sentrol

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March 4, 1983

Ms. Carol Connell, Chief
Radioactive Materials Unit
Georgia Dept. of Human Resources
Radiological Health Section
G.M.H.I., Room 425 South
1256 Briarcliff Road, N.E.
Atlanta, Georgia 30306

Ref: Draft Copy: Registry of Radioactive Sealed Sources and Devices
Safety Evaluation of Device
Ashgauge Model 8210

Dear Ms. Connell:

The draft copy of the Safety Evaluation of the Ashgauge Model 8210 has been reviewed by our engineering department and found to be correct in all respects except that normal vibration amplitude should be 0.0008 inches and not 0.008 inches as stated in the draft evaluation.

Yours truly,

SENTROL SYSTEMS INC.

Geoffrey J. Leighton
Radiation Safety Officer

GJL:ej

REGISTRY OF RADIOACTIVE SEALED SOURCES AND DEVICES
SAFETY EVALUATION OF DEVICE

DRAFT

NO.:

DATE:

PAGE:

DEVICE TYPE: Ashgauge

CONDITIONS OF NORMAL USE:

The ashgauge is used by paper manufacturers for the measurement of inorganic additives which are utilized to modify specific qualities of the final product. The sensor is mounted on a scanning mechanism which traverses the paper as it is being manufactured and is most commonly located between the calender stack and the wind up reel on the paper machine. The ambient temperature is between 20°-45°C with relative humidity only slightly above prevailing weather conditions; however, the device should withstand more severe conditions. Vibration in a normal use environment would not exceed 0.07 inches/sec. velocity, 17Hz frequency and 0.008 inches amplitude.

0.0008

PROTOTYPE TESTING:

The following tests have been performed on the ashgauge:

1. Drop Test: A source housing assembly was dropped five times from a four-foot height without displacement of the radioactive source or source shutter.

2. Compression Test: The construction of the source assembly withstood a compressive load of 500# over an area of 0.5 square feet.

3. Vibration Test: A prototype source assembly was vibrated for eight hours without malfuction under the following conditions:

   a) Velocity 47 inches/sec.
   b) Frequency - 377Hz
   c) Amplitude - 0.125 inches

4. Temperature Test: 85°C for one hour after stabilization.

A prototype ashgauge was installed and used for two years under normal conditions. During that time the window material did not need replacing, the shutter mechanism operated without malfunction and six month wipe tests indicated no leakage.