

AUG 20 1985

Docket No. 030-22112
Control No. 03454

Radiation Protection Services, Inc.
ATTN: Mr. Stuart R. Korchin, PE
President
P.O. Box 2359
Darien, Connecticut 06820

Gentlemen:

This is in reference to your reply to our June 6, 1985 letter dated July 10, 1985 for a byproduct material license. In order to continue our review, we need the following additional information:

1. Item No. 2 of your July 10, 1985 letter, states that you will calibrate low range and high range meters. According to the Diagram of Calibration Lab Surrounding Areas, it appears that the distance from the calibrator to the end of calibration lab is from 14.7 feet to 18.9 feet. If this is correct, then please explain how you will be able to calibrate meters with ranges having a maximum reading less than 1 mR/hr. In addition, please clarify your high range survey meter calibration procedure. The description of your current calibration procedure does not conform with the guidelines contained in the American National Standard for Radiation Protection Instrumentation and Calibration (ANSI N323-1978). The ANSI recommendation is to have the source-to-detector distance at least seven times the largest dimension of the source or detector, whichever is the larger. Moreover, the ANSI standard also recommends that the source-to-detector distance be 30 to 100 centimeters for small detectors. Please modify your procedures calibrating a high range survey meter to include these recommendations.
2. Item No. 6 of your July 10, 1985 letter, states that the main entry door to the facility and to the calibration lab will be locked when not occupied by Mr. Giel. However, you do not address whether the main entry door will be locked whenever calibrations are taking place within the calibration lab. Please specify.

Please note, the definition of a "High Radiation Area" as contained in 10 CFR 20.202(b)(3) "means any area, accessible to personnel, in which there exists radiation originating in whole or in part within licensed material at such levels that a major portion of the body could receive in any one hour a dose in excess of 100 millirem".

3. Item No. 8, of your July 10, 1985 letter, states that you are using a Ludlum Model 177 area monitor. However, you do not specify the location

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of the probe or warning light; if the monitor is constantly activated or only turned on when a calibration is being performed; or, whether there is a warning signal to inform Mr. Giel that he has entered the beam as opposed to when he is outside the beam. Please provide this information.

4. Item No. 9, of your July 10, 1985 letter, states that a correction factor will be provided to the client. In your application dated February 20, 1985, you state that you will calibrate to $\pm 20\%$ and provide a correction factor to the client. However, NRC policy is that if the meter is calibrated to $\pm 10\%$ then no correction factor or graph is required, but if it is not possible to obtain the $\pm 10\%$ then the survey meter may be used only if it is calibrated within $\pm 20\%$ and a correction factor or graph is attached to the survey meter. Please explain why you will not be able to routinely calibrate within $\pm 10\%$? If it becomes necessary to add a correction factor, then please specify how you will assure the information is attached to the survey meter.

In addition, on your calibration certificate you should add the source activity (i.e., 100 millicuries $\pm 5\%$ Cesium 137).

5. Item No. 10, of your letter dated July 10, 1985, states the calibration procedures were provided in the application. However, these procedures were for 50 milligrams of Radium-226. It was noted that you wished to modify the procedure by replacing the Radium sources with the Cesium Calibrator. As requested in Item No. 1 of this letter, how can you calibrate the most sensitive scale if the exposure rate on the meter is below 1 mR/hr? In addition, how will Mr. Giel be able to see the scale of the survey meter from 15 to 18 feet behind the Calibrator? Please modify your Survey Meter Calibration Procedures to reflect step-by-step calibration procedure using the Cesium 137 Calibrator.

We will continue our review upon receipt of this information. Please reply in duplicate to my attention at the Region I office and refer to Mail Control No. 03454.

Sincerely,

Original Signed By:
Jack Davis

Jack Davis
Nuclear Materials Safety Section A
Division of Radiation Safety
and Safeguards

Enclosure: 10 CFR Part 20

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