

**CERTIFICATE OF COMPLIANCE  
FOR RADIOACTIVE MATERIAL PACKAGES**

1. a. CERTIFICATE NUMBER	b. REVISION NUMBER	c. DOCKET NUMBER	d. PACKAGE IDENTIFICATION NUMBER	PAGE	PAGES
4888	14	71-4888	USA/4888/B( )	1	OF 5

2. PREAMBLE

- a. This certificate is issued to certify that the package (packaging and contents) described in Item 5 below meets the applicable safety standards set forth in Title 10, Code of Federal Regulations, Part 71, "Packaging and Transportation of Radioactive Material."
- b. 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

- a. ISSUED TO (*Name and Address*)  
Department of the Air Force  
Air Force Technical Application Center/CC  
1030 S. HWY A1A  
Patrick AFB, FL 32925-3002
- b. TITLE AND IDENTIFICATION OF REPORT OR APPLICATION  
Teledyne Energy Systems applications dated  
April 26, 1985 and August 19, 1986, as supplemented

4. CONDITIONS

This certificate is conditional upon fulfilling the requirements of 10 CFR Part 71, as applicable, and the conditions specified below.

5.

(a) Packaging

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

<u>Model No.</u>	<u>Dimensions (inches)</u>	<u>Weight (lbs.)</u>
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	25 OD x 32	1400

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5.(a) Packaging (continued)

(3) Drawing

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

Model No.

Drawing Nos.

All Models

Isotopes, Inc. Drawing Nos.:

001-20000, Rev. E  
001-20001, Rev. F  
001-20002, Rev. F  
001-20003, Sht. 1, Rev. B  
001-80003

Sentinel-25A, LCG-25A

Martin Company Drawing Nos.:

N0013100, Rev. A  
N0013108, Rev. D  
001-40000, Rev. A

Isotopes, Inc. Drawing Nos.:

001-10000, Rev. B  
001-70024, Rev. C  
001-70025, Sht. 1, Rev. D  
001-70033, Shts. 1 & 2, Rev. A  
001-70036  
001-80005

Sentinel-25B, LCG-25B

Martin Company Drawing Nos.:

N0013200, Rev. C  
001-40012

Isotopes, Inc. Drawing Nos.:

001-70024, Rev. C  
001-70025, Sht. 1, Rev. D  
001-70033, Shts. 1 & 2, Rev. A  
001-70036  
001-80005

Sentinel-25C, LCG-25C

Martin Company Drawing Nos.:

001-40004, Rev. A  
001-70010  
001-70012, Rev. B  
001-80004

Isotopes, Inc. Drawing Nos.:

001C10000, Sht. 1 Rev. D, & Sht. 3  
001-70009, Rev. D

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Model No. (continued)

Drawing Nos. (continued)

Sentinel-25C3

Isotopes, Inc. Drawing Nos.:  
001C10000 Shts. 1 & 2, Rev. D  
001-70009, Rev. D  
001-70057, Rev. D  
001-70060, Rev. C  
001-40019, Rev. B

Sentinel-25D

Martin Company Drawing No.  
001-80004

Isotopes, Inc. Drawing Nos.:  
001D10000 Shts. 1 & 2, Rev. C  
001-70036  
001-70033 Shts. 1 & 2, Rev. A  
001-70025 Sht. 1, Rev. D  
001-70024, Rev. C  
001-40015, Rev. C  
001-40006, Rev. B

Sentinel-25E

Isotopes, Inc. Drawing Nos.:  
001E10000, Shts. 1 & 2, Rev. E, & Sht. 3  
001-70039, Rev. C  
001-70025, Sht. 1, Rev. D & Sht. 2  
001-70024, Rev. C  
001-40017, Shts. 1 & 2, Rev. D  
001-40006, Rev. B

Sentinel-25F

Isotopes, Inc. Drawing Nos.:  
001F10000, Shts. 1 & 2, Rev. H\*  
001-70070, Rev. C  
001-70060, Rev. C  
001-70009, Rev. D  
001-40025, Rev. A

\*As modified by Figure 1 of  
the April 26, 1985, application.

(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 radioactive material; or
- (ii) Model No. Sentinel-25F may have, strontium fluoride doubly encapsulated in Hastelloy or Uniloy fuel capsule, with a Hastelloy C-276 liner which meets the requirements of special form radioactive material.

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(2) The maximum quantity of material per package  
125,000 curies

6. A barrier (permitting the free circulation of air) must be provided with sufficient separation distance to ensure that the requirement of 10 CFR 71.43(g) will be met.
7. Eye-bolts shall be removed or covered during transportation to prevent their use as tie-down devices of packages.
8. In addition to the requirements of Subpart G of 10 CFR Part 71, each package shall be operated, prepared for shipment and maintained in accordance with the following Operating Procedures and Maintenance Programs:

<u>Model No.</u>	<u>Operating Procedures</u>	<u>Maintenance Program</u>
Sentinel-25A, LCG-25A	Appendix E of TES-3206, as revised	Appendix F of TES-3206, as revised
Sentinel-25B, LCG-25B	Appendix E of TES-3209, as revised	Appendix F of TES-3209, as revised
Sentinel-25C, LCG-25C	Appendix E of TES-3210, as revised	Appendix F of TES-3210, as revised
Sentinel-25C3	Appendix E of TES-3211, as revised	Appendix F of TES-3211, as revised
Sentinel-25D	Appendix E of TES-3212, as revised	Appendix F of TES-3212, as revised
Sentinel-25E	Appendix E of TES-3213, as revised	Appendix F of TES-3213, as revised
Sentinel-25F	Chapter VIII of TES-3202, as revised	Chapter IX of TES-3202, as revised

9. The packages authorized by this certificate are hereby approved for use under the general license provisions of 10 CFR 71.17.
10. Expiration date: October 1, 2008. This certificate is not renewable.



UNITED STATES  
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION REPORT

Docket No. 71-4888

Model Nos. Sentinel-25A, LCG-25A; Sentinel-25B, LCG-25B; Sentinel-25C, LCG-25C;

Sentinel-25C3, -25D, -25E, and -25F

Certificate of Compliance No. 4888

Revision No. 14

On January 19, 2007, the Nuclear Regulatory Commission issued Certificate of Compliance No. 4888, Revision No. 13, to the Department of the Air Force after receiving a renewal request from the applicant. NRC is reissuing Certificate of Compliance No. 4888, Revision No. 14 with a correction made to delete Condition No. 10.

The condition has been removed for clarification and to prevent confusion regarding the use of overlapping certificates. This change does not affect the ability of the package to meet the requirements of 10 CFR Part 71.

Issued with Certificate of Compliance No. 4888, Revision No. 14,  
on February 28, 2007.