

U.S. NUCLEAR REGULATORY COMMISSION
CERTIFICATE OF COMPLIANCE
For Radioactive Materials Packages

1.(a) Certificate Number 4888	1.(b) Revision No. 4	1.(c) Package Identification No. USA/4888/B()	1.(d) Page No. 1	1.(e) Total No. Pages 3
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2. PREAMBLE

- 2.(a) This certificate is issued to satisfy Sections 173.393a, 173.394, 173.395, and 173.396 of the Department of Transportation Hazardous Materials Regulations (49 CFR 170-189 and 14 CFR 103) and Sections 146-19-10a and 146-19-100 of the Department of Transportation Dangerous Cargoes Regulations (46 CFR 146-149), as amended.
- 2.(b) The packaging and contents described in item 5 below, meets the safety standards set forth in Subpart C of Title 10, Code of Federal Regulations, Part 71, "Packaging of Radioactive Materials for Transport and Transportation of Radioactive Material Under Certain Conditions."
- 2.(c) This certificate does not relieve the consignor from compliance with any requirement of the regulations of the U.S. Department of Transportation or other applicable regulatory agencies, including the government of any country through or into which the package will be transported.

3. This certificate is issued on the basis of a safety analysis report of the package design or application—

3.(a) Prepared by (Name and address):
Teledyne Energy Systems
110 West Timonium Road
Timonium, MD 21093

3.(b) Title and identification of report or application:
Martin Company application dated
August 13, 1965, as supplemented.

71-4888

3.(c) Docket No.

4. CONDITIONS

This certificate is conditional upon the fulfilling of the requirements of Subpart D of 10 CFR 71, as applicable, and the conditions specified in item 5 below.

5. Description of Packaging and Authorized Contents, Model Number, Fissile Class, Other Conditions, and References:

(a) Packaging

- (1) Model Nos.: Sentinel-25A, LCG-25A; Sentinel-25B, LCG-25B; Sentinel-25C, LCG-25C; Sentinel-25C3, -25D, -25E, and-25F

(2) Description

The packages are thermoelectric generators. The major components include the main housing, tungsten shield, housing flange, and electrical connectors. The approximate dimensions and weights for the various Model Nos. are as follows:

Model No.	Dimensions (inches)	Weight (lbs.)
Sentinel-25A, LCG-25A	25 OD x 25	3000
Sentinel-25B, LCG-25B	25 OD x 25	3300
Sentinel-25C, LCG-25C	24 OD x 32	2000
Sentinel-25C3	24 OD x 32	1300
Sentinel-25D	25 OD x 27	3300
Sentinel-25E	25 OD x 34	4200
Sentinel-25F	24 OD x 32	1400

(3) Drawings

The packagings are constructed in accordance with the following Drawing Nos:

8007160387

5. (a) Packaging (continued)

(3) Drawing Nos.

<u>Model No.</u>	<u>Drawing Nos.</u>
All Models	Isotopes, Inc. Drawing Nos.: 001-20000 001-20001 001-20002 001-20003
Sentinel-25A, LCG-25A	Martin Company Drawing Nos.: N0013100 N0013108 N0013113 PN1000003
Sentinel-25B, LCG-25B	Martin Company Drawing Nos.: N0013200 N0013208
Sentinel-25C, LCG-25C Sentinel-25C3	Isotopes, Inc. Drawing Nos.: 001-C10000 001-70012 001-40019
Sentinel-25D Sentinel-25E Sentinel-25F	Isotopes, Inc. Drawing Nos.: 001E10000 001D10000 001F10000 001-70033 001-70024 001-40006 001-40015 001-40017

(b) Contents

(1) Type and form of material

- (i) Strontium 90 titanate doubly encapsulated in a Hastelloy or Uniloy fuel capsule which meet the requirements of special form as defined in 10 CFR §71.4(o); or
- (ii) Model No. Sentinel-25F may have, strontium fluoride doubly encapsulated in a Hastelloy or Uniloy fuel capsule, with a Hastelloy C-276 liner which meets the requirements of special form as defined in 10 CFR §71.4(o).

(2) The maximum quantity of material per package

125,000 curies

6. Eye-bolt shall be removed or covered during transportation to prevent their use as tie-down devices of packages.
7. The packages authorized by this certificate are hereby approved for use under the general license provisions of 10 CFR §71.12(b).
8. Expiration date: July 31, 1985.

REFERENCES

Isotopes, Inc. applications dated September 15 and 16, 1969; and March 3 and April 20, 1970.

Model No. Sentinel-25A, and LCG-25A

Martin Company application dated October 28, 1965; with supplements dated: January 14, April 1, and July 21, 1966.

Model No. Sentinel-25B, and LCG-25B

Martin Company application dated March 21, 1967.

Model No. Sentinel-25C, and LCG-25C

Martin Company application dated August 16, 1967 with supplements dated: September 1, and September 15, 1967.

Model No. Sentinel-25C3

Isotopes, Inc. application dated September 10, 1969; with supplement dated: October 30, 1969.

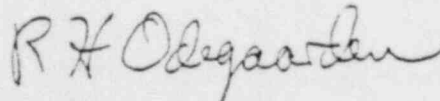
Model No. Sentinel-25D, and 25E

Isotopes, Inc. application dated December 16, 1968: with supplements dated December 26, 1968 and January 10, 1969.

Model No. Sentinel-25F

Isotopes, Inc. application dated March 27, 1970; with supplement TES-MIH-1403 dated: January 25, 1978.

FOR THE U. S. NUCLEAR REGULATORY COMMISSION



for Charles E. MacDonald, Chief
Transportation Certification Branch
Division of Fuel Cycle and
Material Safety

Date: JUL 07 1980