UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

JUN 10 1992

Thomas R. Ohlhaber
Associate Director
Health Physics Services
Siemens Gammasonics, Inc.
2501 Barrington Road
Hoffman Estates, IL 60195-7372

Dear Mr. Ohlhaber:

In your letter dated May 28, 1992 you expressed concern that the Siemens Electronic Personal Dosimeter (EPDS) would not be acceptable to NRC for use by licensees. This concern seems to stem from the requirement that only NVLAP accredited processors process TLD's and Film. 10 CFR Part 20.202(c) states that:

> "All personnel dosimeters (except for direct and indirect reading pocket ionization chambers and those dosimeters used to measure the dose to hands and forearms, feet and ankles) that require processing to determine the radiation dose and that are utilized by licensees to comply with paragraph (a) of this section, with other applicable provisions of 10 CFR Chapter I, or with conditions specified in a licensee's license must be processed and evaluated by a dosimetry processor:
>
> (1) Holding current personnel dosimetry accreditation from the National Voluntary Laboratory Accreditation Program (NVLAP) of the National Bureau of Standards, and
>
> (2) Approved in this accreditation process for the type of radiation or radiations included in the NVLAP program that most closely approximate the type of radiation or radiations for which the individual wearing the dosimeter is monitored."

For the revised 10 CFR Part 20, § 20.1502 contains similar language. The rule clearly states that "all personnel dosimeters ... that require processing... be processed" by a NVLAP processor. Since the EPDS requires no processing, it does not require a NVLAP processor. So the issue is not whether the EPDS can be used, but rather, is the EPDS an appropriate substitute for TLD or film. The staff believes that an electronic dosimeter which has proven itself reliable in field use trials and is on a par with current dosimetry used for permanent records in terms of precision, accuracy and reliability would be an acceptable alternative to TLD or film.

As we discussed in our meeting in Orlando earlier in May, there is a problem with the use of alarming dosimeters in areas with high ambient noise levels. There are several instances where the use of an alarming dosimeter would be desirable and would augment the permanent record dosimeter. In these

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instances, an acceptable electronic dosimeter could serve both the function of the permanent record dosimeter and the Digital Alarming Dosimeter. In areas of high ambient noise, a non audible alarm, a very high volume alarm or some alternate method would be needed. As we discussed, this could be a remotely attached vibrating alarm or even a small speaker built into hearing protectors such that the alarm would be audible in high ambient noise areas.

Finally, 10 CFR Part 34.33 states:

> "(a) The licensee shall not permit any individual to act as a radiographer or a radiographer's assistant unless, at all times during radiographic operations, each such individual wears a direct reading pocket dosimeter and either a film badge or a thermoluminescent dosimeter (TLD)."

This part of the regulations would preclude the use of the EPDS for radiographers and radiographers assistants.

10 CFR Part 39.65 states:

> "(a) The licensee may not permit an individual to act as a logging supervisor or logging assistant unless that person wears, at all times during the handling of licensed radioactive materials, either a film badge or a thermoluminescent dosimeter (TLD)..."

This part would preclude the use of the EPDS for well logging supervisors and assistants. If it is the intention of your organization that the EPDS be permitted for use by radiographers or well loggers you might want to submit a petition for rulemaking outlining the suggested change and the rationale for that change.

If I can be of any further assistance in this matter, please do not hesitate to contact me on (301) 492-3745.

Sincerely,

/s/

Charleen T. Raddatz, Health Physicist
Radiation Protection and Health Effects Branch
Division of Regulatory Applications
Office of Nuclear Regulatory Research

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