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Rules and Procedures Branch, DRR, ADM
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555SUBJECT: COMMENTS ON "GUIDE FOR THE PREPARATION OF APPLICATIONS FOR
LICENSES FOR MEDICAL TELETHERAPY PROGRAMS"

Dear Sir or Madam:

I have read over the above document (second draft, previously issued as TM608-4). It is not radically different from the licensing guide that I used to obtain a teletherapy license here in South Carolina back in 1982. I do however, have three comments to record about this guide.

The first comment concerns item 6 - Purposes for Which Licensed Material Will Be Used. Since the time we received our license, we have used the Cobalt machine for two purposes that we never would have anticipated in 1982. Furthermore, if we had had to wait for a license amendment to allow us to do these things, we would not have been able to perform the service at all. The first was the in vitro irradiation of blood and blood components, which I suppose could be considered a "human use" in some broad sence. The second was assisting high school students with projects involving the study of radiation effects, primarily in plants. Rather than trying to anticipate such uses for license purposes, it seems to be more efficient and yet have adequate control by merely stating that non-human uses will be subject to approval by the licensed users. This comment also has bearing on section 7.2, "Purposed Authorized Users--Non-Human Use").

The second comment refers to section 10.3.4 regarding calibration of survey instruments. The time-worn requirement of being able to calibrate up to one roentgen per hour requires a radiation field that is especially uniform over the extent of the measuring chamber with the strength of about 700 mR per hour. With most commercial cesium calibrators (e.g., J. L. Sheppard series 28, or equivalent) with 120 millicuries of cesium inside, the 700 mR per hour point is so close to the source (around 20 cm) that positional errors coupled with the fact that the field strength is not uniform over the measuring volume (consider a "cutie pie"!) results in calibration errors that can exceed the $\pm 10\%$ criteria. Since in this day and time, the need for such a high range is negligibly small, it does not seem justifiable to incur the extra cost and extra personnel exposure to acheive a high uniform radiation field required to produce 10% accuracy. An acceptable criterion might be to require a single point calibration on the scale that contains one roentgen per hour. Then, if

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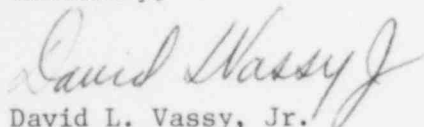
DIPLOMATE, AMERICAN BOARD OF RADIOLOGY

you had a calibrated radiation field that had a sufficiently uniform 200 mr per hour point, you could calibrate meter ranges such as 0 to 1000 or 100 to 1000 mR per hour scales. The other alternative would be to lower the one roentgen per hour stipulation, or add a larger error tolerance.

The third comment is with respect to appendix J, regarding ALARA. The action levels suggested in Table J - 1 are too low for sites doing reasonable amounts of brachytherapy. I understand that brachytherapy is not explicitly licensed under teletherapy. However, the exposures collected by these personnel certainly do overlap exposures obtained under teletherapy licensed conditions. I understand that the NRC is saying that each institution can establish these levels as they deem appropriate; however, since the purpose of this document is to provide guidance overall, it would seem that guidance toward more reasonable levels for the whole body exposures would be consistent. I would suggest 200 millirem for level one and 500 millirem for level two as an absolute minimum starting point.

Please consider these comments in drafting the final version of this teletherapy license guide. Please contact me if you have any questions regarding these comments.

Sincerely,

A handwritten signature in cursive script, reading "David L. Vassy, Jr.", written in dark ink.

David L. Vassy, Jr.

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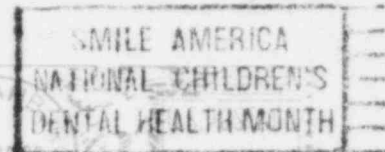
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