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March 24, 1993

Mr. Samuel J. Chilk, Secretary  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

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Attention: Docketing and Service Branch

RE: Response to Proposed Rulemaking -- Reactor Site Criteria;  
Including Seismic and Engineering Criteria for Nuclear  
Power Plants and Proposed Denial of Petition for  
Rulemaking from Free Environment, Inc. et al.  
57 Fed. Reg. 47,802 (October 20, 1992)

The Nuclear Regulatory Commission ("NRC" or "Commission") has published a proposed rule that would, inter alia, amend 10 C.F.R. Part 100 to include a new Subpart B and Appendix B, which define a new set of requirements for siting new power reactors. 57 Fed. Reg. 47,802 (October 20, 1992), comment period extended, 58 Fed. Reg. 271 (January 5, 1993). The proposed rule raises an issue of considerable importance to existing Part 50 power reactor licensees -- the continued adequacy of a reactor site previously reviewed and approved by the NRC based on the requirements in effect at the time of licensing.

These comments are limited in scope and focus on the possible adverse effect that proposed Subpart B would have on existing reactor sites. To counter that effect, adoption of one of following two alternatives is required: (1) permit existing reactor sites the option of following either Subpart A or proposed Subpart B for new reactor licensing applications; or (2) revise Subpart B to specifically exempt existing reactor sites from the more stringent requirements associated with the exclusion area distance. These comments are submitted on behalf of Northeast Utilities and Washington Public Power Supply System.

1. An Applicant to Construct a New Plant on a Reactor Site Previously Reviewed and Approved by the NRC Should Have the Option of Applying Either Subpart A or B to 10 C.F.R. Part 100

The notice states that the proposed rule is prospective, applying only to future Part 50 and Part 52 applicants, not to

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existing reactor sites. 57 Fed. Reg. at 47,803. The language of the proposed rule attempts to implement that intent. For instance, the new siting requirements in proposed Subpart B to Part 100 are to apply to a Part 50 or Part 52 application filed after the effective date of the rule change. See 10 C.F.R. Part 100, proposed Subpart B (title) and proposed Appendix B (title and "General Information").

However, proposed Subpart B also would apply to an application for the construction of a new plant at a reactor site already reviewed and approved by the Staff. If the new plant were to be located on a reactor site at which another unit (or units) is currently operating or under construction, two separate siting requirements would be applied to the single reactor site -- i.e., Subpart A for the unit(s) currently on the site and proposed Subpart B for the new plant(s) proposed for the site. Because, under such a scenario, the reactor site would have to be re-reviewed and re-approved, the proposed rule is not truly prospective.

If the Staff applies the new requirements in proposed Subpart B to a previously reviewed and approved reactor site, and then rejects a new plant to be located there on the basis of inadequate siting characteristics, additional time, effort, and cost would need to be expended to identify and study another reactor site -- and there is not an abundance of sites. The new rule would ignore the fact that a previously approved site had already been dedicated to power production and thereby is likely to have fewer environmental, construction, and acceptance issues associated with it. Moreover, it is unclear what effect the rejection would have on the previously reviewed and approved reactor site. In sum, by precluding the use of a reactor site based on new siting regulations when that site was previously reviewed and approved under an earlier version of the regulation, the proposed rule works an unfair, inequitable, and possibly incorrect result that should be avoided.<sup>1/</sup>

To preclude such an anomalous result, and to ensure that the rule is truly prospective, we recommend that the Staff permit an applicant to construct a new plant on a reactor site previously reviewed and approved by the NRC the option of applying either Subpart A or proposed Subpart B of revised 10 C.F.R. Part 100.

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<sup>1/</sup> Cf. Northern Indiana Pub. Serv. Co. v. Porter County Chapter of the Izaak Walton League of America, Inc., 423 U.S. 12, 15-18 (1975) (Douglas, J., noting the danger of retroactively applying an amendment to 10 C.F.R. Part 100 when the pre-existing regulation had already been specifically applied).

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In addition to these potential considerations, there is a legal implication as well -- backfitting. We conclude that application of the proposed Subpart B siting requirements to approved reactor sites (as opposed to a new plant on the site) may in certain circumstances constitute backfitting within the meaning of 10 C.F.R. § 50.109(a)(1). This conclusion stems from the fact that the Staff can, if presented with an application, complete an early site review under Appendix Q to 10 C.F.R. Part 50 or issue an early site permit under Subpart A to 10 C.F.R. Part 52. If such an approval had been granted, and the reactor site was later rejected for failure to meet the new siting requirements contained in proposed Subpart B, the Staff would have modified its prior approval. Therefore, if our recommendation is not adopted, the Staff should revise its backfitting analysis (see 57 Fed. Reg. at 47,813) to address potential adverse effects on such previously reviewed and approved reactor sites.

Finally, the Commission should expressly state in the Part 100 rulemaking that the new siting requirements in proposed Subpart B are not applicable to the issuance of a renewed license pursuant to 10 C.F.R. Part 54. The licensing of existing sites under the current regulations in Part 100 is specifically encompassed within the "current licensing basis," as that term is defined in 10 C.F.R. § 54.3. Therefore, the subject rulemaking should be amended as suggested in order to preclude any confusion over this fact.

2. Existing Reactor Sites with an Exclusion Area Distance of Less than 0.4 Miles Should Be Able to Place New Units at the Site

Recognizing the potential legal implications attendant to the application of new siting requirements to existing reactor sites, the Staff posed the following question in the proposed rule: "Should the Commission grandfather existing reactor sites having an exclusion area distance of less than 0.4 miles (640 meters) for the possible placement of additional units, if those sites are found suitable from safety consideration [sic]." 57 Fed. Reg. at 47,811. For the reasons developed below, we answer this question in the affirmative. However, we do not agree with the qualifying clause in the question implying the need to re-assess existing site suitability from a safety perspective. If an existing reactor site has an exclusion area distance of less than 0.4 miles, the site should be grandfathered under the proposed rule without any additional review. Should the Staff conclude otherwise, as implied by the last clause in the question, a detailed basis should be provided for following such an approach and the "safety consideration[s]" should be identified that will be used to re-assess site "suitability."

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Proposed Section 100.21(a)(1) prescribes a minimum exclusion area distance of 0.4 miles. As the Staff is aware, of the more than 75 power reactor sites approved by the NRC, 25 sites have exclusion area distances of less than 0.4 miles but still satisfy the current Part 100 dose limitations (i.e., Subpart A).<sup>2/</sup> However, because the proposed requirement at Section 100.21(a)(1) affords no leeway on the exclusion area distance, these 25 approved reactor sites would not meet proposed Subpart B if they were identified in an application for a new plant. Such a result would serve little purpose other than to foreclose an otherwise acceptable site from future use.

The proposed requirement of 0.4 miles for the exclusion area distance stems from the existing Staff guidance identified in Regulatory Guide 4.7. However, proposed Section 100.21(a)(1) is silent on the option also provided in Regulatory Guide 4.7 of using compensatory plant design features where the exclusion area distance is less than 0.4 miles.<sup>3/</sup> While we recognize the Staff's desire in this rulemaking to decouple plant design from reactor siting (relocating the former to Part 50 and retaining the latter in Part 100), to adopt an already arbitrary standard of 0.4 miles without also adopting its counterpart alternative is not in keeping with past Staff practice or Commission policy.<sup>4/</sup> Moreover, in this proposed rulemaking, the Staff specifically declined to adopt a recommendation that sites should have "no unfavorable characteristics," concluding instead that "applicants may provide specific plant design features to compensate for site inadequacies." 57 Fed. Reg. at 47,810.

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<sup>2/</sup> See SECY-92-215, "Revision of 10 CFR Part 100, Revisions to 10 CFR Part 50, New Appendix B to 10 CFR Part 100 and New Appendix S to 10 CFR Part 50," dated June 12, 1992, at 5.

<sup>3/</sup> Historically, the Staff guidance called for reactor sites with an exclusion area of 0.4 miles, but permitted lesser distances where "special conditions on the station design (e.g., added engineered safety features)" were used to meet the offsite doses limitations in Part 100. See Regulatory Guide 4.7, "General Site Suitability Criteria for Nuclear Power Stations," Rev. 1 (Nov. 1975), Regulatory Position C.3.

<sup>4/</sup> See Public Interest Research Group, DPRM-88-5, 28 N.R.C. 829 (1988). There, a petition to change Part 100, including a request to adopt a specific numerical limit of 0.4 miles for the exclusion area distance, was denied on the basis of the guidance in Regulatory Guide 4.7, and the generally recognized need for "regulatory flexibility" when applying the Part 100 siting requirements. *Id.* at 832-33.

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Therefore, the proposed requirements in Section 100.21(a) should be modified as follows (additional language is **bolded**, deleted language is ~~struck-through~~):

(a) Each reactor facility must have an exclusion area, as defined in § 100.3(a) of this part.

(1) For sites with a single reactor facility, the distance to the exclusion area boundary at any point (as measured from the reactor center point) ~~shall~~ should be at least 0.4 miles but if the distance is less than 0.4 miles it may be necessary to place special conditions on the station design (e.g., added engineered safety features).

(2) For sites with multiple reactor facilities, consideration must be given to the following: If the reactors are independent to the extent that an accident in one reactor would not initiate an accident in another, the size of each exclusion area must be determined with respect to each reactor individually and if the distance is less than 0.4 miles it may be necessary to place special conditions on the station design (e.g., added engineered safety features). The exclusion area for the site must then be taken as the plan overlay of the sum of the exclusion areas for each reactor. . . .

This proposed language is the same as that contained in Regulatory Guide 4.7, Rev. 1, Position C.3, at p. 4.7-9. In addition, this proposed change is similar to the alternate provision contained in proposed Section 100.21(b)(1), which addresses alternatives to specific population densities.<sup>2/</sup>

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<sup>2/</sup> Section 100.21(b)(2) prescribes a maximum population density at the time the application is approved and 40 years later. If the population density exceeds the prescribed values, the Staff can still approve the site under Section 100.21(b)(1) if the licensee demonstrates that there are no reasonably available alternative sites, or if the licensee offers "other considerations" why the site is nonetheless preferred.



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Alternatively, if the Staff concludes that it is not appropriate to generally revise the regulation to include an option that permits the use of plant design features where the exclusion area distance is less than 0.4 miles, existing sites that have an exclusion area distance less than 0.4 miles should be grandfathered from the requirements of proposed Section 100.21(a)(1). For example, the proposed requirements in Section 100.21(a) could be modified as follows (additional language is **bolded**):

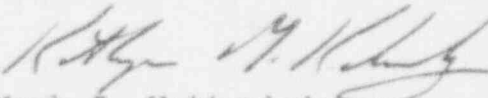
(a) Each reactor facility must have an exclusion area, as defined in § 100.3(a) of this part.

(1) For sites with a single reactor facility, other than reactor sites on which facilities have been licensed prior to [EFFECTIVE DATE OF THE FINAL RULE], the distance to the exclusion area boundary at any point (as measured from the reactor center point) shall be at least 0.4 miles (640 meters).

(2) For sites with multiple reactor facilities, other than reactor sites on which facilities have been licensed prior to [EFFECTIVE DATE OF THE FINAL RULE], consideration must be given to the following: If the reactors are independent to the extent that an accident in one reactor would not initiate an accident in another, the size of each exclusion area must be determined with respect to each reactor individually. The exclusion area for the site must then be taken as the plan overlay of the sum of the exclusion areas for each reactor. . . .

These changes would specifically exempt all existing reactor sites licensed prior to the effective date of the final rule from the requirement that the exclusion area be at least 0.4 miles.

Sincerely,

  
Mark J. Wetterhahn  
Kathryn M. Kalowsky

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