



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
612 EAST LAMAR BOULEVARD, SUITE 400
ARLINGTON, TEXAS 76011-4125

May 11, 2011

Team Industrial Services, Inc.
ATTN: David P. Tebo
Corporate Radiation Safety Officer
200 Hermann Drive
Alvin, Texas 77511

SUBJECT: SENTINEL RAD-EYE G

The U.S. Nuclear Regulatory Commission (NRC) has performed a preliminary review of your letter and enclosures dated February 14, 2011, in which Team Industrial Services requested an amendment to the NRC license to authorize a Sentinel Rad-Eye G instrument for use simultaneously as an electronic dosimeter, alarm ratemeter, and survey meter when conducting industrial radiography operations. The NRC staff evaluated the information provided for the Sentinel Rad-Eye G instrument; compared the requirement of 10 CFR Part 34, "Licenses for Industrial Radiography and Radiation Safety Requirements for Industrial Radiographic Operations", for the proposed use; and reviewed the guidance provided in NUREG 1556, Volume 2, "Consolidated Guidance About Material Licenses: Program Specific Guidance About Industrial Radiography Licenses." Our review has determined that there is not sufficient information for the NRC to authorize the Sentinel Rad-Eye G instrument for multiple modalities. Because the amendment request is incomplete and does not provide sufficient information for the NRC to make an assessment, your amendment request dated February 14, 2011, has been voided without prejudice and will be re-instated when sufficient information is received that will allow the NRC staff to make an evaluation. Should Team Industrial Services elect to re-submit its amendment request, it will need to specifically address the following:

1. 10 CFR 34.47(a) requires a radiographer or a radiographer's assistant to wear at all times, on the trunk of the body, a direct reading dosimeter, an operating alarm ratemeter, and a personnel dosimeter, that is processed and evaluated by an accredited National Volunteer Laboratory Accreditation Program (NVLAP) processor.

Demonstrate how a radiographer or radiographer's assistant would use the Sentinel Rad-Eye G instrument in all three modalities simultaneously when the regulations require that personnel monitoring be worn at all times on the trunk of the body. It is not clear how the radiographer or radiographer's assistant would satisfy this requirement if the individual takes the instrument off the trunk of the body to perform a radiation survey (in the survey meter modality), while at the same time using the instrument as an electronic dosimeter. It appears that the electronic personal dosimeter part of the instrument would no longer be performing its regulatory required function when radiation survey measurements are being made when using the survey instrument modality of the Sentinel Rad-Eye G instrument.

2. 10 CFR 34.47(g)(3), requires each alarm ratemeter to have special means to change the preset alarm function. This feature is necessary to prevent the change of the preset 500 millirem limit by the user of the instrument while working in the field.

Demonstrate how the Sentinel Rad-Eye G instrument, in the alarm ratemeter modality, has a special means to impede the user from changing the 500 millirem limit. It appears from the manufacturer's information that the alarm function can be changed without difficulty. This feature by itself would prevent the Sentinel Rad-Eye G instrument from being used as an alarming ratemeter.

3. 10 CFR Part 34 specifies different calibration frequencies for electronic personal dosimeter, alarm ratemeter, and survey meter. For example, electronic personal dosimeters and alarm ratemeters need to be calibrated at periods not to exceed 12 months as required by 10 CFR 34.47(c) and 10 CFR 34.47(g)(4), respectively; and survey meters need to be calibrated at intervals not to exceed six months as required by 10 CFR 34.25(b)(1).

Demonstrate how the Sentinel Rad-Eye G instrument will meet the calibration frequencies required by 10 CFR 34.47(c), 10 CFR 34.47(g)(4), and 10 CFR 34.25(b)(1). Different calibration frequencies for the same instrument can present a challenge for the radiographer and radiographer's assistant when recording calibration dates for all three modalities (survey instrument, electronic personal dosimeter, and alarm ratemeter), and could result in using an instrument that is out of calibration for a specific modality.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter will be available electronically for public inspection in the NRC Public Document Room or from the NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html>.

Thank you for your cooperation.

Sincerely,

/RA/

Roberto J. Torres, Senior Health Physicist
Nuclear Materials Safety Branch B

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