

Radiation Safety Section
Division of Health Facilities & Services
Michigan Department of Community Health
August 13, 2004

Comment Document on Draft NCRP Statement #10 on

Application of the NCRP Public Dose Limit for Ionizing Radiation
NCRP Scientific Committee 1-14

The Radiation Safety Section, Michigan Department of Community Health, has reviewed the July 26, 2004, draft NCRP statement # 10 on the Application of the NCRP Public Dose Limit for Ionizing Radiation and offers the following comments for your consideration.

Comment on Example on Page 4

Page 4 includes an example in which a receptionist employed by the x-ray facility is exposed to scattered radiation from the facility's x-ray equipment. The example states:

“In this case, the site operator should assure that the effective dose received by such an individual does not exceed 1 mSv per year or should assess whether the individual should be classified as a radiation worker.”

We recommend clarification of the following points:

- Should the site operator ensure the individual does not exceed 1 mSv from that one source, from all sources under the facilities control, or from all sources?
- What needs to be considered in this assessment?
- If the individual is classified as a radiation worker, should training be provided? Should dosimetry be provided? What records should be kept?
- If the individual is classified as a radiation worker, is the individual now working in a controlled area? NCRP has previously stated in Report No. 39, Basic Radiation Protection Criteria, pages 20 and 21 that:

Areas should not be designated as a “controlled area” for purposes of permitting relaxation in the degree of protection of occupants. Every reasonable effort should be made to establish a clear and understood separation between controlled areas and areas, including those under the same management control, in which radiation work is not to be conducted. This applies, for example to lunchrooms in industrial plants and hospitals, and to gift shops or waiting rooms in hospitals.

Comment on Classification of Individuals as Radiation Workers

In our opinion, a worker who is entirely stationed in an uncontrolled area should not be classified as a radiation worker. Assignment as a radiation worker should depend on the job duties required and not just on the location of an individual's workstation.

Recommendation for Additional Example

We recommend the document include an additional example that addresses the following:

- What dose limit should be applied to an area adjacent to an x-ray room that is fully occupied by a non-radiation worker **not** employed by the facility (for instance, a receptionist in an adjacent lawyer's office)? Is designing the shielding to meet 100 mrem per year for this area adequate or should the facility be designed for a fraction of this limit since it will not be possible to assess the total dose to that individual? Consider the possibility that that same individual will be exposed from sources in multiple facilities. (There could be radiation facilities on more than one side or both above and below. This is not uncommon in some office buildings designed for many different tenants.)

Comment on Workers Not Employed by the Facility

In these cases, where the facility has absolutely no relationship or control of the individual in the adjacent area, we believe that shielding should be designed for some fraction (such as 1/4) of the 100 mrem dose limit.

Dose Limit for Areas Exposed by Multiple Sources within the Same Facility

Another suggested clarification is how one handles areas exposed to multiple sources. For example, what design dose limit should be used for an area with an x-ray room located above the room and another x-ray room located below the room? In these cases, we recommend that the facility design the area such that the sum of the doses from both sources meets the design dose limit.

Conclusion

We agree that the application of dose limits requires professional judgment. Additional clarification is needed, however, on how dose limits should be applied when dealing with multiple sources and with areas that are fully occupied by workers not related to the facility.

Sincerely,

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