



UNITED STATES  
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

MAY 13 1994

Matthew K. Rick, P.E.,  
Senior Engineer  
Merlin Gerin, Inc.  
5000 Highlands Parkway, Suite 150  
Smyrna, GA 30082

Dear Mr. Rick:

Thank you for your April 20, 1994, letter and enclosure responding to our April 14, 1994, letter.

Our April 14 letter asked two questions:

1. Does the attachment of a magnet to the dosimeters' cases:
  - (a) Adversely affect the ability of the dosimeter to record dose?
  - (b) Adversely affect the ability of the dosimeter to provide dose-based and "stay-time" alarms?
  - (c) Otherwise adversely affect the ability of the dosimeter to detect and record personnel dose?
2. Can the interruption of the dosimeter's ability to detect and record personnel dose data be detected from a reading of the dosimeter's stored data and, if so, how may this be accomplished?

It appears from a review of your April 20, 1994, letter that your response to these questions is as follows:

- 1.(a): Yes.
- 1.(b): Dose-based, Yes. "Stay-time", no answer.
- 1.(c): No answer.
2. Yes. (Apparently, this can be accomplished by a knowledgeable person reviewing the "histogram" printout).

As indicated above, we apparently did not receive a response to our question concerning the ability of the dosimeter to provide stay-time alarms or to our question as to whether the presence of a magnet may otherwise adversely affect the ability of the dosimeter to detect and record personnel dose. Please provide the requested information.

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L-4-1, Pp. 35 - Human USE

X - MH+S-3-8

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It is stated in your April 20 letter that the data printout enclosed with your letter "clearly indicates that something occurred to make the dosimeter stop recording dose in a known rate field." (We assume that the reference to "1252:50" in the fifth line on page 2 of your letter was meant to be a reference to "1352:50"). Lacking the knowledge that you have of your dosimetry system, it appears to us that the printout simply indicates that the dosimeter was not recording dose data. We see nothing in the printout showing the strength of the field of radiation at the dosimeter or otherwise indicating that the dosimeter was not simply turned "off" or placed in the "pause" mode. Please clarify.

Also, although reference is made in your letter to a "histogram", indicating that a histogrammic representation of dose distribution with time was enclosed with your letter, we did not receive such a document. We also note that the data printout enclosed with your letter shows 10 second dose increments indicating that the data is from a DMC-100 dosimeter. Was similar data obtained from the tested DMC-90 dosimeter? If so, we would like to see this data along with the histogrammic representation of the data from both the DMC-90 and the DMC-100 dosimeters.

Thank you for your cooperation.

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LeMoine J. Cunningham, Chief  
Radiation Protection Branch  
Division of Radiation Safety  
and Safeguards

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