REGISTRY OF RADIOACTIVE SEALED SOURCES AND DEVICES
SAFETY EVALUATION OF DEVICE

NO.: NR-420-D-840-B DATE: September 28, 1995

DEVICE TYPE: "C" Frame Beta Gauge

MODEL: SC-9C

MANUFACTURER/DISTRIBUTOR: LFE Industrial Systems Corporation
55 Green Street
Clinton, MA 01510

SEALED SOURCE MODEL DESIGNATION: LFE Model S-9

ISOTOPE: MAXIMUM ACTIVITY:

Ruthenium-106 20 millicuries (0.74 GBq)

LEAK TEST FREQUENCY: 6 Months

PRINCIPAL USE: (E) Beta Gauges

CUSTOM DEVICE: _____ YES ___X___ NO

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DESCRIPTION:

This device is identical to the Tracerlab Model SC-1C beta gauge except that the sealed source contained therein is a Tracerlab Model S-9 which contains up to 20 mCi of ruthenium-106.

The device is mounted on a "C" frame and has a 2" (5.08 cm) air gap. The source shutter mechanism is mounted within the basic containment casting and secured at it by four screw type fasteners. The mechanism is also protected by an aluminum cover which is held in place by ten screw type fasteners. The shutter itself is housed within the cover plate which is secured by six additional screw type fasteners. At the very least, the removal of ten screw fasteners would be required to expose the source without using electrical actuation back at the control console. When the source is operated, a micro-switch actuated directly by the shutter turns on a red indicating light mounted on the "C" frame in such a place as to plainly visible from all sides. When the shutter is closed, a green light is turned on. Additional indication of shutter position is given by the visual indicator on the source mount. This indicator is clearly visible to any person approaching the area of the source mount and shows the exact position of the shutter at all times.

LABELING:

All devices distributed were labeled with the following: "Caution Radioactive Material," radiation symbol, isotope, activity, and model number.

Devices distributed to general licensees included the following additional information: (The following markings were shown on aluminum and stainless steel marking plates)

> "Removal of This Label is Prohibited. This Label Shall be Maintained on the Device in Legible Condition, Caution, Radioactive Material," Radiation Symbol, Name and Address of Manufacturer, Isotope, Quantity, Date, Model Number, Serial Number, "Turn Source Off When Necessary to Stay Within 3 ft. of Green Light. Green Light Indicates Source Off. Do Not Place Hands in Measuring Gap."

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LABELING (Cont.):

The following statement is also included:

REMOVAL OF THIS LABEL IS PROHIBITED
THIS LABEL SHALL BE MAINTAINED ON THE
DEVICE IN LEGIBLE CONDITION

THE RECEIPT, POSSESSION, USE AND TRANSFER OF THIS DEVICE ARE SUBJECT TO A GENERAL LICENSE OR THE EQUIVALENT AND THE REGULATIONS OF THE U.S. NRC OR A STATE WITH WHICH THE NRC HAS ENTERED INTO AN AGREEMENT FOR THE EXERCISE OF REGULATORY AUTHORITY. ABANDONMENT OR DISPOSAL PROHIBITED UNLESS TRANSFERRED TO PERSONS SPECIFICALLY LICENSED BY NRC OR AN AGREEMENT STATE. OPERATION PROHIBITED IF THERE IS INDICATION OF FAILURE OR DAMAGE TO SHIELDING, SOURCE CONTAINMENT OR ON-OFF MECHANISM. ONLY PERSONS SPECIFICALLY LICENSED BY NRC OR AGREEMENT STATE MAY INSTALL, DISMANTLE, RELOCATE, REPAIR OR TEST THIS DEVICE. DEVICE SHALL BE TESTED FOR RADIOACTIVE LEAKAGE AND PROPER FUNCTIONING OF ON-OFF MECHANISM AND INDICATOR, IF ANY, AT INSTALLATION, AT SOURCE REPLACEMENT AND THEREAFTER AT NO LONGER THAN 6 MONTH INTERVALS. LOSS, THEFT OR TRANSFER OF THIS DEVICE TO ANOTHER LICENSEE AND FAILURE OR DAMAGE TO SHIELDING, SOURCE CONTAINMENT OR ON-OFF MECHANISM MUST BE REPORTED TO NRC OR AGREEMENT STATE.

CONDITIONS OF NORMAL USE:

The device is designed for use in a beta thickness gauge to measure thickness of materials in industrial environments. Expected operating conditions are:

- Temperature - Up to 300°F (149°C)
- Humidity - Up to 100%
- Vibration - Industrial conditions at slight to moderate vibrations

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PROTOTYPE TESTING:

LFE has indicated that they have no information concerning prototype testing of the devices. However, they have indicated that these devices were first distributed in the early 1960's and there have been no reported failures resulting in a radiation hazard.

EXTERNAL RADIATION LEVELS:

The radiation levels from the device are controlled with shielding such that the levels do not exceed 20 mR/hr (200 μSv/hr) at 12" (30.5 cm) from the surface.

LIMITATIONS AND/OR OTHER CONSIDERATIONS OF USE:

- The device may be used by specific or general licensees of NRC or an Agreement State.
- Handling, storage, use, transfer, and disposal: To be determined by the licensing authority.
- The device shall be leak tested at intervals not to exceed 6 months using techniques capable of detecting 0.005 microcurie (185 Bq) of removable contamination.
- This registration sheet and the information contained within the references shall not be changed without the written consent of the NRC.

SAFETY ANALYSIS SUMMARY:

These devices are no longer distributed by the LFE. However, LFE may provide servicing for devices in use and may accept return of the sources. LFE has indicated that it has distributed approximately 3 of these model devices.

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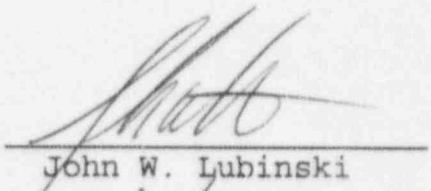
REFERENCES:

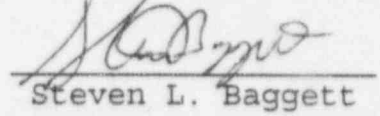
The following supporting documents for the Model SC-9C are hereby incorporated by reference and are made a part of this registry document.

- LFE's letters dated September 15, 1995, September 16, 1991, and August 6, 1991, with enclosures thereto.

ISSUING AGENCY:

U.S. Nuclear Regulatory Commission

Date: September 28, 1995 Reviewer: 
John W. Lubinski

Date: September 28, 1995 Concurrence: 
Steven L. Baggett

INFORMATION RECORD

TYPE:

Note to LFE files for registration certificates made inactive September 1995.

ORGANIZATION:
LFE

DATE:
09/21/95

SUMMARY:

Existing AEC/NRC files (registration files, license files, NUDOCS, and archives) concerning these products were examined for information that supports registration of the products. Copies of all applicable information located is included in this file.

The manufacturer, LFE, was also asked for additional information concerning the products. However, many of the products have not been distributed for years, or the product lines were sold in the late 1960's, and LFE provided all additional information they have concerning the products.

NRC has transferred the registration certificates to inactive, as requested by LFE, and continues to conclude the products are acceptable for licensing purposes based on AEC's original evaluation of the products and the operational history of the products.

PERSONS DOCUMENTING THE INFORMATION:	SIGNATURE:	DATE:
John W. Lubinski		09/21/95
Steven L. Baggett		09/21/95