P821 86-021
Publicly Available

A DIVISION OF Thermo Electron CORPORATION

Eberline

Post Office Box 2108
Santa Fe, New Mexico 87504-2108
Phone: (505) 471-3232
TWX: 910-985-0678 Telex: 66-0438 EIC SFE

October 23, 1985

Director
Office of Inspection and Enforcement
U.S. Nuclear Regulatory Commission,
Washington, DC 20555

Reference: HP-290 Probes

Dear Customer:

Eberline's new microcomputer-based radiation survey instrument, Model ESP-1, is designed to correct for coincidence loss and thus extend the range of each detector probe. It provides an "OVERRANGE" display when the coincidence correction factor exceeds 5 or when the count rate exceeds 2.5 X 10^6 cpm. With Eberline's HP-290 probe, this indication should occur at about 80 R/h, and it is triggered when the count rate from the GM tube exceeds 2.5 X 10^6 cpm.

We have discovered that some of the GM tubes which can be used in the HP-290 probe may not reach 2.5 X 10^6 cpm. In such cases, the detector probe can be in a radiation field considerably above 80 R/h and still provide a reading below 80 R/h. Replacement tubes that have not been selected in accordance with Eberline's overrange criterion may create this problem even if the original GM tube functioned properly.

We recommend that you take one or more of the following precautions if you are using a HP-290 probe with an ESP-1:

1) Verify that the "OVERRANGE" display occurs at an exposure rate below 100 R/h; or

2) Administratively limit your use of HP-290 probes to exposure rates below 50 R/h. In this case, you may want to set the alarm at 50 R/h.

and

3) Notify all appropriate individuals in your organization about this precaution or limitation on the use of HP-290 probes.

Sincerely,

Julian Wells

Julian Wells
Quality Assurance Manager

IE20