REGISTRY OF RADIOACTIVE SEALED SOURCES AND DEVICES
SAFETY EVALUATION OF DEVICE
(AMENDED IN ENTIRETY)

NO: NR-420-D-124-B DATE: JUL 16 1987 PAGE: 1 of 6

DEVICE TYPE: "C", "O", or "MO" Frame Beta Gauge

MODEL: SCL-1A and SCL-1B

MANUFACTURER/DISTRIBUTOR:

LFE Corporation
1601 Trapelo Road
Waltham, MA 02154

SEALED SOURCE MODEL DESIGNATION:

LFE Model S2-A2

ISOTOPE:

Strontium-90

MAXIMUM ACTIVITY:

50 millicuries

LEAK TEST FREQUENCY: 6 months

PRINCIPAL USE: (E) Beta Gauges

CUSTOM DEVICE: _____YES ___X__NO

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DESCRIPTION:

The gauge consists of a source mount (cast iron box) and a detector mounted opposite each other on a "C", "O" or "MO" frame structure. The source is fixed inside the source mount behind a collimated opening covered by a 0.001 inch stainless steel window. A flat, stainless steel shutter, 0.094 inch thick is mounted directly to the rotary disc of a D.C. rotary solenoid. The gauge has a maximum air gap of 4 inches.

The shutter position is indicated by red (open) and green (closed) lights located on the source mount structure and by a plexiglass window in the side of the source mount which allows a visible check of the solenoid position.

The model SCL-1A and SCL-1B gauges are identical except for a difference in the shape of the collimated opening.

LABELING:

This device may be distributed to both specific and general licensees. When distributed to specific licensees it is labeled in accordance with 10 CFR 20.203.

When distributed to general licensees the device is labeled as follows:
The following markings are 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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DEVICE TYPE: "C", "O", or "MO" Frame Beta Gauge

LABELING: (Cont'd)

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.

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CONDITIONS OF NORMAL USE:

THE SCL-1A and SCL-1B source holders are 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
- Humidity - Up to 100%
- Vibration - Industrial conditions of slight to moderate vibration.

PROTOTYPE TESTING:

The LFE Model S2-A2 sealed source has achieved an ANSI classification of 77C64343. The device has previously been deemed acceptable for licensing purposes by the NRC.

EXTERNAL RADIATION LEVELS:

LFE reports that the maximum radition levels at 30 cm and 100 cm are 3 mr/hr and .8 mr/hr respectively.

QUALITY ASSURANCE AND CONTROL:

The manufacturer inspects each unit for shutter function within engineering specifications, each source housing is checked for radiation leakage, engineering specification and is swipe tested to demonstrate a removable contamination of less than .005 microcurie.

Each source prior to installation is also wipe tested, bubble tested and assayed for source strength.

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LIMITATIONS AND/OR OTHER CONSIDERATIONS OF USE:

- The Models SCL-1A and SCL-1B may be distributed to either generally or specifically licensed persons in accordance with NRC or Agreement State regulations.
- The source shall be installed and initially tested for proper operation of the source exposure mechanism, safety warning components, labels, external radiation levels (source exposed, source shielded) and leak tested by LFE Corporation or other persons specifically licensed by the NRC or an Agreement State.
- The device shall be removed from service and disposed of only by LFE Corporation or other persons specifically licensed by the NRC or an Agreement State.
- The device shall be leak tested at six (6) month intervals using techniques capable of detecting 0.005 microcurie 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:

Based on our review of the information and test data cited below, that this device has been previously approved by the NRC, and that this amendment simply changes the sealed source used in the device, we continue to conclude that the Models SCL-1A and SCL-1B device designs are acceptable for licensing purposes. Furthermore, we continue to conclude that these devices would be expected to maintain their containment integrity for normal conditions of use and accidental conditions which might occur during uses specified in this certificate.

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REFERENCES:

The information used to compile this registry document is contained within LFE License Number 20-01382-16G. These devices were previously approved by NRC and this amendment was perform to reflect updated information contained in LFE License Number 20-01382-16G.

- Letter dated June 20, 1986 with enclosure thereto.

ISSUING AGENCY:

U.S. NUCLEAR REGULATORY COMMISSION

DATE: JUL 16 1987 REVIEWER: [signature]

DATE: JUL 16 1987 CONCURRENCE: Stuart W Ball

INFORMATION RECORD

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

ORGANIZATION:	DATE:
LFE	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