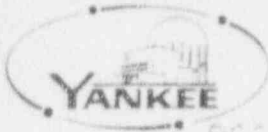


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March 11, 1994  
FYC 94-005  
SPS 94-019

Mr. Samuel J. Chilk  
Secretary of the Commission  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555

Attention: Docketing and Service Branch

Subject: Yankee Atomic Electric Company Comments - Nuclear  
Regulatory Commission Staff's Draft Proposed Rule  
"Radiological Criteria for Decommissioning of NRC-  
Licensed Facilities" (59FR4868)

Dear Mr. Chilk:

Yankee Atomic Electric Company (Yankee) appreciates the opportunity to comment in response to the subject draft proposed rule on radiological criteria for decommissioning of NRC-licensed facilities. Yankee is the owner of the Yankee Nuclear Power Station in Rowe, Massachusetts and provides engineering and licensing services to nuclear power plants in New England. Because the Rowe facility has been permanently shutdown and is now in the process of preparing for decommissioning, we are vitally concerned about regulations that define the criteria to be used to establish completion of decontamination and decommissioning of an NRC licensed facility.

Yankee has fully supported and participated in the Staff's enhanced public participation process for developing the radiological criteria for decommissioning. A Yankee representative participated as a principal in the NRC Workshop held in Boston on March 12, 1993. In addition, we also submitted specific written comments on June 28, 1993 responding to the Staff's "Rulemaking Issues Paper on Radiological Criteria for Decommissioning of NRC-Licensed Facilities" (57FR58727). This comment reinforced our stated positions at the Workshop.

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Yankee's comments and recommendations regarding the subject draft proposed rule are detailed in Attachment 1 to this letter. As a member of the NUMARC Ad Hoc Advisory Committee on Residual Radioactivity we have contributed to and support the industry comments filed by NUMARC in this matter.

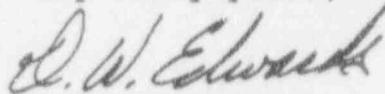
In essence our comments may be summarized in the following points:

1. A site specific dose rate of approximately 3.0 mrem/yr greater than the regional average should be the limit set by the regulation. This value is well within the natural variation of background and constitutes a level that presents no incremental increased risk to the environment or the public.
2. Proposing goals below a conservatively established limit as the one defined above, only blurs the regulatory requirement. The procedures and methods to evaluate actions in the intermediate range are unspecific and challengeable. Therefore, the regulatory process will always default to the lower value and the goal becomes the de facto limit. The 3 mrem/year value in this specific case is both unattainable and economically disastrous.
3. An examination of details of the proposed criteria exposes what we conclude to be an untenable regulatory position:
  - a. The governing premise continues to maintain that each radionuclide must be at a level which is indistinguishable from background.
  - b. Specific and explicit methods to be used for determining compliance to the regulation are not developed.
  - c. No quantitative assessment of the costs involved in actually meeting the arbitrarily selected goals has been provided.
  - d. No quantitative benefits are identified as the result of the extreme measures necessary to try to achieve the goals.
  - e. The significant uncertainty that compliance could ever be conclusively demonstrated signals the need for a clear, concise approach with a justified and defensible limit as the criterion.

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Fortunately, the subject document is merely a draft proposal which can be refined to address the shortcomings identified. We look forward to working with the staff to develop interim guidance which would address the voids in implementation and would benchmark the process so that the resulting proposed rule would be technically supportable and economically feasible.

Very truly yours,



D. W. Edwards  
Director, Industry Affairs

Attachment

Yankee Comments and Recommendations on

NRC Staff's Draft Radiological Criteria for Decommissioning

I. Radiological Criteria

The draft proposed rule would establish a dose limit, for release of a site, of 15 mrem/y for residual radioactivity distinguishable from background. It would also establish a "goal" of returning the site to background levels of radioactivity. This goal could be met by demonstrating that the TEDE for all radionuclides distinguishable from background did not exceed 3 mrem/y. An ALARA analysis would be required between the 3 mrem/y goal and the 15 mrem/y limit.

Yankee participated in the March 12, 1993 NRC Workshop in Boston and submitted comments on the Issues Paper on June 28, 1993. Based on the documented variability of background radiation levels in the New England area, Yankee asserted that the compliance dose limit should be set in the range of 30-40 mrem/y. The Health Physics Society's Scientific and Public Issues Committee published a Position Statement in the February 1994 HPS Newsletter entitled "Return to Background". In this Position Statement the Committee provided a detailed description of the natural radiation environment and the variability in this environment. It stated that, in the U. S., the dose rates at different sites from cosmic radiation vary from 10 to 100 mrem/y and the dose rates from terrestrial radiation range from 50 to 140 mrem/y. Based on Yankee's own measurements in the New England area, and the measured background dose rates in the U. S., Yankee continues to recommend that the compliance dose level for site cleanup be established no lower than 30 mrem/y.

The Health Physics Society Position Statement concluded that "For purposes of limiting lifetime risk, a site-specific dose rate of 10-30 mrem/y greater than the regional average is well within the natural variations of background and should be considered equivalent to background and without demonstrable increased risk." The NRC staff draft proposed rule states that the 3 mrem/y criterion "was selected because variations of this magnitude are barely distinguishable from the dose from background radiation." In fact, as was pointed out by the Health Physics Society, this same argument could be made for the 15 mrem/y limit. Again, this leads to the reasonable conclusion that for purposes of an upper limit of dose rate for a decommissioned site, the 15 mrem/y criterion is too restrictive.

It is understood that establishing a criterion as a floor for any ALARA analysis is a useful concept. Such a criterion was, in fact, proposed by Yankee in our previous written comments. Relating an extremely low dose rate, such as 3 mrem/y, to a decommissioning goal, however, as the NRC has done, can only lead to the expenditure of large sums of money with little benefit. The application of a 15 mrem/y limit, plus an ALARA analysis, will conceivably place most licensees in the awkward position of not meeting the "decommissioning goal", when the analysis and evaluation is based on a reasonable cost/benefit approach. The political reality of this position is that the 3 mrem/y could become the de facto limit, and the costs of site cleanup would significantly, and unnecessarily, escalate. Yankee recommends that the NRC not combine limits and goals in this regulation. The use of a site limit, combined with ALARA analyses, leads to the most straightforward, cost effective, and most importantly, safe regulatory approach.

## II. Residual Radioactivity

In the Supplementary Information section of the draft proposed rule, the NRC states that "all residual radioactivity at the site, including that previously disposed of in accordance with NRC requirements in 20.304, 20.302, and 20.2002 must be included in determining whether the licensee meets the radiological criteria in the proposed rule." These Part 20 references allow for the disposal of radioactive material in other than licensed disposal facilities. The proposed definition of "Residual Radioactivity" however, includes the words "radioactive materials .....discharged from the site in accordance with 10 CFR Part 20." Without reference to the specific paragraph numbers (as in the Supplementary Information) this could be interpreted to include all licensed releases of gaseous and liquid radioactive waste during facility operation. Since this was not the intent of the NRC, Yankee recommends that the specific paragraphs identified above be included in the definition of Residual Radioactivity.

## III. Readily Removable Residual Radioactivity

In the proposed section 20.1403, it states that "all readily removable residual radioactivity shall be removed from the site or disposed of on site". This would appear to require a zero smearable contamination limit for any buildings or equipment left on site following decommissioning. This would be impossible to achieve. Yankee recommends that the NRC clarify the intent of the above statement in 20.1403 by reference to Regulatory Guide 1.86 or some other standard for acceptable removable contamination limits.

#### IV. Proposed 20.1404

Proposed section 20.1404(a)(1) ends with the word "and". Yankee recommends that the word "and" be replaced with the word "or" in this section. The word "and" would imply that meeting both (1) and (2) are necessary, whereas meeting (1) makes (2) moot.

#### V. Minimization of Contamination

Proposed section 20.1408 includes requirements for minimizing contamination of the facility and the environment, and minimizing the generation of radioactive waste. These issues must be addressed at license application, when a license amendment involves a substantial facility modification, or within 3 years of the effective date of the rule. These requirements are conflicting. For example, the reduction of facility contamination, and the reduction of releases to the environment both result in the generation of solid waste. There is therefore, a tradeoff between environmental contamination and solid waste generation. It is unclear what the NRC expects from a licensee in demonstrating compliance with this section. Accordingly, Yankee recommends that this section be deleted in its entirety.

#### VI. Finality

Proposed section 20.1402(c) places needed restrictions on reopening a site for further cleanup once the license has been terminated in accordance with the proposed rule. These restrictions do not apply, however, to licenses terminated under a decommissioning plan approved by the Commission prior to the effective date of the rule. The Commission apparently intends that an approved decommissioning plan is an acceptable alternative to the criteria in the proposed rule (see proposed 20.1402(b)). Yankee therefore recommends that 20.1402(c) be amended such that the restrictions on reopening a site would also apply to any site which was cleaned up to criteria in an approved decommissioning plan.