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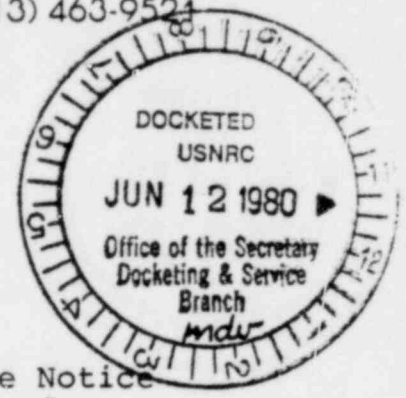
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DOCKET NUMBER
PROPOSED RULE

PR-20 (35)
(45 FR 20493)

June 6, 1980



Secretary of the Commission
U.S. Nuclear Regulatory Commission
Attention: Docketing and Service Branch
Washington, D.C. 20555

Subject: Federal Register Vol.45, No.62, Advance Notice
of Rulemaking Concerning Certification of
Personnel Dosimetry Processors

This letter contains comments relevant to the Federal Register notice on personnel dosimetry, referenced above. The comments are to indicate our opinions of and interest in forming a testing and certification laboratory.

General Comments

The NRC should be congratulated for identifying personnel dosimetry problems in the FR notice. Requiring processor certification is a step in the right direction, and formation of a testing and certification laboratory is needed. To improve personnel dosimetry accuracy, processors (especially small operations) need access to specialized calibration sources and dosimetry expertise. It should be noted, there is currently a shortage of several hundred health physicists in the United States, and there are relatively few health physicists specializing in dosimetry. Therefore finding qualified staff for a laboratory may be very difficult.

Financial support for a laboratory is questionable. The laboratory feasibility depends on the NRC decisions concerning processor certification. The amount of laboratory business will be based on the use of ANSI N13.11, the frequency of required testing, and the extent of NBS monitoring. If the NRC approach is similar to suggestions in NUREG/CR-1064, then there may be sufficient financial incentive to attract a well-qualified dosimetry staff and to procure specialized calibration sources.

The laboratory must be highly autonomous. A direct affiliation with the NRC, other governmental agencies or processors would be interpreted by the general public as a conflict of interest. The laboratory must not jeopardize its ability to testify or offer independent appraisal.

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The objectives of the laboratory should be testing, calibration and research. Limiting the scope of work to performance testing could lead to "rubber stamp" approval of personnel dosimetry methods. Processors, especially small processing operations, need to rely on the expertise at the laboratory. Otherwise, the incentive is to pass the required tests rather than seek solutions to the problems. Routine dosimeter testing is meticulous and can be boring. It will be difficult to attract highly qualified staff unless there is an opportunity to pursue research or consultation goals.

The current personnel dosimetry problems are mentioned in the FR notice. One of the most serious dosimetry problems was neglected. It is, "exposure" to "dose" conversions. Few processors, if any, routinely attempt to convert "exposure" measurements to "dose." The complexities of photon conversion factors are discussed in NUREG/CR-1057. There are similar problems concerning betas and neutrons. The potential errors resulting from misuse of conversion factors are serious. Most processors do not have the training necessary to apply correction factors appropriately. It would be a great benefit to have access to the necessary expertise.

The more mundane problems mentioned in the FR notice, such as lack of calibration sources or effort, clerical errors and failure to screen TLDs, are important problems. The performance testing laboratory must address these problems, but the long term interests of personnel dosimetry can be better served by recognizing that there are technical goals to achieve in addition to administrative and procedural goals.

FR Notice Laboratory Alternatives

The test laboratory should draw on all the dosimetry resources available in the United States. Consultation, financial support or subcontracting should be sought from national laboratories, universities, government agencies and privately owned research companies. Many laboratories have radiation sources that can not be cost effectively duplicated. Certain specialized dosimetry expertise can only be obtained by consultation or subcontract. It is important to utilize all these dosimetry resources through the mechanism of a performance testing laboratory.

The FR notice alternatives number (2), (3), and (4) are not feasible alternatives. Each of these alternatives is directly linked to the NRC or other government agencies. It is no secret that government laboratories are very expensive to establish, more expensive to operate, and less responsive to the customers' needs. There is simply no financial motivation to perform.

If processor certification is required, the alternative number (1), an unspecified laboratory, is possible. Very few competitive businesses (NRC licensees) would be willing to spend money for quality dosimetry unless it is an operational requirement. The implications of health and safety monitoring can be low priority if businesses don't understand the importance or can't find adequate assistance. The voluntary participation by 59 processors in the UM study indicates the desire to improve performance. These processors can justify the costs of performance testing if there is a regulatory requirement.

RCI Position

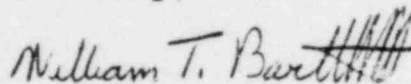
Research Concepts, Inc. is very interested in establishing a dosimetry test and calibration laboratory. A nucleus of well qualified dosimetry expertise has been identified to work on this project. Our opinion is that health physics and personnel dosimetry would be well served by our efforts.

There are two major obstacles that prevent formation of a laboratory at this time. One is the uncertainty of the market; the other is financial support. A potential market would be created if the NRC follows through with its rulemaking on personnel dosimetry processor certification. This would alleviate the first problem.

The second problem is financial. The front-end investment required to establish a quality laboratory is significant, although a private laboratory can be established much more economically than a government laboratory. We are presently seeking financial backing from various sources. The potential of an NRC RFP concerning this project would be of great interest to us.

Research Concepts, Inc. is very interested in the forthcoming NRC rulemaking and in the formation of a performance test laboratory. We would like to continue receiving appropriate notices, information, or RFPs at the address given in this letter.

Sincerely,



William T. Bartlett, Ph.D.
President