRC and the industry since 1975."