GENERAL ELECTRIC

NUCLEAR POWER

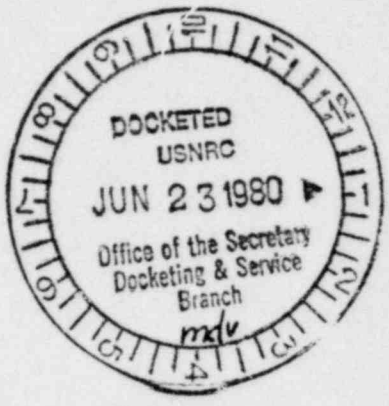
SYSTEMS DIVISION

GENERAL ELECTRIC COMPANY; 175 CURTNER AVE., SAN JOSE, CALIFORNIA 95125

MC 682, (408) 925-5722
ANT-16-80

DOCKET NUMBER
PROPOSED RULE PR-20 (59)
(45 FR 18023)

June 16, 1980




Secretary of the Commission
U. S. Nuclear Regulatory Commission
Washington, DC 20555

Attention: Docketing and Service Branch

Gentlemen:

SUBJECT: COMMENTS ON PROPOSED MAJOR REVISION TO 10CFR20

General Electric has reviewed the advance notice of proposed rulemaking (45FR18023) concerning a major revision to the NRC radiation protection standards in 10CFR20, and has the following comments.

1. The NRC staff statement of purpose for NRC radiation protection standards begins, "the NRC standards for protection against radiation should identify...requirements...that will provide adequate protection of the health and safety workers, individual members of the public and the population in general..." This statement presupposes that acceptable risk has been defined. However, there is no federal policy and set of guidelines that define acceptable risk for all sources of exposure to radiation and radioactive material that exist in the United States today. Establishment of that policy and guidelines should be one of the first tasks of the newly created Radiation Policy Council. The existing NRC standards have resulted in a very high level of safety for both workers and the public. Therefore, the NRC should undertake the proposed revision only after a federal level of acceptable risk from ionizing radiation is established.

2. The staff's list of tentative essential elements that should be contained in the NRC radiation protection regulations contains a large number of what appear to be "how to conduct a radiation safety program" details as opposed to performance standards. Example of "how to" details are:

L-4-3pt.20

Acknowledged by card. 6/23/80 mdv....

a. Procedures for transportation of radioactive material.
b. Procedures for responding to emergency situations
c. Procedures for radiation protection
d. Procedures for managing overexposures
e. Special provisions to limit collective doses

Those details are more appropriately placed in regulatory guides than in regulations. 10CFR20 should contain performance standards and numerical limits, not detailed "how to" requirements.

3. The statement of purpose would have the radiation protection standards include the bases for the requirements. Although we agree that it is useful to provide the bases for the requirements, it would be more appropriate for regulations to reference documents in which the bases are set forth and the bases should be available for public review and comment before or concurrently with the proposed regulation revision.

4. The proposed revision should endorse or incorporate ICRP-26 without exception, provided such endorsement or incorporation would not be incompatible with the federal acceptable radiation risk policy described above. Such endorsement would bring U.S. radiation protection standards into line with those of many other countries.

5. Both the bases and the regulations should clearly state that:

   a. Numerical dose limits are based on an hypothesis of risk magnitude that is a linear extrapolation from high dose, high dose rate data.

   b. There are no scientific data that demonstrate the validity of the hypothesis.

   c. The hypothesis is thought to be very conservative.

   The basic assumptions should not include a statement that there is a linear relationship without threshold between dose and stochastic effect. The statement should be that there <u>may be</u> such a relationship.

6. The standards should be categorized by severity of violation, e.g. having a faded posted sign should be in a less severe category than an overexposure. Such categorization will formalize the procedure followed now by the NRC during inspections.

7. The bases should contain the concept of effect mitigation by medical treatment. For example, skin cancer is essentially 100% detectable and 100% successfully remitted or cured while leukemia is harder to detect in early stages and not so amenable to treatment.

Consequently, under the federal radiation safety policy, it should be appropriate to have a higher limit for skin exposure than that in the current regulations.

8. The basic radiation principle that "(4) persons occupationally exposed to radiation should be informed of the potential risk of that exposure" should be part of the requirements for a radiation protection program rather than a basic radiation protection principle because it is not derivable from the basic assumptions.

Incorporation of these comments will make the regulation technically more correct and will facilitate its proper use by industry and the NRC. If you have any questions, contact A. N. Tschaeche, phone (408) 925-1967.

Very truly yours,

S. J. Stark for R. H. Buchholz

R. H. Buchholz, Manager
BWR Systems Licensing
Safety and Licensing Operation

RHB:ggo/mm/284-86