

50, 52 & 100  
(57 FR 47802)

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Secretary  
U. S. Nuclear Regulatory Commission  
Washington, DC 20555  
Attention: Docketing Branch

Dear Sir:

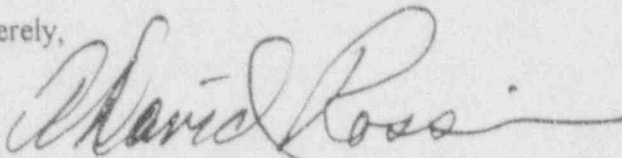
The enclosed comments are submitted in response to Proposed Rule 10 CFR Parts 50, 52, and 100, RIN 3150-93. The Federal Register reference is Vol 57, No. 203, Page 47802 and following.

This proposed rule deals with Reactor Site Criteria.

I am submitting these comments on my own behalf as a private and interested citizen. I am currently serving as President of the American Nuclear Society. However, these comments are not submitted on behalf of the ANS, since no review or Board action on them was attempted.

I will be pleased to discuss my comments with staff at a time of mutual convenience, and would reserve the right to request an opportunity to be heard by the Commission should any public hearing be held pursuant to any action on this proposed rule.

Sincerely,



A. David Rossin

**COMMENTS ON PROPOSED REVISIONS TO SITING RULES**  
**FR v. 57, No. 203 - TUESDAY OCT. 20, 1992**

**10 CFR PARTS 50, 52 AND 100**

**ASPECTS OF THE PROPOSED RULE**

The proposed revisions involve at least four distinct matters:

1. Population and population density around a plant location
2. Seismic considerations
3. Denial of petition from Free Environment, Inc.
4. Consideration of recommendations from Siting Task Force

**NOTE: THESE COMMENTS DO NOT ADDRESS SEISMIC SECTIONS OF PROPOSED RULE**

**SUMMARY RECOMMENDATION:**

The proposed Section (b) of 10CFR Part 100.21 is not reasonable, necessary or appropriate as a criterion for evaluating the suitability of proposed nuclear power station sites. It uses population density in areas defined by a radius of 30 miles (or in various contexts 10 to 40 miles) around the location of a plant. This concept was rejected by the Commission in the past, and there is no justification for proposing it again. Section (b) should be deleted in its entirety, with the following exception: Transient population should be considered (b)(3) but only as one of many factors, and never in relation to population density.

**INSTITUTIONAL MEMORY**

Early in the 1970's Consolidated Edison Co. considered locating a nuclear power plant at its Ravenswood site, adjacent to New York City. The project was dropped, but it raised questions about the prudence of nuclear power plant sites that would be close to large population centers. 10CFR100 identifies a low population zone (LPZ) based on specified exposure pathway calculations, and places restrictions on the proximity of the nearest population center of 25,000 people or more.

The Notice says that without numerical limits, this population center rule has little practical effect, and the staff has had difficulty defining a "densely populated center" in some cases. In fact, the rule has had precisely the effect that public policy demands: Sites have been selected that are not adjacent to large or even relatively small population centers, emergency planning has been accomplished without difficulty as long as the

jurisdictions involved have cooperated, and there are no proposals for sites in densely populated areas. Nor are there likely to be any.

It is my concern that by codifying the questionable numerical guidance now appearing in reg. Guide 4.7, there may be no siting proposals, only more litigation.

In 1972, a proposal for establishing numerical population density limits for nuclear power plant sites was drafted by NRC and issued for comment. Anti-nuclear groups commented in favor of the concept, but asked for more stringent limits and for the shutdown of plants on sites that did not meet the proposed numerical limits. A group of utility executives from companies that served the nation's largest cities met with the Director of Regulation (the late John O'Leary) and Harold Denton to discuss the proposed guidelines. I attended that meeting as aide to Byron Lee of Commonwealth Edison Co. At this meeting, an understanding was reached on the subject of "urban siting".

(Whether related or not, a few months before, one of the Commissioners had appeared on a TV news interview in which he was asked if there were any plants right in major cities. He said no, and that the NRC's rules would not permit it. Immediately afterwards, he asked the staff to find the rule, and when the only guidance was Part 100, he asked staff to look into whether or not a specific rule was needed to ensure against "urban siting".)

The staff conducted a study which included drawing concentric circles on a map around each existing site, and calculating the population density figures. They came up with round numbers that would envelope the existing sites, with the exception of Indian Point, Zion and possibly Limerick. (At that time, Environmental Impact Statements were being prepared for many existing plants and those applying for construction permits in response to the Calvert Cliffs decision. Some may recall that the first severe accident studies involved Indian Point and Zion. Those studies resulted from the population density/siting issue.)

Mr. O'Leary explained that these numerical limits would provide assurance that "no more Ravenswoods would be proposed." The executives asked what the justification was for the choice of numbers, and were told about the map studies. All agreed that there was no safety significance to the numbers, nor any scientific basis for them. It was purely an enveloping exercise.

The utility representatives pointed out that any existing sites falling outside or even near to the limits would be challenged, and that with no bias for the numbers, would be hard pressed to explain why they should be granted a special reprieve. They noted that plants in Europe and Japan could not possibly be sited on the basis of these proposed regulations. The discussion logically came down to a commitment on the part of the industry that no utility would even consider proposing an "urban site" and that NRC would drop the population density siting criteria concept.

Within three weeks, a group obtained an internal NRC memo under the Freedom of Information Act that told staff reviewers to examine any proposed site in light of the population density criteria, and consider alternate sites more favorably if the proposed site did not meet them. Despite the agreement, this guidance was ultimately put into Reg. Guide 4.7. At least one proposed site was dropped in favor of an alternative site under pressure from Reg. Guide 4.7. (I do not believe the alternative site has an operating plant.)

## RISK AND POPULATION

The nuclear community has learned that defense-in-depth works, that containment buildings can prevent catastrophic releases, that a serious accident in a licensed Western-design plant would be a slowly developing scenario, that emergency planning is possible, and that persons 30 miles from a nuclear power plant are not living in jeopardy because of it.

We also know that in the adversary atmosphere in which nuclear power exists, the person who lives on a farm or in a village 2 or 5 miles from a plant might ask why people 30 miles away should be a determining factor in whether or not it is safe to operate that plant.

## USE OF POPULATION DENSITY IN EXAMINING AND EVALUATING ALTERNATIVE SITES

It is justifiable to raise issues concerning population centers in the region extending from a nuclear plant site. These can properly be aired in a site suitability hearing process. However, putting up an arbitrary set of numbers against which sites are to be compared makes little sense.

Of most concern is the way that Reg. Guide 4.7 came to be used, whether intended or not. The arbitrary population density numbers became go/no-go criteria. They were allowed to supersede all other environmental issues and force a candidate site out if an alternative site were available that had a "better population density profile." Opponents can always argue that some other site might be better.

## RULE SHOULD APPLY ONLY AT SITE LICENSE TIME. PLANT NEVER IN QUESTION LATER

Regardless of the guidance adopted for site selection, it must be recognized that the licensee does not have power or jurisdiction over activities that take place outside its property. Thus site characteristics have to be evaluated at the time of site evaluation, questions can be raised about the future, but if a site is approved, it should never be reopened for evaluation based on changes that have taken place since its initial licensing. This is obviously particularly true of population density. Anyone who moves in is fully aware of where the plant site is.



## ANSWERS TO QUESTIONS REQUESTED BY NRC:

### A. REACTOR SITING CRITERIA (Page 47811)

1. Should the Commission grandfather existing sites with exclusion area less than 0.4 miles?

Yes. Grandfathering may be necessary to pre-empt opportunistic law/suits aimed at shutting down a plant. The numerical limit provided guidance at the time a site was considered, but once approved, a site should never be challenged *ex post facto* based on later interpretation of minor technical aspects of a rule.

2. Should exclusion distance be smaller for lower power level plants?

This is not important. The concept of an exclusion area is important, not its precise size. Power level should not be a determining factor in the rule. This question deals with future modular reactors which could be of smaller size. While it could be argued that a smaller exclusion radius is adequate, future sites will have to encompass a sizable piece of property, and will be more acceptable if the generating and support units are not close to other types of facilities. In no case should this be an issue for existing sites.

3. The commission proposes to codify Reg. Guide 4.7.

**This should not be done.** This Reg Guide itself should be **rescinded** as providing improper guidance and unnecessary for site selection or evaluation.

A. Numerical values of population density should not appear in the regulation. General guidance, like that currently in Part 100, has proved to be sufficient, workable and justifiable. No Reg Guide should be issued that contains any population density criteria.

B. Numerical values: Asking for comment on the appropriate numerical values clearly reveals the scientific bankruptcy of this approach. This Notice asks what the basis should be for other numerical values. There is no basis for the numerical values proposed in this Notice in the first place. No basis has ever been offered that holds up under scrutiny for any population density criteria within any radius around a plant. There is certainly no basis for criteria out to distances of 20, 30 or 40 miles.

C. Distances: As above, there is no justification for any particular distance for setting population density criteria.

4. Future sites that might exceed population values: If the criteria as finally adopted contain arbitrary population criteria as proposed in this Notice, there may be enough challenges to the rule that it will have to be withdrawn. If the rule does not contain

population criteria out to distances of ten miles or more, questions of large population centers can be raised in hearings for site acceptability and considered on the basis of communications, traffic, etc. in relation to alternative sites, but not as a rigid criterion which would have to be reconsidered for otherwise acceptable sites.

5. Periodic reporting and updating: Once a site is approved, it should remain acceptable without challenge or reconsideration. If a facility, such as a plant that processes explosive chemicals, is proposed for a site near by, the licensee or the NRC could raise any question it might choose regarding that facility. Obviously, emergency plans will be updated. The Commission needs no other involvement with the area surrounding an approved site. Neither party has no jurisdiction over land use outside its property, and cannot be put in a position of reconsidering a long-term licensing commitment because of what other parties, fully aware of the site's existence, should choose to do. This brings up a basic error that was illustrated by the emergency planning rule. Action or inaction by other parties was used to undermine the Commission's actions.

6. Continuing obligations: As suggested above, the concept of the Exclusion Area involves definition of a region in which the licensee can exercise control. Such control is neither expected nor implied in 10CFR100, and cannot be in any revision to it.

7. Meteorological conditions: Meteorological data are required for the EIS for any site. They can be raised in the site suitability hearing. No rigid rule or requirement would make any sense in light of the history of licensing and operating nuclear power plants around the world. Regulations have been adopted for hurricanes and other major storms or natural disasters. In general, plants have been designed to regulations which encompass most conceivable natural phenomena.

8. Siting Policy Task Force Report NUREC - 0625: This was a Task Force report, and the commission is under no obligation to accept any, let alone all, of its recommendations. The Task Force concentrated on site issues, and did not examine broader issues of energy policy, licensing, political opposition, etc. Even some of its recommendations which support proposals in this Notice are of questionable logic, and the Commission should not be able to justify any proposal on the basis that it appeared as a recommendation in NUREG-0625.