

Johnson & Johnson
PRODUCTS INC.

NEW BRUNSWICK, NJ 08903

February 10, 1981

United States NRC
Division of Fuel Cycle and Material Safety
Material Certification & Procedures Branch
Washington, DC 20555

Attn: Mr. E. Wright

Dear Mr. Wright:

With regard to your request for more details concerning our purchase of a 20 μ ci Americium and amendment of our Material License Number 29-00206-04, Exhibit A is a drawing of the Am-241 alpha mounted source (Model A-1011) to be purchased from NRD Div., 2937 Alt Boulevard, North Grand Island, NY 14072.

The radioactive source is used in surface chemistry to ionize the air gap between the source and the water surface contained in a dish about 1 inch deep. The arrangement is represented in Exhibit B. The water rough is not represented. The alpha source is mounted on a Teflon stem 8 inches long and 3/4 inch diameter and is directed towards the water surface and placed ca. 0.5 cm from the surface. The alpha source is covered with a gold foil which reduces considerably the range of the alpha radiation. The Langmuir balance, fit with the source, is placed inside an aluminum box, (Exhibit C). The distance between the alpha source and the operator is 1-1/2 feet.

Prof. Cadenhead of Buffalo University, NY and Dr. E. Goddard of Union Carbide, Tarrytown, NY have the alpha source made by NRD and vouch for its excellent performance and safety.

A leak test will be performed twice a year by wiping the lower part of the teflon stem holding the source. The wipe will be sent for analyzes to Mr. Jules Bodzas, Department of Environmental Science, Rutgers University and analyzed on a NMC Model PC3A Internal Proportional Counter.

If there is any other information you require, please contact me at (201)524-5080.

Sincerely,

F. Robert Rolle

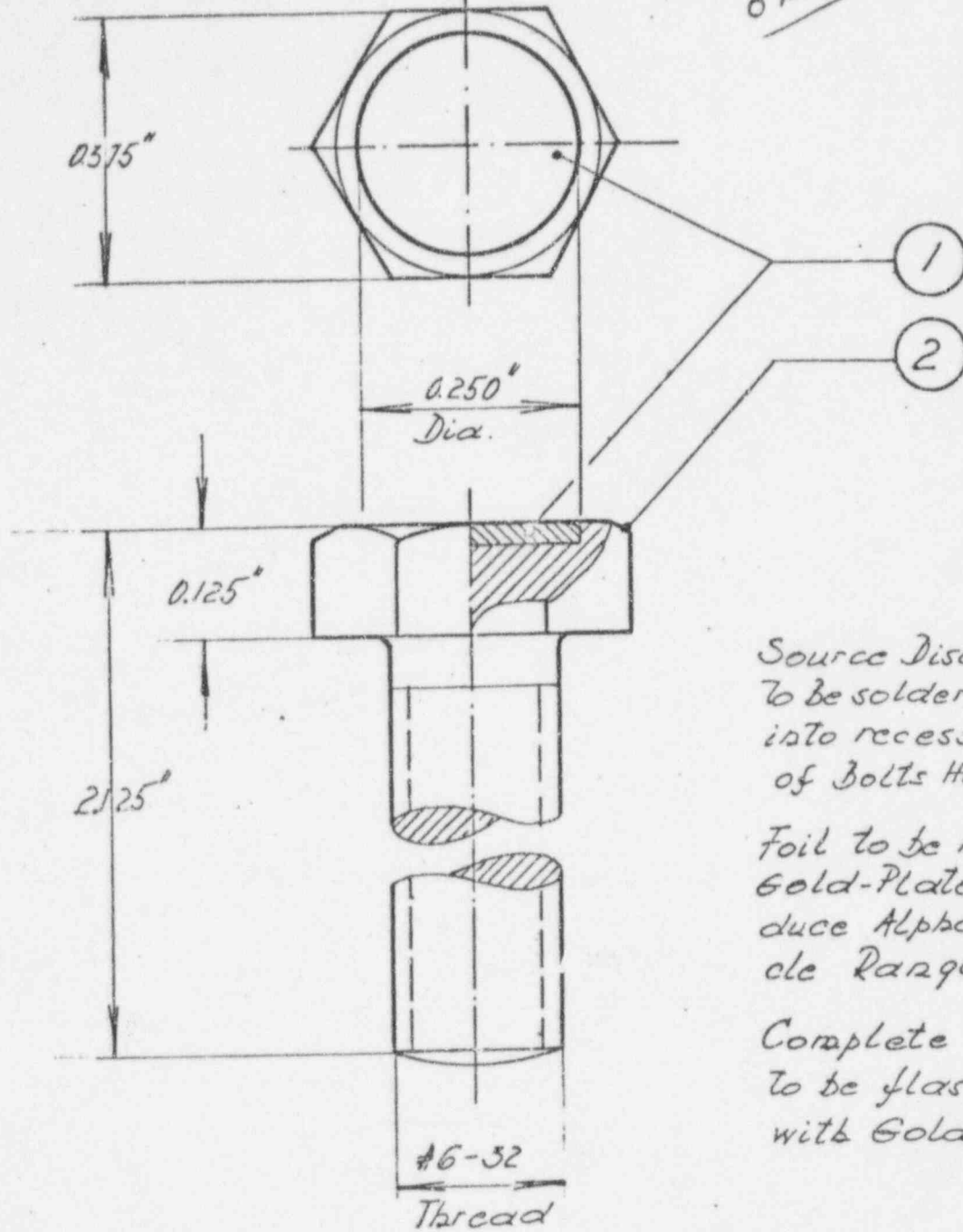
F. Robert Rolle
Assistant Director
Technical and Administrative
Services

9501250361 950110
PDR RC * PDR
SSD

FRR/gm
Attachments

EXHIBIT A

ORDERED



Source Disc
To be soldered
into recess
of Bolts Head

Foil to be heavily
Gold-Plated to Re-
duce Alpha Parti-
cle Range to 1cm

Complete Source
to be flash Plated
with Gold

- 1. Radioactive Foil 20mc
- 2. #6-32 Bolt

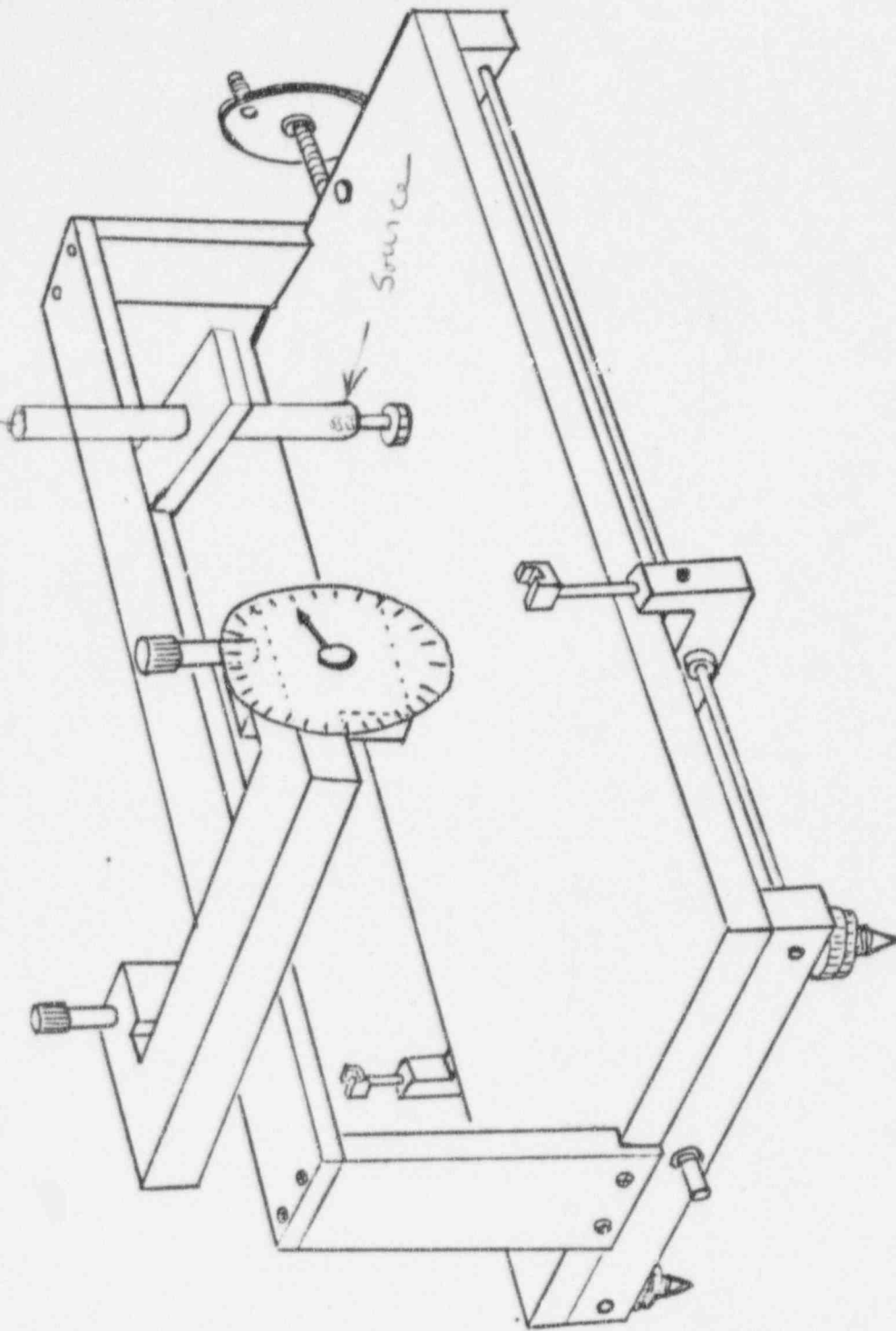
| | |
|----------------|----------|
| ENCAPSUL. CODE | I-401 |
| PROTOTYPE TEST | 21211111 |
| Q.C. TEST CODE | A 6 |

Nuclear Radiation Developments Inc Gr Island N.Y.

TOLERANCE DRAWING: 9/2 R SCALE: None Dwg No: A-1011
 NOT SPEC: A-001
 Title: Am-241 Alpha Mounted Source

EXHIBIT B

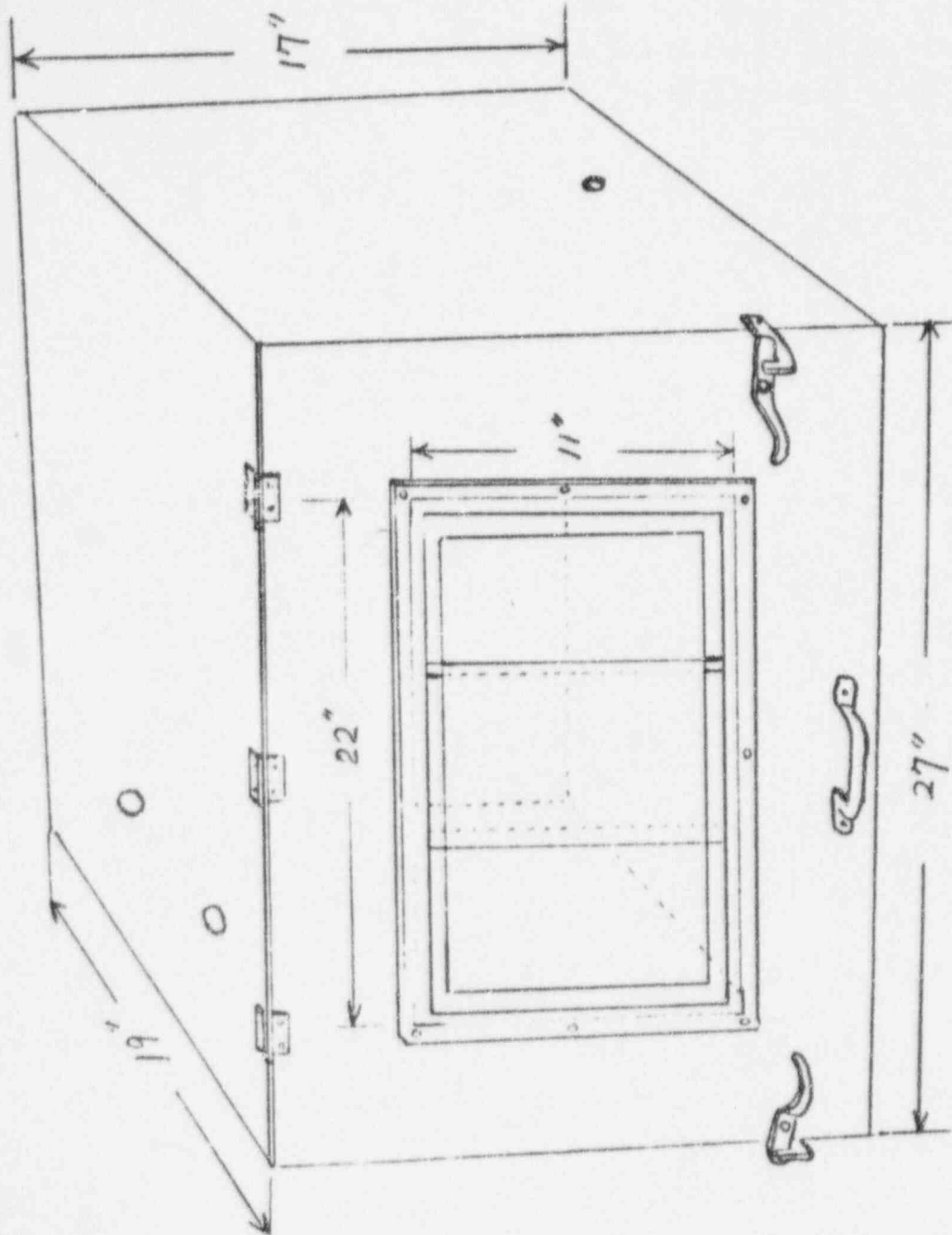
TO ELECTROLYZER



LANGMUIR FILM BALANCE

designed & built by Manfred Engleert
1959

EXHIBIT C



THERMOSTATIC CONTROL BOX
(for the Langmuir Film Balance)

designed & built by:
Manfred Englert
1980