

## MATERIALS LICENSE

Amendment No. 40

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974 (Public Law 93-438), and Title 10, Code of Federal Regulations, Chapter I, Parts 30, 31, 32, 33, 34, 35, 40 and 70, and in reliance on statements and representations heretofore made by the licensee, a license is hereby issued authorizing the licensee to receive, acquire, possess, and transfer byproduct, source, and special nuclear material designated below; to use such material for the purpose(s) and at the place(s) designated below; to deliver or transfer such material to persons authorized to receive it in accordance with the regulations of the applicable Part(s); and to import such byproduct and source material. This license shall be deemed to contain the conditions specified in Section 183 of the Atomic Energy Act of 1954, as amended, and is subject to all applicable rules, regulations and orders of the Nuclear Regulatory Commission now or hereafter in effect and to any conditions specified below.

## Licensee

1. United Technologies Corporation  
United Technologies Research Center
2. Silver Lane  
East Hartford, Connecticut 06108

In accordance with application dated  
August 30, 1984

3. License number 06-07522-01 is amended in its  
entirety to read as follows:

4. Expiration date April 30, 1990

5. Docket or  
Reference No. 030-03795

6. Byproduct, source, and/or  
special nuclear material

7. Chemical and/or physical  
form

8. Maximum amount that licensee  
may possess at any one time  
under this license

A. Any byproduct material  
with atomic numbers 3 to  
83

A. Any

A. 200 millicuries per  
radionuclide with a  
total quantity not to  
exceed 5 curies.

- B. Krypton 85  
C. Hydrogen 3  
D. Xenon 133  
E. Cesium 137  
F. Gadolinium 153  
G. Iron 55  
H. Cobalt 60  
I. Americium 241  
J. Americium 241  
K. Curium 244  
L. Any byproduct material  
M. Plutonium 238  
N. Uranium 235  
O. Uranium 235  
P. Uranium 233

- B. Any  
C. Any  
D. Any  
E. Any  
F. Any  
G. Any  
H. Any  
I. Any  
J. Sealed sources  
K. Sealed sources  
L. Neutron activation  
products  
M. Sealed sources  
N. Uranium hexafluoride  
O. Any  
P. Any

- B. 400 curies  
C. 1 curie  
D. 1 curie  
E. 5 curies  
F. 8 curies  
G. 3 curies  
H. 1 curie  
I. 2 microcuries  
J. 10 curies  
K. 1 curie  
L. 400 millicuries total  
M. 10 milligrams  
N. 15 grams  
O. 2 grams  
P. 1 gram

## 9. Authorized use

A through L. For use in research and development as defined in Section 30.4(q),  
10 CFR Part 30.

M through P. For storage only.

8506180042 850524  
REG1 LIC30  
06-07522-01 PDR

"OFFICIAL RECORD COPY"

ML10

**MATERIALS LICENSE**  
SUPPLEMENTARY SHEET

License number

06-07522-01

Docket or Reference number

030-03795

Amendment No. 40

(continued)

CONDITIONS

10. Licensed material may be used at licensee's facility at 400 Main Street, East Hartford, Connecticut and at other United Technologies Corporation facilities and at temporary job sites of the licensee anywhere in the United States where the U. S. Nuclear Regulatory Commission maintains jurisdiction for regulating the use of licensed material.
11. The licensee shall comply with the provisions of Title 10, Chapter 1, Code of Federal Regulations, Part 19, "Notices, Instructions, and Reports to Workers; Inspections" and Part 20, "Standards for Protection Against Radiation."
12. Licensed material shall be used by, or under the supervision of individuals designated by Louis L. Packer, Radiation Safety Officer.
13. Licensed material shall not be used in or on human beings or in products distributed to the public or in field applications where activity is released except as provided otherwise by specific condition of this license.
14. A. (1) Each sealed source acquired from another person and containing licensed material, other than Hydrogen 3, with a half-life greater than thirty days and in any form other than gas shall be tested for contamination and/or leakage prior to use. In the absence of a certificate from a transferor indicating that a test has been made within six months prior to the transfer, a sealed source received from another person shall not be put into use until tested.  
(2) Notwithstanding the periodic leak test required by this condition, any licensed sealed source is exempt from such leak tests when the source contains 100 microcuries or less of beta and/or gamma emitting material or 10 microcuries or less of alpha emitting material.  
(3) Except for alpha sources, the periodic leak test required by this condition does not apply to sealed sources that are stored and not being used. The sources excepted from this test shall be tested for leakage prior to any use or transfer to another person unless they have been leak tested within six months prior to the date of use or transfer.
- B. Each sealed source fabricated by the licensee shall be inspected and tested for construction defects, leakage, and contamination prior to use or transfer as a sealed source. If the inspection or test reveals any construction defects or 0.005 microcurie or greater of contamination, the source shall not be used or transferred as a sealed source until it has been repaired, decontaminated and retested.

**MATERIALS LICENSE  
SUPPLEMENTARY SHEET**

License number

06-07522-01

Docket or Reference number

030-03795

Amendment No. 40

(14 continued)

**CONDITIONS**

- C. Each sealed source containing licensed material, other than Hydrogen 3, with a half-life greater than thirty days and in any form other than gas shall be tested for leakage and/or contamination at intervals not to exceed six months except that each source designed for the purpose of emitting alpha particles shall be tested at intervals not to exceed three months.
- D. The test shall be capable of detecting the presence of 0.005 microcurie of radioactive material on the test sample. The test sample shall be taken from the sealed source or from the surfaces of the device in which the sealed source is permanently or semipermanently mounted or stored on which one might expect contamination to accumulate. Records of leak test results shall be kept in units of microcuries and maintained for inspection by the Commission.
- E. If the test required by Subsection A. or C. of this condition reveals the presence of 0.005 microcurie or more of removable contamination, the licensee shall immediately withdraw the sealed source from use and shall cause it to be decontaminated and repaired or to be disposed of in accordance with Commission regulations. A report shall be filed within 5 days of the test with the U.S. Nuclear Regulatory Commission, Region I, 631 Park Avenue, King of Prussia, Pennsylvania 19406, describing the equipment involved, the test results, and the corrective action taken.
15. The licensee may transport licensed material or deliver licensed material to a carrier for transport in accordance with the provisions of Title 10, Code of Federal Regulations, Part 71, "Packaging of Radioactive Material for Transport and Transportation of Radioactive Material Under Certain Conditions."
16. Except for plutonium contained in a medical device designed for individual human application, no plutonium, regardless of form, shall be delivered to a carrier for shipment by air transport or transported in an aircraft by the licensee except in packages the design of which the NRC has specifically approved for transport of plutonium by air.
17. Except as specifically provided otherwise by this license, the licensee shall possess and use licensed material described in Items 6, 7, and 8 of this license in accordance with statements, representations, and procedures contained in application dated August 30, 1984, letter dated May 6, 1985 and Enclosure A of letter dated March 20, 1985. The Nuclear Regulatory Commission's regulations shall govern the licensee's statements in applications or letters, unless the statements are more restrictive than the regulations.

For the U.S. Nuclear Regulatory Commission

MAY 24 1985

Date \_\_\_\_\_

Original Signed By:

By John E. Glenn

Nuclear Materials Safety and  
Safeguards Branch, Region I  
King of Prussia, Pennsylvania 19406