July 2, 1984

FCMLB: FAS 030-00105 (17711)

Department of the Air Force David Grant USAF Medical Center ATTN: Bernard S. Tatera, Ph.D. Medical Physicist Travis AFE, California 94535

Gentlemen:

This is in reference to a report dated May 31, 1984, signed by Bernard S. Tatera, Ph.D., describing the results of a radiation survey of your cobalt-60 teletherapy unit. In order to complete our evaluation of the report, we need the following additional information:

- Specify the mechanical and/or electrical beam stops that are operational and restrict beam orientation when the primary beam is directed toward the integral beam absorber. Specify each direction in which the teletherapy head can be moved and the maximum angle (from vertical) of the beam orientation in each direction. (See Item 15 of the enclosed guide.)
- 2. Specify the mechanical and/or electrical beam stops that are operational and restrict beam orientation when the primary beam is directed away from the integral beam absorber. Specify each direction in which the teletherapy head can be moved and the maximum angle (from vertical) of beam orientation in each direction. (See Item 15 of the enclosed guide.)
- Bescribe the tests that were conducted to ensure that electrical and/or mechanical beam stops limit use of the primary beam in the manner described in your response to Items 1 and 2 above.
- From your report of radiation levels in surrounding areas, it is not clear that maximum radiation levels were measured.

Please provide the following information:

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- a. For those orientations in which the primary beam is directed toward the integral beam absorber, determine the rotational position of the teletherapy unit that causes the maximum radiation level (in milliroentgens per hour) in each area adjacent to the teletherapy facility (including above). Report the maximum levels measured with a phantom in the primary beam and specify the corresponding rotational position (i.e., angulation toward each area). In general, the maximum levels will be encountered with the beam oriented 30 degrees from the perpendicular toward the barrier in question.
- b. For those orientations where the primary beam is directed away from the integral beam absorber, report maximum radiation levels that are measured in each area adjacent to your teletherapy facility, including above. You should be sure that your measurements are made with the beam in its most adverse orientation with respect to each barrier.

Please submit the above information in duplicate within thirty (30) days so that we may complete our evaluation of your report. Your response should reference Control No. 17711.

Sincerely,

Francis A. St. Mary Material Licensing Branch Division of Fuel Cycle and Material Safety

Enclosure: Draft Licensing Guide dated March 1982

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