THE DOW CHEMICAL COMPANY

MIDLAND, MICHIGAN
48640

December 2, 1963

William O. Miller
Isotopes Branch
Division of Licensing and Regulation
U. S. Atomic Energy Commission
Washington 25, D. C.

Dear Sir:

This letter is to supply additional information requested in your letter of August 8, 1963, in response to our application for a radiography license dated July 19, 1963.

1. Item 4-B did not specify manufacturer's model number on Tracerlab 200 millicurie cobalt-60 sealed source. This source was purchased in 1954 and we have no record of a model number on this source.

2. Item 5-B. The model number of the Tracerlab storage container is E-318.

3. The design of the Dow-built storage container is included as Attachment A. The radiation profiles for the container are given in Attachment B

4. The instruction number 11 has been changed to read: "Source will be wipe tested by the Environmental Research Laboratory at intervals not to exceed six months."

5. The tags attached to the sources were supplied by Technical Operations, Inc. They are 1-7/8" x 1-7/8" and are inscribed with the radiation symbol and the wording "Danger - Do Not Handle, Notify Civil Authorities if Found," all in magenta on yellow background. Specific instructions and procedure are included as Attachment C.

6. The "one-curie" and "620 millicurie" terms are used to refer to the large and small cobalt source, respectively. The Normal Work Procedure will be changed to "large" and "small." The activities of these sources as of October, 1963, are 840 mc and 190 mc. The radiation levels at various distances from both sources have been recalculated using the present activities. They will be found in the enclosed revised Key Point Card Procedure Check Points.

F-10

7. The truck is a pickup with an aluminum camper-type housing. Entrance to the x-ray laboratory and storage is from the rear only.

8. Instruction #11 has been changed. See attached revised "Normal Radiography Procedure."

9. Instruction #12 has been eliminated. There is a padlock on the large source and a bicycle lock on the small one. A chain is fastened around a bench leg and through the container lock when the sources are in storage.

10. Instruction #25 has been changed to include the senior radiographer's initials, and indication of which of the two sources was used.

11. See revised "Normal Radiography Procedure," under "Alternate Procedures." The temporary storage site will be chosen in a low fire-hazard area and at a location that is remote from activity and occupancy. The source container will be locked and chained to something solid to prevent its removal. A radiation survey of the temporary storage area will be made and signs will be placed at the 2 mr/hr isodose line or beyond. The Health Physicist will be advised by telephone of any temporary storage and will visit the proposed area if it is desirable to do so in his judgment.

12. Detailed emergency procedures are included in procedure write-up.

13. Lead shielding has been added to the storage area so that all measurements in areas adjacent to the storeroom are less than 0.5 mr/hr.

14. The low end of the high range of the survey meter is checked quarterly with the 10 mg radium source (99 mr/hr at 30 cm). The high end will be checked quarterly against the 840 mc Co-60 source, using a Victoreen condenser r-meter and No. 621 chamber as the primary standard.

15. Periodic training has not been put on a scheduled basis, but has been conducted when changes in equipment procedures or regulations warranted it. Henceforth, a review will be conducted semi-annually. It will cover the regulations, normal and emergency operating procedures, and use of the radiographic equipment, including survey meter. The outlines on "Fundamentals of Radiation Safety" used in the initial training course will be revised. The refresher course will be scheduled for a full afternoon, which should be adequate to cover the proposed review.

Please let us know if additional information is desired.

Very truly yours,

William H. Reamer

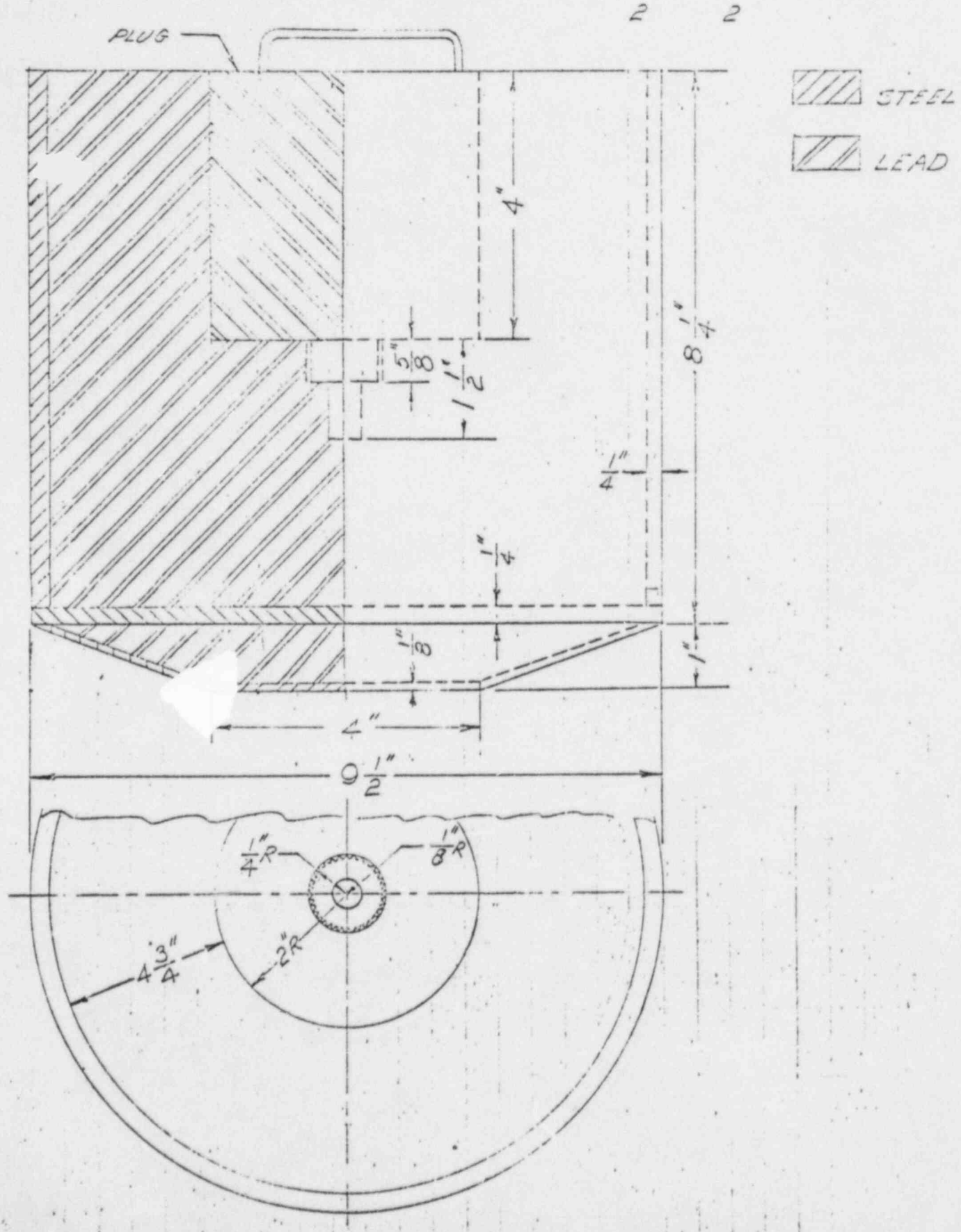
William H. Reamer, Chairman
Radiation Hazards Committee
1602 Building

bll

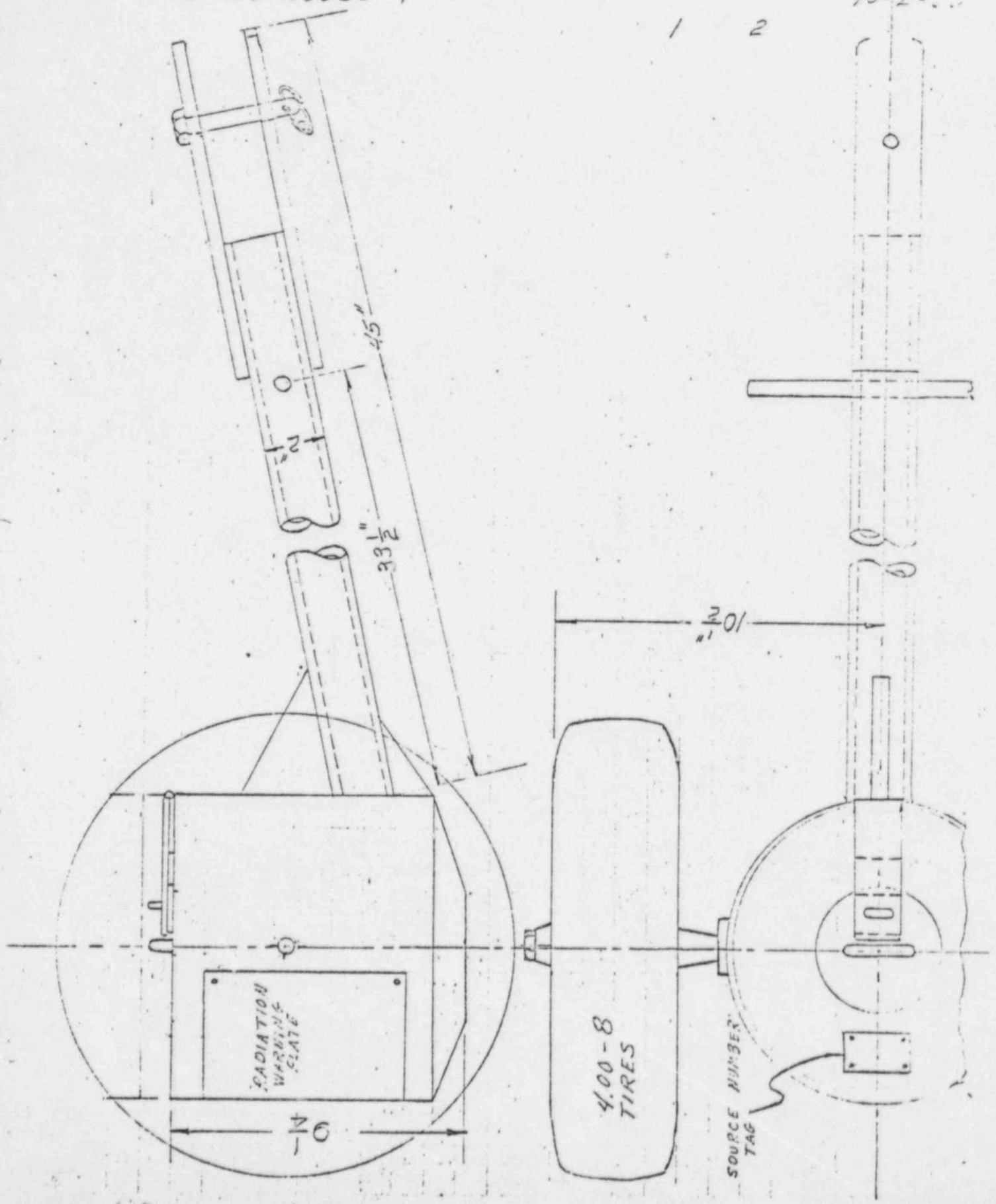
Attachment A

CONTAINER FOR COBALT 60
SOURCE NO. 36085-1

H. FIELD
10-2-63



CONTAINER FOR COBALT 60
SOURCE NO. 36085-1

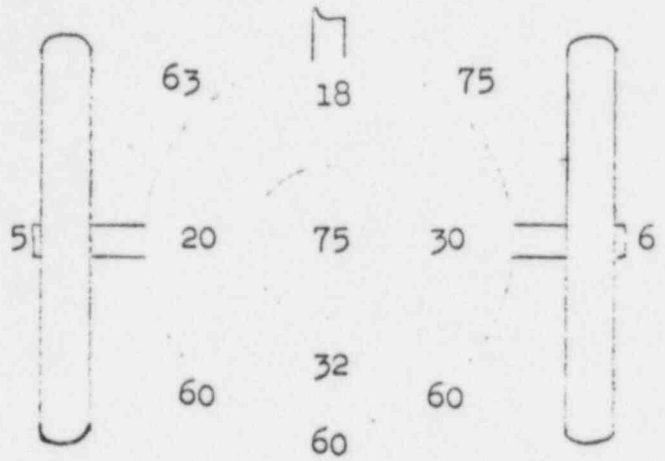


Attachment B

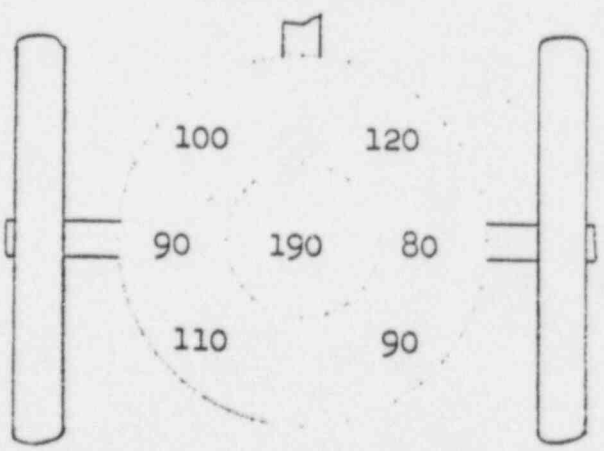
RADIATION PROFILE OF DOW-BUILT CONTAINER FOR COBALT 60 SOURCE NO. 36085-1

L.G.S.
9/30/63

Top View



Bottom View



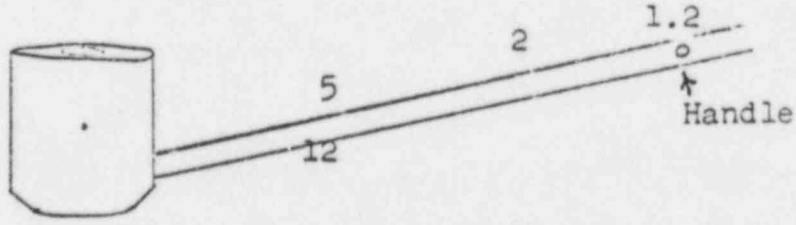
All figures are mr/hour, measured at contact, with a Victoreen Model 592B Survey Meter.

Side View

5.2

13

1' 2' 3'



4.8 12

32

15

5.5

All figures are mr/hour, measured with a Victoreen Model 592B Survey Meter.