



E.I. DU PONT DE NEMOURS & CO. (INC.)
MEDICAL PRODUCTS DEPARTMENT

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

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2/24/94

Attention: Docketing and Service Branch
Subject: Draft Radiological Criteria for
Decommissioning, 1/27/94.

OFFICE OF SECRETARY
DOCKETING & SERVICE

Dear Mr. Chilk,

These comments are submitted on behalf of NEN Products, Medical Products/Imaging Systems, E.I. DuPont de Nemours and Company and the Dupont Merck Pharmaceutical Company. NEN Products is a major supplier of radioactive materials for biomedical and industrial research applications. DuPont Merck is a major manufacturer of radiopharmaceuticals for nuclear medicine applications.

Although we have decommissioning plans specific to our operations this proposal applies to us since we are often involved in assisting our thousands of customers to enhance their radiation protection programs.

We have participated in this decommissioning rule making process and are encouraged that the NRC is taking the steps to ensure full involvement of all interested parties. We do recognize that there is a wide range of opinion concerning appropriate decommissioning criteria. Because of this we believe it to be of utmost importance for the NRC to closely follow international and national technical consensus and NCRP and ICRP recommendations. We believe that this is also the intent of the NRC but notice that the proposed standards are more stringent than ICRP recommendations. We believe that an ALARA goal of 30 mrem/year will provide adequate protection of the public and ensure compliance with the ICRP recommendation to limit frequent exposure of individual members of the public to 100 mrem/year.

We also urge that the NRC consider the compatibility of these regulatory proposals with those of other regulatory agencies with the view to conserve federal resources, simplify the regulatory process and provide local and state agency responsibility for funding decommissioning activities beyond those needed to provide adequate protection of the public.

We thank you for the opportunity to comment on this proposal. Please call me if you need clarification or further information.

Yours sincerely,

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COMMENTS ON NRC DRAFT RADIOLOGICAL CRITERIA FOR DECOMMISSIONING.

1. We agree with the NCR's proposal to use dose standards for deciding whether to release licensed facilities for restricted or unrestricted use. This proposal is consistent with NRCP and ICRP recommendations for controlling exposure to ionizing radiation and provides a clearly identifiable goal for planning decommissioning.
2. It is inappropriate to use a risk standard for decommissioning because scientific consensus does not support extrapolating risks estimated in the 10-100 rad range to doses in the micro-and millirem range. The ICRP recently recommended that public dose standards cannot be based on considerations of risk at this time due to lack of scientific evidence for any risk at these low dose rates. Instead the ICRP recommends that public dose limits should be set comparable with variations in natural background. The basis for this recommendation is that the public does not take action to avoid or mitigate background radiation in the 100 mrem to 1 rem per year range.
3. We agree that the average dose to the critical exposed group should be the criteria for a public dose standard. This has been recommended by the ICRP since 1959 and has long been adopted in other countries. This and the use of reference man models provides a means for establishing broadly applicable and consistent protection standards. Another advantage in using a critical group is that it will facilitate licensee, regulator and community participation and agreement in setting specific site decommissioning goals. Variations in dose within the critical group is unlikely to cause any individual to exceed three times the standard for the group. It is also expected that those individuals within the critical group who receive the highest exposure will most likely obtain the greatest benefit from access to the site.
4. In setting a dose standard for the critical group we agree that the NRC should follow the recommendations of the ICRP. The ICRP recommends a dose limit of 500 mrem/y for infrequent exposure of individuals who gain a benefit from this exposure. ICRP recommends a dose limit of 100 mrem/y for members of the public who are exposed for numerous years and who do not derive a direct benefit from this exposure. These ICRP recommendations concern the dose from all sources of ionizing radiation excluding uncontrolled sources such as background and excluding medical radiation.

5. It is reasonable that a dose limit lower than 100 mrem/y should be considered for a single decommissioned site. The 3 mrem/y and 15 mrem/y limits proposed by the NRC are unnecessarily low. They will be unachievable in many cases and involve unreasonable cost for insignificant benefit to the public. In practice there are very few members of the public exposed to doses approaching 100 mrem per year from a single site. It is extremely unlikely that such an individual can be simultaneously exposed to similar sources such that their total dose will regularly exceed 100 mrem/y. Because of this practical circumstance it is not necessary to set such low dose standards for a decommissioned site. Instead a dose limit approaching 100 mrem/y will achieve the ICRP goal for limiting the dose to individual members of the public to 100 mrem/y for numerous years.
6. We note that the NRC proposal implies that a lower limit is appropriate for sites that are released for uncontrolled use. Whether or not the dose is controlled or uncontrolled it is the actual dose received that is of concern. In practice potential exposure from such sites will reduce with time due to dilution of residual activity and radioactive decay. Such reductions may not necessarily occur at a controlled site. In those rare occasions where there is a potential for reconcentration of residual radioactivity the proposed NRC regulations contain adequate scope for addressing this issue on a case by case basis.
7. An appropriate ALARA goal should be about one third of the dose limit for unrestricted use. This will be of particular value if the NRC allows compliance with this goal to be demonstrated by using simple dose estimates or radioactivity measurements. An appropriate value for this ALARA goal would, therefore, be about 30mrem/y. To choose a lower goal would cause numerous small sites, with very little potential for public exposure, great difficulty in demonstrating compliance.
8. We do not agree with the NRC's, proposal to use 3 mrem/y as an ALARA goal. We do not agree that 3 mrem/y is comparable with local variations in background dose rate. Radon concentrations typically vary by more than 20 % from year to year at a given location. Individual doses from radon can show even greater variation due to additional changes in personal habits from one year to another. Even greater variation in dose and risk can be experienced between adjacent houses or the decision whether to be a smoker or non-smoker. Variations in local background dose from year to year are more likely to be in the 30 to 100 mrem/y range as is assumed by the ICRP.

9. The "Cleanup Standards" recently proposed by the EPA addresses the compatibility of their standard with other agencies. The EPA requires that other agencies adopt standards that are as least as stringent as the federal standard. The EPA proposes to allow state and local agencies to promulgate more stringent standards provided that they take responsibility for funding the extra cost that this may cause to decommission a site. We recommend that the NRC adopts a similar approach. The NRC federal standards should be set to ensure adequate protection of the public. If local community or state requires a licensee to decommission to a lower standard that does not provide a significant benefit in protection to the public then the applicable state or local community agency should fund this extra effort. This practice will ensure public protection and give the state or local community flexibility to take any extra action that they deem necessary.
10. We are concerned that the EPA and NRC are both developing decommissioning standards. We urge the NRC to work with the EPA to conserve federal resources, develop one standard and agree on one agency responsible for enforcement. The NRC or Agreement State should be the applicable enforcement agency for NRC and Agreement State licensee.
11. We urge the NRC to reconsider the need to provide guidance to small sites on practical means to demonstrate compliance with the decommissioning standards. The draft report NUREG/CR -5849 is far too complex for most licensees. There is an important need for a Regulatory Guide that will allow Radiation Protection Officers at the majority of licensed sites to carry out decommissioning without the need to use consultants.
12. We understand the benefit of involving the local community in the acceptance of decommissioning plans that do not meet the standard. The NRC proposal for licensees to establish a Site Specific Advisory Board appears to be a workable method to ensure community participation. The function of this information is protected. This applies to decommissioned sites since proprietary technology and facility design may often be used at or transferred to another site.